



DELIVERABLE D.T1.2.10

Territorial needs assessment for PILSEN
REGION

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 Pilsen Region - NUTS 3 (CZ032) is a part of NUTS 2 Southwest (CZ03) in The Czech Republic - NUTS1 (CZ0).

The Pilsen Region lies in the southwest of the Czech Republic. It borders Karlovy Vary Region in the northwest, the Ústí Region in the north, the Central Bohemian Region in the northwest and the South Bohemian Region in the east. The longest border is with Germany (Bavaria) in the southwest. The region is ideally positioned between the capital of Prague and western European countries.

The centre of the region is the city of Pilsen (Plzeň in Czech) - an economic, cultural and social metropolis of Western Bohemia. The city gained its worldwide fame primarily thanks to the production of the beer brand Plzeňský Prazdroj.

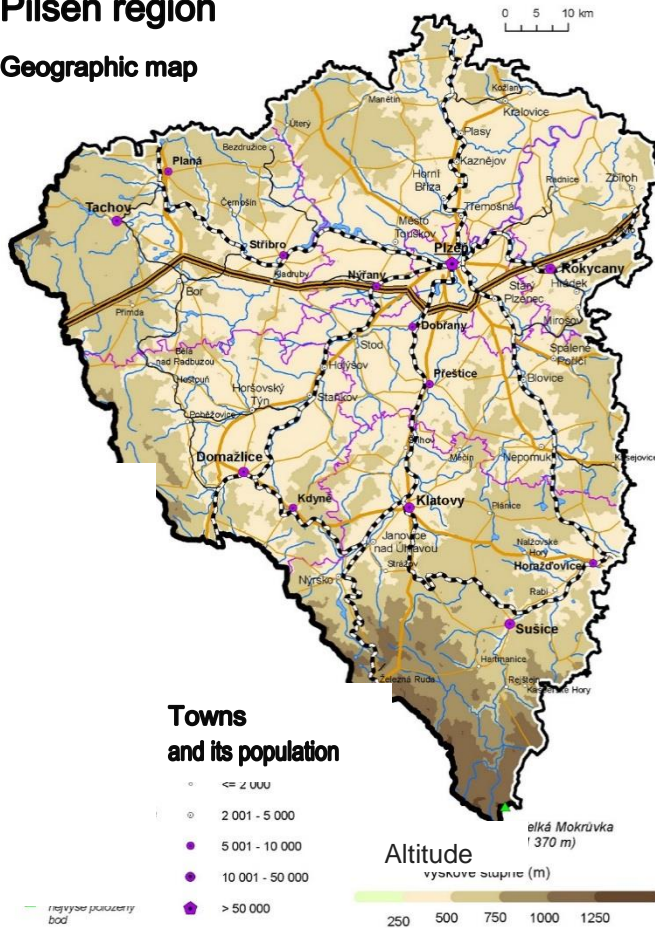
Besides Plzeň, the towns of Klatovy, Domažlice, Tachov and Rokycany there are some other centres in Pilsen Region, but these centres are much smaller and also commutes to the (in the region) unique and biggest regional centre - to the city of Pilsen.



Fig. 1 - Geographic map of Pilsen region

Pilsen region

Geographic map



A significant part of the territory of Plzeňský kraj is covered by forested mountain ranges, the most important of which are the Šumava (Bohemian Forest) in the south, Český Les in the south-west and Brdy in the east. The entire area is a popular and sought-after destination for tourists. It offers ideal conditions for hiking, cycling and winter sports.

Šumava and Český Les are along the border with Bavaria (Germany) and they are very sparsely populated and with less developed transport network and without quality integrated public transport (IDP).

Although these regions certainly have their potential, their depopulation and backwardness are given historically. After the Second World War, the original German population had to leave, and under socialism, resettlement was not possible here because this border region (border rural areas not far from Klatovy, Domažlice and Tachov) lay near the capitalist western Germany and there were primarily border and military zones.

1.2. Recent population and demographic trends

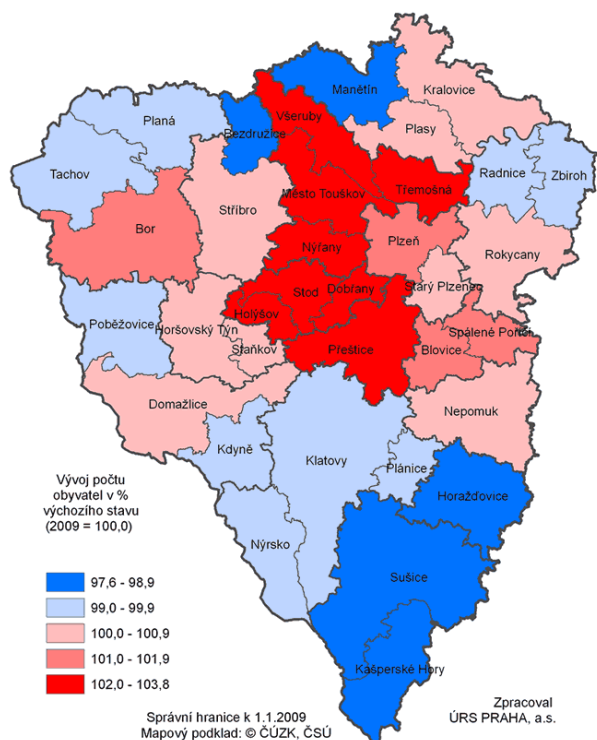
The Pilsen Region is the third largest region in the Czech Republic and is the ninth most populous, accounting for 5.4% of the country's total population. After the South Bohemian Region it is the second most sparsely populated region in the Czech Republic. The population growth is about 1% (due to migration).

The region's structure of settlement is **very unbalanced**: the metropolitan area of Pilsen connects to small rural areas, while mid-sized towns are lacking. The high number of small settlements is a typical feature of the area. More than four out of five municipalities in the region have fewer than 2,000 residents, and over 30% of the region's population resides in such small towns and villages.

- Area 7,649 km²
- Population (as of 31 December 2012) 576,616
- Population density (people per 1 km²) 75
- Municipalities 501

In the age structure of the inhabitants of the Pilsen region there is interesting that the greatest number of inhabitants is aged 30-34 years. Comparing to the adult population Pilsen region has a relatively small number of children.

Fig 2. -The Prognosis of population development in the Pilsen region by 2030



The biggest prognoses of population growth (red) are mainly in suburban areas by the city of Pilsen and the decreases are very often in the region close to borders and in the rural areas.

As mentioned these regions are until now outside the integrated transport of Pilsen region.



1.3. Transport network and accessibility conditions

The location of the region is quite favourable, as it is situated at the crossroads between the Czech capital, Praha (Prague), and Western European countries.

Of course this position also brings some problems caused by the transiting transport and also brings the differences between the regions through which major transport routes pass and regions that are near the border, but are more remote and worse connected to the main road and railroad.

Road transport has the greatest importance in the area of the region. The road network in the region has a distinctive radial system and the city of Pilsen is its most important traffic intersection.

The railroad transport is also important. The third Czech transit railway corridor passes through the Pilsen Region, where are currently the modernization works between Pilsen and Prague. Also the international connection to Bavaria (Germany) should be improved.

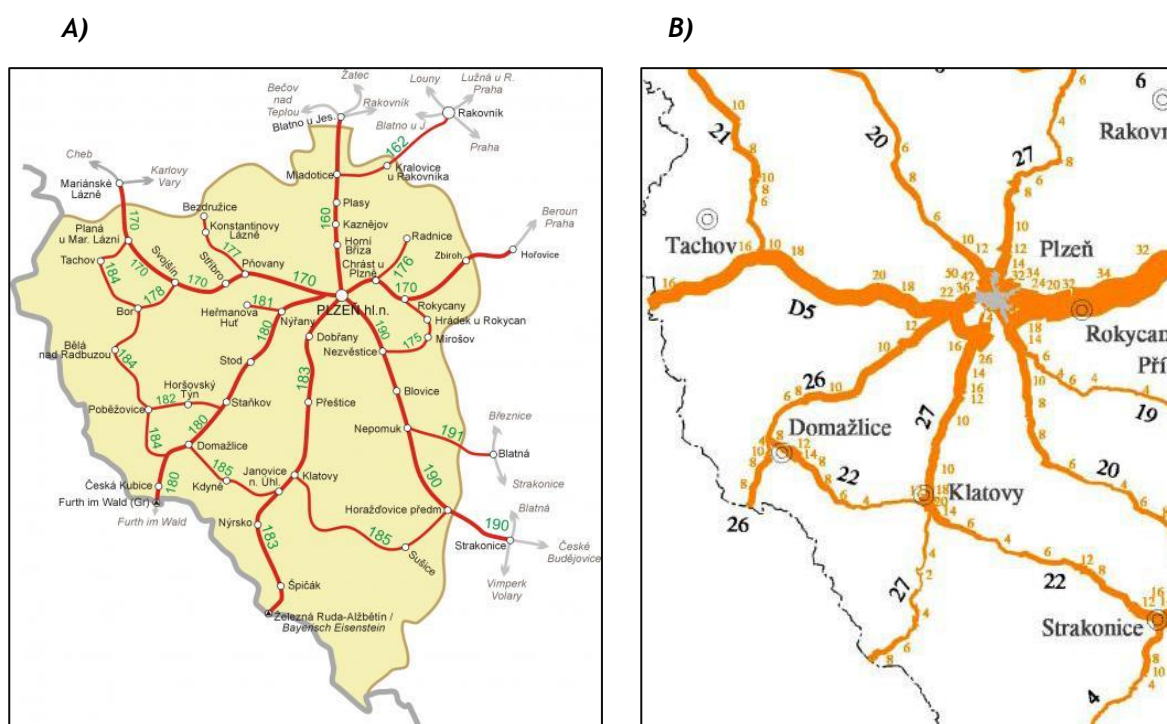
The small regional railroads have usually in not very good parameters and have just a smaller importance and traffic market share.

The traffic interchange points are differently distributed around the region, but they are still missing in many places, and where they are, they often do not have a suitable standard.

The map with main roads and railroads together with geography map can be seen on Fig. 1 (see higher). Two separate maps: A) the railways in Pilsen region and B) a traffic load of the roads in the Pilsen region can be seen under this text on a Fig. 3 A) a B).

The width of the orange lines is proportional to the traffic load (number of vehicles) on that section of the road.

Fig 3. The railroad network in the Pilsen region (A) and the network of roads with the traffic load in Pilsen Region (B).





1.4. Organisation of transport sector and key stakeholders

There are two different organisation and tariff methods and systems in the Pilsen Region. The first of them is in our integrated transport system (IDP (-abbreviated in Czech) that is located in around the city of Pilsen and the second one (separated by transport operators) is further away from Pilsen in sparsely populated, rural and especially in border regions.

It is very important to underline that there are extraordinary differences between the traffic services in Pilsen and its close surroundings (both integrated in the IDP) and peripheral border areas. These territories occupy more than half of the Pilsen region, but only a small number of inhabitants live there, and even fewer people are working or studying there.

In Pilsen region there are 2 rail transport operators and 14 regional transport bus operators (see lower).

The vast majority (about 90% or more) of all rail transport service is provided by a state owned Company České dráhy, a.s. and the vast majority of regional interurban bus transport service is provided by ČSAD autobusy Plzeň a.s. company.

Regional passenger transport in Pilsen region is a competence of the Regional authority.

The regional passenger transport in Pilsen region is organised by the company POVED s.r.o. (The Pilsener organiser of public transport) - www.poved.cz.

Rail transport

The dominant (state) rail operator (- more than 90% of rail transport in Pilsen region.)
České dráhy, a.s.

A small (private) rail operator:
GW Train Regio a.s.

Bus transport

The dominant bus operator (- more than 90% of the intercity bus transport in Pilsen region):
ČSAD autobusy Plzeň a.s.

Smaller intercity bus operators:

ČSAD Autobusy České Budějovice a.s.

ČSAD STTRANS a.s.

Jiří Zýka

Město Kašperské Hory

Autobusová doprava - Miroslav Hrouda s.r.o.

Obec Chanovice

ARRIVA STŘEDNÍ ČECHY s.r.o.

VATRA Bohemia, spol. s r.o.

Město Blovice

Autobusy Karlovy Vary, a.s.

Pavel Pajer

ANEXIA s.r.o.

Plzeňské městské dopravní podniky, a.s. - this bus operator is small in intercity transport (it has a few lines in the suburban areas of the city of Pilsen), but it is the only operator in the city transport for the city of Pilsen.



2. Territorial needs assessment

2.1. Connectivity

The international timetable coordination is just "ad hoc" (and on a base level) and the transport plan for Pilsen region border area and its international transport is missing at all. Public transport is not even integrated in the less populated regions close to the borders.

Pilsen region is aware that in the cross-border area of the region coordination can be improved a lot, starting from timetable and tariff integration and coordination in the border region.

For the coordination of the timetables (regional and also international) Pilsen region has a responsible company POVED (The Pilsener organiser of public transport) - www.poved.cz.

The international timetable coordination is for the long distance international trains done from national level by the Ministry of transport and its cooperation with partners in other countries. The system of their works and international communication with the partners from other European countries is not clear at this moment.

The regional bus and trains timetables are coordinated by POVED and POVED communicates with the partners (transport operators, organiser or local authorities) in Bavaria (Germany).

There is no regular system of this communication and coordination yet. When there is a demand for a change from one from both sides of the border one partner contact the others and an agreement is necessary.

This system should be improved to make the public transport in border region and also the cross border public transport more attractive.

- o cross-border transport flows (modal split, split by the purpose of the trip);

Modal split in regional transport by purpose of the trip (work vs. leisure)	% (Work or school 75%, Leisure 25%)
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The number of Leisure travellers is minor but it is constantly growing. There was even more transport to work or school some years ago. The number of leisure time travellers is growing and the 75% percent of current travellers to work or school are not only the everyday regular travellers. Some of them are also weekly travellers or the travellers that alternate the individual transportation with public transport.

- o commuters flows (numbers, average trip distance & time, profession, gender);

Average one-way commuting trip distance (km)	The only datas we got are the national data 2012. Individual car passenger transport at: 32,3 km Urban transport: 7,1 km Bus: 26,1 km Train: 42,0 km Public transport (average): 15,5km Average value for 42% of cars trips and 58% public transport trips is 22,6km
Split by one-way commuting trip time (0-30-60-90+ minutes categories' share)	Approximate %: (0-30 min 65%, 31-60 min 30%, 61+min 5%). From the sparsely populated border areas, where traffic and integration to IDP is not yet resolved, the commuting time to Pilsen is over 60 minutes (sometimes significantly).



Average one-way commuting trip time (minutes)	It is a bit less than 30 minutes (see the box higher).
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Commuters by profession or gender are not monitored.

The using of trains in Czech Republic is more frequent for longer distances. And the long and middle distances using of trains is still growing. Similar it is by suburban using of trains (commuting to bigger cities). The opposite situation is on small regional railroads and also in big part of bus transport.

That's why there is a necessity to make this transport more attractive. And in Pilsen region it means - better (faster more convenient and more economically) connected to the city of Pilsen in the centre.

The international transport connection can also help to fill the border region trains and busses.

- o transport operators performance (cost per km, passengers km, vehicle km);

Contracted cost per km for bus	34,25 CZK/km (2016) With approx. average rate 27 CZK/EUR in 2016 it means approx. 1,27 EUR per km
Contracted cost per km for rail	110 CZK per km, With approx. average rate 26,5 CZK/EUR in 2017 it means approx. 4,15 EUR per km

- o Economy of scale of the cross-borders public passenger transport (fare revenue, subsidy).

For cross border transport this information is not available. For all public transport see lower.

Proportion of total operating costs covered by fares	%, (45 %)	About 17-20%
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The most of the people in Czech Republic and also in the Pilsen region has more options than just the public transport. And the problem is that the regional public transport is not attractive enough to attract more of them. So the usage of the means of transport is small and the financial loss is large.

Because of not enough convenient transportation, not a big reliability of interchanges between means of transport, and also the higher price (when passenger needs to buy an extra ticket for each mean of transport) most people choose the individual transport.

Increasing ticket prices is not a good way to solve this problem. The transport must be more attractive. It must offer convenient, fast, financially advantageous and reliable connection. With the comfort, reliability and the price of the transport the transport integration (of tariff and organization) could help the passengers in the Pilsen region.



2.2. Infomobility systems

There is not only one general travel information system in the public transport in Pilsen region. But there is a public national information system of timetables (for all trains, buses, city transports, planes and other public transport) in Czech Republic. It is private owned timetable and transport system IDOS (www.idos.cz), that uses these general and current timetable data.

IDOS (= ITS - Information Travel System) is developed, owned and maintained by Chaps spol s r.o. company and provides the information about all existing regular public transport lines and connections in the Czech Republic. The current timetables data's gets Chaps by law.

IDOS offers completely complex pre trip information system, where are all the Czech means of public transport and included are also many other transport lines and connections in Europe (all trains in all CE).

Through IDOS everyone can freely and easily search a connection from every station in every Czech city, town or village to every other place. IDOS can search for the connection (direct or with changes) with, all possible means of public transport. If passenger wants, it is also possible to demand or prefer some characteristics of the means of transport used (place for strollers, wheelchair access, first class, couchettes...).

The only bigger problem of IDOS is that it can show only the price of a journey that is derived from the km length of the trip by one direct mean of public transportation without changing. The integrated tariff of the journey in the IDP is not shown or even compared with the non-integrated fare (where it will stay exist).

Therefore a new online info-mobility application that will help passengers to choose the best tariff and find out the price could represent a real enhancement of the public transport service in the remote areas from Pilsen city (with a small and decreasing population).

IDOS provides also a lot of on-trip information, but only from the data's, that company CHAPS gets from the operators. The providing of on-line data's from transport operators is not ordered and guaranteed by law. And here is a problem, that a lot of public transport operators is not technically able (or has no interest) to send the actual data's on-line to the system. So that IDOS offers only some of them.

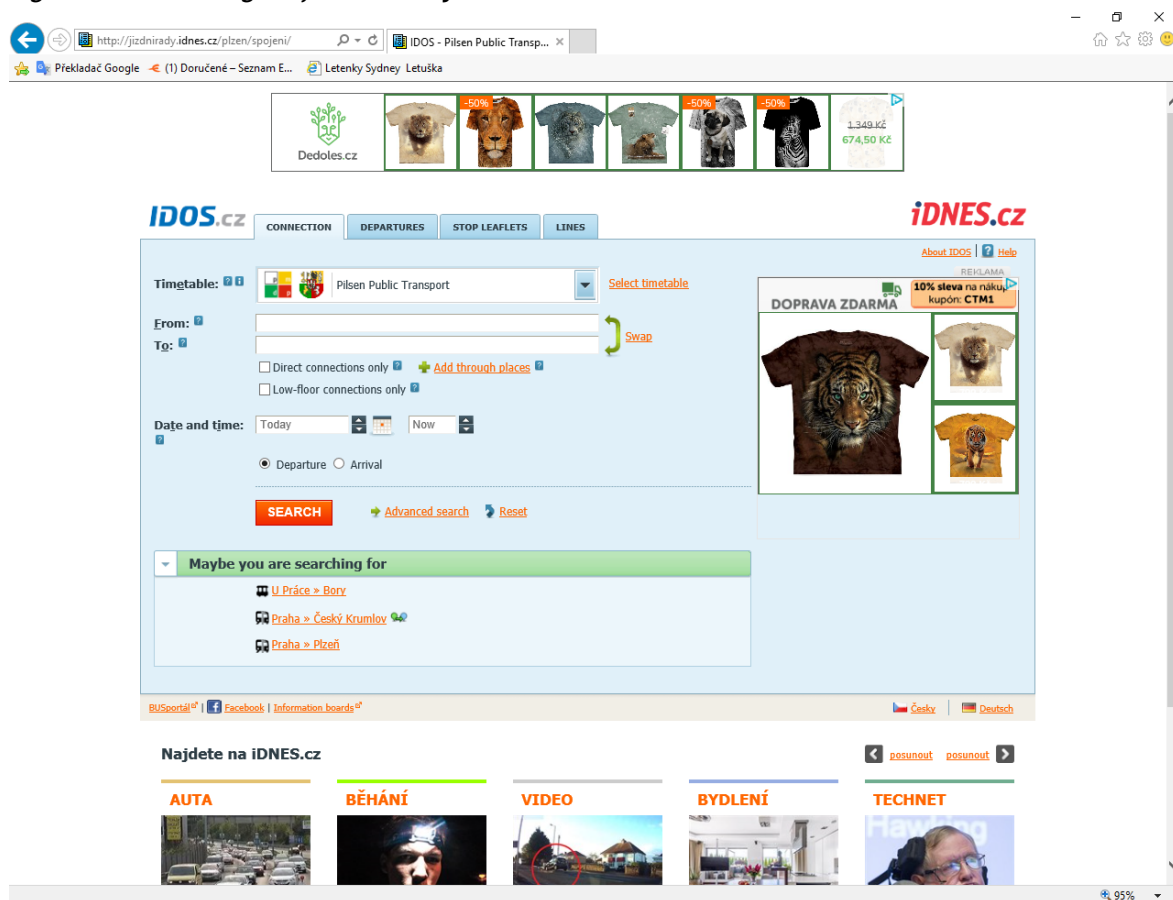
In Pilsen region (from the big companies) only the national rail company Czech railways provides on-trip information (delays, deviations, cancelled connections...) through system IDOS. The on-line data about the intercity buses are not available.

Except IDOS there are also some other systems, but they are not so complex and do not get data's directly from public authorities that approve them.

The system of approving and publication of the timetables is partly public owned and public financed and partly private cofinanced (from selling transport tickets, web ads and other commercial activities). Unfortunately the data's about costs and financing are not public.



Fig 4. The web design. of the IDOS system.



The system IDOS offers also the selling of tickets.

It is done that way that after finding a transport connection you can do a mouse click to choose "buy" and you are redirected to the seller's site (e.g., the carrier) for the purchase and payment.

Until now the system IDOS provides the purchasing of the tickets for some specific operators, but it doesn't sell the integrated transport tickets (yet). That should be also improved and solved in future and according to the project focus of CONNECT2CE it could be the good and very useful pilot action in the region.

2.3. Integrated ticketing and tariff schemes

Integrated transport of Pilsen region (IDP) is an integrated transport system for public passenger transport in the Pilsen region. Currently it works in Pilsen and its surroundings.

The system is spread about 35 km from Pilsen. The system includes urban public transport in Pilsen (trams, trolleybuses, buses) and sections of regional bus lines and railway lines.

Integration is based on the validity of the subscription of the time fare to the chip card Plzeň in the whole network.

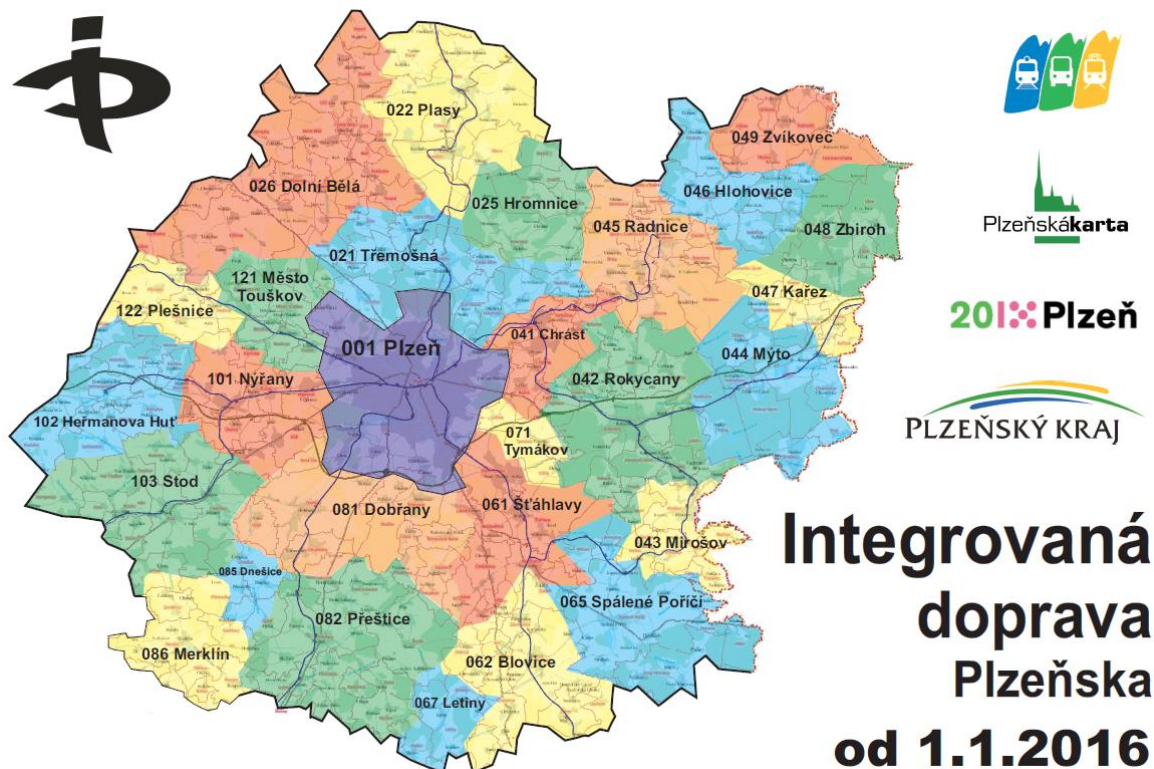
On 1 May 2010 the Pilsen Region (66%) and Pilsen (34%) founded a company POVED s.r.o (Pilsen Public Transport Organizer). (www.poved.cz)

The problem is that even though the IDP currently includes the areas, where the majority of Pilsen region inhabitants lives and work, it doesn't include majority of area of the Pilsen region that is close to border and where doesn't live so much people and that is often rural and not so developed yet.

On majority of the area of Pilsen region - especially in border areas (that are less developed) there the passenger can use only the single tickets (whose price depends on the distance travelled).

These tickets do not allow neither interchanges between the transport operators nor interchanges between bus connections of one operator.

Fig 5. - The map of the area integrated to the IDP



Integration is based on the possibility of purchasing and activating subscriptions on the Pilsen Card time ticket, the time ticket subscription is recognized on the lines and links of all transport operators integrated into IDPs.

The Pilsen card can also be used as an electronic wallet (by some transport operators) integrated into IDPs.

Individual tickets sold by carriers (including electronic tickets activated on the Pilsen Ticket Card) remain exist as not integrated ticketing documents of the Pilsen Integrated Transport.

Time tickets can be purchased and activated on the Pilsen Card in the range of - annual (380-day) and six-month (190-day) and so-called free tariffs (1-123 days).



For non-regular passengers there are chip subscriptions to Pilsen Tickets, which serve as an electronic wallet and carrier for the activation of individual tickets.

The IDP tariff is based on zone systems in that you can travel in the prepaid (validity) time without limits with using of all different integrated transport connections. (Integrated are the buses, the trains, and the City means of transport. The ticket you can use with different transport operators.)

The IDP is described (in Czech in <http://www.poved.cz/cz/verejna-doprava-a-idp/>).

The price of the ticket in IDP depends on the number of zones and the time validity that can be bought for certain number of days (between 1-123 or for a half year or for a year).

The price of a fare can each customer find on <http://www.poved.cz/cz/kalkulator/> (in Czech).

Our integrated public transport (IDP - in Czech language) was not extended to the border areas (yet), so it also does not integrate any cross-border connections (yet).

The extension of IDP to the border areas is planned and it could be done already in the next year and that should be also a part of our work on CONNECT2CE program.

There are more different problems for the cross-border integration. There are some legal issues, some organisation problems (different systems and different responsible organisations), some economic problems (higher cost of cross-border connections for the operators, more problematic regional subsidies) and also some taxes problems (different level of VAT in domestic and cross-border transport...) etc.

The people are also not very much used to use the cross border public transport yet and it is also a problem of language barrier.

In the coming year(s), these issues should be solved.



3. SWOT analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> • Considering its territorial dimension, Pilsen region is quite-well equipped in terms of basic linear infrastructures (roads, railroads) that can be used for transport services. • Through the Pilsen region goes a main traffic direction connecting Prague and Czech Republic with Western Europe. So that's why also some national investments (especially to long distance railroads) are ongoing or planned in our region. • The Pilsen region regional transport system is quite simple to draw and understand (due to a radial system of transport routes and one main region center - the city of Pilsen). Especially if considering the main flows connecting the border areas and central city of Pilsen. • Existence of a functional ITTS system (with different modes of transport) in the central part of the Pilsen region that could be spread to the other areas. • Already operative agreements between transport operators jointly working on cross-border transport services. • Information transport timetable system (IDOS - in Czech language) is free accessible and well known by the people. It offers complete pre-trip- and some on-trip-information's including interchanges between different means of transport and transfers between stops. • Existence of one responsible authority for regional coordination of timetables and tariffs for regional public transport - POVED. • The transport system is in the Czech Republic (by law) under the 	<ul style="list-style-type: none"> • The obsolete means of public transport especially an old bus fleet. • Not always the satisfactory status of interchange hubs between different transport means and transport modes • The low image of the public transportation. Some people consider the public transportation only as the transport for poor people or children. • Accessibility, considering the low population density, represents a problem to be faced when talking about a wide area of the region (with particular reference to the border, rural and mountainous areas). • The inability to pay by credit card in interurban regional bus services. • The good and functional timetable ITTS (our strength) has one weakness too. It is not able to show the price of the PT ticket in integrated transport system (IDP).



<p>governance of regions and the Pilsen region is an active solver and participant in the CONNECT2CE project.</p> <ul style="list-style-type: none"> The work on the improvement of the public transport has a political support in Pilsen region. The last regional elections took place in the year of 2016 and others will be in 2020. 	
Opportunities	Threats
<p>Tariff integration of single fare for easy one way travelling with possibility of convenient interchanges.</p> <p>The extension of the integrated public transport (IDP) to all region. The main goal is to strengthen the public transport and make it more attractive in all Pilsen region (including the border areas that were not integrated yet).</p> <p>Another important reason for extending the IDP is to give all the people the possibility to use the advantages of IDP.</p> <p>Improve the only important weakness of the ITTS by developing new infomobility tool that could show the price of PT ticket (commuting). That is most important for the people living in the remote areas of Pilsen Region.</p>	<ul style="list-style-type: none"> Independent management of the city transport company Pilsen and threat of its exiting from the IDP. Insufficient investment in some parts of the regional railway infrastructure Lack of the bus drivers and also some other transport employees. The new construction of houses (especially in the vicinity of Pilsen) creates areas where it is only calculated with individual transport and not with public transport stops.



4. Overall conclusion

Analysis of the Territorial needs assessment has for the Public transportation underlined some needs of Pilsen region needs with dominant one:

The passengers public transport is not developed enough especially in some (non-integrated) regions. The passenger public transport needs to be further developed, improved and extended to other territories. The level of using of the public transport (especially in the remote, border regions) is low. The introduction of an integrated transport system in the vicinity of Pilsen has brought further increase in the using of the public transport (that was already previously used more here than in the less inhabited remote regions).

This benefit is necessary for the public transport also in remote, less populated (especially) border areas. Pilsen region should use it strengths (as the quite good radial infrastructure) and better connect to the centre (with the integrated public transport) also the inhabitants from these areas.

In the next steps, the responsible people in Pilsen region must be careful about the threats and focus on the opportunities to use their potential.

At the same time, it is necessary to work on improving the transport solution and to gradually renew the fleet (in particular) in the bus transport.

The main topic for Pilsen region in the public transportation must be the strengthening of the integration of IDP and the extension of IDP to the whole territory of the Pilsen region - that means also to these less populated peripheral border areas.

The goal is to provide for all the passengers (also those from remote peripheral border areas) a better access to integrated and better transport services and to better inform about that. This can also be aided by the necessary infomobility tool to complement out ITTS IDOS on public transport prices (and their comparing).