

e-Road Písek - Deggendorf

E-mobility Development Potential in Southern Bohemia

Project # 093

TSI Písek z.s.
10.11.2017



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Core Issues

- Individual projects without partner connections
- Projects separated by geographical area
- Insufficiently developed infrastructure
- Slow charging stations
- Not enough places for electric vehicle rental
- No sharing option
- Insufficient bike route infrastructure
- Legal electric vehicle incentives

Individual Issue Analysis

Individual projects without partner connections

Charging structure installation happens only in a small circle and the collaboration always happens only in the following formats

- One company
- A small group of partners without the connection to other projects
- A city and a partner

Neither of these brings an efficient connection of the infrastructure, even though there are about twenty charging station in Southern Bohemia; there is no interconnection that would ensure the comfort of the EV owners (see document for section A1.5).

The issue also is that the system for localization, booking, planning, and payment is not unified. Some stations can be found on one map, whereas other not; some are on the map, but in fact do not exist – and this is up to six charging stations, which could cause big trouble.

Solution

The issue of project non-consequentiality will probably not be solved because no one can order subjects to work a certain way. However, a development concept of the whole region, which would be governed by the region administration within the Smart Region Southern Bohemia council, could have the form of an association joining interested subjects. This could make the infrastructure and other activity development more efficient.

Regarding the chaotic approach to the charging stations and decentralized ICT system, this project should at least partially remedy this by introducing a software with a related application, which should lay the foundation for a unified ICT charging infrastructure not only in Southern Bohemia, but also in Lower Bavaria.



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Projects separated by geographical area

Cities in Southern Bohemia are focused on the electric mobility development in their own manner and within the area of its own or the greater city area. This leads to the decentralization of the whole electric transportation system. Each city buys own electric buses based on own specifications and the charging stations are also installed regardless of the situation in the rest of the region.

Legislation of course permits the cities autonomy on the other cities, but within the mobility development it would make sense to stick to one concept, which should be created based on a partnership of cities that have interest in developing clean transportation.

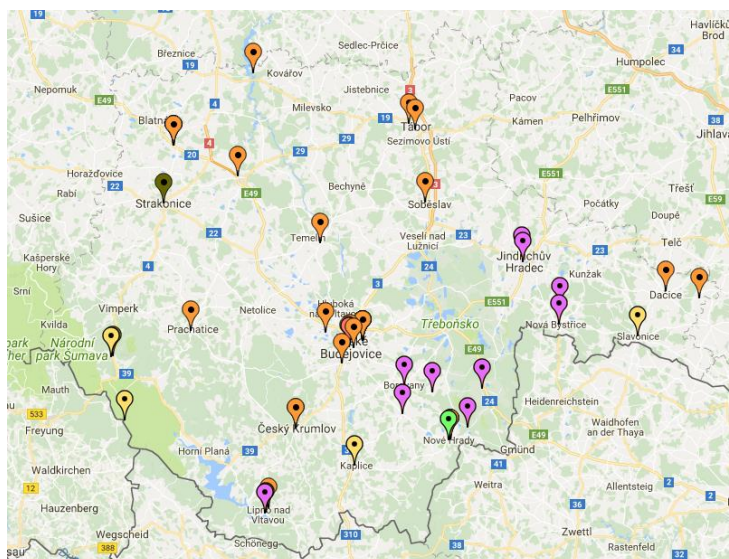
Solution

Based on the pilot check of the road Písek – Deggendorf, it will be possible to submit best practices and lessons learned that will allow the cities to have a foundation based on a successful project. Cities could join the aforementioned association falling under the governance of Smart region, which would create concepts based on the results of this project.

Insufficiently developed infrastructure

Southern Bohemia has about 20 charging stations for electric cars – each with approximately 2 plugs – and then also several stations for electric bikes and mopeds

- Oranžová – auta
- Žlutá – kola + skútry
- Olivová – plánované pro auta v rámci eRoad
- Fialová – kola



Picture 1 - Charging stations for cars, bikes, and mopeds



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Solution

Electric bikes and mopeds

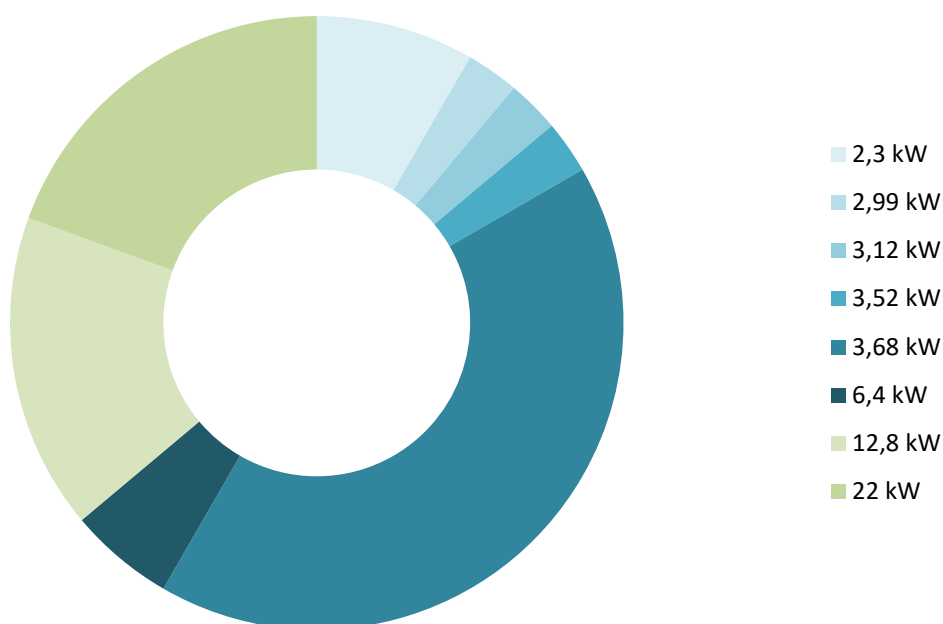
There are electric bike and moped rentals operating in the tourist areas and the visitors can admire the beauty of the land from an electric vehicle. Because Southern Bohemia has a reputation filled with beautiful nature and sights, electric bike and moped rental would not only have to be the domain of the mountains.

Elektrické cars

It is necessary to increase the number of charging stations that will be placed in appropriately selected places as to not make the charging time such a waste of time.

Slow charging stations

Another issue namely for the car charging stations is the charging speed.



Picture 2 Ratio of up-to-10-kW stations (turquoise) and above-10-kW stations (green)

As can be seen, the majority of charging stations in Southern Bohemia is not able to charge a small electric car with the need of 30 kWh for full charge^[1] during the period of 4 hours. The charging time varies from 1.37 hours to 13.1 hours, with the approximate duration of 7 hours at one station.

Solution

The main point here is the installation of more efficient charging stations that have at least the status of fast charging. Another option is also the battery swap which allows for the swap of an empty battery for a fully charged one. Tesla is currently working on this concept^[2] so this solution can have a potential in the long-term overview.



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Not enough places for electric vehicle rental

In regards to electric car rental, Southern Bohemia does not have one rental place. Electric bikes and mopeds can be rented in several places; however, all of them are either by the border or in the south part of the region. Some of the rental place also offer electric scooters. The main issue, however, is the insufficient rental infrastructure in cities.

Solution

This infrastructure can be developed either by direct support of the local administration through a subsidy or partnership with a subject providing this kind of service; or the administration can support the development indirectly in the form of legal incentives for service providers.

No sharing option

Vehicle sharing services are not present in Southern Bohemia. Currently, car-sharing only works in larger cities such as Prague or Brno, and e-bike sharing does not have a bigger presence either. However, in regards to the development of the Smart City concept in the Czech Republic, it can be assumed that at least bike sharing could become a more broad service.

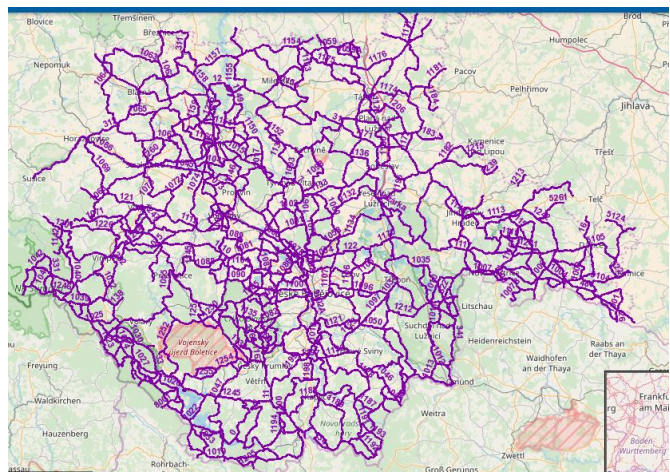
Solution

It is important to include in the city planning documentation the concept of vehicle sharing. It might be easier with bikes, because the infrastructure does not require such overall high costs.

Car sharing could come about in the form of a partnership with a company providing this service (the biggest Czech provider is Car4Way.cz) and also with a partner providing electric vehicles (currently there are several partnerships between cities and energy providers regarding vehicle rental).

Insufficient bike route infrastructure

Even though Southern Bohemia has about 5 00 km of biking routes^[3], these routes are not electric ready. As can be seen from [Picture 1](#), charging stations are not present in a way to make travelling in any part of the region stress-free when it comes to finding a charging station.



Solution

It would make sense to start collaboration either on the municipal or regional level with the Foundation of Southern Bohemia Bike Routes, which could help to joint he activities and management of the Foundation with the option of e-mobility support available for municipalities.



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Legal electric vehicle incentives

The pioneer in this area is Norway, which allows to the owners of electric vehicles free passing on the paid roads, lower road tax, or in many places free parking or ferry transportation^[4]. The Czech government is also in the stage of similar step planning^[5], but it is important for the cities and municipalities not to miss these changes.

Solution

It is crucial for cities to stay in touch with the new legislation regarding e-mobility. At the same time, the local administration can also prepare its own plans for electric transportation support.

Conclusion

Vzhledem k rozvojovému potenciálu jsou jižní Čechy velmi dobrým cílem, díky turistickému ruchu, krajině a přístupu k dopravní infrastruktuře. Samospráva by se měla zaměřit na navazování partnerství a vytváření uceleného konceptu elektromobility, který ale nebude připravován ve vakuu. Celokrajová iniciativa, která by sdružila pod záštitou Smart Regionu subjekty z nejrůznějších oblastí by mohlo být tím nejlepším Solutionm, co se týče univerzální strategie a systému implementace.

In regards to the development potential, Southern Bohemia is a good target thanks to tourism, countryside, and transportation infrastructure access. The local authorities should focus on creating partnership and complete e-mobility concept, which would not be planned in a vacuum. The whole-region initiative under the wings of the Smart Region council should join together subjects from various areas – this could be the best solution for universal strategies and implementation systems.



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