

Combining cycling with public transport in Prague (Checkpoint 0)

OSW - Ontologies and Semantic Web

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1 MOTIVATION

Many people these days want to travel around Prague without using their car. Combining public transport with cycling seems like a good idea, since people can take their bicycles with them even when using the public transport, and with stuff like bike sharing (take Rekola for example) people can use bicycles for their travels without having to worry about bike thefts and other problems.

2 TOPIC

As my topic, I would like to analyze the existing public transport network as well as the existing cycling paths. Integration of this data might provide insight into which public transport stations are well connected with some cycling paths, and which not so well. This could indicate the parts of the city, where the cycling paths are not well connected, and so it might be more difficult for the people living in those areas to travel by those means and they might tend to resort back to using cars more than people in the better connected areas.

Additionally, data about parking lots around Prague could be added into the mix. We could imagine a situation, where a person for example comes to Prague from a neighbouring town and then wants to park at the first parking lot he sees and continue his journey using bike sharing and public transport. After the integration, we might see from which parking lots it is possible to get around Prague well using only those means, and which parking lots are

located in a clumsy areas in a sense that you would still have to for example take a taxi after parking there if you want to get into the centre.

3 RELEVANT DATA SOURCES

3.1 CHOSEN DATA SOURCES

Here I will briefly describe the main three data sources I have chosen to work with.

1. **Cycling routes in Prague.** [1] Organization: Institut plánování a rozvoje hl. m. Prahy (Mikulová Milada Ing.), format: GeoJSON.

This dataset contains all the cycling paths in Prague. For each cycling paths, we have it's coordinates (so basically the path itself) and then some additional info such as the type of the path (for example bicycle only or a shared one for bicycles and pedestrians). Since the format of the dataset is GeoJSON, it will be probably necessary to transform the data into some other format before further work.

2. **Public transport stations in Prague by type.** [2] Organization: ROPID (Regionální organizátor Praské integrované dopravy), format: GeoJSON

This dataset contains all of the public transport stations in Prague, for each it contains it's name, coordinates and then some flags informing as for example about the vehicle type (tram, bus...) or whether the station is used in both day and night transports or only one of those. We might not care about stations that are only bus related, since people can not take bicycles into the bus in Prague. As with the previous dataset, this dataset is again in GeoJSON.

3. **Parking lots in Prague.** [3] Organization: Technická správa komunikací, format: CSV

This dataset is slightly less complicated than the other two. It only contains the parking lots, each line in the CSV describes one parking lot with it's name, coordinates and capacity.

3.2 OTHER DATA SOURCES

Other data sources that might be relevant for the topic are:

- **Prague public transport time tables** [4] Organization: Dopravní podnik hl. m. Prahy a.s., format: GTFS

Something we might want to take into account are the time tables of the public transport. This makes sense, because if there is some public transport station, that is well connected to some cycling paths, but the tram (for example) only goes there once every hour, than the connection probably is not as convenient as with some other station, where the tram goes every five minutes.

- **Historical cyclist counters data** [5] Organization: Operátor ICT, a.s., format: CSV

Using the cyclist counters information one might find out in which parts of the city people are always using bicycles frequently. One could expect that the density of well connected cycling routes in areas with a lot of cyclists will be higher than in some other areas.

- **Public transport routes in Prague** [6] Organization: ROPID (Regionální organizátor Praské integrované dopravy), format: GeoJSON

Instead of using just stations (without information about which lines actually operate which stations), we could use actual routes to determine from which stations connected to some cycling path one can get to another station connected to another cycling path for example without the need for a line transfer.

REFERENCES

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