



Self-Study 1

Mobility Diary

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Connected Mobility Basics - IN2324

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Statistics

Places

Over the recorded days:

- Number of unique places visited: 19
- Average number of unique places visited per day: 4.75
- Places visited more than twice:
 - 25h Hotel, Vienna: visited 6 times over the recorded days
 - Judge Guest House: visited 3 times over the recorded days
- Number of people usually on the order of $O(100)$ in public places.
- Longest stay: Check24 Office, Vienna - 13 hours
- Shortest stay: Check24 Office, Munich - 5 minutes

Trips (Excluding International Trips)

- Longest trip by time: **50 mins bus trip - 35 kilometers**
 - Longest trip by distance: **50 mins bus trip - 35 kilometers (same trip)**
 - Shortest trip by time: **2 min U-Bahn trip - 1 kilometer**
 - Shortest trip by distance: **3 min walking - 200 meters**
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- Average number of trips per day: **13.5**
 - Average distance travelled per trip: **2.7 kilometers**
 - Average time spent travelling per trip: **8 minutes**
 - Average distance travelled per day: **36.3 kilometers**
 - Average time spent travelling per day: **1 hour 48 minutes**

Trips (Including International Trips)

- Longest trip by time: **5 hours bus trip - 410 kilometers**
 - Longest trip by distance: **2 hours 40 mins plane trip - 2000 kilometers**
 - Shortest trip by time: **2 min U-Bahn trip - 1 kilometer** (same as before)
 - Shortest trip by distance: **3 min walking - 200 meters** (same as before)
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- Average number of trips per day: **14**
 - Average distance travelled per trip: **45.6 kilometers** (> 15x increase!)
 - Average time spent travelling per trip: **16 minutes** (doubled !)
 - Average distance travelled per day: **638.8 kilometers** (> 15x increase!)
 - Average time spent travelling per day: **3 hours 43 minutes** (> doubled!)

Outliers!

We must be careful about how to interpret the effect of outliers. They may skew averages to unrealistic levels, making it difficult to interpret values, or using them in models.

Observations

Connection Handover - App Failures

Personal observation: Handover between wi-fi and cellular causes momentary failures in higher level apps usually around:

- Junction leading up to the food trucks
- Junction in front of the U-Bahn exit
- Area in front of the kindergarten
- Area behind Interims 1



S-Bahn DNS

- S-Bahn train network seems to use the 10.101.8.0/24 IP range
- Captive portal IP is 10.101.8.121
- Captive portal domain name is wifi.bahn.de/cna/

wifi.bahn.de is not registered in public DNS, suggesting that the train might have its own small DNS/Cache onboard.