

Field Study 5 Recap: TOFFS

Friday, February 9, 2018 4:31 PM

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|----------------|------------------------------|
| Date | 22.02.2018 and 02.03.2018 |
| Starting Time | 9:10 AM and 11:16 AM (02.03) |
| Ending Time | 10:04 AM and 2:48 PM (02.03) |
| Total Distance | 42.66 kilometers |

Weather:

22.02.2018

- Cold and gray, with a little sun appearing later in the morning. High of -4 C.

02.03.2018

- Very cold but sunny for most of the survey. High of -4 C.

Field Study Route:

Segment 1 - cyan,

Segment 2 - green,

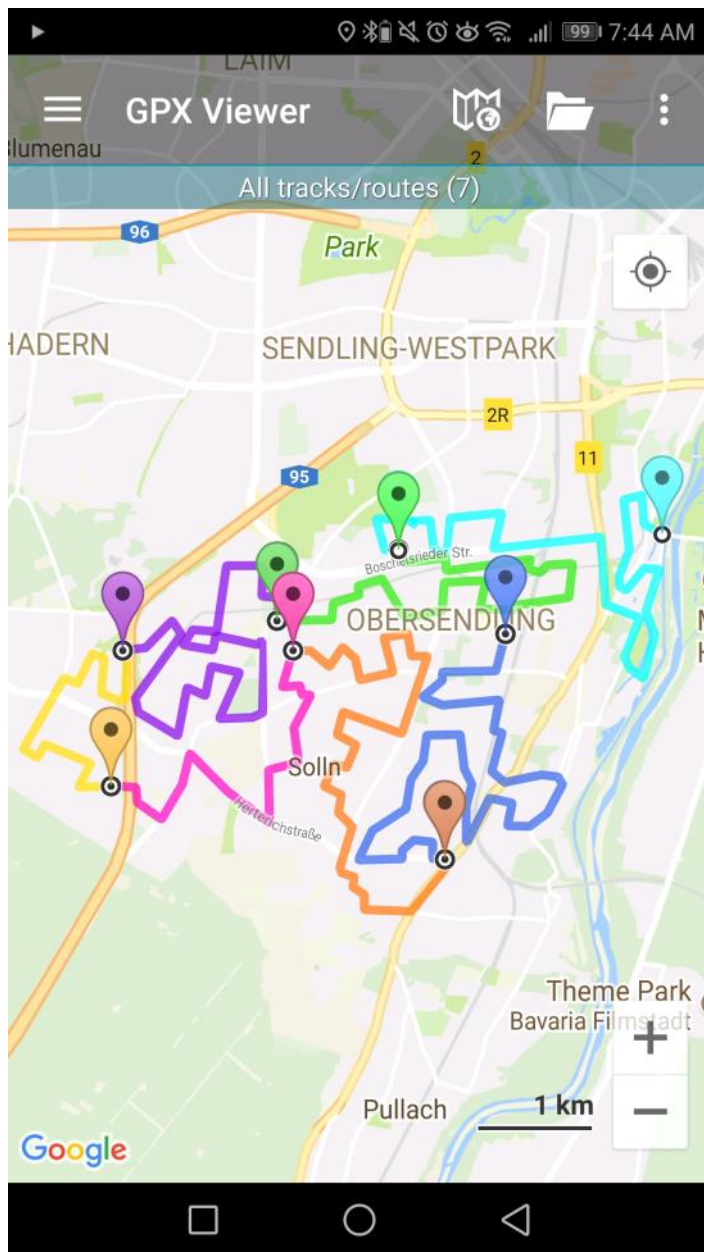
Segment 3 - purple,

Segment 4 - yellow,

Segment 5 - magenta,

Segment 6 - orange,

Segment 7 - blue

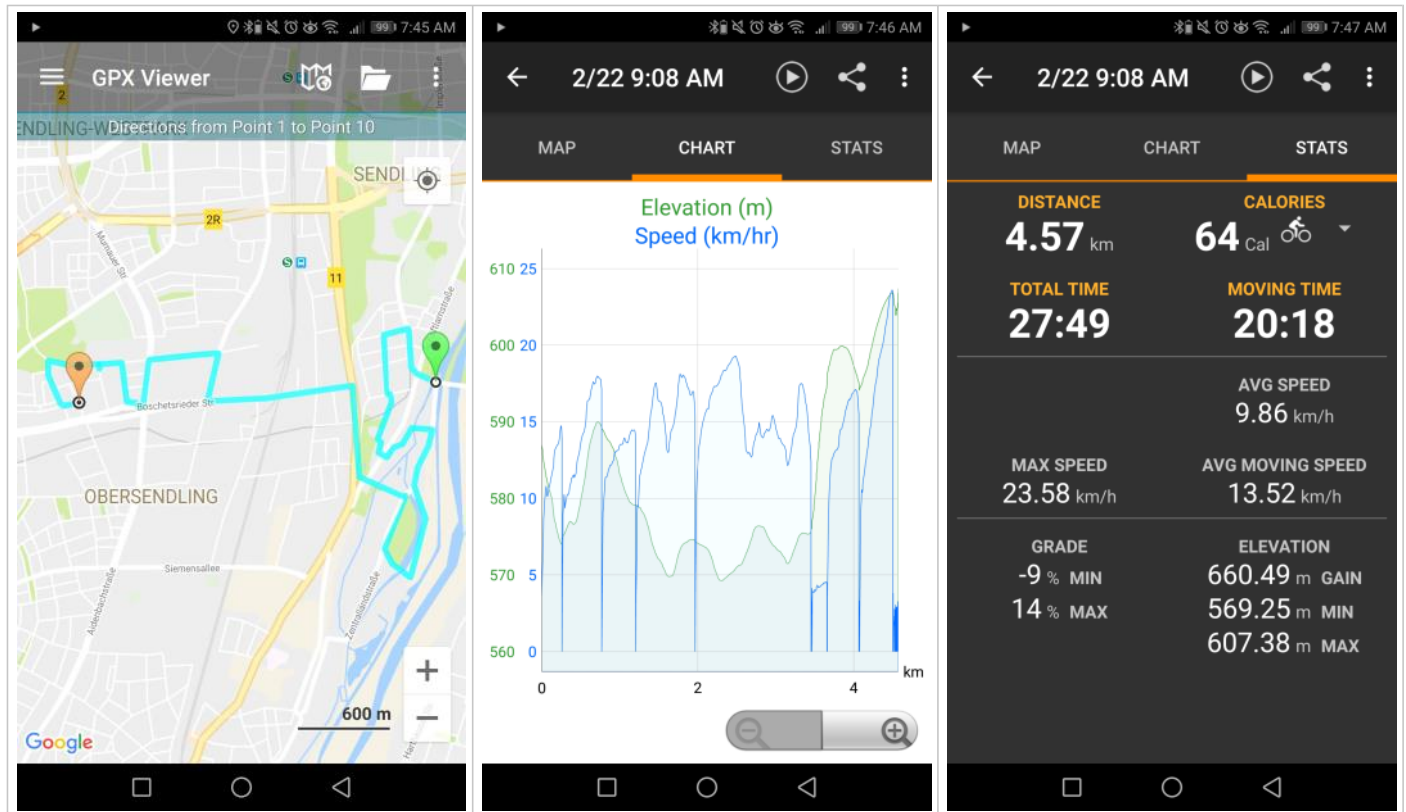


General Notes

- On the 22nd of February, the author had an accident riding west on Boschetsrieder Straße near the end of the first segment. After getting up and finishing the segment, the author went home and to the doctor to see if there were any major injuries. The author felt good enough and the weather had cleared up enough on the 2nd of March so that the field study could be resumed.
- On the second day of the field study, March 2nd, Munich had previously had days of very cold temperatures and some snow, as a result, many of the residential side streets were frozen over with ice, and had to be traversed very carefully, especially as to avoid another accident. This significantly slowed the progress of the field study but will not be taken into consideration as to the general cycling experience and conditions of the built environment as it is an anomaly.
- Generally, this district is made up of 5 separate communities which have melded together in recent decades. The developmental history of these areas is still present. The district is most dense in the northeast near Obersendling. Solln and the area near the S-Bahn station in the southeast are very similar, somewhat dense older housing with many areas of large houses. Forstenried and Furstenried are lower density areas with pockets of high-density due to large apartment buildings built up especially along the motorway.
- There are several industrial and commercial parks in the district which were usually a little harder to get around on a bike than residential areas. Paths within these areas didn't connect, in poor conditions, and generally seemed an afterthought, especially compared to the newer residential areas which seemed to make

an effort to make cycling easier for the residents.

Segment 1:



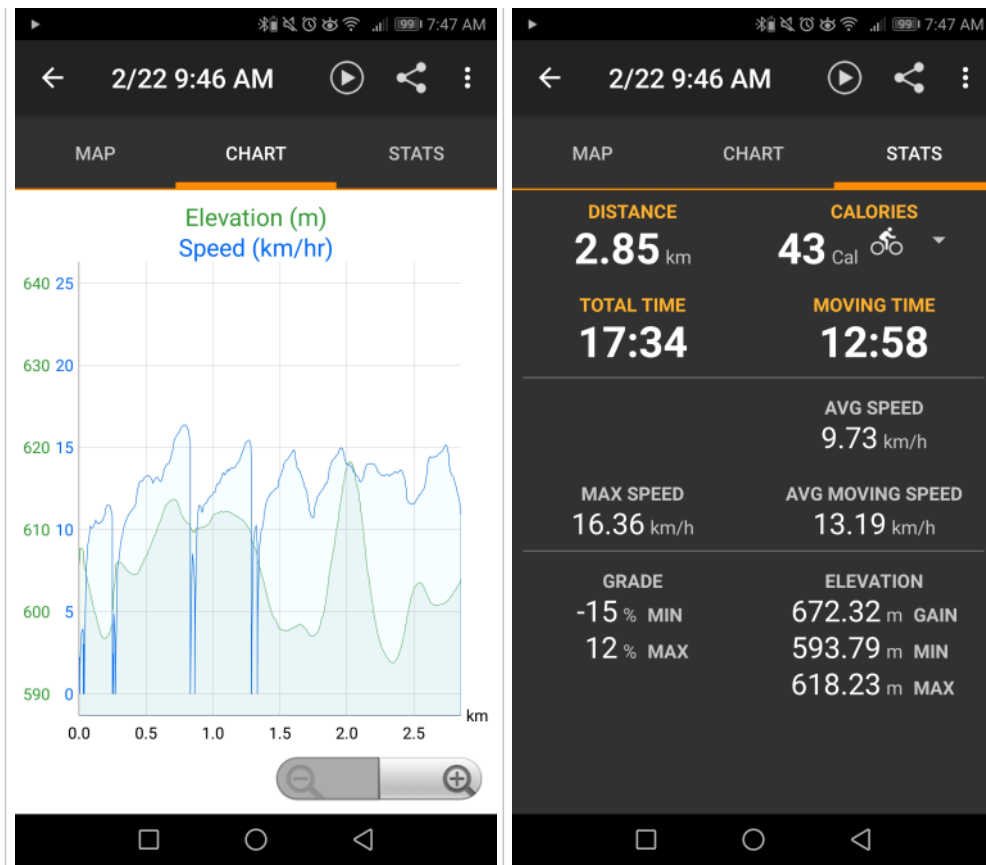
The initial residential area of this segment was quite dense, and had streets which were quiet, but somewhat narrow for being two-way streets and allowing bikes. With cars parked on either side, it was hard to have enough space to bike next to passing cars. Some street crossings in the area (going from and to a smaller street, crossing a larger one) were a little busy and took some time to cross, with no help from crosswalks or signals. The park area in the southeast of this segment was green, had other people visiting, and had plenty wide enough paths for cyclists and walkers. However at one point, the path was not cleared of snow and ice at all and required dismounting to walk the bike for a little while. The trees provided a sense of being outside the city, which is a main draw to these wooded areas in Munich, especially along the Isar. The quality of some of the paths, or at least how well they were cleared of snow and ice, was a little inconvenient at times as well, as the ride was very bumpy in the southernmost part of this segment. With the conditions of the streets and speed of the passing cars, it felt more secure to cycle on the un-cleared section of pedestrian path rather than on the street.

Cycling along Benediktbeurerer Straße was fine, as it was well cleared and wide enough for the traffic level. However, approaching the turn to the north along Wolfratshauser Straße around the Asam-Schlössl, the elevation of the ground rose very quickly and the bike had to be walked up the hill, especially due to the snow and ice present on the path. This is one of the areas along the Isar with such a high change in elevation, much like Nockherberg area on the other side of the river. Once up the hill and cycling along Wolfratshauser Straße, the cycle path was on the sidewalk directly next to the street (a Bundesstraße, B11), though the lane was wide enough to feel safe. Around the intersection with Boschetsrieder Straße, it entered the street area as a cycle lane, which felt less safe as it was quite narrow for the speed of the vehicles. The intersection with Boschetsrieder Straße also had a VERY long signal, which required a button press. Even after pressing the button and the signal was coming, it took several minutes for those crossing the B11 on the north side of the intersection to get the green light. Along Boschetsrieder Straße, the cycle path was in the sidewalk and next to a line of parked cars for most of the way. The cycle path felt quite narrow, especially as the sidewalk it was on wasn't very wide to begin with, and it was definitely less than a meter in width. The cycle path re-entered the street and the resulting cycle lane was wider and more comfortable, though it was covered in gravel and some snow due to the winter service vehicles. This proved to be an issue.

Just before the rail bridge, the cycle lane changes again to return to the sidewalk through a very shallow reverse curve, shifting the lane over about a meter and raising it up to the sidewalk's level over a distance of a couple meters. This sharp geometry, combined with the fine gravel covering the edge of the roadway, caused an accident. The gravel on the road reduced the traction available for the bike which it needed to get through the reverse curve to get up onto the cycle path. This caused the bike and rider to have some lateral momentum, which the wheels stayed on the street-side of the curb, and thus the biker toppled over the side of the bike. Luckily, no bones were broken. The bike was lightly damaged but easily repairable, but the cuts on the cyclist's hands and a sprained wrist and bruised rib meant that after finishing the segment, the field survey would have to be finished at a later date.



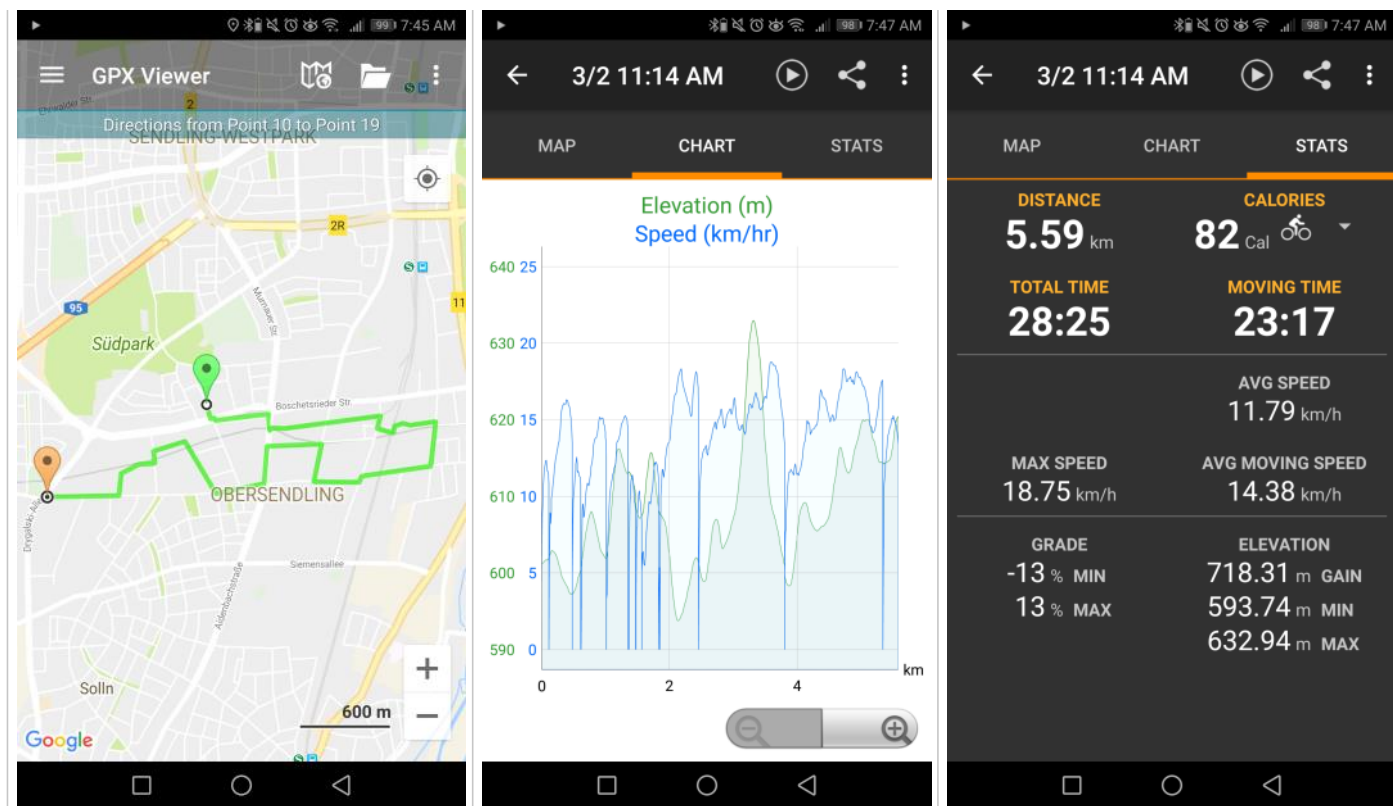




After getting everything back together quickly and assessing the situation, the field study continued to the end of the segment. Continuing along Boschetsrieder Straße, the cycle way was again narrow and built onto the sidewalk, next to a line of parked cars. The sidewalk wasn't very wide again, so the cycle path felt cramped and narrow. After some distance, the cycle path widened, and narrowed again. Turning north onto Passauer Straße, the cycle lane was very wide and set in a wide sidewalk, so it felt much more secure to ride on. The level of traffic on the street was also lower. The area now had a somewhat industrial feel to it (along Zielstattstraße), as there were not many storefronts of retail shops. Cycling in these areas, as long as the infrastructure is there, is fine, though a little boring. Clearly marked cycle areas, Tempo30 Zones, etc. make the experience much easier, and through the field studies, the level of clear signage has been somewhat constant, though is definitely more prevalent in central areas and along the signposted cycle routes and major streets. The residential areas at the end of this segment were very similar to those at the beginning.

Narrow streets with cars parked on both sides, but low traffic so that conflicts with cars would be minimal. Like Sendling, there were some cobblestone streets which were a little annoying to ride on. Residential development areas (without retail) often were more likely to have uncleared paths and sidewalks and streets, making winter riding more difficult with snow on the ground.

Segment 2:

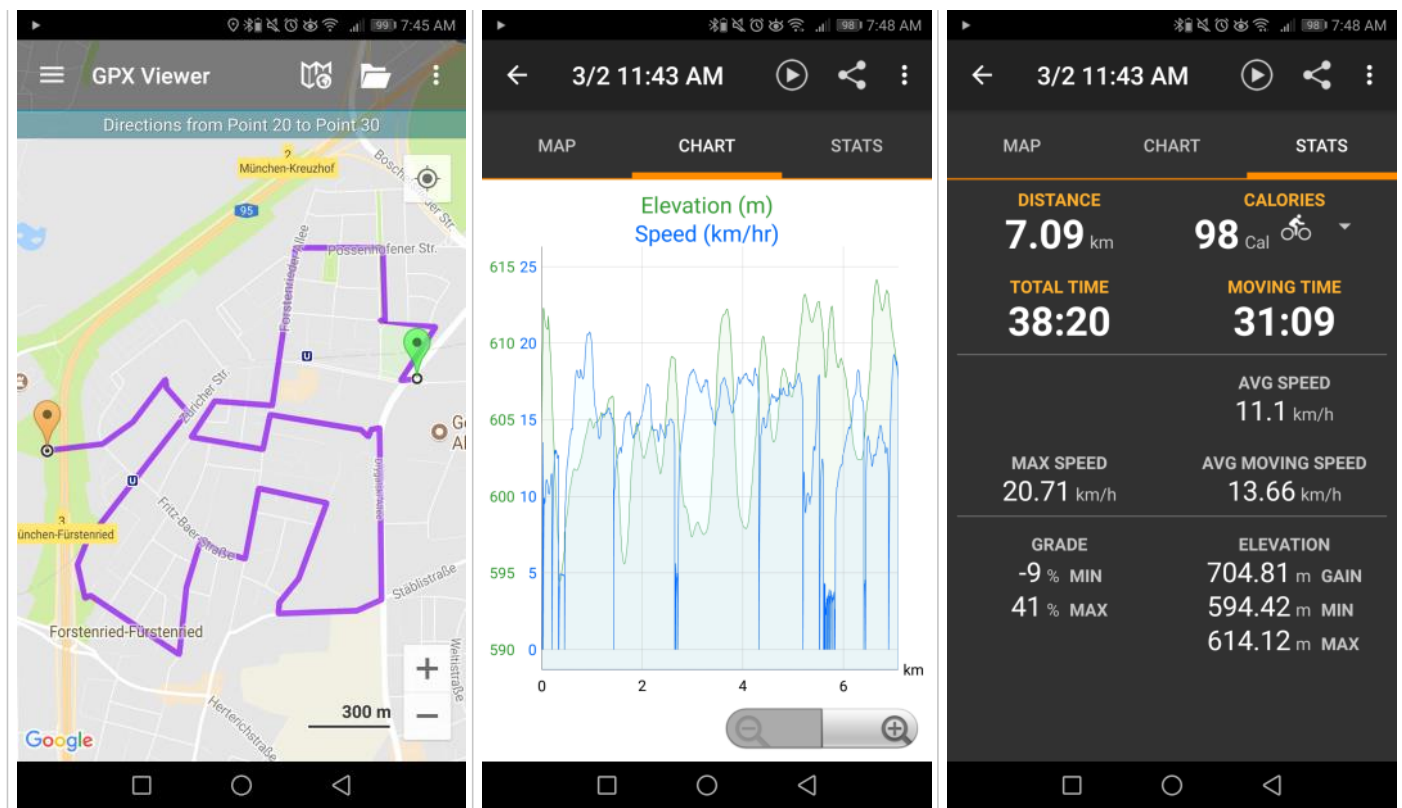


Crossing large streets like Boschetsrieder Straße at this point is made much more tolerable and secure, if a bit slow, with the addition of the islands in the middle of a roadway. On the south side of Boschetsrieder Straße the sidewalk was as in other areas of this street, wide enough, and next to parked cars, with enough space between the cars and the cycle path in the sidewalk to feel safe and free of obstacles. The path heading east off of Aidenbachstraße was not cleared, as is more typical in areas of purely residential development. Heading into the Siemens campus area, the network of paths became very hard to understand, and several times the author had to go out of his way and backtrack to follow the route as closely as possible (it was not possible in several areas due to fences and paths which were in reality not open or blocked). These areas are just not as legible as regular neighborhoods and seem plainly not designed for through traffic or cycling.

The residential area to the west of the Gewerbegebiet and Siemens area had well marked paths and streets that made it easy to see where to go and follow the route. Some cycle paths were narrow and next to parked cars, but mostly they were wide enough and separated from cars and the street with green shoulder areas. Some of the intersections on the more industrial streets lacked signals or lanes for cyclists. Again, it was like night and day, going from a street with mostly commercial or industrial development to one with residential and retail. Almost always the latter had very nice cycle infrastructure and greenery, while the others lacked paths, signals, and often had construction which made it impossible to continue the route. With that construction also comes dust and heavy vehicle traffic, which are both bad for the cycling experience.

At the end, approaching yet another industrial area, there were cycling paths in the sidewalks but the landscape was dominated by large buildings with monotone architecture, which made areas like this boring to cycle through. Also, these areas have more gravel and dust on the cycleways which make for poor grip and breathing conditions.

Segment 3:



Most of this segment was in residential areas of varying density. The initial segment was in a park area with a cleared path, which was very welcome and provided a nice long route for cyclists which would make a significant part of some shorter trips. Many of the streets in residential areas of this segment were VERY icy, as in they had not been properly cleared and frozen solid over the past days. Many of the larger streets were cleared just fine however, and also were nicely surrounded by trees and green areas, making them more pleasant to cycle in, in addition to their generally spacious width, as medium to medium low density areas.

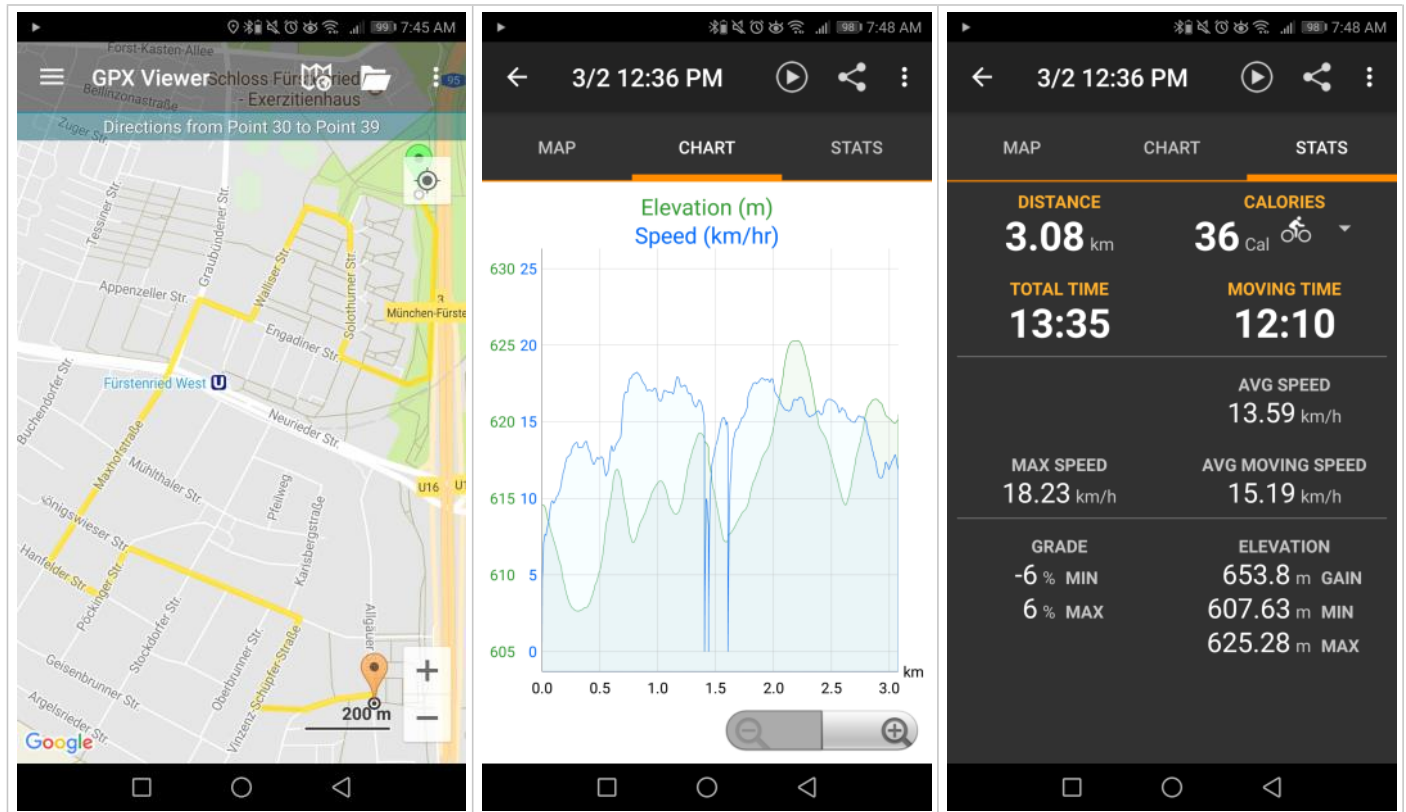
The cycle lanes along Forestenrieder Allee and Drygalski Allee were very comfortable and safe to ride on. Green shoulders, trees, enough width, and clearly separate from the sidewalks they were placed on. Also, there were plenty of people around making it much more of a nice area to cycle through. In some areas where it was shared cycling and walking area, the pavement was definitely wide enough to allow for maneuvering around people and giving each other enough space. There were some paths in between residential buildings which were well cleared and had places for resident's bikes to be parked outside the doors. This seemed very convenient for the residents, direct access to their bikes and to cycling infrastructure connected to major cycle paths and roads. This type of residential area was much more prevalent in newer suburban areas or renovated central areas.

The large roadways (Drygalski Allee and Stäblistraße) at the southeast end of the route were, as they usually are, boring to ride along but well equipped with cycle paths on the sidewalk separated from the roadway. A little curve to the road, like on Stäblistraße makes it much more pleasant, as well as trees and smaller buildings or more variation in the build environment. Drygalski Allee was pretty bad with this respect. The older residential areas, filled with rowhouses in this district, were fine to cycle through, just as other low density or medium low density residential zones. Weirdly it was these areas with the worst street conditions w/r/t snow and ice. Still with the low traffic, getting around them is fine. Clearly marked crosswalks across the collector streets like Forstenrieder Allee were all over, making it easy to avoid going out of your way no matter where you were going.

The forested area along the motorway would be very nice to cycle through, especially given it is directly next to the motorway and is pretty unimpeded by traffic, however it was not cleared at all of snow and ice and the bike had to be walked again. The residential area in the last bit of this segment had nice cycling infrastructure, but too few intersections to cross the street from the cycle path on the east side of the road. The green area with trees and grass in between the buildings which became the path under the motorway was very nice to have. It made for a large

connected green area like exists in Pasing which connected parts of the area together with an easily traversable bike path (on a signposted route nonetheless).

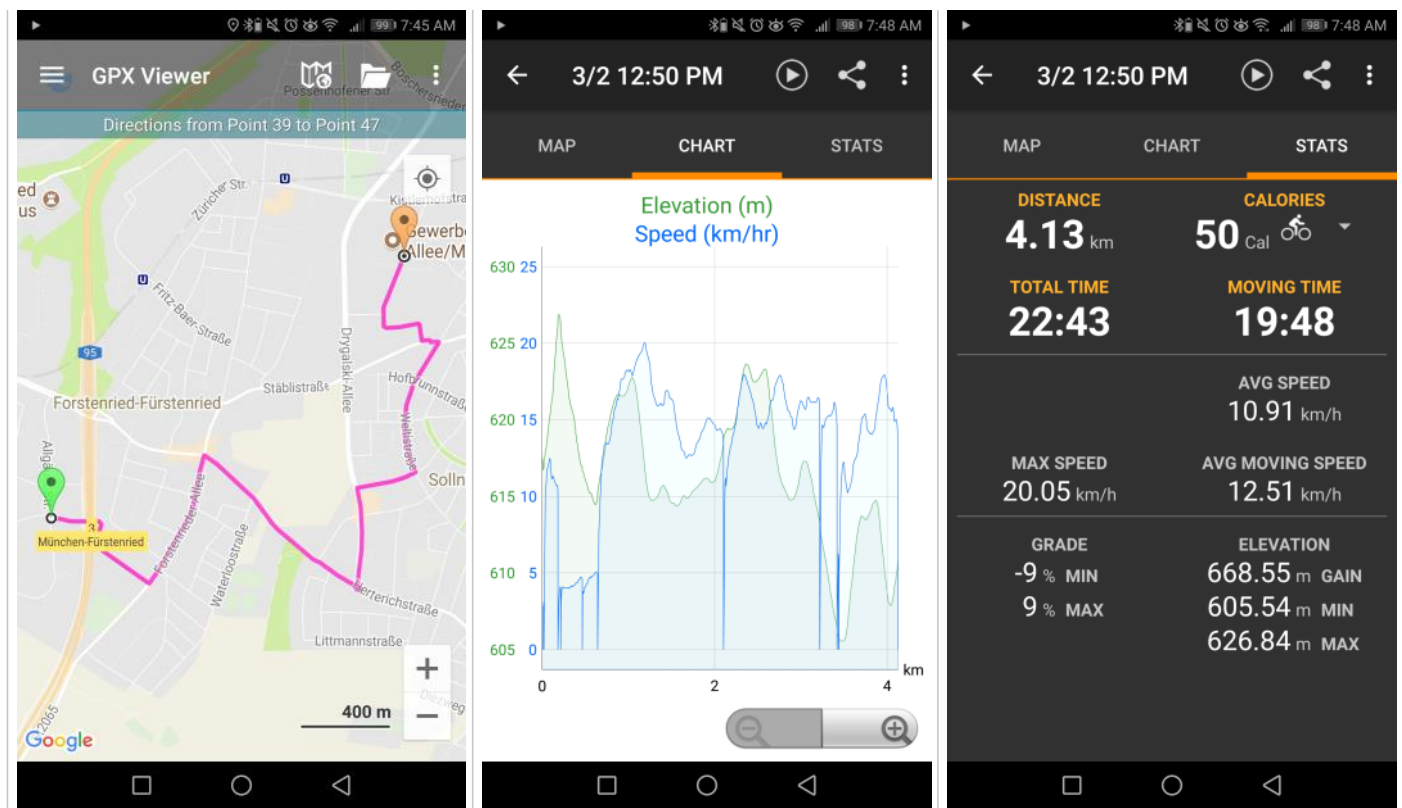
Segment 4:



The beginning of this segment in the green area along the motorway was not as bad as it might seem. It was a little boring and felt slow riding next to so many passing cars, but generally it was fine. Having the cycle path there at all is a nice way to connect areas for cyclists as they are for motorists. The residential area seemed a mixture of medium high and low density, with cars parked all along the wide loop street. Low traffic and plenty of space made this area easy to cycle through.

Graubündener Straße was very similar to Forstenrieder Allee. South of Neurieder Straße, the neighborhood was very well kept (much less snow) and the streets were very calm and wide, making cycling feel safe and comfortable.

Segment 5:

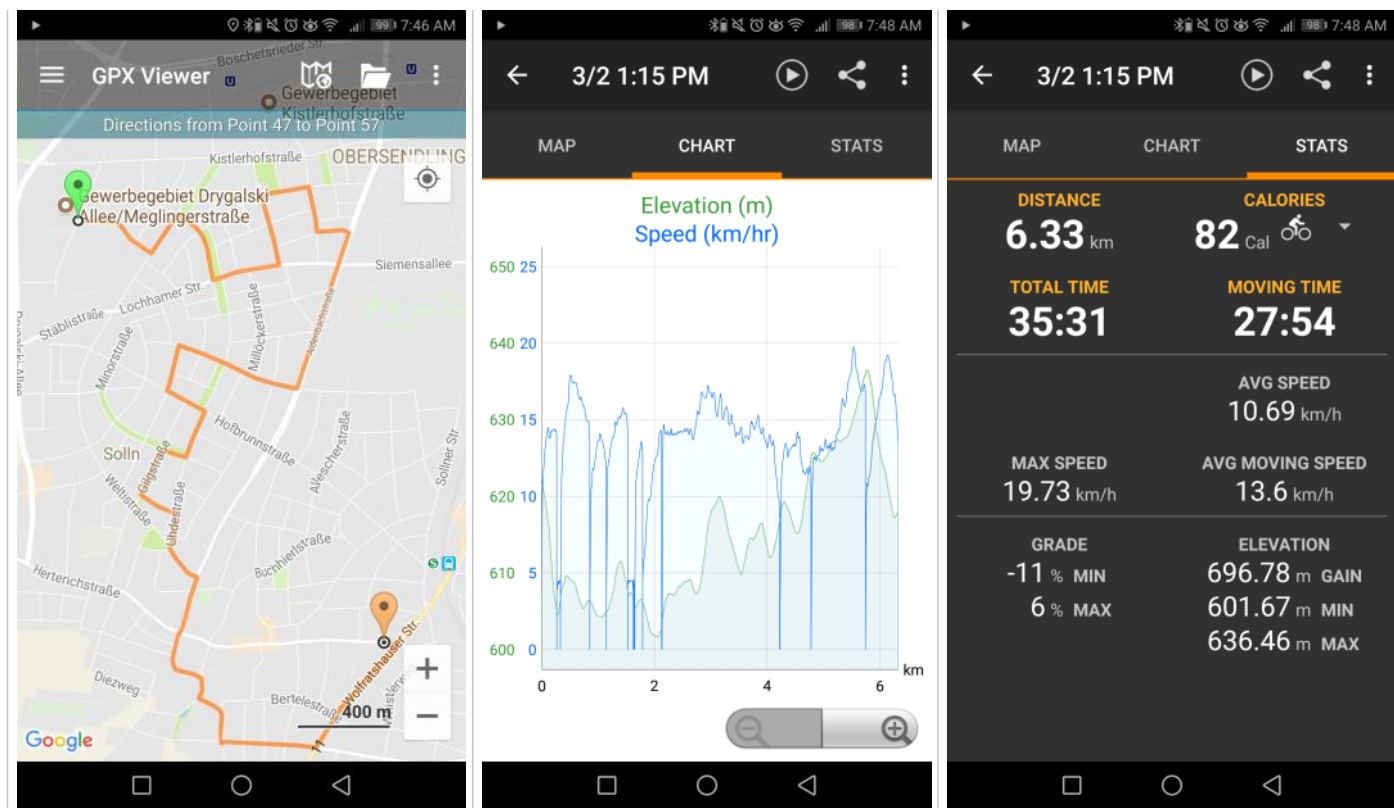


Again, this residential area on the west side of the autobahn was quite pleasant and well connected to a cycle path that crossed over the motorway. Unfortunately, that path and the ramps on either side of the bridge were very snowy and icy. Once on Forstenrieder Allee again, the pleasant cycling path next to a green shoulder with trees continued. Well-marked signs and paths made it very easy to know where to go and when to turn. Herterichstraße was different, there was no cycle lane on the road or path on the sidewalk for some time, until a path, which was supposed to be two-way, on the north side of the street began, however, the winter service vehicles had not cleared enough of it to allow two bikes to pass easily. This only existed for about 500m though, at which point the development became a little more dense and the cycle path was again next to a sidewalk which made it feel much wider and more comfortable.

Drygalski Allee was just as before, large apartment buildings on either side in this area, however, but the cycle path on the sidewalk was wide enough and separated from traffic by parked cars well enough that it felt safe and comfortable to ride on. Turning right into the Solln neighborhood, the density of the houses became much lower, and the cycle path on the sidewalk a mere 1m wide strip marked by a single paint line, or a single narrow strip of asphalt in the sidewalk which felt very cramped, especially as the snow always encroached from the side which cars were parked on. There was hardly any buffer space between the parked cars and the narrow bike lane, and the sidewalk it was on was narrow to begin with, so conflicts between passengers and pedestrians might be more common.

The very end of this segment ended in another Gewerbegebiet area, which was only slight better than the one in Obersendling with respect to its cycle-ability. No bike lanes for the most part, cars and service trucks entering and exiting the many large retail and other shopping facilities, and in general lots of traffic. A bike lane or path would make it feel much more comfortable and secure. The speed of the traffic isn't very high, so it doesn't feel terribly unsafe, but there are so many cars turning in and out of parking lots that it could make cyclists anxious.

Segment 6:

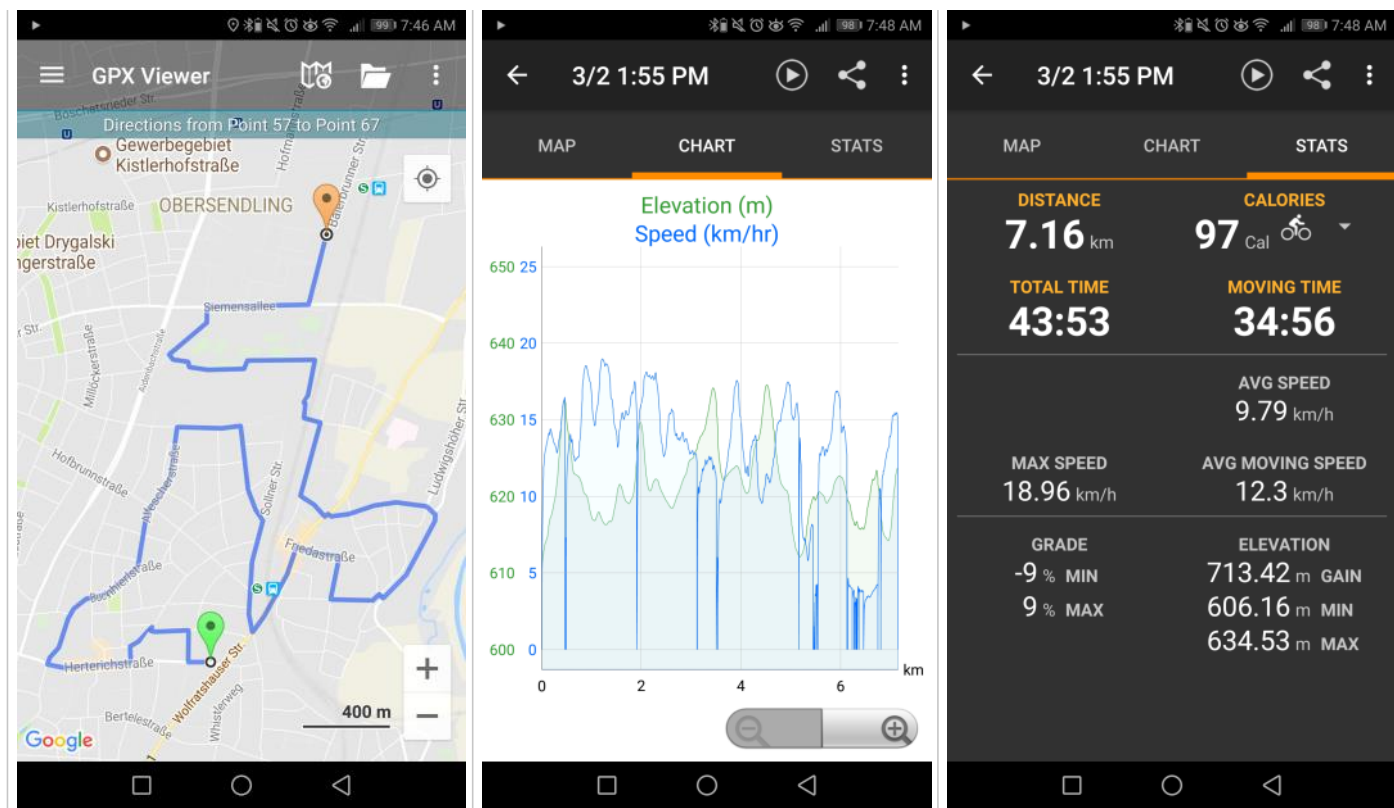


In the beginning of this segment as well, the residential streets were very icy. There were several boulevard style streets in the middle of residential areas, which make for much more attractive cycling areas just as in some parts of Pasing. Lochhämmer Straße was a nice street to cycle along, however, the cycle path on the sidewalk was very icy, and quite narrow, especially between the parked cars and icy sidewalk. Aidenbachstraße was just as above here as well, mostly a wide cycling path on the sidewalk next to a green shoulder with trees, a row of parked cars, and then the lane of traffic. The buildings in this area were mostly diverse and offset only a little from the street, with retail in the bottom of many of them, which makes it feel more like a main street and not a boring residential collector.

Much of the residential area in the middle was low density, but also very green, with grassy and wooded areas very common. The streets were wide and open, mostly free of parked cars which made it easier to navigate and avoid conflicts with drivers.

Wolfratshauser Straße was, for the most part, pleasant. It was very busy with traffic (it is the B11). And in some areas, there was no real cycle path or lane, just a shared area for bikes and pedestrians that didn't seem wide enough for both. Another Bundesstraße with less than stellar conditions for cycling. Closer to the S-Bahn station near the end of the segment, it did get significantly better, with a wider cycle path that was clearly marked and a green shoulder with trees in between the cyclists and the traffic.

Segment 7:



The residential streets in this area were a bit more full and a bit narrower than in other areas, with larger houses as well, but they were still functionally the same for cyclists. Cycling through the side streets and the collectors in this area was very nice, as traffic was low, the houses were diverse and close to the street, the zones were clearly marked, and there were plenty of trees along them.

At some of the intersections, the streets were too narrow for a cyclists and a car to pass one another without slowing down a lot. The streets which lead to the S-Bahn station were all very full, and with traffic that seemed to make the author more anxious than normal. A higher density of entrances and exits, side streets, and generally more erratic driving make it difficult for cyclists to judge which cars will do what next. The bridge on the B11, Wolfratshauser Straße, was actually very well designed for cyclists, it had a very gentle slope and wide cycle path and sidewalk. The forested area to the east of the B11 (N-S section on the east side of the map) were very nice to cycle along, and had proper intersections with roads when they crossed. The road to the west back towards the B11 was narrow, had cars parked on one side, and some traffic which caused cyclists to have to stop often.

Finally, the last section on the other side of the B11 was more of the same: narrow residential streets with cars parked occasionally on the side, and plenty of trees to make it a pleasant area to cycle from. The path which went under the bridge of the railway tracks was a convenient way to get across, like many other railway underpasses for cycling paths. Unfortunately, the entire green area on the other side of the tracks was not cleared of snow, so walking the bike was the only option for the entirety of the rest of the route until Siemensallee and the final N-S section at the end of the segment.

Siemensallee had a good cycle path on the sidewalk, and the N-S street was well-marked as well. The area was a mixture of high rises and office buildings, with apartments, schools, and some shops interspersed. The area was pretty busy, and people were around so it was quite nice. It seemed as if the area had just been built up or redesigned with pedestrians and cyclists in mind, though the width of the street seemed somewhat unnecessary, and more retail or shopping in the area would bring more people around or allow them to combine trips.

