This research explores the use of self-built sensors and Open Data to create better informed cycling urbanism. In creating multiple layers of different bicycle related data, it becomes possible to make evidence-based design decisions to improve cycling paths and networks. Allowing people to create their own data on urban issues that matter to them is not only helpful in creating better urban environments but shows how the Digital City ought to be.

In order to ensure a greater mobility for all its citizens, the city of Berlin passed Germany’s first mobility law in 2018 with the aim of strengthening car-free modes of transportation, with a strong cycling culture at its core.

Since then, the cycling conditions have only partially improved, largely due to fact that there is an evident lack of data on the current state of the cycling infrastructure. In many cases planners and politicians have no way of knowing where cycling in the city in particularly dangerous, bad or uncomfortable.

This work explores digital tools to generate data on dangerousness, comfortability and quality of existing cycling paths. A self-built sensor measures vibration as you are cycling and creates data on where cycling paths are in bad condition. Along with Open Data sets and two external sensor projects, this created multiple layers of cycling data that inform where dangerous, bad or uncomfortable situations occur.

It shows that relatively simple and cheap digital tools can be used to gain a understanding of the current state of cycling in Berlin and elsewhere. In order to make evidence-based Design decisions for better cycling infrastructure, it is shown how crucial datasets and information can be generated through the use of self-built sensors and Open Data. Lastly, direct design proposal are derived from the date at hand.

Full publication: https://issuu.com/nlrennert/docs/ma_bike_data_rennert_359779_small