

# Project Sidewalk: Mapping the Accessibility of the World through Google Street View

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**Abstract:** Digital maps such as Google Maps, Waze, and Yelp have transformed the way people travel and access information about the physical world. While these systems contain terabytes of data about road networks and points of interest (POIs), their information about physical accessibility is commensurately poor. GIS websites like [Axsmap.com](http://Axsmap.com), [Wheelmap.org](http://Wheelmap.org), and [AccessTogether.org](http://AccessTogether.org) aim to address this problem by collecting location-based accessibility information provided by volunteers (i.e., crowdsourcing). While these efforts are important and commendable, their value propositions are intrinsically tied to the amount and quality of data they collect. In a recent review of accessibility-oriented GIS sites, Ding et al. found that most suffered from serious data sparseness issues. One key limiting factor is the reliance on local populations with physical experience of a place for data collection. While local users who report data are likely to be reliable, the dependence on in situ reporting dramatically limits scalability—both who can supply data and how much data they can easily supply.

In contrast, we are exploring a different approach embodied in a new interactive tool called Project Sidewalk (<http://projectsidewalk.io>), which enables online crowdworkers to contribute physical-world accessibility information by virtually walking through city streets in Google Street View (GSV)—similar to a first-person video game. Rather than pulling solely from local populations, our potential pool of users scales to anyone with an Internet connection and a web browser. In this talk, I will describe the design of Project Sidewalk and a recent 18-month deployment study in Washington DC. I will close with a discussion of our current and future work investigating correlates to urban accessibility, training machine learning algorithms to automatically assess accessibility, and interactive tools that create better transparency about accessible infrastructure. Our overarching goal is to transform how accessibility data is collected and visualized.

**Bio:** Jon is an Associate Professor in the Paul G. Allen School of Computer Science and Engineering at the University of Washington (UW), a Sloan Fellow, and NSF CAREER awardee. His research in Human-Computer Interaction (HCI) has led to over 50 peer-reviewed publications; thirteen have been honored with awards, including Best Papers at ACM CHI and ASSETS and a 10-Year Impact Award at UbiComp. Jon directs the Makeability Lab (<http://makeabilitylab.io/>) and is a co-founding member of DUB (<http://dub.washington.edu>), a large, cross-disciplinary organization of academic and industry professionals interested in HCI and Design research. From 2012-2017, Jon was an Assistant Professor in Computer Science at the University of Maryland.