Advancing Disability Inclusion Using Spatially Enabled Crowdsourced Data to Understand How Pedestrians Experience Barriers

Olusegun Ogunleye[1] and Victoria Fast[2]

[1]Department of Geography, University of Calgary, olusegun.ogunleye@ucalgary.ca
[2]Department of Geography, University of Calgary, victoria.fast@ucalgary.ca

The absence, or inadequacy, of disability-related data limits disability activism and the inclusion of the disabled community, and their experience, in the decision-making process. The consequence has been the continuous exclusion of disabled persons from being active urban citizens. The limited understanding of how disabled people experience barriers has resulted in instances where initiatives to encourage inclusiveness have further excluded them. While different crowdsourcing initiatives have attempted to address the data gap, several constraints limit how these initiatives effectively engaged the disabled community and influenced the decision-making process.

This research project builds on the innovative work of WalkRollMap.org (WRM) which enables pedestrians to report barriers they experience to accessible walking and rolling. Available WRM data reveals that 12.52% of responders identified themselves as being disabled compared to approximately 22% of Canadians above the age of 15 years as of 2017. Our goal is to increase the involvement of the disabled community within the city of Calgary and identify appropriate spatial analytical and geovisualization techniques and models that will enable us to derive meaningful insight into the varied experiences of pedestrians. In this regard, we explore the following research questions: considering the characteristics of VGI and the WRM dataset, what spatial analytical and geovisualization techniques and models can be utilized to enhance our understanding of how disabled pedestrians experience barriers? and how can WRM be used to inform initiatives aimed at making our cities more inclusive?

The research will provide a richer understanding of how diverse groups of pedestrians, with specific attention to disabled persons, experience barriers in the city of Calgary. It will also expand the frontier of how we can incorporate spatially enabled crowdsourced qualitative and quantitative data into geographically explicit models to inform and enhance decision-making.