

RESEARCH INTERESTS Geographic information science, public health, spatial analysis, injury prevention, road safety, active transportation, epidemiology

RESEARCH EXPERIENCE **The University of British Columbia**, Vancouver, British Columbia

Postdoctoral Research Fellow, January 2024 - Present

- Leading research into evaluating sociospatial inequities in road traffic injury risk.

The University of British Columbia, Vancouver, British Columbia
& The Ministry of Health, Victoria, British Columbia

Health System Impact Postdoctoral Research Fellow, January 2021 - December 2023

- led research into evaluating the circumstances of road traffic trauma to active transport users in the province of British Columbia.

Toronto Metropolitan University, Toronto, Ontario

Postdoctoral Research Fellow, May 2020 - December 2021

- Led research into the transportation injury risks among Canadians using linked census and injury outcome databases.

EDUCATION **Simon Fraser University**, Burnaby, BC

Ph.D., Health Sciences, April 2020

- Topic: *Evaluating and utilizing crowdsourced data and population surveys in bicycling safety research*
- Supervisor: Meghan Winters, Ph.D

University of Victoria, Victoria, BC

M.Sc., Geography, July 2015

- Topic: *Modelling and Mapping Regional Indoor Radon Risk in British Columbia, Canada*
- Supervisor: Trisalyn A. Nelson, Ph.D
- Co-Supervisor: Sarah B. Henderson, Ph.D

University of Victoria, Victoria, BC

B.Sc., Geography (Geomatics Concentration), April 2013

- *With Distinction*

REFEREED JOURNAL PUBLICATIONS

1. **Branion-Calles, M.**, Andrea Godfreyson, Kate Berniaz, Neil Arason, Shannon Erdelyi, Meghan Winters, Kay Teschke, Fahra Rajabali, M. Anne Harris,i, Jeffrey R. Brubacher. Comparing pedestrian and cyclist injuries from falls and collisions in British Columbia, Canada: frequencies and population characteristics. *Journal of Transport & Health*. 42(102044). doi:10.1016/j.jth.2025.102044.
2. **Branion-Calles, M.**, Godfreyson, A., Erdelyi, S., Winters, M., Chan, H., Brubacher, J. Underreporting and selection bias of serious road traffic injuries in auto insurance claims and police reports in British Columbia, Canada. *Transportation Research Interdisciplinary Perspectives*. 30(101375). doi:10.1016/j.trip.2025.101375.

3. **Branion-Calles, M.**, Rothman, L., Winters, M., Harris, M.A. (2024). Risk factors and inequities in transportation injury and mortality in the Canadian Census Health and Environment Cohorts (CanCHECs). *Epidemiology* 35(2). doi:10.1097/EDE.0000000000001696.
4. Harris, M.A., Watson, T., **Branion-Calles, M.**, Rosella, L. (2024). Ascertainment and description of pedestrian and bicycling injuries and fatalities in Ontario from administrative health records 2003–2017: contributions of non-collision falls and crashes. *Injury Prevention*. doi:10.1136/ip-2023-045217
5. Laberee, K., Nelson, T., **Branion-Calles, M.**, Ferster, C., Winters, M. (2021) Crowdsourced bicycling crashes and near misses: Trends in Canadian cities. *Urban, Planning and Transport Research* 9(1). doi:10.1080/21650020.2021.1964376.
6. Thompson, C., **Branion-Calles, M.**, Harris, M.A. (2021) Translating risk to preventable burden by estimating numbers of bicycling injuries preventable by separated infrastructure on a Toronto, Ontario corridor. *University of Toronto Journal of Public Health*. 2(1). doi:10.33137/utjph.v2i1.35209.
7. Caislin, F., **Branion-Calles M.**, Winters, M., Harris, M.A. (2021). Who bikes? An assessment of leisure and commuting bicycling from the Canadian Community Health Survey *Transport Findings, May*, doi:10.32866/001c.22163
8. **Branion-Calles, M.**, Teschke, K., Koehoorn, M., Espin-Garcia, O., Harris, M.A. (2021). National population data for estimating the amount and safety of walking and bicycling in Canada. *Preventive Medicine Reports*. 22(101366) doi:10.1016/j.pmedr.2021.101366
9. Harris, M.A., **Branion-Calles M.** (2021). Changes in Transport to Work and School Due COVID-19 Risk Concerns: An Analysis of the Canadian Perspectives Survey Series 3. *Transport Findings, February*, doi:10.32866/001c.19088
10. **Branion-Calles, M.**, Hosford, K., Winters, M., Gauvin, L., and Fuller, D. (2020). The Impact of Implementing Public Bicycle Share Programs on Bicycle Crashes. *Transport Findings, September*, doi:10.32866/001c.16724
11. Sanders, R., **Branion-Calles, M.**, Nelson, T. (2020). To Scoot or Not to Scoot: Findings from a Recent Survey about the Benefits and Barriers of Using E-scooters for Riders and Non-riders. *Transportation Research Part A: Policy and Practice*, 139, 217–227. doi:10.1016/j.tra.2020.07.009
12. **Branion-Calles, M.**, Götschi, T., Nelson, T., Anaya-Boig, E., Avila-Palencia, I., Castro, A., Cole-Hunter, T., de Nazelle, A., Dons, E., Gaupp-Bergausen, M., Gerike, R., Int Panis, L., Kahlmeier, S., Nieuwenhuijsen, M., Rojas-Rueda, D., and Winters, M. (2020). Cyclist crash rates and risk factors in a prospective cohort in seven European cities. *Accident Analysis & Prevention*, 141(105540). doi:10.1016/j.aap.2020.105540.
13. **Branion-Calles, M.**, Winters, M., Nelson T., de Nazelle, A., Int Panis, L., Avila-Palencia, I., Anaya-Boig, Esther., Rojas-Rueda, D., Dons, E., Götschi, T. (2019). Impacts of study design on sample size, participation bias, and outcome measurement: a case study from bicycling research. *Journal of Transport & Health*, 15(e100651). doi:10.1016/j.jth.2019.100651.
14. **Branion-Calles, M.**, Nelson, T., Fuller, D., Gauvin, L., and Winters, M. (2019). Associations between individual characteristics, availability of bicycle infrastructure, and city-wide safety perceptions of bicycling: a cross-sectional survey of bicyclists in 6 Canadian and U.S. cities. *Transportation Research Part A: Policy and Practice*, 123, 229–239. doi:10.1016/j.tra.2018.10.024.

15. Winters, M., **Branion-Calles, M.**, Therrien, S., Fuller, D., Gauvin, L., Whitehurst, DGT., and Nelson, T. (2018). Impacts of Bicycling Infrastructure in Mid-Sized Cities (IBIMS): Protocol for a Natural Experiment Study. *BMJ Open*, 8(e019130). doi:10.1136/bmjopen-2017-019130.
16. **Branion-Calles, M.**, Nelson, T., and Winters, M. (2017). Comparing Crowdsourced Near Miss and Collision Cycling Data and Official Bike Safety Reporting. *Transportation Research Record: Journal of the Transportation Research Board*, 2662, 1–11. doi:10.3141/2662-01.
17. Winters, M., **Branion-Calles, M.** (2017). Cycling Safety: Quantifying the under reporting of cycling incidents in Vancouver, British Columbia. 7(A), 48–53 *Journal of Transport and Health*. doi:10.1016/j.jth.2017.02.010
18. **Branion-Calles, M.C.**, Nelson, T.A., and Martin, G. (2017). Adjusting Local Alcohol Consumption Data for Influence of Tourists. *Journal of Substance Use*, 22(1), 11–19. doi:10.3109/14659891.2016.1140235.
19. **Branion-Calles, M.C.**, Nelson, T.A., and Henderson, S.B. (2016). A geospatial approach to the prediction of indoor radon vulnerability in British Columbia, Canada. *Journal of Exposure Science and Environmental Epidemiology*, 26(6), 554–565. doi:10.1038/jes.2015.20.
20. **Branion-Calles, M.C.**, Nelson, T.A., and Henderson, S.B. (2015). Different radon thresholds and their associations with geographic risk characterization and lung cancer mortality trends in British Columbia, Canada. *BMC Public Health*, 15(1144), 1–13 doi:10.1186/s12889-015-2438-2.

JOURNAL
PUBLICATIONS IN
PREPARATION

1. **Branion-Calles, M.**, Somayeh M., Erdelyi, S., Chan, H., Brubacher, J. Evaluating regional variation in socioeconomic inequalities in motor-vehicle injury collisions. *Submitting to Journal of Transport Geography*, May 2025

PUBLISHED
ABSTRACTS

1. Winters, M., **Branion-Calles, M.** (2016). [Cycling Safety: Quantifying the Under-reporting of Cycling Incidents](#) *International Conference on Transport and Health*, June 13-15; San Jose, California. International Conference (Oral Presentation)

CONFERENCE
PRESENTATIONS

1. **Branion-Calles, M.**, Erdelyi, S., Chan, H., Brubacher, J. (2023) “Exploring Social-Spatial Inequities in Road Traffic Injury in British Columbia ” *Canadian Injury Prevention Conference*. November 2-5; Vancouver, BC. National Conference (Oral Presentation)
2. **Branion-Calles, M.**, Rothman, L., Winters, M., Harris, M.A. (2022) “Risk factors for transportation injury and mortality in the Canadian Census Health and Environments Cohorts (CanCHEC): a descriptive analysis ” *Canadian Association of Road Safety Professionals Conference*. June 19-21; Sudbury, ON. National Conference (Oral Presentation)
3. **Branion-Calles, M.**, Slugget, L., Tjepkema, M., Harris, M.A. (2021) “Use of National Ambulatory Care Reporting System (NACRS) to ascertain acute health care outcomes in Canada-wide linkage data” *Canadian Society for Epidemiology and Biostatistics* June 1-3; Virtual Conference. National Conference (Poster Presentation)

4. Sanders, R., **Branion-Calles, M.**, and Nelson, T. (2020) “To Scoot or Not to Scoot: Findings from a Recent Survey about the Benefits and Barriers of Using E-scooters for Riders and Non-riders” *Transportation Research Board 99th Annual Meeting*. January 12-16; Washington, DC. International Conference (Poster Presentation)
5. **Branion-Calles, M.**, Götschi, T., Nelson, T., Dons, E., Castro, A., Gaupp-Bergausen, M., Int Panis, L., Cole-Hunter, T., Rojas-Rueda, D., Avila-Palencia, I., Nieuwenhuijsen, M., de Nazelle, A., Anaya-Boig, E., Gerike, R., and Winters, M. (2019) “Exposure-Adjusted Bicycling Crash Rates and Risk Factors in Seven European Cities” *Canadian Association of Road Safety Professionals Conference*. May 26-29; Calgary, AB. National Conference (Oral Presentation)
6. **Branion-Calles, M.**, Nelson, T., Gauvin, L., Fuller, D., and Winters, M. (2018) “Associations between spatial access to bicycle-specific infrastructure, sociodemographic characteristics, and city-wide safety perceptions of bicycling: a cross-sectional survey of bicyclists in 6 Canadian and U.S. cities” *Canadian Association of Road Safety Professionals Conference*. June 10-13; Victoria, BC. National Conference (Oral Presentation)
7. Winters, M, Therrien S, **Branion-Calles, M**, Gauvin L, Whitehurst, D and Nelson, T (2017) “Laying the context: Baseline findings from natural experiment study of “Biketoria”, a city-wide cycling network in Victoria, BC” *The International Society of Behavioral Nutrition and Physical Activity Annual Meeting*. June 7-10; Victoria, BC. International Conference (Poster Presentation)
8. **Branion-Calles, M.**, Nelson, T., and Winters, M. (2017) “Comparing Crowdsourced Near Miss and Collision Data and Official Bike Safety Reporting” *Transportation Research Board 96th Annual Meeting*. January 8-12; Washington, DC. International Conference (Poster Presentation)
9. **Branion-Calles, M.** (2017) “Evaluating the Association Between Cycling Environments and Perceptions of Cycling Safety: The International Bikeshare Impacts on Cycling and Collisions Study (IBICCS)” *Semiahmoo Occupational, Environmental and Public Health Conference*. January 5-6; Blaine, WA. Regional Conference (Oral Presentation)
10. **Branion-Calles, M.**, Nelson, T., and Winters, M. (2016) “Evaluating Crowdsourced Cyclist Safety Data: Collisions and Near-Misses reported to BikeMaps.org in Victoria, British Columbia” *Simon Fraser University Health Research Day*. May 4; Surrey, BC. Regional Conference (Poster Presentation)
11. **Branion-Calles, M.** (2016) “Evaluating the cost of cyclist collisions in Vancouver” *Semiahmoo Occupational, Environmental and Public Health Conference*. January 8-9; Blaine, WA. Regional Conference (Oral Presentation)
12. **Branion-Calles, M.**, Nelson, T.A., and Henderson, S.B. (2015) “Predicting indoor radon vulnerability classes and assessing differences in lung cancer mortality in British Columbia” *Canadian Association of Geographers Annual Meeting*. June 1-5; Vancouver, BC. National Conference (Oral Presentation)
13. **Branion-Calles, M.**, Nelson, T.A., and Henderson, S.B. (2015) “Predictive Mapping of Indoor Radon Vulnerability in British Columbia, Canada” *Association of American Geographers Annual Meeting*. April 21-25; Chicago, Illinois. National Conference (Oral Presentation)
14. **Branion-Calles, M.**, Nelson, T.A., and Henderson, S.B. (2014) “A Geospatial Approach to the Prediction of Indoor Radon Vulnerability in British Columbia, Canada” *ESRI Canada User Conference*. November 5; Vancouver, BC. Regional Conference (Oral Presentation)

15. **Branion-Calles, M.**, Nelson, T.A., and Henderson, S.B. (2014) “Conflating Residential Radon Surveys and Mapping the Spatial Variation in Indoor Radon Levels in British Columbia.” *Annual Meeting of the Western Division of the Canadian Association of Geographers*. March 7-9; Victoria, BC. Regional Conference (Oral Presentation)
16. **Branion-Calles, M.**, Nelson, T.A., and Henderson, S.B. (2014) “Integrating Residential Radon Surveys in British Columbia.” *Spatial Knowledge and Information Conference*. Feb. 6-9; Banff, Alberta. National Conference (Oral Presentation)

INVITED TALKS

1. **Branion-Calles, M.** (2023) “An Introduction to Open-Sourced, Script Based Geographic Analysis using R” *Toronto Metropolitan University: School of Occupational and Public Health Reserach Methods Seminar*. March 14 .
2. **Branion-Calles, M.** (2020) “Evaluating and utilizing crowdsourced data and population surveys in bicycling safety research” *Arizona State University, School of Geographical Sciences and Urban Planning: Spatial Analysis Research Centre (SPARC) Talks*. January 22.
3. **Branion-Calles, M.** (2016) “Modelling and Mapping Regional Indoor Radon Risk in British Columbia, Canada” *Simon Fraser University, Faculty of Health Sciences: Occupational and Environmental Health (OEH) Seminar*. March 17.
4. **Branion-Calles, M.** (2015) “Modelling and Mapping Regional Indoor Radon Risk in British Columbia, Canada” *University of British Columbia, School of Population and Public Health: Occupational and Environmental Health (OEH) Seminar*. September 18.

CONSULTANT REPORTS

1. Sones, M., **Branion-Calles, M.**, and Winters, M. (2018). *Literature review on equity in active transportation planning: Calgary Pathway and Bikeway Plan Update*. Report to Stantec Consulting for the City of Calgary.

RESEARCH REPORTS

1. **Branion-Calles, M., Godfreyson, A., Brubacher, J.**, (2024). *Pedestrian and Cyclist Safety in British Columbia*. Report for BC Ministry of Health and BC Ministry of Transportation and Infrastructure.
2. Harris, M.A., Thompson, C., Myint, N., and **Branion-Calles, M.**, (2020). *Lane Change: Safer Cycling Infrastructure in Toronto, a study of Bloor-Danforth*. Report for the Ryerson City Building Institute.

GRANTS AND FELLOWSHIPS

1. Health System Impact Fellowship (\$155,000) 2021 - 2023
 Research: *Analyzing linked safety data to improve active transport safety in BC*
 Funder: Canadian Institutes of Health Research
 Award Number: HSIF-2021-2482
 Role: Principal investigator
2. CIHR Project Grant (\$823,141) 2021 - 2025
 Title: *Circumstances and Outcome of Active Transportation Injuries: An Inception Cohort Study*
 Funder: Canadian Institutes of Health Research
 Award Number: 461108
 Role: Co-investigator

3. CIHR Project Grant (\$ 286,875) 2022 - 2025
 Title: *A spatial analysis of inequality in road trauma outcomes in British Columbia*
 Funder: Canadian Institutes of Health Research
 Award Number: 468467
 Role: Co-investigator
4. CIHR Operating Grant (\$325,125) 2021 - 2024
 Title: *Bicyclist and pedestrian crashes in Ontario: Detection and comparison of health outcomes between police-reported collisions and injury health care records*
 Funder: Canadian Institutes of Health Research
 Award Number: 451942
 Role: Co-investigator

SCHOLARSHIPS AND AWARDS

- Student Awards — Simon Fraser University, Faculty of Health Sciences
- Mitacs Globalink Research Award (\$6,000) 2020
 - Simon Fraser University Graduate Fellowship (\$6,500) 2020
 - Simon Fraser University Graduate Fellowship (\$6,500) 2019
 - Travel and Minor Research Award (\$764) 2018
 - Simon Fraser University Graduate Fellowship (\$9,150) 2018
 - Simon Fraser University Graduate Fellowship (\$9,750) 2017
 - Simon Fraser University Graduate Fellowship (\$3,250) 2016
 - SSHRC Doctoral Fellowship (\$80,000) 2016
 - Simon Fraser University Graduate Fellowship (\$6,500) 2015
- Student Awards — University of Victoria, Department of Geography
- Dr. Harold Foster Memorial Scholarship(\$588) 2014
 - SSHRC Joseph Armand Bomardier CGS (\$17,500) 2014
 - UVic Graduate Fellowship (\$10,000) 2013
 - Lois M. Smith Athletes Award (\$475) 2012
 - Vikes Athletic Award (\$1,525) 2012
 - Presidents Scholarship (\$1,000) 2012
 - Presidents Scholarship (\$1,500) 2011
 - Canadian Interuniversity Sports Academic All-Canadian 2010-2012
 - UVic Vikes Honour Roll 2010-2012

TEACHING EXPERIENCE

- Sessional Instructor**
- HSCI 424 - Strategic Applications of GIS in Health* Fall 2017 - Fall 2018
 Faculty of Health Sciences, 1 Section; 2 semesters
 Simon Fraser University
- Teaching Assistant**
- HSCI 424 - Strategic Applications of GIS in Health* Fall 2015 - Spring 2018
 Instructor: Meghan Winters, Ph.D. 1 Section; 5 semesters
 Faculty of Health Sciences,
 Simon Fraser University
- GEOG 328 - GIS Analysis* Spring 2014
 Instructor: Timothy R. Mots, Ph.D. 1 Section; 1 semester
 Department of Geography,
 University of Victoria

GEOG 222 - Introduction to Maps and GIS
 Instructor: Ian J. O'Connell, Ph.D
 Department of Geography,
 University of Victoria

Fall 2013
 2 Sections; 1 semester

Workshops Facilitated

Using R as a GIS: An Introduction
 Winters Group Meeting,
 Centre for Hip Health and Mobility

Summer 2017

A two-hour workshop introducing the use of R as a GIS. Students learned the basics of spatial data structure as well as how to code geoprocessing of vector spatial data in R. Geoprocessing tasks learned included attribute joins, spatial queries, spatial joins, clips, and buffers.

RELATED PROFESSIONAL SKILLS

Languages

- R, Python, SQL, SAS

Software

- ArcGIS, QGIS, RStudio, Spyder, PostgreSQL

WORK EXPERIENCE

GIS Summer Student

Summer 2011 & Summer 2012

District of Sechelt

- GIS based project work for municipal government
- Developed a sanitary infrastructure GIS application for the District of Sechelt's Enterprise GIS
- Converted paper-based fire hydrant maps for Sechelt fire department to GIS based application
- Created database solution for the Planning department to track development applications, resulting in a custom tool that could expedite information retrieval for planners

Spatial Data Lab Manager

2015 - 2020

Centre for Hip Health and Mobility

- Lead data analyst in Spatial Data Lab at the Center for Hip Health and Mobility
- Focused on developing methods for geographic approaches to mobility, health and urban form

RESEARCHER PROFILES

 <https://orcid.org/0000-0002-3778-1176>

 <https://scholar.google.com/citations?user=Yq8cIZMAAAAJ>

 <https://www.researchgate.net/profile/Michael.Branion-Calles>

REFERENCES

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 Simon Fraser University

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Trisalyn Nelson

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 University of California Santa Barbara

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