



**Launch of Global Center of
Excellence on Gender Statistics
and the First Global Conference
on Gender Equality and the
Measurement of Unpaid Care and
Domestic Work**

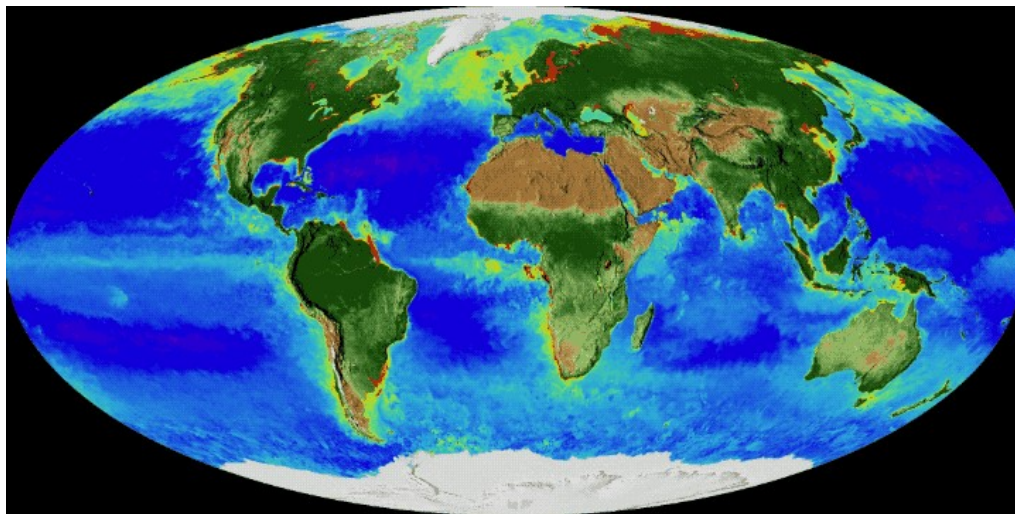


CEGS
Global Center of Excellence
on Gender Statistics

**10 – 11
September 2018
Mexico City**

👤 Lessons from Canada: *What can GIS information tell us about gender & unpaid work?*

TEXT





Unpaid Care Work

(<https://ghw.mcmaster.ca/>)

- Universal
- Social, Cultural, Political contexts vary geographically
- Impacted by the social determinants of health
- Gendered
- Time-space tensions = negative outcomes for carers
- Carer-employees & Carer-Friendly Workplaces





8.1 million
CANADIANS ARE CARERS
(1 in 4 Canadians)

[STATISTICS CANADA, 2013]



50% of carers

ARE BETWEEN THE
ages of 45-65
THEIR PEAK EARNING YEARS

[STATISTICS CANADA, 2013]



70-80%
of community care
for older adults

IS PROVIDED BY CARERS

[HEALTH COUNCIL OF CANADA, 2012]



6.1 million
CARERS ARE JUGGLING THEIR
work and caregiving
RESPONSIBILITIES

[STATISTICS CANADA, 2013]



Carers

[STATISTICS CANADA, 2013]

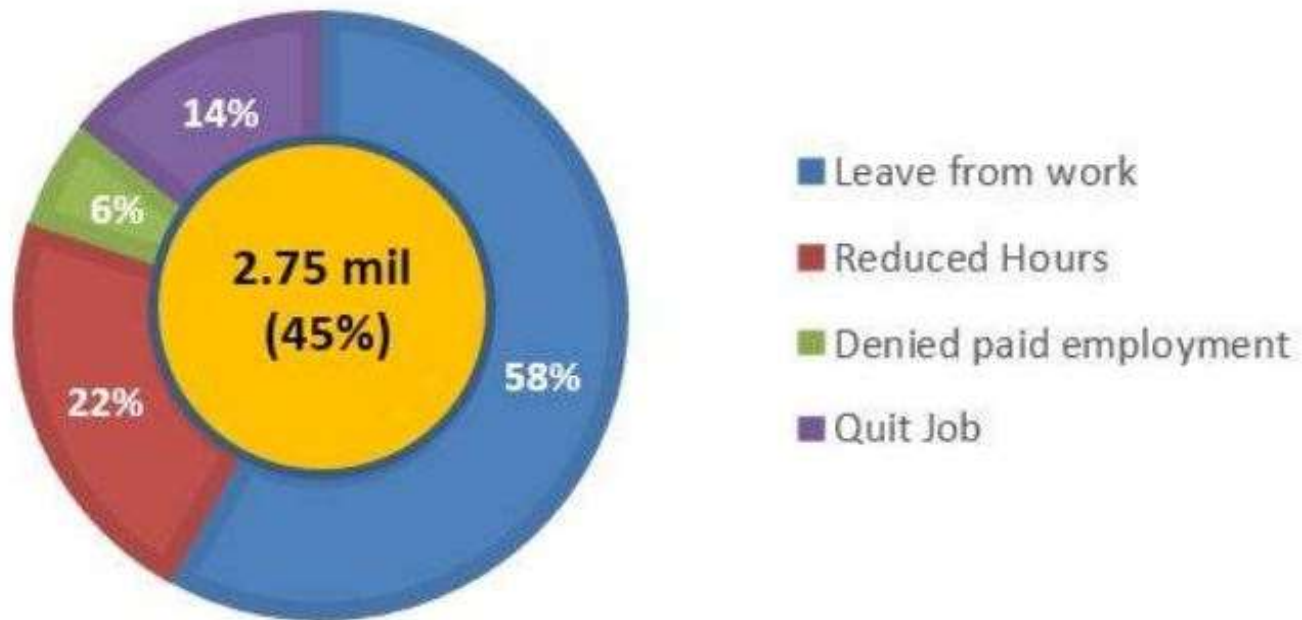


Carers spent
\$12.6 million
in 1 year on expenses
RELATED TO THEIR CARING ROLE

[FAST ET AL, 2013]

Infographic Credit: Carers Canada

CE WORK IMPACT



Credit: Research on Aging Policies & Practices, University of Alberta

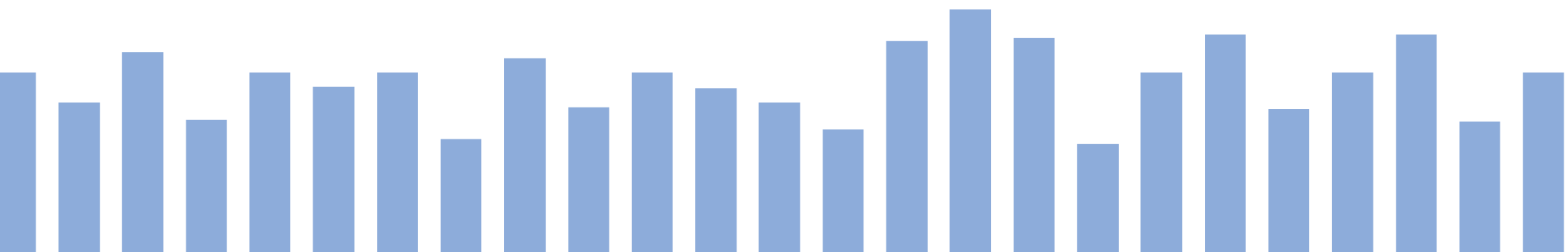
* 6 million CEs (Canada) representing 35% of total workforce

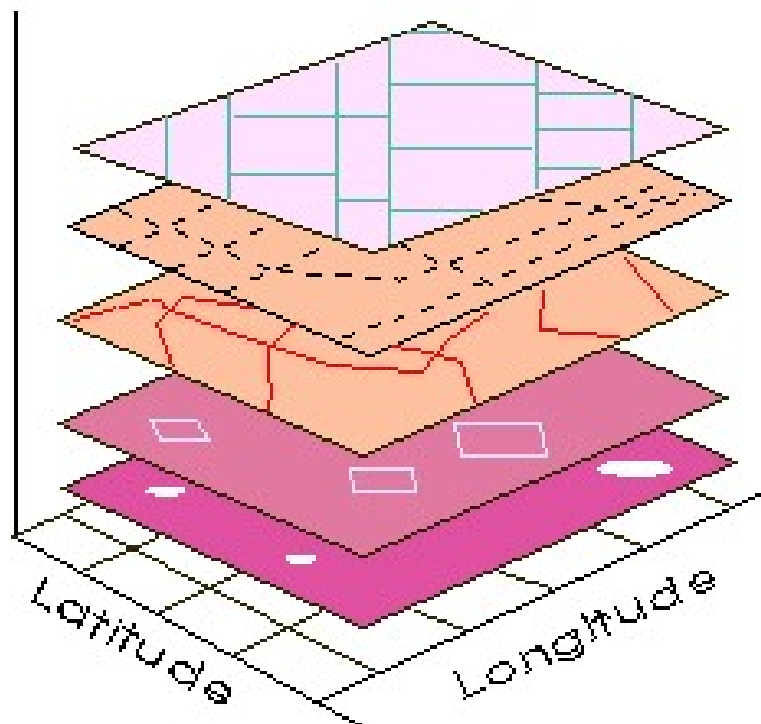
A New World of Research Opportunity



❖ GIS – Geographical Information Science

1. Measuring Spatial Access to Health/Social Care Services
2. Critical/Feminist geographies - Measuring Time-Space Vulnerability





Census Tracts

GPS Tracking

Time-Use Data

Gender

Occupational Status

GIS: An Integrating Technology

Limited Spatial Data Availability for Time-Use Data

Domestic Work

- Meal prep/cleaning
- Clothing care
- Cleaning
- Shopping
- Obtaining services

Home Care/Maintenance

- Financial management
- Plant/garden care
- Home management

Caregiving

- Physical & medical care
- Education
- Other care
- Travel related to caregiving

Axis of Time vs. Axis of Space

Time

- Unpaid work has traditionally been examined temporally
- Axis of time prioritized via weekly/daily time-use surveys, etc.

Space

- Unpaid work has not yet been fully explored across space & provides an exciting opportunity for enhanced understanding through visualization
- Spatial data required!

Current/Established Applications (1)

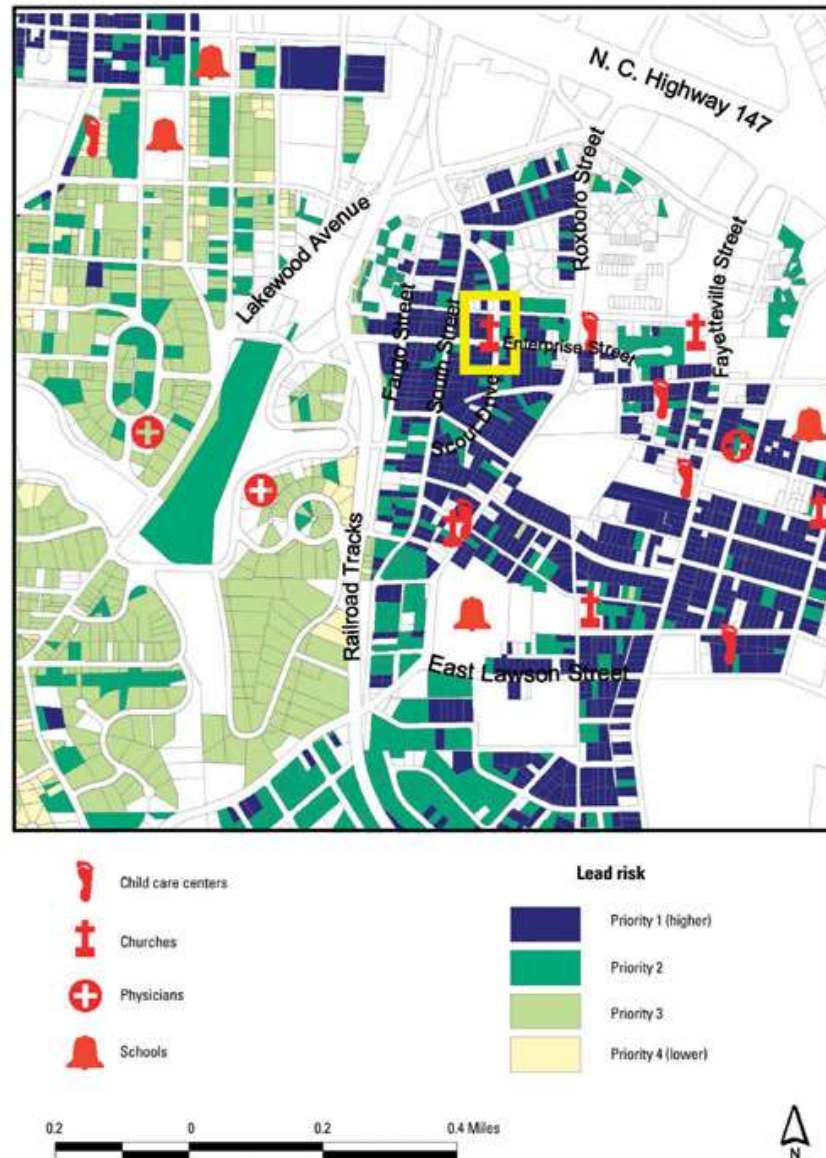
1. Measuring Spatial Access to Health/Social Care Services

- **People** – locations, numbers, demographic, health needs
- **Providers** – locations, numbers, characteristics, quality, acceptability
- **Proximity** – distance, travel time, transportation access

Used for Planning

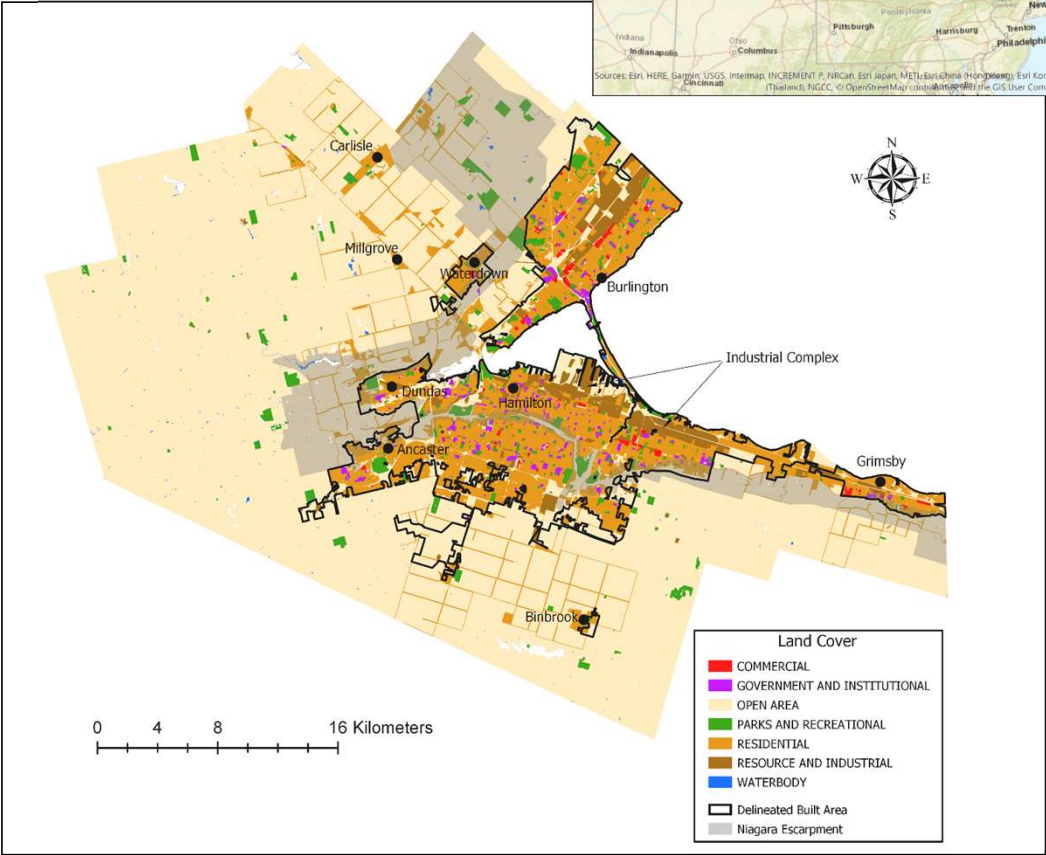
- Primary care
- Social care
- Adjunct services

Using GIS to characterize neighborhood environments

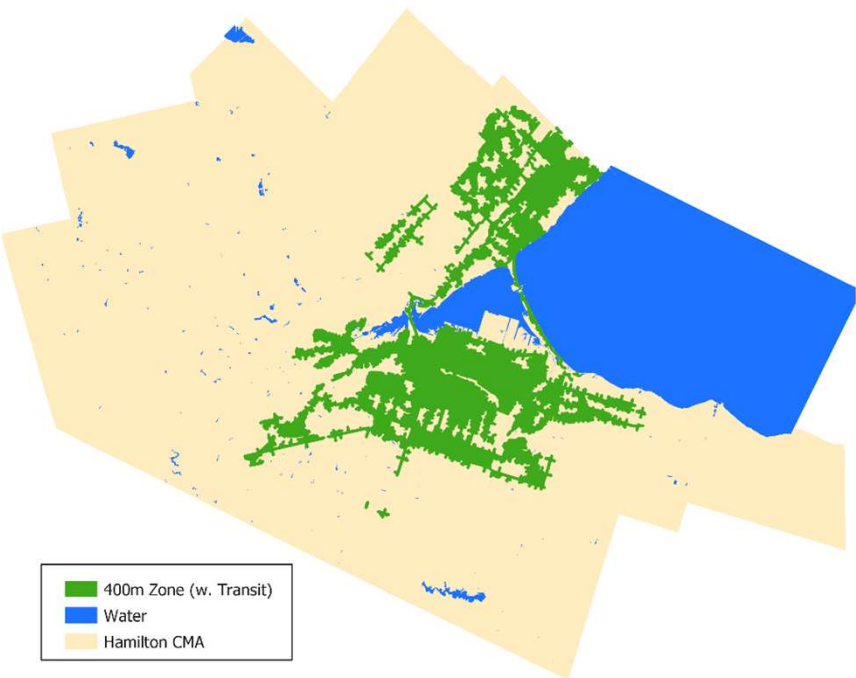
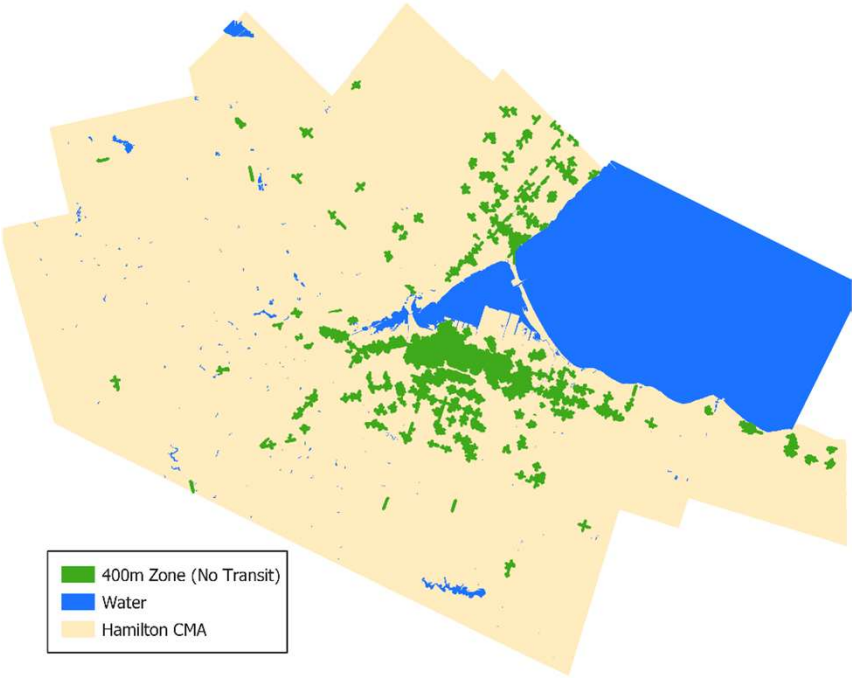


Miranda et al (2002) Mapping for prevention: GIS models for directing childhood lead poisoning programs. *Envir Health Persp*, 110:947-953

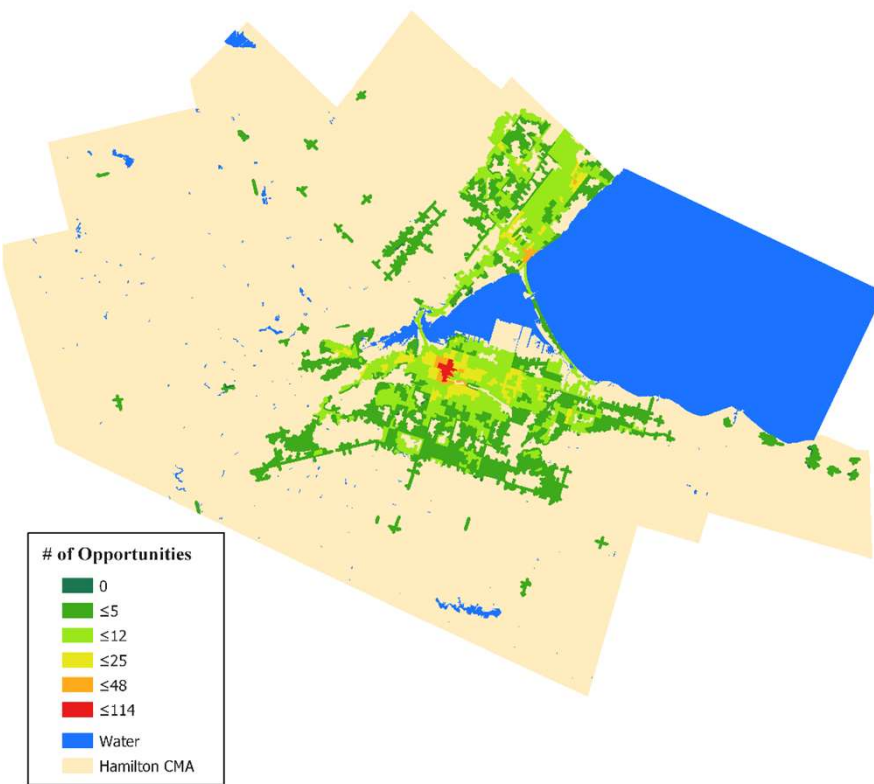
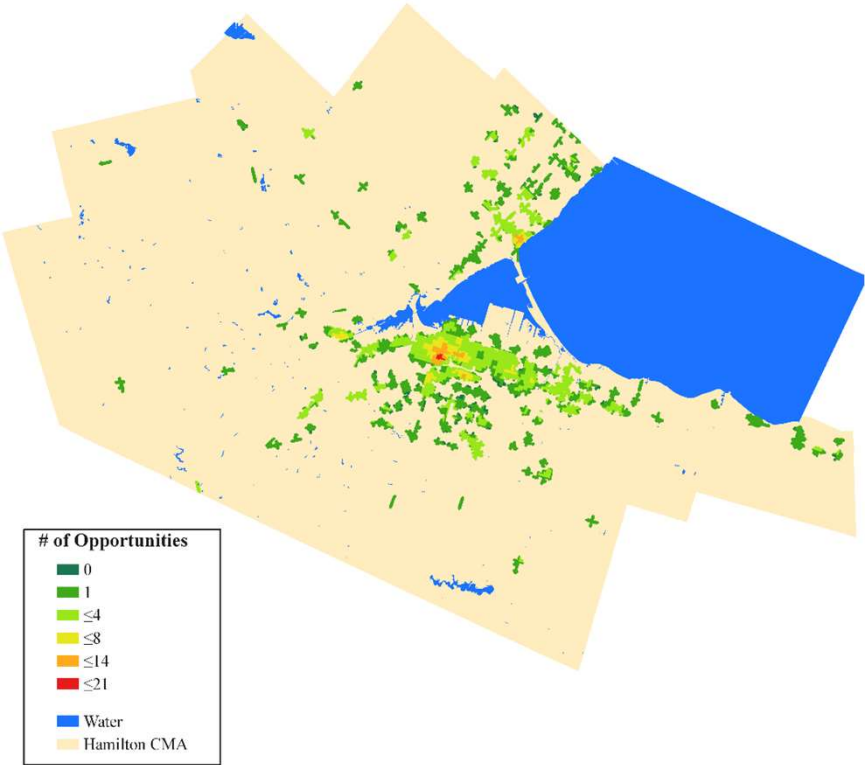
Study Area (Dardas, 2018)



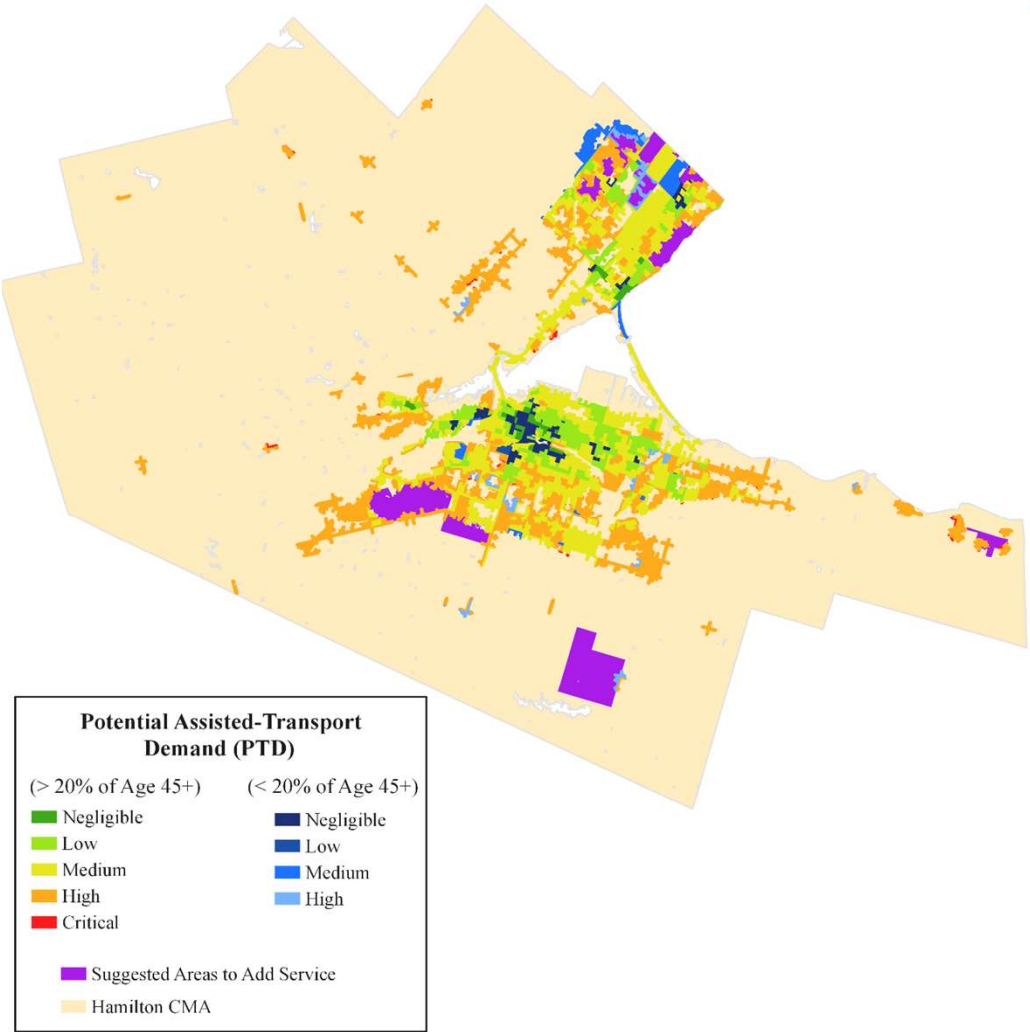
Service Zones with/out Public Transit (Dardas, 2018)



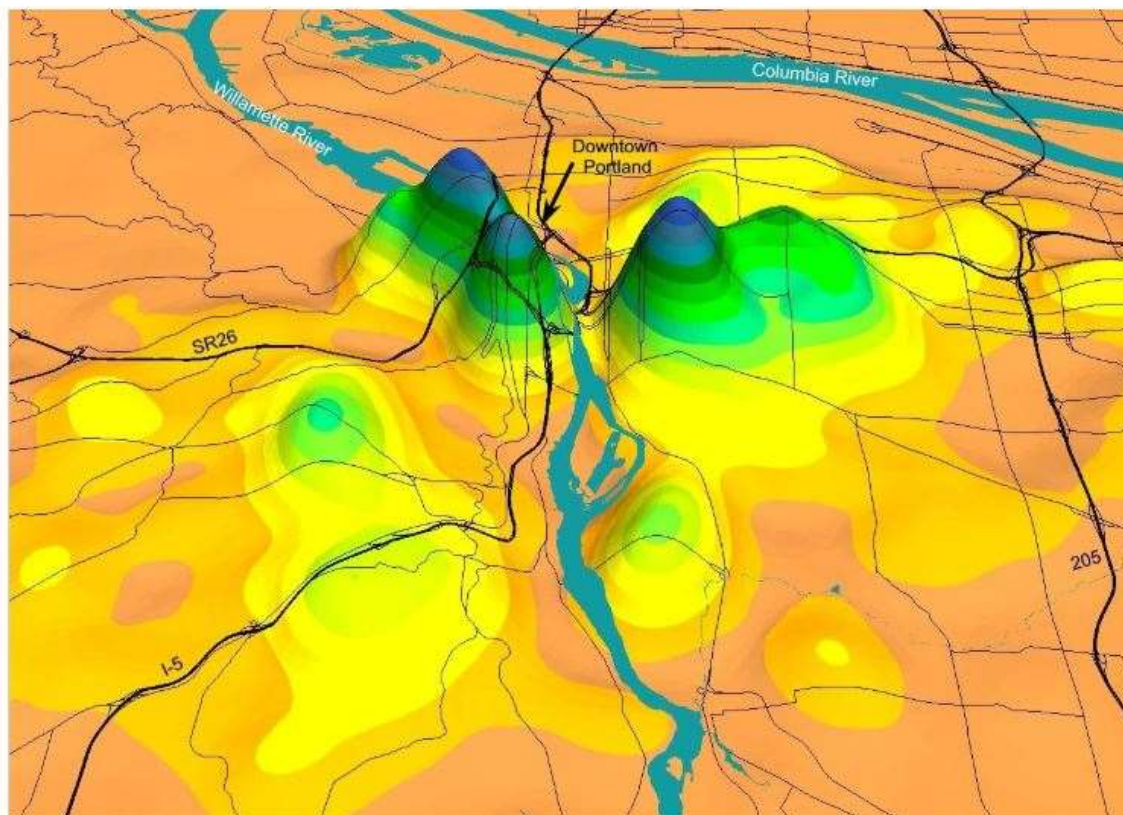
Accessibility Scores with/out Public Transit (Dardas, 2018)



Potential Demand Zones (Dardas, 2018)



Space-Time Series

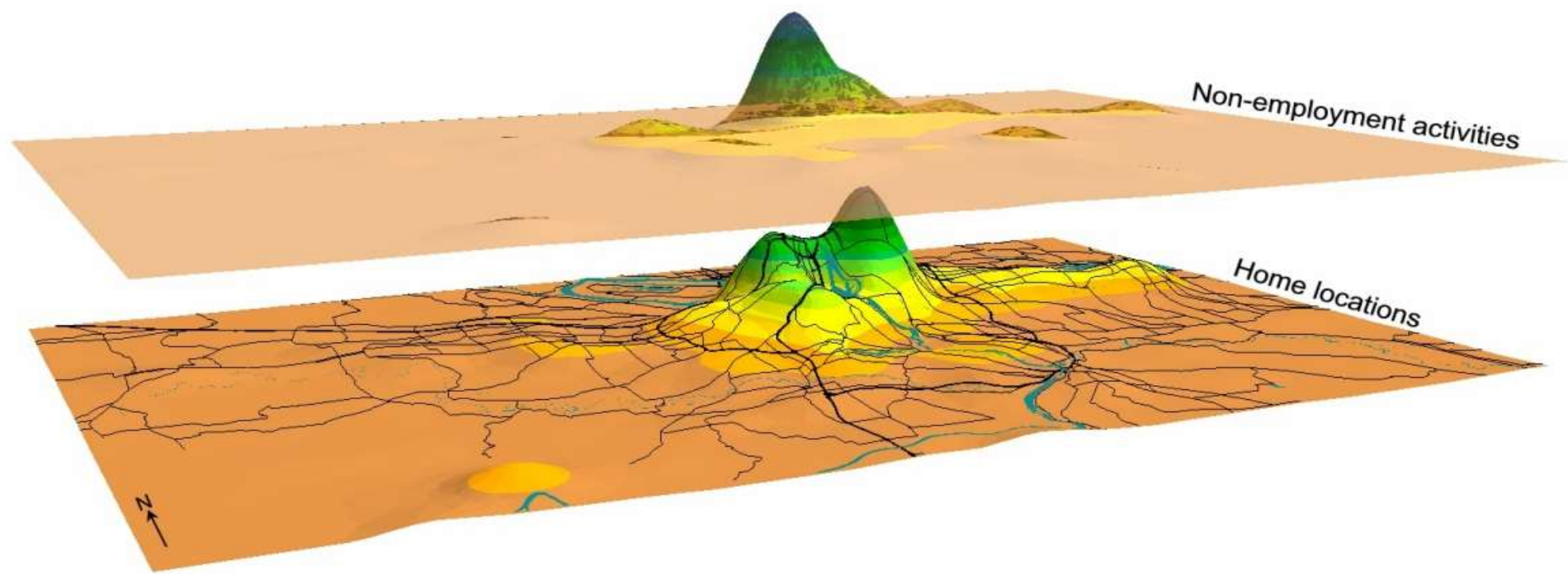


Credits: [Mei-Po Kwan](#)

Novel & Developing Applications (2)

2. Critical/Feminist Approaches to Measuring Time-Space Vulnerability

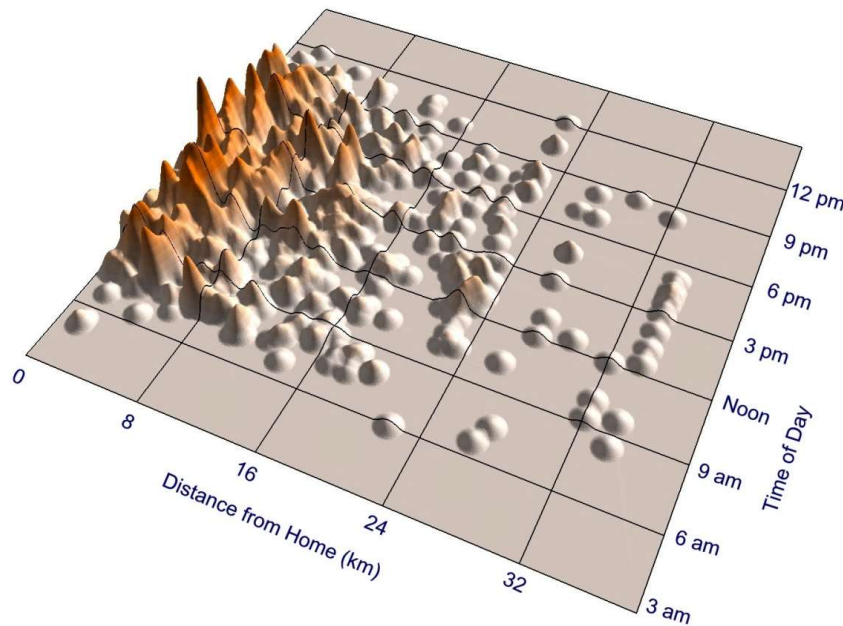
- Non-employment activities (inclusive of unpaid labour)
- Volunteered Geographic Information (VGI)



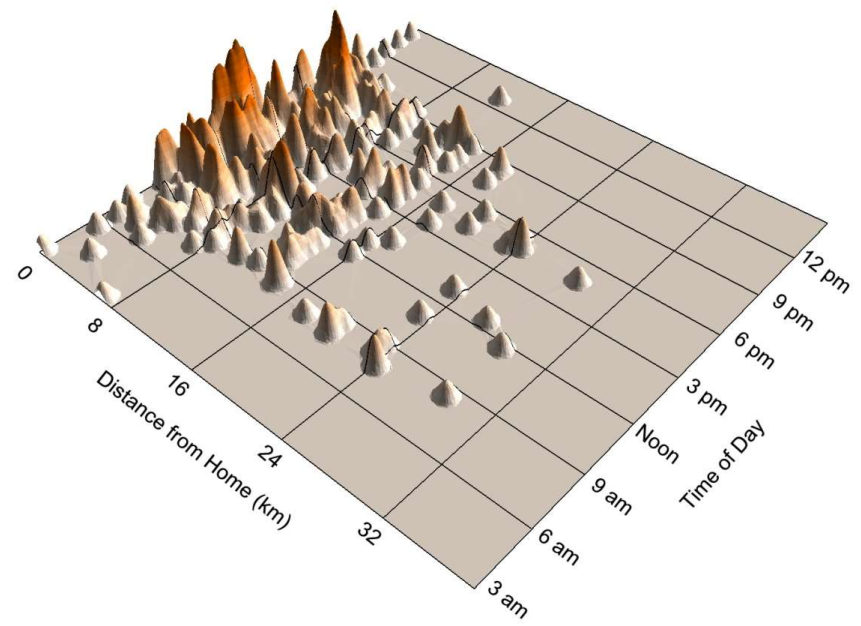
A close-up view of activity patterns in geographic space (Kwan, 2000)

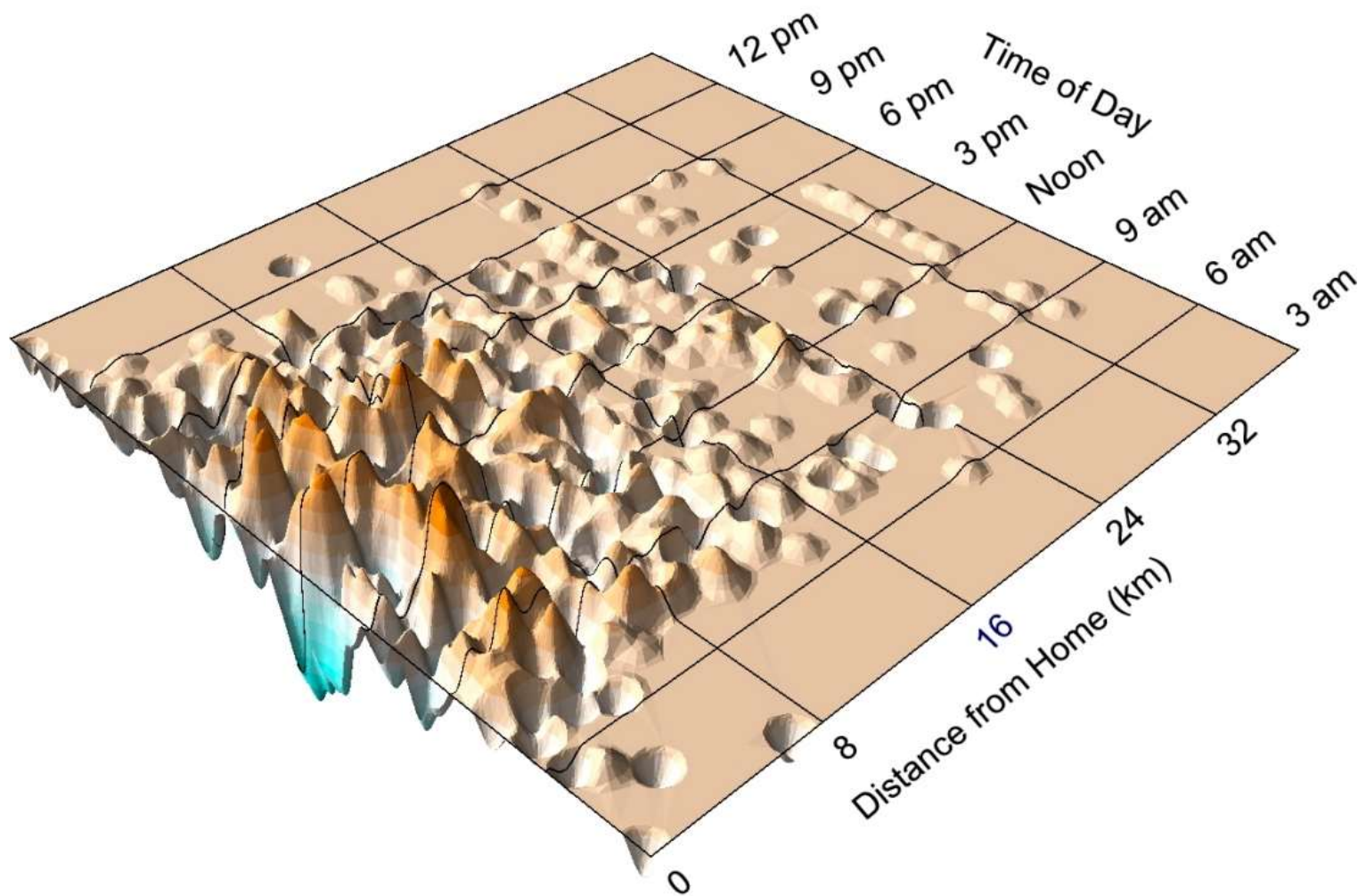
Gendered Experience (Kwan, 2000)

Space-time activity density of non-employment activities for women employed part-time



Space-time activity density of non-employment activities for men employed part-time

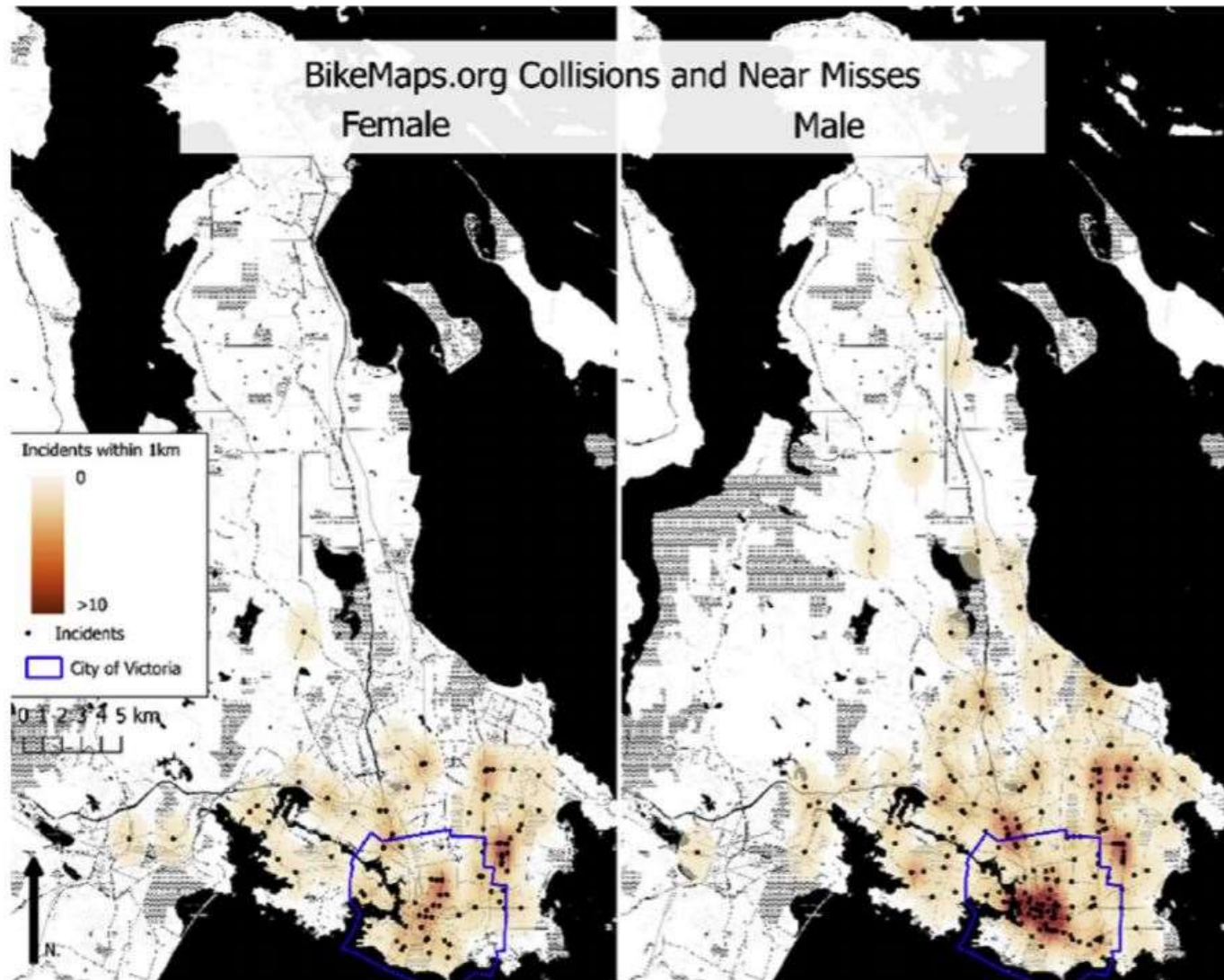




Gender difference in the density of non-employment activities between women and men employed part-time (Kwan, 2000)

Females Underreporting

(Ferster et al, 2017)



Activity spaces do not correspond to geopolitical units



Concept mapping (Burke et al. 2005)

Opportunities

- Unpaid work in time & space in its inception
- volunteered geographic information (VGI) = low hanging fruit
- Availability geographically variable across the globe
- Policy/practice implications

Thank you!
Questions/Comments?

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References

Burke, J., O'Campo, P., Peak, G., Gielen, A., McDonnell, K., and Trochim, W. (2005). An Introduction to Concept Mapping as a Participatory Public Health Research Method. *Qualitative Health Research*, 15 (10): 1392 – 1410.

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