

Sustainable Neighborhoods and Housing Affordability in Canada: Is housing affordable in neighborhoods with more favorable active living environments?

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BACKGROUND

- Most North American urban development plans are centered on smart growth and sustainability principles, as they encourage intensification and walkability, while discouraging the use of private motorized vehicles
- Whether neighborhoods with such features of sustainability offer affordable housing options is a question researchers have recently started to address

ACTIVE LIVING ENVIRONMENTS (ALEs)

A DIMENSION OF SUSTAINABLE NEIGHBORHOODS

- Active living environments (ALEs) are areas with features of the built environment supportive of active living (including, but in addition to, walking)
- By encouraging active travel, ALEs promote better physical health, mental health and well-being, reduce negative environmental impacts and offer alternative modes of transport which alleviate transportation costs
- Features of ALEs include:
 - Dwelling density
 - Intersection density
 - Points of interests or key destinations
- ALEs generally refer to residential environments which have higher street connectivity, higher population density, more and diverse points of interest or potential walking destinations, and public stops (Herrmann et al., 2016)

ALEs IN A NEOLIBERAL CONTEXT

- Cities tend to compete globally to develop attractive and mixed-use neighborhoods by encouraging private capital investment resulting in deliberate gentrification and ensuing socio-spatial inequalities (Padeiro et al., 2019)
- Features of the built environment and land-use promoting walkability are valued by the real estate markets (Sohn et al., 2012), and studies have shown that walkable neighborhoods have inherent economic value
- The concern for social needs and benefits are therefore most often overlooked when it comes to the planning and management of neighborhoods favorable to active living

HOUSING AFFORDABILITY IN CANADA

THE CANADIAN HOUSING SYSTEM

- Welfare state retrenchment and relating economic liberalization both contributed to the polarization of socioeconomic and class lines
- The Canadian housing system serves the market first rather than the Canadian population in need of housing but unable to participate in the housing market

THE CANADIAN HOUSING CRISIS

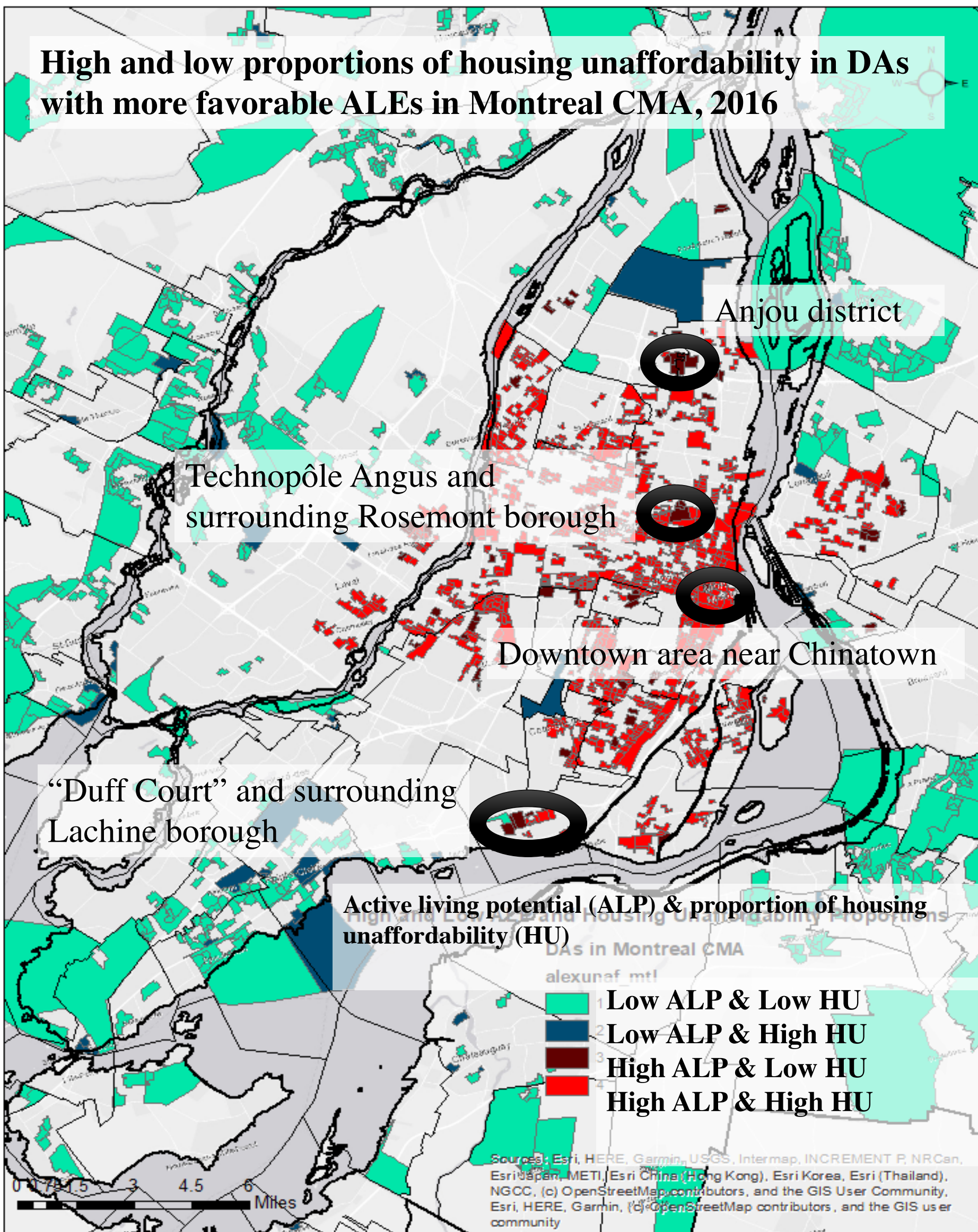
- There are up to 24% of households experiencing a lack of affordable housing in Canada (CMHC, 2017)
- Housing affordability** – households not spending thirty percent or more of their before-tax income on household expenses (CMHC, 2017) – is the main contributor of core housing needs – when housing does not meet one or more of the adequacy, suitability or affordability standards and would have to spend thirty percent or more of its before-tax income to access acceptable local housing (CMHC, 2017)



Cyclists in Technopôle Angus in Rosemont borough

KEY FINDINGS

- When considering all DAs across Canada, ALE classes showed to play a role in explaining the variance in the means of housing unaffordability proportions, alongside economic dependency and ethno-cultural composition, but these variables explained the variance to a lesser extent
- When considering select DAs found in each CMA:
 - Hamilton, Edmonton, Winnipeg and Ottawa-Gatineau had similar results to the Pan-Canadian ones
 - Calgary, Toronto and Vancouver had the weakest association between the ALE classes and proportions of housing unaffordability
 - Quebec City, Montreal and Victoria had the strongest association between ALE classes and proportions of housing unaffordability
- The difference in proportion of housing unaffordability of high ALEs in Montreal may be explained by local specificities related to the quality of the built environment and social makeup of the area such as the presence of visible minorities or the conditions of sidewalks, parks, and other public spaces



Row-housing in downtown Montreal area



Park area in Technopôle Angus in Rosemont borough

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RESEARCH AIM & QUESTIONS

The aim of my research is to examine the relationship between the active living potential of neighborhoods and neighborhood-level housing affordability

RESEARCH QUESTIONS

- Is the prevalence of housing unaffordability higher in neighborhoods with more favorable ALEs in Canada?
 - Is this association confounded by neighborhood-level socioeconomic and cultural conditions?

Methods used: Mean statistics & Ordinary Least Square (OLS) regression analysis

- Does the association between ALEs and housing unaffordability vary across selected Census Metropolitan Areas (CMAs)?
 - Is this association confounded by neighborhood-level socioeconomic and cultural conditions?

Methods used: Mean statistics & Ordinary Least Square (OLS) regression analysis

- What characterizes neighborhoods with more favorable ALE and varying proportions of housing unaffordability in Montreal Census Metropolitan Area?

Methods used: Mean statistics of extreme values, Audit matrix & Field observations

RESEARCH METHODS

STUDY DESIGN & UNIT OF ANALYSIS

- Ecological cross-sectional study
- Main geographical unit of analysis: Dissemination Areas (DAs) – “a small area composed of one or more neighboring dissemination blocks with population of 400 to 700 persons” (Statistics Canada, 2018)
- Other geographical unit of analysis: Census Metropolitan Areas (CMAs)

STATISTICAL ANALYSIS

- Mean statistics of all variables
- Ordinary Least Squared (OLS) regression
 - Dependent variable: proportion of housing unaffordability
 - Main independent variable: ALE class
 - Covariates: Economic dependency & Ethno-cultural composition quintiles

FIELD MATRIX & FIELD OBSERVATIONS

- Designing field matrix based on scientific literature
- Generating a map of Montreal CMA with extreme DA values (low and/or high ALEs + proportion of housing unaffordability) and selected 4 high active living areas:
 - Anjou district
 - Downtown area near Chinatown
 - The “Duff Court” and surrounding area, in the Lachine borough
 - Technopôle Angus and its surrounding area, in the Rosemont borough
- Field observations captured via photos and voice recordings

Database	Variable	Definition
2016 Canadian Census	Proportion of housing unaffordability	Percentage of households spending 30% or more of their income on shelter costs
Can-ALE dataset	Can-ALE class	Categorical measure of the active living environment based on a five-category, k-medians cluster of the connectivity, density, and destination measures
2016 Canadian Census – Four Dimensions of Multiple Deprivation	Residential instability: <ul style="list-style-type: none">Proportion of household ownersProportion of movers in the past 5 years Economic dependency: <ul style="list-style-type: none">Proportion of the population aged 65 years and olderPercentage of unemployment Ethno-cultural composition: <ul style="list-style-type: none">Proportion of visible minoritiesProportion of recent immigrants Situational vulnerability: <ul style="list-style-type: none">Proportion of dwellings in need of major repairsProportion of the population without a certificate, diploma or degree	Tendency of neighborhood inhabitants to fluctuate over time, taking into consideration both housing and familial characteristics Reliance on the workforce, or dependence on sources of income other than employment income Community make-up of immigrant populations Variations in socio-demographic conditions in the areas of housing and education, while taking into account other demographic characteristics



Pole with walking estimates to key destinations in Technopôle Angus in Rosemont borough

CONCLUSION

- The findings of my research showed that environments more conducive to active living are also those where the prevalence of housing unaffordability is higher
- However, the relationship between ALEs and housing unaffordability does vary in different Canadian CMAs
- While social deprivation measures further explain some of the variation in the proportion of housing unaffordability, their effects were generally not as large as those of active living environment
- My field observations suggest that there are important qualitative aspects of the social and built environment of areas favorable to active living that should be considered, as these may relate to whether these areas have affordable housing or not