February 2024

Assessing Homelessness Risk and Service Deprivation in London, Ontario

Jackie Tan
Western University, jackietanb@gmail.com

Master's Research Paper: Assessing Homelessness Risk and Service Deprivation in London, Ontario

Jackie Tan

251032059

Supervisor: Howard Ramos

University of Western Ontario, Department of Social Science

August 15, 2023

Homelessness is a complex and growing social problem in many communities across Canada. National estimates suggest that more than 235,000 Canadians experience homelessness in any given year, and at least 35,000 people may be experiencing homelessness on any given night (Gaetz et al. 2016). For many Canadians, finding affordable housing has become a progressively difficult task. Since 2015, housing prices in Canada have outpaced income growth by nearly 50 percent (OECD 2023). Additionally, starting in the 1980s, both the federal government and several provinces reduced government investment in affordable housing and devolved the responsibility of funding social housing to municipalities (Canadian Centre for Housing Rights 2022; Duffy, Royer, and Beresford 2014). Because not all municipalities possess equal levels of resources they can dedicate to addressing the problem, the experience of homelessness within each community has increasingly differentiated (Pijil and Belanger 2021; National Alliance the End Rural and Remote Homelessness 2021). In comparison to larger urban centres, smaller cities have limited financial resources, making it difficult for them to successfully address such pervasive social issues on their own. Further complicating the matter is the revelation in recent reports that larger cities have been relocating their homeless populations to smaller communities, exacerbating the existing challenges facing these cities and increasing the risk of homelessness for vulnerable residents (Newcombe 2023a). Despite these difficulties, research on the homeless experience within small communities in Canada has been absent.

Until recently, homelessness has primarily been understood within the context of large urban populations. Mounting evidence, however, shows that homelessness is equal to or even more prevalent in smaller cities and rural communities compared to larger Census Metropolitan Areas (CMA) like Toronto, Montreal, and Vancouver (Morton et al. 2018; Kauppi et al. 2017). Despite the escalating prevalence of homelessness in these areas, its lack of visibility compared

to larger CMAs diminishes the will for political interventions and investments in infrastructure needed to combat it (Buck-McFadyen 2022). Given the predominant focus on large urban areas in the Canadian homeless literature, there remains a limited understanding of the unique experiences of homelessness in small and mid-sized cities. As homelessness continues to become a more substantial issue in smaller communities, it is relevant to examine whether the trends and insights observed in larger cities can be applied to their smaller counterparts.

For these reasons, this study uses data from the 2021 Canadian Census and City of London to analyze the risk of homelessness and spatial distribution of homeless services within the mid-sized city of London, Ontario. In doing so, this study contributes to the growing literature on the conditions of homelessness in smaller and mid-sized Canadian cities, as well as to the broader research on service deprivation. To meet these objectives, I begin with an overview of the literature on the spatial distribution and determinants of homelessness. This is followed by an outline of the research methods and analysis. Finally, I conclude with a discussion of the overarching patterns of homeless risk within London and detail the underlying factors driving these trends.

LITERATURE REVIEW

Few studies have compared the homeless experience between urban and rural settings. Of the limited studies addressing this topic, research reveals tangible differences in the homeless experience across different municipalities. In contrast to their larger city counterparts, individuals experiencing homelessness in smaller communities were more likely to be female, Indigenous, and not complete high school (Institute of Medicine 1988). In addition, urban homeless populations exhibited a stronger tendency to rely on missions or shelters for lodging,

experience worse economic circumstances, and have better access to medical care (Office of Policy Development and Research 1999). It is important to acknowledge that these reports emphasize how the utilization of services between different municipalities was less a matter of usage and more likely linked to the varying availability of such programs in smaller cities. Although services are more limited in smaller cities compared to urban areas, it is also critical to consider whether these services were positioned in areas that enabled homeless individuals to use them effectively.

Spatial Distribution of Homelessness

The spatial location of social services in most cities is linked to where homelessness concentrates. Most of the research, however, focuses on larger cities and it is worth understanding if that also applies to smaller communities. Dear and Wolch (1987), for example, examined the spatial distribution of public institutions such as food banks, homeless shelters, and other organizations that offer relief for low-income and homeless individuals across multiple cities in Canada and the United States. They find that homelessness tends to be disproportionately concentrated in small and urbanized pockets of cities. These neighbourhoods typically exhibit higher levels of poverty, making them natural choices for the initial placement of emergency shelters and other social services. Because homeless individuals are attracted to the few areas within a city that offer often-limited social resources, they tend to cluster and entrench themselves in these select regions. Consequently, municipalities are compelled to introduce new services in these concentrated areas in order to effectively serve their client base, quickly transforming these neighbourhoods into “service ghettos” and solidifying the prevailing public perception that these are the sole locations where such societal issues exist (Ruddick 1996).

Service ghettos commonly develop within impoverished postal codes characterized by a lack of affordable housing, limited welfare benefits, and heightened economic distress (DeVerteuil 2003; Batterham et al. 2022; O'Donnell 2018; Wood et al. 2014). Once established, they often remain in these pockets due in part to municipal zoning and planning practices, which restrict the implementation of homeless-related facilities in alternative locations and instead concentrates them in areas of least resistance (Plotkin 2020). Compounding the persistent geographic concentration of homeless people within these neighbourhoods is the public's stigmatization of the homeless (Wagner 1994; Ruddick 1996; Tuan 1979; Herring 2014). By being labelled "homeless," individuals are assigned a myriad of publicly defined and bureaucratically enforced attributes, such as being more dangerous, less productive, and personally responsible for one's current predicament (Takahashi 1997). Due to their constant interactions and clustering in specific locations, the physical environments where homeless individuals reside and interact often become stigmatized as well. Public perceptions frequently view such areas in cities as gathering places for the indignant and dangerous. As these perceptions become more widespread and accepted, they often give rise to the Not In My Backyard (NIMBY) phenomenon – the organized opposition from local communities towards the establishment of homeless facilities. Because residential neighbourhoods embody shared cultural and normative beliefs, they constitute the foundation of one's identity; consequently, the placement of service facilities near such personal areas is perceived as a vital threat to one's own sense of self (Seamon and Sowers 2008). The removal of homelessness from the safety and familiarity of "home" and "community" are, therefore, considered paramount by residents. However, by successfully blocking the establishment of homeless services near neighbourhoods through NIMBY practices, residents' fear of the homeless is only exacerbated. For

municipalities, efforts to address homelessness and establish new services beyond designated zones of discard become progressively challenging due to these NIMBY practices. As a result, some scholars contend that the existing solutions merely relocate the problem rather than effectively address it.

Because of such tensions, what is less clear is if the social services in most cities are in the areas of most need. In one study investigating the spatial distribution of housing affordability stress in the nine largest Canadian CMAs, researchers discovered a disparity between the demand and consumption of services (Bunting, Walks, and Filion 2004). While the areas of need primarily emerge in the suburbs, the services aimed at addressing housing-related challenges tend to be concentrated in the inner city. This disconnect highlights a discrepancy between the locations where the majority of homeless-related facilities exist and the actual areas where those most vulnerable to homelessness are situated. The frequent underutilization of service facilities located in service ghettos, particularly during warmer seasons, further implies that services are not positioned in areas where they would be most effective (Herring 2014). According to interviews with encampment residents in the United States, a significant number of them expressed a preference for living in camps rather than shelters, citing moral and material advantages that are absent in the shelter system. The current practices of excluding and isolating public institutions by cities and communities have, therefore, proven ineffective in addressing the issue and have only served to displace the problem. While these findings suggest a distinction between service location and demand, such research relies on interview data and/or is now dated. This critically underscores the need for new studies to see if those trends still apply in the 2020s and to determine if similar patterns can be observed in smaller Canadian cities.

Structural and Institutional Predictors of Homelessness

In order to assess whether services are offered in places of need, it is important to examine what constitutes need and what factors lead to homelessness. Prior research indicates that specific structural- and institutional-level factors increase the risk of homelessness. Consistently, the availability of affordable housing is one of the strongest predictors of street and at-risk homelessness (Ji 2006; Gaetz 2010; Burt 2001). Case studies emphasize the significance of affordable housing in addressing homelessness, as both smaller and larger urban areas experienced decreased rates of homelessness once there was an increase in the availability of low-cost housing options (Anucha et al. 2007). Yet, the rapid expansion of several Canadian cities in the 2010s and 2020s has outpaced the capacity of the real estate market to fulfill the increasingly high demand for housing, leading to a sharp and exponential rise in costs. A consequence of this situation is the inflated housing costs, leading to a growing number of households spending an excessive portion of their income on rent. Results from the 2021 Census and the Canada Mortgage and Housing Corporation reveal a year-over-year national average rent increase of 9 percent, along with a 17.6 percent rise in the median monthly shelter cost paid by renters (Statistics Canada 2022c; Canada Mortgage and Housing Corporation 2023).

Overall, almost 10 percent of Canadian households resided in dwellings that met the criteria for core housing need in 2021 (Statistics Canada 2022b). A household is classified as being in core housing need when it is considered inadequate, unaffordable, or unsuitable, and their income levels do not allow them to afford an alternative suitable and adequate housing option within their community. Approximately 10 percent of households resided in dwellings that were deemed unsuitable for their needs, while 6 percent reported that their dwellings required major repairs. Furthermore, 17 percent of Canadian households were residing in

unaffordable housing. While the rates of unaffordable housing and households in core housing need fell between 2016 to 2021, these declines can be largely attributed to the COVID-19-related government relief transfers (Statistics Canada 2022c). These financial supports elevated numerous households above the thresholds of housing affordability, enabling them to cover expenses related to shelter, such as rent, mortgages, and utilities. However, according to the 2021 Canadian Housing Survey, over one-quarter of renters in affordable housing expressed difficulty in meeting their households' financial needs in terms of housing and other necessary expenses. This is particularly concerning, given that over one-tenth of households in social and affordable housing and one-third of households in core housing need have experienced homelessness in the past. The issue is further exacerbated by the fact that most provinces abolished rent controls on privately-owned rental properties throughout the 1990s (Bunting, Walks, and Filion 2004). Since their removal, there has been a significant surge in rents within the overheated markets of rapidly expanding CMAs. Housing prices in Ontario, for example, have almost tripled over the last decade, outpacing income growth significantly (RE/MAX 2022). This has made home ownership unattainable for most first-time buyers across the province, even for those with considerable earnings. Additionally, the increasing prominence of condominiums in the multi-unit market has resulted in a scarcity of new rental construction projects.

Alongside the housing dimension of homelessness, human and economic capital also predict episodes of homelessness. For instance, educational attainment has been shown as a strong preventative factor against homelessness. Those with higher educational attainment were less susceptible to homelessness, spending, on average, 49 percent fewer nights on the street compared to those who have not completed high school (Farrugia and Gerrard 2016; Jarvis 2015). Relatedly, individuals with lower educational attainment are at higher risk of

unemployment, underemployment, and poverty. A Toronto shelter study reported that 64 percent of shelter users did not complete high school compared to 34 percent of all Canadians (Josephson 2004). Further analysis illustrated that individuals who did not drop out were more likely to be employed. Unemployment is likewise associated with homelessness, whereas employment and earned income are shown to predict shorter durations of homelessness and reliance on emergency shelters (Shaheen and Rio 2007; Washington et al. 2010). Estimates from researchers in the United States indicate that individuals experiencing homelessness have unemployment rates ranging from 57 percent to over 90 percent, compared to the 3.6 percent unemployment rate observed among the general public (Acuna and Ehrlenbusch 2009; Bureau of Labor Statistics 2023). Similarly, one study revealed that while a significant proportion – between 64 percent to 82 percent – of homeless individuals in five Canadian CMAs expressed a desire to work, over 96 percent of the participants were classified as unemployed (Poremski et al. 2015). Experiencing unemployment while being homeless presents significant obstacles in exiting homelessness, as individuals in this situation encounter various barriers to employment. Shelter regulations, for example, can hinder stable employment for those residing in emergency shelters or temporary housing as they commonly enforce rigid schedules or curfews that do not accommodate work hours. In addition, individuals who have experienced homelessness, both in the past and present, often encounter discrimination in the job-seeking process when they are unable to provide a fixed address on their applications, are compelled to use a shelter's address, or cannot explain gaps in their work history due to previous episodes of homelessness (Golabek-Goldman 2017).

The effects of poverty and low-income status on homelessness are well-established and have been particularly highlighted in studies of the homeless population in Toronto (City of

Toronto 1999; 2000; 2019). Lack of income, lower income, and financial difficulties contribute to a higher likelihood of homelessness in part due to the inability to pay market rents (Buckland et al. 2001). The rise in homelessness in Toronto also appears to coincide with a decline in the number of individuals receiving social assistance, suggesting that some individuals transition from social assistance to homelessness instead of finding employment.

Limited information is available regarding whether similar patterns are observed in smaller cities. While smaller cities typically have lower housing costs compared to larger CMAs, rising rent prices and overall inflation imply that a comparable phenomenon may also occur in these regions, albeit to a lesser extent. Nevertheless, social assistance recipients in Ontario who do have housing continue to face a significant risk of homelessness, primarily because they face the danger of depleting their household income and assets in order to qualify for additional financial assistance. This precarious situation increases their vulnerability to eviction, subsequently subjecting them to increased discrimination from landlords. Previous studies focusing on housing discrimination have frequently noted a pervasive pattern of discrimination against low-income status individuals by public housing officials across numerous cities (Hulchanski 1994).

Individual-level Predictors of Homelessness

Beyond structural factors, individual-level socio-demographic attributes also contribute to homelessness. With respect to demographic factors, research shows that younger people are more likely to become homeless and experience a shorter duration of homelessness (Phinney et al. 2007; Caton et al. 2005). Analysis of Canadian homelessness in 2021 shows that over time, individuals in younger age cohorts constitute a larger percentage of the overall homeless

population than previously, with homelessness rates more than doubling for both males and females aged 35 years and younger (Strobel et al. 2021). By 2017, there was a notable shift in the primary demographic profile of people experiencing homelessness, with more than half of the adult homeless population in the country now falling between the ages of 25 to 49 (Gaetz et al. 2016). Although men have historically constituted the majority of the homeless population, homelessness is now a growing reality for a number of Canadian women as well. Data suggest that women are now more likely to report instances of unsheltered homelessness, accounting for approximately 37 percent of cases, compared to 21 percent reported by men (Uppal 2022). Despite these observations, however, research still consistently demonstrates that men overall are at least 1.6 times more likely to experience homelessness compared to women (Folsom et al. 2005; To et al. 2016; Nilsson, Nordentoft, and Hjorthøj 2019). Men also account for roughly 73 percent of those currently experiencing homelessness in Canada (Gatez et al. 2016).

Among those at an elevated risk of homelessness, visible minorities are significantly more likely to be in precarious living conditions that increase their vulnerability to unsheltered homelessness. Prentice, Askham, and Engeland (2008) revealed that visible minority households were more likely to live below core housing need standards, with 30 percent spending 30 percent or more of their total household income on housing, compared to only 19 percent for non-visible minority households. Despite their efforts to secure more affordable housing, visible minorities often encounter additional challenges, including housing discrimination and underemployment, in contrast to their white counterparts (Choi and Ramaj 2023; Mensah and Tucker-Simmons 2021). These factors have contributed to on-the-street disparities, with 28.2 percent of individuals experiencing homelessness belonging to racialized groups, exceeding the Canadian average of 19.1 percent (Gaetz et al. 2016). Notably, Black adults and families have been

consistently found to experience significantly longer homeless episodes and readmission to shelters, independent of other individual risk factors such as mental health history, substance abuse, reason for homelessness, and type of shelter discharge (Culhane, Lee, and Wachter 1996; Culhane and Kuhn 1998; Shinn et al. 1998). This issue is particularly evident in Toronto, with Black individuals constituting 9 percent of the city's population yet accounting for 31 percent of people experiencing homelessness (City of Toronto 2021). Visible minorities, as a whole, are substantially overrepresented among the homeless population in the city, making up 60 percent while comprising only 52 percent of the general population.

Amidst the increasing representation of racialized individuals among Canada's homeless population, one specific equity-seeking group that persistently faces disproportionate levels of homelessness is Indigenous people (Kauppi and Braedley 2003; Uppal 2022). Recent estimates suggest that more than 38 percent of Indigenous members responsible for housing decisions in their households reported experiencing unsheltered homelessness in the past, compared to 2 percent of non-Indigenous people. Furthermore, on any given night, nearly 7 percent of the urban Indigenous population in Canada is homeless, surpassing the national average of 0.78 percent (Belanger, Awosoga, and Head 2013). The experiences of homelessness among Indigenous communities can be directly linked to the lasting impacts of colonization, including the detrimental effects of Residential Schools, the Sixties Scoop, displacement from ancestral lands, cultural and resource deprivation through the Indian Act, and intergenerational trauma resulting from the ongoing process of colonization. The existing social challenges within Indigenous communities, such as familial dysfunction, substance abuse, addiction, health issues, and community violence, can also be directly attributed to these unresolved historical and cultural

intergenerational traumas, which in turn contribute to higher rates of Indigenous pathways into homelessness.

Although all these factors have been consistently observed among the urban homeless population in larger cities, the same cannot be assumed for those in smaller communities. With a few exceptions, most research and interventions have focused on those living in urban areas, resulting in a lack of understanding of how homelessness is experienced and addressed in smaller cities with their distinct environments and circumstances. Given the immense regional variation across Canada, the experience of homelessness is uniquely shaped by specific local characteristics, including urban landscapes, population demographics, and municipal investments. With such limited literature, it is essential to expand the knowledge base concerning the nature of homelessness in these smaller communities and determine whether homelessness exhibits similarities across different Canadian cities. By considering municipal service provision and the various predictors of homelessness, the purpose of this study is threefold: 1) to identify high-risk neighbourhoods within the city of London where homelessness is most likely to occur, 2) to examine the spatial distribution of homeless services in the city, and 3) to evaluate whether the current homeless-related services are effectively positioned in the areas of most need.

METHODOLOGY

Why London?

Located along the Thames River in Southwestern Ontario, London is a mid-sized city with a population of over 500,000 people (Statistics Canada 2022a). Functioning as a regional hub for agricultural production, medical research, manufacturing, and technology, the city is home to two of the largest universities/colleges in the province, alongside three major hospitals

(City of London 2020). Since 2016, the city has undergone a population surge, marked by a nearly eight-fold increase in net non-permanent residents, a doubling of net intraprovincial migrants, and a significant upswing in international students (Moffatt 2022). As housing expenses continue to rise in Canada's largest CMAs, London has emerged as a popular destination for many Canadians seeking a more affordable alternative. Data from the 2021 census reveals that the population of London has grown by 10 percent since 2016, positioning it as the third fastest-growing city nationally and the fastest-growing city in Ontario (Statistics Canada 2022a). Despite this substantial growth, however, most urban research in Canada continues to focus primarily on the largest cities, often overlooking such vital and emerging regional centres.

With many of these changes, smaller cities are increasingly beginning to mirror many of the challenges faced by major CMAs. Housing costs, for example, have been significantly impacted by the population boom in London. A 2023 report from the Canada Mortgage and Housing Corporation noted that the current cost of a two-bedroom apartment is unaffordable for 60 percent of residents in the city (Juha 2022). Despite the provincial government's directive through Bill 23, which mandates the construction of 47,000 new residential units in London by 2031, progress in housing development within the city has been minimal (Newcombe 2023b). Notably, 40 percent of the housing target has received approval but remains unbuilt, partly due to insufficient provincial funding and concerns about further burdening municipalities and taxpayers. Altogether, this has contributed to a rise in the municipal and provincial social housing waitlist and a twofold increase in homelessness in London (Butler 2022). In response to the situation, London held an inaugural homeless summit in 2022, aiming to address the growing homelessness problem within the city.

Between 2022 and 2023, the city organized three summits that brought together representatives from various sectors, including community health and social services, institutional healthcare, education, emergency services, business and economic development, land and housing development, and government staff. The proposed solution put forward by community leaders from the summit was a series of interconnected hubs designed to help the highest acuity individuals find safe shelter, stabilize their situation, access necessary supports, and attain sustainable housing (Richmond 2023). This approach differed from the Housing First strategy that was previously adopted across Canada. The Housing First approach asserts that homeless people need to be securely housed as a prerequisite for effectively addressing their physical and psychological needs (Government of Canada 2022). Opponents of this intervention, however, argue that homelessness is not a uniform experience, and every individual may have distinct and specific needs (Shinn 2009; Culhane and Metraux 2008). While economic assistance might be crucial for one individual, another might require housing support more urgently. As such, it is important to consider the distribution of specialized services within cities and whether they are located where they can be most effective. London's proposed solution accounts for the multidimensional needs of the homeless population by establishing comprehensive hubs that provide a range of integrated care and services, delivered by multi-agency and interprofessional teams. While the city aims to establish several purpose-built hubs throughout the community, catering to the most marginalized populations, a major point of contention remains regarding the optimal locations for these hubs.

Identification of Areas of Service Deprivation and Risk

Understanding which parts of the city are in most need of support is key to assuring that such hubs and delivery of service are effective while at the same time avoiding service ghettoes. A commonly used approach to determining need is through the creation of indexes that look at a number of variables. Traditionally, composite indexes have been used in the social sciences to help identify areas of need, neighbourhood change, food desserts, and pockets of deprivation (Andersson and Turner 2014; Messer et al. 2006; Landrigan et al. 2019). By combining multiple variables to create a single indicator, indexes offer an effective and straightforward approach to simplify complex measurement constructs, enabling the examination and comparison of geographic patterns of need. For example, Basu and Das (2021) developed a multidimensional deprivation index using national health and census data to illustrate regions of deprivation in rural India. By combining indicators related to environmental, household, and economic conditions, the researchers were able to observe hotspots and clusterings of deprivation, indicating areas of most need. Similarly, Stick and Ramos (2021) employed an index of need in the Canadian context to identify areas of service deprivation in Halifax. They observed that non-profits and non-government organizations were not located in the areas of most need, resulting in a detrimental impact on both the effectiveness of these organizations and the well-being of vulnerable communities. Despite their demonstrated value, few studies in the field of homeless research have employed this approach to locate areas of deprivation in the context of homeless services. Although the literature suggests that homeless facilities tend to concentrate within small, urbanized pockets of the city, it is worth noting that these areas may function more as hotspots for homelessness rather than being the source of the problem. In his research investigating the residential origins of homeless families and individuals, Rukmana (2011) found

that these groups initially originated from regions outside these urbanized cores and later drifted towards those small pockets due to the concentration of services within those areas. I, therefore, aim to address these gaps in the literature by identifying the London neighbourhoods most in-need of homeless services and whether the current facilities are positioned to effectively address those most vulnerable in the city.

Dataset

To answer the first research question regarding homeless risk, I employ Statistics Canada's 2021 Census of the Population. Census data was retrieved using the Canadian Census Analyzer, available through the University of Toronto Computing in the Humanities and Social Sciences (CHASS). The census enumerates the entire Canadian population and provides information about Canadians and housing units according to their demographic, social, and economic characteristics. The enumerated population consists of Canadian citizens by birth or by naturalization, as well as landed immigrants and non-permanent residents and their families residing in Canada. Canadian citizens and landed immigrants who are temporarily outside the country on Census Day are also counted. Foreign residents, such as representatives of a foreign government assigned to an embassy, high commission or other diplomatic mission in Canada, and residents of another country who are temporarily visiting Canada are not covered by the census. Depending on the geographic location of residents, Census data was collected using one of the various methods: by mail, online, list-leaves, canvassers, or by contacting the Census Help Line. The overall response rate for the 2021 Census of Population was 96.9 percent.

I also draw on homeless-related data aggregated by the city of London's open data portal to explore the spatial distribution of homeless services within the city and evaluate whether they

are located in the areas of greatest need. This includes data pertaining to the location of emergency medical services, police stations, hospitals, zoning spaces, and homeless services. To ensure that I captured all relevant social services accessible to homeless individuals and those at risk, services were cross-referenced using information from websites that detail available resources in the city.

In order to contextualize the homeless population within the city and further understand whether services were positioned in the most relevant neighbourhoods, I utilized data from London's Homeless Individuals and Families Information System (HIFIS). Managed by the city and its service providers, HIFIS enables communities to record client-level service interactions and plans across various service providers, including shelters, street outreach, housing help centers, and intensive case management programs like supportive housing. By offering the necessary tools to support an integrated service environment, HIFIS facilitates a more systems-based approach to prevent and reduce homelessness across the country. This dataset includes individuals listed on the By-Name List between 2021 to 2022. Importantly, individuals can appear multiple times on the list within the reporting timeframe, yet they are only counted once in this dataset. The By-Name List comprises of individuals who are experiencing homelessness and are actively engaging with programs that use the HIFIS database. However, not all programs available to homeless individuals within the city employ HIFIS, and not all homeless individuals interact with such services. As a result, the By-Name List does not enumerate the entirety of the homeless population within the city, serving only as a partial representation.

Statistical Analysis

To examine the London neighbourhoods most in need of social services, Census data on the Forward Sortation Areas (FSA) encompassing the city were utilized. In total, there were 17 FSAs for the city of London. The analysis focused on three key dimensions related to the risk of homelessness: demographics, human/economic capital, and housing. For the demographics dimension, the study looked at the percentage of people in each FSA that were between the age of 25 to 49, male, Indigenous, and a visible minority. The measurement of the human/economic capital dimension involved examining the percentage of people in each FSA with low household income (less than $30,000), less than a high school degree, unemployment, and those who fell below the after-tax Low Income Cut-Off (LICO). LICO is a measure that represents income levels at which individuals are spending 20 percent or more than the average Canadian family on food, shelter, and clothing (Tsoukalas and Roberts 2002). For the housing dimension, the study evaluated the percentage of people in each FSA with a dwelling in need of major repairs, those spending 30 percent or more on shelter costs, those with non-suitable housing, and those classified as being in core housing need.

Using these variables, a composite index was constructed to serve as a measure of the overall need for the year 2021. To ensure that each variable used in the index carried equal weight and could be directly compared, a mean-centred approach was used to standardize each variable (Ramos et al. 2022). After calculating the z-scores for each variable, all of the scores for each respective FSA were summed and divided by the total number of variables used in the index. The resulting quotient was considered the need score for each FSA. Lower index scores indicate a lower risk of homelessness and a lower need for services, whereas a higher score represents a higher risk of homelessness and a greater need for services. Scores for each FSA

were then sorted into quintiles, with the top quintiles equating to higher degrees of need. In combination with the location of services, index scores for each FSA were mapped to graphically illustrate the areas of most need throughout the city and to assess whether existing services were situated in those locations. All the maps and data were plotted using the 2021 FSA boundaries established by Statistics Canada.

To explore whether FSAs with greater need and risk received more services, this study also used a negative binomial regression with the FSA index score as the independent variable and the total number of services within each FSA as the dependent variable. The interpretation of the negative binomial regression coefficient is that for a one-unit change in the index score, the difference in the logarithms of the expected counts of the total number of services in an FSA is expected to change by the corresponding regression coefficient. Simply, if the number of total services in an FSA increases with its corresponding index score, it is assumed that areas of greater need are receiving more resources and services.

There are a few limitations of this study. First, the index calculation was limited to only four variables per dimension. Given that homelessness is a multidimensional issue, there are numerous other predictors that should be included in order to fully capture the vulnerability of homelessness. Nevertheless, the index presented in this study provides a valuable generalized prediction of homelessness by leveraging the most relevant and established predictors for homelessness as identified in the literature. In this manner, the predictions offered by the index serve as a foundation from which supplementary variables can be subsequently incorporated to further enhance its accuracy. Second, the HIFIS data used in this study exclusively accounts for individuals utilizing services that have implemented the HIFIS infrastructure. Despite the ongoing efforts by the city to establish a more comprehensive and streamlined approach to

monitoring homelessness, certain service providers still remain unaccounted for, thereby limiting the full understanding of service utilization in London as well as potential necessary adjustments in service provision. While the insights derived from the current HIFIS database must be approached with a measure of caution, they still provide a preliminary understanding of the usage and efficacy of current service provisions in the city. Third, this study relies on data from the 2021 Census, a dataset that has become outdated relative to the publication date of this article. Considering the perpetually evolving nature of homelessness, changes in the risk of homelessness in London may have already occurred. This study, therefore, might not accurately reflect the composition of risk observed in 2023. Despite this, this study still stands as one of the first to investigate homeless vulnerabilities in London and offers a proof of concept that can aid the city in strategically shaping its initiatives by establishing a foundational risk assessment.

FINDINGS

Before analyzing the findings of this study, it is important to provide contextual background regarding the homeless population in London (Table 1.). Consistent with previous literature, London's homeless population is predominantly single adults, accounting for nearly 70 percent (Gaetz et al. 2013). Homeless youth and homeless families constituted around 10 percent and 20 percent, respectively. Among those who engaged with programs utilizing HIFIS, 18 percent self-identified as Indigenous, 15 percent reported having a disability, 17 percent disclosed having TriMorbidity (i.e., mental health, substance use, and physical health challenges), and 31 percent were new users of these programs. Additionally, 41 percent had encountered an urgent safety incident (i.e., sexual abuse, sex work, pregnancy, or LGBTQ+) and 44 percent required emergency services. Between 2021 and 2022, nearly a fifth (20 percent) of

the sample remained unsheltered, while only two-fifths (43 percent) made use of shelter services. Transitional housing was also scarcely utilized among the London homeless, with only 7 percent having engaged with this service. An even smaller fraction accessed housing programs designed to secure and maintain stable housing (3 percent), despite over half of the sample (53 percent) having evidence of their income.

Table 1. Composition of Homeless Population and Service Use in London Based on 2021 – 2022 HIFIS Database

Variable	Observations	Percent (%)
Homeless Youth (age 16 - 24)	3734	9.88
Single Adults	3734	69.15
Family	3734	20.70
Indigenous	3734	17.70
Disability	2048	14.50
TriMobidity (i.e., mental health, substance use, and physical health)	3734	17.25
New To Homelessness	3734	30.72
Urgent Safety Event (i.e., sexual abuse, sex work, pregnancy, or LGBTQ+)	3734	41.16
Emergency Service Involvement	3734	44.32
Unsheltered	3734	20.25
Shelter Use	3734	43.33
Transitional Housing	3734	6.96
Connected with Housing Support Program	3734	2.54
Proof of Income	3734	53.21

Source: City of London (2023)

To begin the analysis, an initial comparison between the population of London and Canada was first performed to see if London differed significantly in terms of their demographic and economic composition. Table 2. presents a descriptive summary of the factors associated with a heightened risk of homelessness for London and Canada, all of which were included in the calculation of the index. Comparatively, London exhibits similar demographic,

human/economic, and housing conditions to those of Canada. Men comprised 49 percent of the London population, adults aged 25 to 49 accounted for 34 percent, visible minorities constituted 28 percent, and the Indigenous population made up 3 percent. Only 7 percent of residents in London reported falling under the after-tax LICO threshold, whereas 14 percent indicated an annual household income below $30,000. Moreover, 15 percent of respondents acknowledged not completing high school, and 13 percent reported being unemployed. Despite the relatively low percentage of individuals living in poor housing conditions – including non-suitable housing (6 percent), dwellings requiring major repairs (5 percent), and core housing needs (11 percent) – nearly one-fifth (24 percent) of London's population expressed the need to allocate 30 percent or more of their income towards shelter expenses.

Table 2. Comparing Descriptive Statistics of Index Variables Between London and Canada

	London		Canada	
Variable	Observations	Percent (%)	Observations	Percent (%)
Demographics				
Age (25 to 49)	144,425	34.06	12,155,265	32.86
Male	207,240	48.88	18,226,240	49.27
Visible Minority Status	119,465	28.18	9,639,205	26.06
Indigenous Status	10,970	2.59	1,807,250	4.89
Human/Economic				
Household Income (<$30,000)	23,845	13.60	1,853,110	12.37
After-tax LICO	27,290	6.53	1,863,335	5.20
Less Than a High School Degree	51,350	14.73	4,899,580	16.15
Unemployed	28,480	13.22	1,988,645	10.30
Housing				
Non-suitable Housing	10,495	5.99	805,650	5.38
Dwelling Condition (Major Repairs)	9,595	5.47	919,545	6.14
Shelter Costs (>30% or more)	42,115	24.19	3,074,715	20.93
Dwelling In-core Need	18,920	11.15	1,451,025	10.11

Source: Statistics Canada Census of the Population (2021)

Identifying high-risk neighbourhoods is essential for cities to establish where appropriate resources need to be allocated and ensure interventions are not wasted in areas where they are not required. In response to the first research question, Figure 1. reveals some interesting geographic patterns regarding the risk of homelessness and service distribution. The five FSAs with the highest index scores are N6B, N5Y, N5W, N5Z, and N6A. These FSAs are primarily located within the central core and northeastern regions of the city. Broadly, London's central and northern districts have the highest cumulative scores on the index across the relevant dimensions. Conversely, the five lowest-scoring FSAs are N6N, N6P, N6K, N5X, and N6M. Such lower-scoring FSAs are dispersed across the city but are generally positioned around its outer perimeter. With the exception of the two FSAs – N6H and N5V – the outer areas of London seem to exhibit a reduced overall risk of homelessness compared to the city core. Geographically, areas with elevated risk are predominantly clustered in the central and northeastern sectors of London, whereas the regions with lower scores tend to cluster in the southern and western parts of the city.

To examine the spatial distribution of services accessible to at-risk and homeless individuals, a breakdown of the number and types of services within each FSA is detailed in Table 3. In total, there are 60 homeless-related facilities within London, with social services and shelters accounting for twenty and eight, respectively. When looking at the service distribution across the FSAs, many of the services are located within the areas of highest risk (Figure 1). Specifically, N6B, which is situated at the city's central core, holds the highest index score among all FSAs and carries the largest quantity of homeless-related services in the city at eleven. Relative to the rest of the FSAs, N6B, N5V, and N5W have a substantial share of services within their boundaries, collectively making up 45 percent of all services citywide. Correspondingly,

these FSAs and services tend to be concentrated mainly in the central and northeastern sectors of the city. In contrast, N6N, N6M, and N6J are the only FSAs that have no homeless-related facilities within their respective borders; however, these areas achieved relatively low scores on the overall index, with the exception of N6J. Notably, N6J is positioned close to the city centre, surrounded by higher-scoring FSAs, while N6N and N6M are located in the southeast, featuring lower risk scores.

Figure 1. (a) index score for each FSA in London, (b) index score for each FSA along with the distribution of homeless-related facilities in London

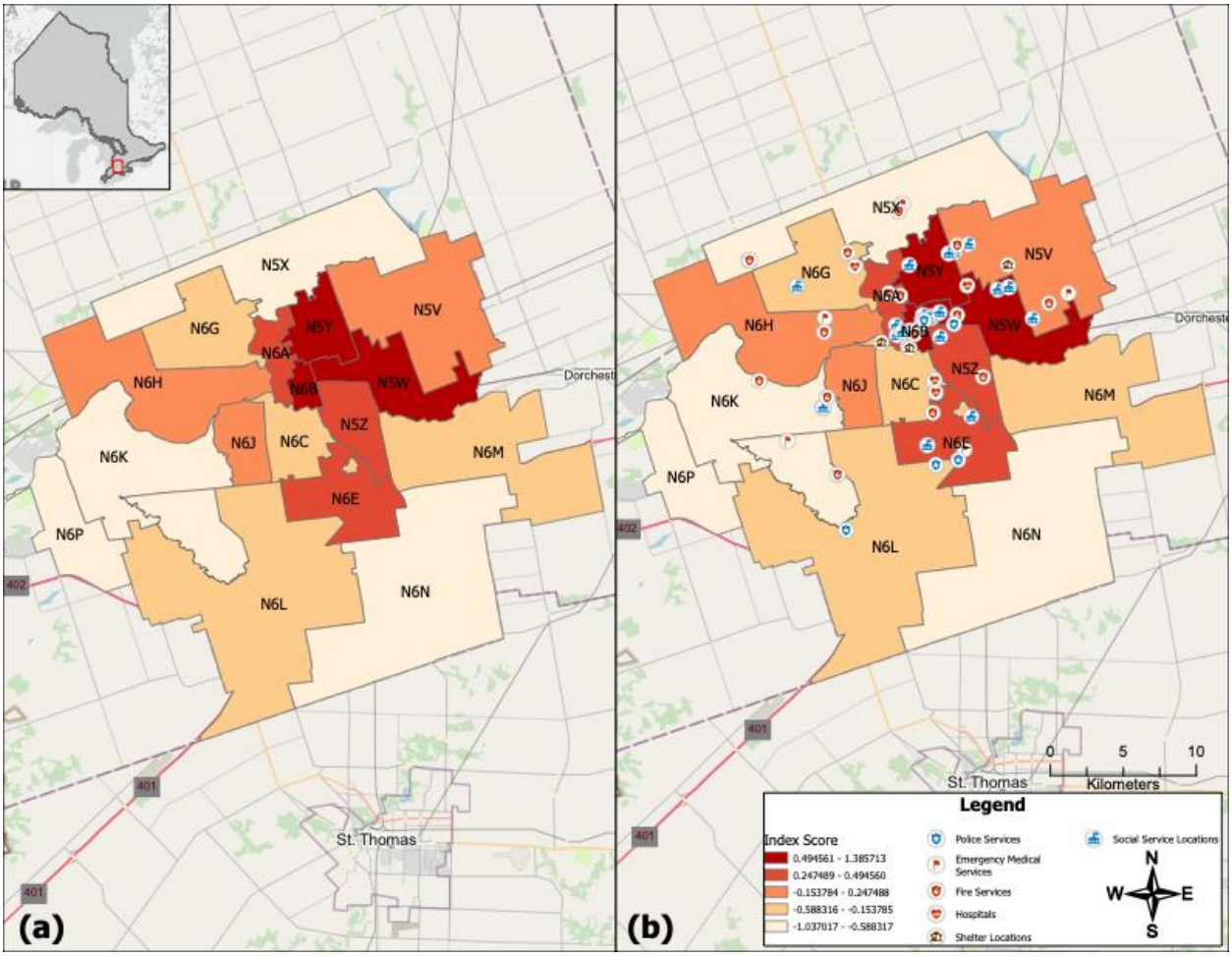


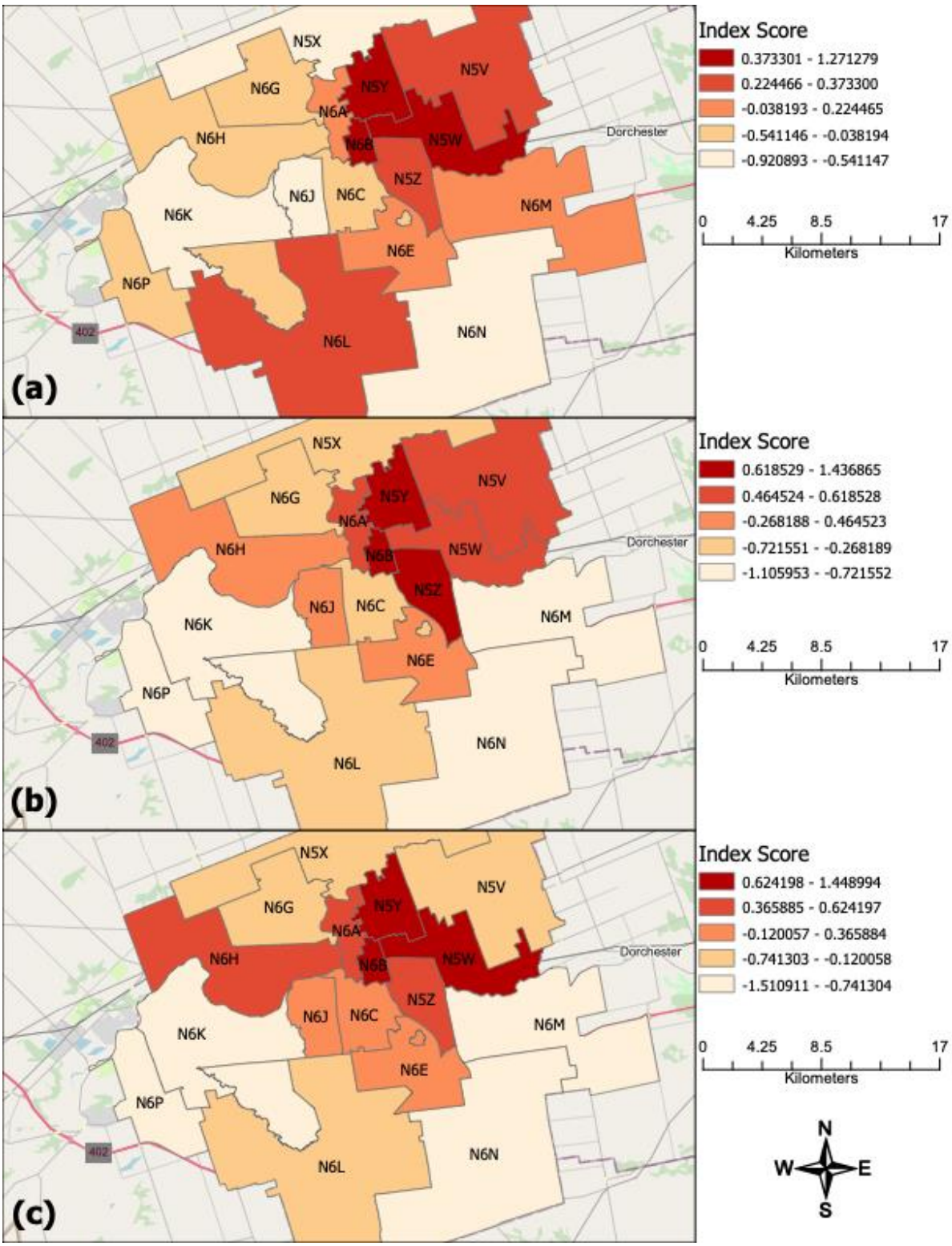
Table 3. Distribution of Homeless-related Facilities by Forward Sortation Areas in London

	Homeless-related Facilities						
FSA	Hospitals	Emergency Medical Stations	Police Stations	Fire Stations	Social Services	Shelters	Total
N5V		1		2	4	1	8
N5W	1		1	1	4	1	8
N5X		2		2			4
N5Y				1	2		3
N5Z				1	1		2
N6A	1				2		3
N6B		1	1	1	3	5	11
N6C	3					1	4
N6E		1	1	1	2		5
N6G	1			1	1		3
N6H		1		1			2
N6J							0
N6K				2	1		3
N6L			2				2
N6M							0
N6N							0
N6P		1		1			2
Total	6	7	5	14	20	8	60

While services seem to be generally positioned in areas with the highest demand, are the unique needs of each neighbourhood being adequately addressed? In order to optimize the efficacy of services, it is imperative to strategically position them in close proximity to individuals who require those specific services, as opposed to broadly placing them within areas of general risk. Figure 2. provides a more detailed analysis of the specific services needed for each FSA. The figure visualizes how each FSA is positioned on the index concerning each of the three focal dimensions explored in the study. Upon closer examination, the central region of London still consistently scores the highest for each respective dimension. Among the three maps, the map for the demographics dimension demonstrates the most variability in comparison to the others. In this context, the southern and eastern regions of London show a heightened level of vulnerability, a pattern that is not necessarily observed when assessing the maps for the human/economic capital and housing dimensions. Similar to the overall index, the central and

northern areas of London have the highest risk in terms of human/economic capital-level factors. This changes, however, when focusing on the housing dimension, as the concentration of risk shifts towards central London, with the northern parts of the city scoring considerably lower comparatively. The five highest-scoring FSAs for the demographics index are N6B, N5Y, N5W, N6L, and N5V. In comparison, the five FSAs with the highest index score for the human/economic capital dimension are N6B, N5Z, N5Y, N5W, and N6A, while N6B, N5Y, N5W, N6H, and N6A are the highest-scoring FSAs for the housing dimension. Overall, N6B, N5Y, N5W, and N6A emerge as the four FSAs with the greatest risk of homelessness and demand the most significant service provisions within the city.

Figure 2. (a) index score based on the demographics dimension, (b) index score based on the human/economic dimension, (c) index score based on the housing dimension



To further understand whether services were being established in the areas of highest need, the study used negative binomial regression analysis. Table 4. shows the negative binomial regression results for the number of services within an FSA. The coefficient for the index score is positive and significant, indicating that as the index score for an FSA increase, so does the number of services within the FSA. For every one-unit increase of the index score for an FSA, the expected log counts of the number of homeless-related facilities increase by 0.800 units or by a factor of 2.226 ($e^{0.8000297)}$.

Table 4. Regression Model Predicting Total Number of Homeless-related Facilities in Each FSA

	Coefficient	Standard Error	95% Confidence Interval
Constant	1.128495***	0.1635705	[0.8079023, 1.449087]
Index Score	0.8000297***	0.2386693	[0.3322465, 1.267813]
Pseudo R Squared	0.1033		
Log likelihood	-35.568608		

Note: N = 17

Significant at *p <0.10, **p <0.01, ***p <0.001

Source: Statistics Canada Census of the Population (2021)

Overall, the vulnerability to homelessness in London appears to be concentrated within distinct regions. Specifically, the central and northeastern parts of the city exhibit the highest risk, while the outer edges tend to feature lower probabilities of homelessness. Adjacent FSAs also appear to demonstrate similarities, as those surrounded by FSAs with higher scores also tend to have higher scores themselves. Furthermore, London seems to strategically place services in response to demand, as revealed by the service distribution map and regression analysis, where a higher service need or risk index score corresponds to an increased likelihood of service provision.

DISCUSSION

Homelessness remains a significant and growing challenge affecting all of Canada. Much of the existing literature, however, has consistently prioritized research on the largest CMAs, resulting in an inadequate understanding of the distinctive homeless experiences present within smaller communities. Because of this, it is unclear to what extent the research insights acquired from larger CMAs apply to smaller urban settings. This study attempted to bridge this gap by investigating the spatial distribution of the risk of homelessness and service provision within the mid-sized city of London, Ontario. My objective for the present study was threefold. First, it aimed to identify the neighbourhoods in London that carried the most significant risk of generating homelessness. Second, it explored the spatial distribution of homeless services within the city. Third, it examined whether the service provisions available to at-risk and homeless individuals were being positioned in the areas of greatest need.

This study's findings revealed that among the 17 FSAs in London, the central and northeastern areas of the city exhibited the greatest vulnerability to homelessness. Specifically, the central downtown core of London and its neighbouring regions demonstrated the most significant risk, achieving the highest scores across the majority of the predictors considered within the homeless index. This is consistent with previous research suggesting that areas marked by worse economic and housing conditions, along with specific demographic characteristics, are linked with increased chances of homelessness (To et al. 2016; Buckland et al. 2001).

Mirroring the patterns observed in Hamilton, Winnipeg, and Montreal, London's spatial distribution of risk reflects the traditional social ecology model of poverty, whereby the inner

city contains the highest concentration of housing stress and poverty (Wilson 1987; Lyn, Mcgeary, and National Research Council 1990). The higher levels of vulnerability within the central parts of London can be explained in terms of cost and affordability issues. Relative to other parts of the city, the FSAs that constitute the surrounding downtown core have a substantial proportion of individuals who not only allocate more than 30 percent of their income towards housing but also possess an annual income below $30,000. Since downtown London operates as the city's economic hub, accommodating numerous employment opportunities, rental costs are generally higher than those found in suburban neighbourhoods (Burda and Singer 2015). Although relocating away from the downtown area might be a viable choice for individuals seeking more budget-friendly housing, those with lower incomes frequently face obstacles to such a move. These barriers are partly attributed to the costs linked with the actual process of moving as well as uncertainties about the affordability of housing options outside the downtown region. In many cities, newer suburban housing is typically more expensive than older units in the urban core (Bunting, Walks, and Filion 2004). Moreover, within Ontario, numerous cities have implemented zoning regulations that only permit single-family homes in hopes of maintaining the value of such housing (Ontario Housing Affordability Task Force 2022). Even if rents are lower in these neighbourhoods, transportation costs could accumulate to a level comparable to their previous rental expenses. This is especially true for individuals who lack the financial means to cover the costs associated with owning a car. Relying exclusively on public transportation may not consistently represent a feasible solution either, particularly if the public transit system is limited, unreliable, or costly, issues consistently highlighted by Londoners (Stacy 2018). The city, in response, has addressed challenges observed within the downtown core by planning multiple affordable housing initiatives in those high-risk FSAs.

Outside of the high-risk areas, the outer FSAs, notably in the southern and western directions, reported lower levels of risk. Research on neighbourhood stress shows that risk and poverty tend to decline outwards from the city core (Hepburn, Rutan, and Desmond 2023; Jargowsky 1997). The lower risk observed in the southern region of the city is in part due to the limited presence of residential housing in these areas, as they are primarily designed for agricultural and industrial purposes. Conversely, the lower risk in the western region can be linked to their predominantly affluent demographic, wherein a significant proportion – approximately 40 percent or more – of residents belong to the eighth income decile or above. In contrast, the higher-risk FSAs have nearly 50 percent of their population within the lower three income deciles.

While affordable housing initiatives are under consideration for neighbourhoods of higher risk, a number of housing developments have already been approved in the wealthier communities situated to the west and east, where the associated risks are lower. Previous research has underscored the fact that the demand for housing has exceeded the rate of constructing new housing units (Armstrong 2019). The scarcity of affordable housing projects and the rise in luxury residence developments have further exacerbated this crisis. Since 1990, rentals have constituted less than 9 percent of all units built in Ontario (Advocacy Centre for Tenants Ontario 2018). This has resulted in a lack of homes for individuals and families with lower and moderate incomes, further driving up market prices. Despite the city's plan to introduce 47,000 new housing units by 2031, the accompanying legislation includes a provision restricting the number of affordable units municipalities can request to be built to only 5 percent. As a result, most units under approval may not even be affordable or serve the populations most in need. While this policy might address the widespread housing shortage in Canada, its

effectiveness in aiding the homeless and more vulnerable communities is limited. Ultimately, solutions to the problem of homelessness rest on more extensive housing and income assistance policies explicitly targeting homelessness – an area of jurisdiction where municipal governments have little or no control.

To examine whether services are most effectively distributed across the city, I looked at the spatial distribution of services across London. When this was done, it was apparent that homeless-related services are concentrated in the neighbourhoods of most need. These results challenge earlier research, which has previously concluded that service provision was not aligned with areas of need (Bunting, Walks, and Filion 2004). Earlier studies suggested that need emerged in suburban neighbourhoods, while services were predominantly used in the inner city. However, my analysis demonstrates that both the need and the associated risk are centred within the surrounding London core. Nonetheless, the study does support the concept of "service ghettos," as a more detailed analysis of service locations indicates a tendency for numerous services to cluster within small sections of the city (Dear and Wolch 1987). In particular, service facilities concentrate along two major roads within the downtown core: Richmond Street and Dundas Street. These major roads run through the high-risk areas of N6A, N6B, and N5W. Similar to previous studies, the surrounding neighbourhoods within these areas were more economically distressed and had worse housing conditions (DeVerteuil 2003; Batterham et al. 2022; O'Donnell 2018; Wood et al. 2014). The localization of homelessness along these roads has had a detrimental impact on nearby businesses (Butler 2023). Business owners in these areas have expressed concerns about the repercussions of homelessness, noting a decline in business activity and the loss of the previously cherished "family-friendly appeal" of the community. While prioritizing the placement of services in areas with the greatest need is crucial, these

complaints underscore the necessity for additional discussions concerning the potential consequences of concentrating both services and individuals within these areas and how it might affect the nearby businesses and communities. For its part, the city is making efforts to prevent the entrenchment of these "service ghettos," as evidenced by a municipal report from 2023 that outlines the initial sites for the upcoming homeless service hubs (Bhargava 2023). The city has opted to exclude Richmond Street and Dundas Street from consideration for their 2023 service hubs, as well as refrain from situating them in close proximity to daycares, parks, or within the core of residential neighbourhoods. This approach not only prevents the risk of reinforcing existing "service ghettos" but also allows the city to strategically position hubs in areas beyond the downtown core that are marked as high-risk and require service facilities, such as N5Z or N6J.

Interestingly, while services were located in areas of greatest need, service use appeared to be relatively limited among the homeless population. Between 2021 and 2022, homeless individuals in London exhibited low usage rates for shelters, transitional housing, and housing support programs. Prior research exploring service utilization reveals that homeless individuals frequently express a preference for living in camps over traditional shelters due to material advantages and strict regulations associated with shelter accommodation (Herring 2014). It is important to note that not all service providers have adopted HIFIS, and as such, the true extent of service utilization may differ from current city numbers. However, care avoidance among the homeless has become increasingly prevalent and is linked not only to the characteristics of homeless individuals but also to service structure. Studies in this field report that issues related to complicated system procedures, specific service conditions and requirements, mistrust or a lack of confidence, negative evaluations of the quality of care, and previous negative encounters with

service providers as contributing to care avoidance (Klop et al. 2018; Leyva, Taber, and Trivedi 2020; Kannan and Veazie 2014). Recommendations offered by participants across several studies include tailoring care and building rapport from an early stage, setting boundaries about behaviour without rejecting the individual, adopting a compassionate demeanour, providing quieter and less crowded shelter environments, cultivating non-intimidating attitudes and approaches among caretakers, and ensuring clear information dissemination and communication.

The underutilization of services raises an additional question about whether the "correct" services are being strategically positioned in areas where the need is most pronounced. The susceptibility to homelessness within a particular FSA can vary depending on numerous factors such as demographics, human/economic, and housing. For instance, an FSA might exhibit high scores in human/economic capital factors but lower scores in housing conditions. In such circumstances, placing a housing service within that area could diminish its efficacy, potentially causing a displacement of homelessness or risk of homelessness across various boundaries as individuals gravitate towards the services that cater to their needs. Previously, national and provincial policies advocated for a Housing First approach that sought to move people experiencing homelessness into stable and long-term housing (Government of Canada 2022). While the strategy proved effective in large CMAs, smaller communities did not witness the same effects partly because the causes of homelessness and the needs of the homeless in these areas were not addressed with this approach (Waegemakers and Turner 2014). Local governments have instead opted for an outcomes-based approach that eliminates the prior Housing First investment targets, allowing communities greater flexibility in addressing their local needs and priorities. London's proposed service hubs present an innovative approach by consolidating a range of services within a single location (Richmond 2023). In contrast to the

Housing First strategy that prioritized housing for the homeless before tending to other physical or mental issues, London's initiative aims to comprehensively address all these concerns in a unified location. This approach ensures convenient access to all required services for users and provides an efficient way to monitor their needs, eliminating the need to visit multiple locations for varying requirements. However, there is limited research on whether this form of service delivery is more effective than tailored geographic services. While tailored geographic services optimize effectiveness, London's strategy ensures that there are "no wrong doors" for those seeking service. It is vital to monitor the progress of London's homeless program to determine whether their approach can serve as a fundamental blueprint for other cities in tackling the escalating homeless crisis.

Despite the majority of service facilities being positioned in areas with the highest demand, N6J lacks any homeless-related facilities within its boundaries. Situated east of the central downtown core, the lack of services is noteworthy because this FSA scored remarkably high on both the index's human/economic and housing dimensions. Further investigation into zoning maps reveals a lack of housing projects in this specific location as well. The lack of service providers in this specific location potentially suggests that either the area's heightened risk has become apparent only recently or that there has been a neglect of districts situated outside the central core.

For a more comprehensive understanding of changes in homeless risk and service deprivation, future research could explore how risks have evolved within cities over time. The current study's cross-sectional design provides only a snapshot of the spatial distribution of risk. However, the risks of homelessness within FSAs in London may have experienced gradual transformations due to specific events, such as gentrification, zoning practices, or COVID-19,

which could be subject to research in subsequent studies. Moreover, future studies could assess the causal timing between the establishment or relocation of services and changes in FSA risk. This would shed light on whether cities strategically position their service provisions in areas of greatest vulnerability or if there is an intentional zoning approach aimed at segregating homeless populations and perpetuating service ghettos.

CONCLUSION

Understanding of the spatial distribution of homelessness and vulnerability to homelessness in smaller and mid-sized Canadian cities has been lacking. In this paper, I sought to answer three research questions: 1) Which neighbourhoods in the city of London have the highest risk of homelessness? 2) What is the spatial distribution of homeless services in the city of London? 3) Are current homeless-related facilities located in the areas of greatest need? This study provided a visual representation of the concentration of risk and service provision within London, highlighting the need for targeted services that align with the social geography of each specific locality. While some insights derived from homelessness research in larger cities are applicable to smaller and mid-sized municipalities, not all findings can be generalized as shown by this study. Findings from this study emphasize that the risk of homelessness primarily centres around the downtown core, particularly the central and northeastern areas of London. Outside of these districts, the risk of homelessness was found to be comparatively low. The study also revealed that the placement of service provisions correlates with the high-risk Forward Sortation Areas. A significant cluster of services was located in the central downtown core, with minimal service providers distributed around the city's outer perimeter. However, each FSA's specific

needs differed based on varying factors related to demographic, human/economic capital, or housing characteristics.

Homelessness is no longer a problem exclusive to urban centres, and smaller cities must adopt a proactive approach to effectively address the issue. A solution to homelessness must include both supportive programs for individuals who are currently experiencing chronic homelessness as well as preventative measures to avoid homelessness from occurring in the first place. Often, policies are adopted across cities without considering each environment's unique geographical and situational contexts (Angelo and Wachsmuth 2020). The vast and varied geography across Canadian cities means that the experiences of homelessness may not uniformly mirror those in larger metropolitan areas when compared to rural communities. Thus, creating targeted policies within individual cities is imperative to addressing the specific challenges each respective municipality faces. By linking spatial data related to homeless risk with service utilization data, this study gives policymakers the ability to develop services and initiatives that are more efficient and tailored to the geographic context of the neighbourhoods in need.

References

Acuna, Julia, and Bob Erlenbusch. 2009. *Homeless Employment Report: Findings and Recommendations*. Sacramento: Sacramento Ending Chronic Homeless Initiative.

Advocacy Centre for Tenants Ontario. 2018. *Where Will We Live? Ontario's Affordable Rental Housing Crisis*. Toronto: Advocacy Centre for Tenants Ontario.

Andersson, Roger, and Lena Magnusson Turner. 2014. "Segregation, Gentrification, and Residualisation: From Public Housing to Market-Driven Housing Allocation in Inner City Stockholm." *International Journal of Housing Policy* 14(1):3–29. doi: 10.1080/14616718.2013.872949.

Angelo, Hillary, and David Wachsmuth. 2020. "Why Does Everyone Think Cities Can Save the Planet?" *Urban Studies* 57(11):2201–21. doi: 10.1177/0042098020919081.

Anucha, Uzo, Lisa Smylie, Colleen Mitchell, and Francisca Omorodion. 2007. *Exits and Returns: An Exploratory Longitudinal Study of Homeless People in Windsor-Essex County*. Ottawa: Canada Mortgage and Housing Corporation.

Armstrong, Mike. 2019. "Ignored and Ignited: Affordable Housing Crisis Has Some Canadians Feeling Trapped - National | Globalnews.Ca." *Global News*. Retrieved August 10, 2023 (https://globalnews.ca/news/6046589/ignored-and-ignited-affordable-housing/).

Basu, Tirthankar, and Arijit Das. 2021. "Formulation of Deprivation Index for Identification of Regional Pattern of Deprivation in Rural India." *Socio-Economic Planning Sciences* 74:100924. doi: 10.1016/j.seps.2020.100924.

Batterham, Deb, Melek Cigdem-Bayram, Sharon Parkinson, Margaret Reynolds, and Gavin Wood. 2022. "The Spatial Dynamics of Homelessness in Australia: Urbanisation, Intra-

City Dynamics and Affordable Housing." *Applied Spatial Analysis and Policy* 15(4):1021–43. doi: 10.1007/s12061-022-09435-5.

Belanger, Yale D., Olu Awosoga, and Gabrielle Weasel Head. 2013. "Homelessness, Urban Aboriginal People, and the Need for a National Enumeration." *Aboriginal Policy Studies* 2(2):4–33. doi: 10.5663/aps.v2i2.19006.

Bhargava, Isha. 2023. "What You Need to Know about London's Proposed Homeless Hubs." *CBC*. Retrieved August 23, 2023 (https://www.cbc.ca/news/canada/london/what-you-need-to-know-about-london-s-proposed-homeless-hubs-1.6909797).

Buckland, Laura, Andrew Jackson, Paul Roberts, and Peter Smith. 2001. *Structural and Systemic Factors Contributing to Homelessness in Canada; An Analysis of Research Gaps And Proposed Research Directions*. Canadian Council on Social Development.

Buck-McFadyen, Ellen. 2022. "Rural Homelessness: How the Structural and Social Context of Small-Town Living Influences the Experience of Homelessness." *Canadian Journal of Public Health* 113(3):407–16. doi: 10.17269/s41997-022-00625-9.

Bunting, Trudi, Alan R. Walks, and Pierre Filion. 2004. "The Uneven Geography of Housing Affordability Stress in Canadian Metropolitan Areas." *Housing Studies* 19(3):361–93. doi: 10.1080/0267303042000204287.

Burda, Cherise, and Geoffrey Singer. 2015. *Location Matters: Factoring Location Costs into Homebuying Decisions*. Calgary: Pembina Institute.

Bureau of Labor Statistics. 2023. *The Employment Situation – July 2023*. Washington, D.C: U.S Department of Labour.

Burt, Martha R. 2001. “Homeless Families, Singles, and Others: Findings from the 1996 National Survey of Homeless Assistance Providers and Clients.” *Housing Policy Debate* 12(4):737–80. doi: 10.1080/10511482.2001.9521428.

Butler, Colin. 2022. “How Many Londoners Are Sleeping Rough Tonight? The Numbers Have Doubled in 2 Years | CBC News.” *CBC*. Retrieved July 20, 2023 (https://www.cbc.ca/news/canada/london/homeless-london-ontario-1.6683006).

Butler, Colin. 2023. “Feelings Shift from Empathy to Frustration among Business Owners along Richmond Row | CBC News.” *CBC*. Retrieved August 23, 2023 (https://www.cbc.ca/news/canada/london/richmond-row-london-1.6761821).

Canada Mortgage and Housing Corporation. 2023. *RENTAL MARKET REPORT – January 2023*. Ottawa: Canada Mortgage and Housing Corporation.

Canadian Centre for Housing Rights. 2022. “Fifty Years in the Making of Ontario’s Housing Crisis – a Timeline.” *Canadian Centre for Housing Rights*. Retrieved August 13, 2023 (https://housingrightscanada.com/fifty-years-in-the-making-of-ontarios-housing-crisis-a-timeline/).

Caton, Carol L. M., Boanerges Dominguez, Bella Schanzer, Deborah S. Hasin, Patrick E. Shrout, Alan Felix, Hunter McQuistion, Lewis A. Opler, and Eustace Hsu. 2005. “Risk Factors for Long-Term Homelessness: Findings from a Longitudinal Study of First-Time Homeless Single Adults.” *American Journal of Public Health* 95(10):1753–59. doi: 10.2105/AJPH.2005.063321.

Choi, Kate H., and Sagi Ramaj. 2023. “Ethno-Racial and Nativity Differences in the Likelihood of Living in Affordable Housing in Canada.” *Housing Studies* 0(0):1–24. doi: 10.1080/02673037.2023.2170988.

City of London. 2020. “Economic Overview of London, Ontario | Immigration.” Retrieved July 18, 2023 (https://london.ca/immigration/life-london/economic-overview-london-ontario).

City of Toronto. 1999. *Taking Responsibility for Homelessness An Action Plan for Toronto*. Toronto: Homelessness Action Task Force.

City of Toronto. 2000. *Toronto Report Card on Homelessness 2000*. Toronto: The Community Services Committee.

City of Toronto. 2019. *2014-2019 Housing Stability Service Planning Framework*. Toronto: Toronto Shelter, Support & Housing Administration.

City of Toronto. 2021. *2021 Street Needs Assessment Results Report*. Toronto: City of Toronto.

Culhane, Dennis P., and Randall Kuhn. 1998. “Patterns and Determinants of Public Shelter Utilization among Homeless Adults in Philadelphia and New York City.” *Journal of Policy Analysis and Management* 17(1):23–43.

Culhane, Dennis P., Chang-Moo Lee, and Susan M. Wachter. 1996. “Where the Homeless Come from: A Study of the Prior Address Distribution of Families Admitted to Public Shelters in New York City and Philadelphia.” *Housing Policy Debate* 7(2):327–65. doi: 10.1080/10511482.1996.9521224.

Culhane, Dennis P., and Stephen Metraux. 2008. “Rearranging the Deck Chairs or Reallocating the Lifeboats? Homelessness Assistance and Its Alternatives.” *Journal of the American Planning Association* 74(1):111–21. doi: 10.1080/01944360701821618.

Dear, Michael J., and Jennifer R. Wolch. 1987. *Landscapes of Despair: From Deinstitutionalization to Homelessness*. Princeton, NJ: Princeton University Press.

Deverteuil, Geoff. 2003. “Homeless Mobility, Institutional Settings, and the New Poverty Management.” *Environment and Planning A* 35:361–79. doi: 10.1068/a35205.

Duffy, Robert, Gaetan Royer, and Charley Beresford. 2014. *Who's Picking up the Tab? Federal and Provincial Downloading onto Local Governments*. Vancouver: Columbia Institute.

Farrugia, David, and Jessica Gerrard. 2016. "Academic Knowledge and Contemporary Poverty: The Politics of Homelessness Research." *Sociology* 50(2):267–84. doi: 10.1177/0038038514564436.

Folsom, David P., William Hawthorne, Laurie Lindamer, Todd Gilmer, Anne Bailey, Shahrokh Golshan, Piedad Garcia, Jürgen Unützer, Richard Hough, and Dilip V. Jeste. 2005. "Prevalence and Risk Factors for Homelessness and Utilization of Mental Health Services Among 10,340 Patients with Serious Mental Illness in a Large Public Mental Health System." *American Journal of Psychiatry* 162(2):370–76. doi: 10.1176/appi.ajp.162.2.370.

Gaetz, Stephen. 2010. "The Struggle to End Homelessness in Canada: How We Created the Crisis, and How We Can End It." *The Open Health Services and Policy Journal* 3(1):21–26.

Gaetz, Stephen, Erin Dej, Tim Richter, and Melanie Redman. 2016. *The State of Homelessness in Canada 2016*. Toronto: Canadian Observatory on Homelessness Press.

Gaetz, Stephen, Jesse Donaldson, Tim Richter, and Tanya Gulliver. 2013. *The State of Homelessness in Canada 2013*. Toronto: Canadian Homelessness Research Network Press.

Golabek-Goldman, Sarah. 2017. "Ban the Address: Combating Employment Discrimination Against the Homeless." *The Yale Law Journal* 126(6):1788–1868.

Government of Canada. 2022. “Housing First.” Retrieved August 14, 2023 (https://www.infrastructure.gc.ca/homelessness-sans-abri/resources-ressources/housing-first-logement-abord-eng.html).

Hepburn, Peter, Devin Q. Rutan, and Matthew Desmond. 2023. “Beyond Urban Displacement: Suburban Poverty and Eviction.” *Urban Affairs Review* 59(3):759–92. doi: 10.1177/10780874221085676.

Herring, Chris. 2014. “The New Logics of Homeless Seclusion: Homeless Encampments in America’s West Coast Cities.” *City & Community* 13(4):285–309. doi: 10.1111/cico.12086.

Hulchanski, J. David. 1994. *Discrimination in Ontario’s Rental Housing Market: The Role of Minimum Income Criteria*. Toronto: Ontario Human Rights Commission.

Institute of Medicine (U.S.). 1988. *Homelessness, Health, and Human Needs*. Washington, D.C: National Academy Press.

Jargowsky, Paul A. 1997. *Poverty and Place: Ghettos, Barrios, and the American City*. Manhattan, NY: Russell Sage Foundation.

Jarvis, Justin. 2015. “Individual Determinants of Homelessness: A Descriptive Approach.” *Journal of Housing Economics* 30:23–32. doi: 10.1016/j.jhe.2015.10.001.

Ji, Eun-Gu. 2006. “A Study of the Structural Risk Factors of Homelessness in 52 Metropolitan Areas in the United States.” *International Social Work* 49(1):107–17. doi: 10.1177/0020872806059407.

Josephson, Gordon J. 2004. “Relating Homelessness to Education, Employment and Income Support.” *Policy Research Initiative* 7(2):66–71.

Juha, Jonathan. 2022. “ANALYSIS: How London Got ‘on the Map’ for Immigration amid Boom.” *The London Free Press*. Retrieved July 19, 2023 (https://lfpress.com/news/local-news/immigration-booming-in-london-across-region-census-data).

Kannan, Viji Diane, and Peter J. Veazie. 2014. “Predictors of Avoiding Medical Care and Reasons for Avoidance Behavior.” *Medical Care* 52(4):336–45. doi: 10.1097/MLR.0000000000000100.

Kauppi, Carol, and Susan Braedley. 2003. *Structural Factors Associated with Homelessness: A Review of the International Literature*. Sudbury: National Homelessness Initiative.

Kauppi, Carol, Bill O’Grady, Rebecca Schiff, Fay Martin, and Ontario Municipal Social Services Association. 2017. *Homelessness and Hidden Homelessness in Rural and Northern Ontario*. Guelph, O: Rural Ontario Institute.

Klop, Hanna T., Kirsten Evenblij, Jaap R. G. Gootjes, Anke J. E. de Veer, and Bregje D. Onwuteaka-Philipsen. 2018. “Care Avoidance among Homeless People and Access to Care: An Interview Study among Spiritual Caregivers, Street Pastors, Homeless Outreach Workers and Formerly Homeless People.” *BMC Public Health* 18:1095. doi: 10.1186/s12889-018-5989-1.

Landrigan, Timothy J., Deborah A. Kerr, Satvinder S. Dhaliwal, and Christina M. Pollard. 2019. “Protocol for the Development of a Food Stress Index to Identify Households Most at Risk of Food Insecurity in Western Australia.” *International Journal of Environmental Research and Public Health* 16(1):79. doi: 10.3390/ijerph16010079.

Leyva, Bryan, Jennifer M. Taber, and Amal N. Trivedi. 2020. “Medical Care Avoidance Among Older Adults.” *Journal of Applied Gerontology: The Official Journal of the Southern Gerontological Society* 39(1):74–85. doi: 10.1177/0733464817747415.

Lynn, Laurence E., Michael G. H. McGeary, and National Research Council, eds. 1990. *Inner-City Poverty in the United States*. Washington, D.C: National Academy Press.

Mensah, Joseph, and Daniel Tucker-Simmons. 2021. "Social (In)Justice and Rental Housing Discrimination in Urban Canada: The Case of Ethno-Racial Minorities in the Herongate Community in Ottawa." *Studies in Social Justice* 15(1):81–101. doi: 10.26522/ssj.v15i1.2239.

Messer, Lynne C., Barbara A. Laraia, Jay S. Kaufman, Janet Eyster, Claudia Holzman, Jennifer Culhane, Irma Elo, Jessica G. Burke, and Patricia O'Campo. 2006. "The Development of a Standardized Neighborhood Deprivation Index." *Journal of Urban Health* 83(6):1041–62. doi: 10.1007/s11524-006-9094-x.

Moffatt, Mike. 2022. *The Growth of London Outside London: The Increasing Share of Housing Construction Occurring Outside of the City Limits*. London: Smart Prosperity Institute.

Morton, Matthew H., Amy Dworsky, Jennifer L. Matjasko, Susanna R. Curry, David Schlueter, Raúl Chávez, and Anne F. Farrell. 2018. "Prevalence and Correlates of Youth Homelessness in the United States." *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine* 62(1):14–21. doi: 10.1016/j.jadohealth.2017.10.006.

National Alliance to End Rural and Remote Homelessness. 2021. *Rural & Remote Homelessness: A Call for Strategic Investments to End Homelessness in Rural and Remote Communities across Canada*. The National Alliance the End Rural and Remote Homelessness.

Newcombe, Daryl. 2023a. "Hundreds of Homeless People Sent to London from Other Ontario Cities This Year: Deputy Mayor Lewis." *London*. Retrieved August 13, 2023

(https://london.ctvnews.ca/hundreds-of-homeless-people-sent-to-london-from-other-ontario-cities-this-year-deputy-mayor-lewis-1.6513774).

Newcombe, Daryl. 2023b. "London's Housing Crisis Demands 47,000 New Homes — 40 per Cent Are Approved but Still Unbuilt." *CTV News London*. Retrieved July 20, 2023 (https://london.ctvnews.ca/london-s-housing-crisis-demands-47-000-new-homes-40-per-cent-are-approved-but-still-unbuilt-1.6262624).

Nilsson, Sandra Feodor, Merete Nordentoft, and Carsten Hjorthøj. 2019. "Individual-Level Predictors for Becoming Homeless and Exiting Homelessness: A Systematic Review and Meta-Analysis." *Journal of Urban Health* 96(5):741–50. doi: 10.1007/s11524-019-00377-x.

O'Donnell, James. 2018. "The Suburbanisation of Homelessness in Sydney, Australia." *Applied Spatial Analysis and Policy* 11(2):333–54. doi: 10.1007/s12061-016-9216-0.

OECD. 2023. "Housing prices (indicator)." Retrieved Aug. 13, 2023 (doi: 10.1787/63008438-en)

Office of Policy Development and Research. 1999. *Homelessness: Programs and the People They Serve*. Washington, DC: Department of Housing and Urban Development.

Ontario Housing Affordability Task Force. 2022. *Report of the Ontario Housing Affordability Task Force*. Toronto: Ontario Housing Affordability Task Force.

Phinney, Robin, Sheldon Danziger, Harold A. Pollack, and Kristin Seefeldt. 2007. "Housing Instability Among Current and Former Welfare Recipients." *American Journal of Public Health* 97(5):832–37. doi: 10.2105/AJPH.2005.082677.

Pijl, Em M., and Yale D. Belanger. 2021. "Lost in Transition: Entering the Liminal Space of Rural Homelessness in a Small Prairie Town." *Journal of Social Distress and Homelessness* 30(2):126–34. doi: 10.1080/10530789.2020.1763575.

Plotkin, Sidney. 2020. *Keep Out: The Struggle for Land Use Control*. Berkeley, CA: University of California Press.

Poremski, Daniel, Jino Distasio, Stephen W. Hwang, and Eric Latimer. 2015. "Employment and Income of People Who Experience Mental Illness and Homelessness in a Large Canadian Sample." *The Canadian Journal of Psychiatry* 60(9):379–85. doi: 10.1177/070674371506000902.

Prentice, Jeremiah, Lucy Askham, and John Engeland. 2008. *2001 Census Housing Series: Issue 12—Housing Conditions of Visible Minority Households in Canada*. Ottawa: Canada Mortgage and Housing Corporation.

Ramos, Howard, Lisa Kaida, Diana Singh, Paul Pritchard, and Rochelle Wijesingha. 2022. "The Power of a Simple Index of Neighbourhood Change: Challenging the Perception That There Is No Such Thing as Simplicity in Creating Indexes." *Canadian Geographies / Géographies Canadiennes* 66(2):322–36. doi: 10.1111/cag.12711.

RE/MAX. 2022. *RE/MAX Canada Quarter Century Market Report*. Toronto: RE/MAX.

Richmond, Randy. 2023. "Everything You Need to Know about London's Homeless Hubs Plan." *The London Free Press*. Retrieved July 20, 2023 (https://lfpress.com/news/local-news/everything-you-need-to-know-about-londons-homeless-hubs-plan).

Ruddick, Susan M. 1996. *Young and Homeless In Hollywood: Mapping the Social Imaginary*. New York, NY: Routledge.

Rukmana, Deden. 2011. "Comparing the Residential Origins of Homeless Families and Homeless Individuals in Miami-Dade County, Florida." *Area* 43(1):96–109. doi: 10.1111/j.1475-4762.2010.00957.x.

Seamon, David, and Jacob Sowers. 2008. “Place and Placelessness, Edward Relph.” Pp. 43–52 in *Key Texts in Human Geography*. SAGE Publications Inc.

Shaheen, Gary, and John Rio. 2007. “Recognizing Work as a Priority in Preventing or Ending Homelessness.” *The Journal of Primary Prevention* 28(3):341–58. doi: 10.1007/s10935-007-0097-5.

Shinn, Marybeth, Beth C. Weitzman, Daniela Stojanovic, James R. Knickman, Lucila Jiménez, Lisa Duchon, Susan James, and David H. Krantz. 1998. “Predictors of Homelessness among Families in New York City: From Shelter Request to Housing Stability.” *American Journal of Public Health* 88(11):1651–57. doi: 10.2105/ajph.88.11.1651.

Shinn, Marybeth. 2009. *Ending Homelessness for Families: The Evidence for Affordable Housing*. Homeless Research Institute.

Stacey, Megan. 2018. “Transportation Top Issue for Londoners, Survey Says.” *The London Free Press*. Retrieved August 10, 2023 (https://lfpress.com/news/local-news/transportation-top-issue-for-londoners-survey-says).

Statistics Canada. 2022a. “Focus on Geography Series, 2021 Census - London (Census Metropolitan Area).” Retrieved August 11, 2023 (https://www12.statcan.gc.ca/census-recensement/2021/as-sa/fogs-spg/Page.cfm?lang=E&topic=1&dguid=2021S0503555).

Statistics Canada. 2022b. “Housing Indicators, 2021 Census.” Retrieved August 11, 2023 (https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/dv-vd/housing-logement/index-en.cfm).

Statistics Canada. 2022c. *To Buy or to Rent: The Housing Market Continues to Be Reshaped by Several Factors as Canadians Search for an Affordable Place to Call Home*. Ottawa: Statistics Canada.

Stick, Max, and Howard Ramos. 2021. “Does Municipal Funding of Organizations Reflect Communities of Need? Exploring Trends in Halifax, 1996-2016.” *Urban Research & Practice* 14(2):157–79. doi: 10.1080/17535069.2019.1705382.

Strobel, Stephenson, Burcul Ivana, Jia Hong Dai, Zechen Ma, Shaila Jamani, and Rahat Hossain. 2021. “Characterizing People Experiencing Homelessness and Trends in Homelessness Using Population-Level Emergency Department Visit Data in Ontario, Canada.” *Health Reports* 32(1).

Takahashi, Lois M. 1997. “The Socio-Spatial Stigmatization of Homelessness and HIV/AIDS: Toward an Explanation of the NIMBY Syndrome.” *Social Science & Medicine* 45(6):903–14. doi: 10.1016/S0277-9536(96)00432-7.

To, Matthew J., Anita Palepu, Tim Aubry, Rosane Nisenbaum, Evie Gogosis, Anne Gadermann, Rebecca Cherner, Susan Farrell, Vachan Misir, and Stephen W. Hwang. 2016. “Predictors of Homelessness among Vulnerably Housed Adults in 3 Canadian Cities: A Prospective Cohort Study.” *BMC Public Health* 16(1):1041. doi: 10.1186/s12889-016-3711-8.

Tsoukalas, Spyridoula, and Paul Roberts. 2002. *Legal Aid Eligibility and Coverage in Canada*. Canadian Council on Social Development.

Tuan, Yi-fu. 1979. *Landscapes of Fear*. 1st ed. New York, NY: Pantheon Books.

Uppal, Sharanjit. 2022. *A Portrait of Canadians Who Have Been Homeless*. Ottawa: Statistics Canada.

Waegemakers, Jeannette, and Alina Turner. 2014. *Housing First in Rural Canada: Rural Homelessness & Housing First Feasibility Across 22 Canadian Communities*. Calgary: The Homelessness Partnering Strategy.

Wagner, David. 1994. *Checkerboard Square: Culture And Resistance In A Homeless Community*. New York, NY: Routledge.

Washington, Donna L., Elizabeth M. Yano, James McGuire, Vivian Hines, Martin Lee, and Lillian Gelberg. 2010. "Risk Factors for Homelessness among Women Veterans." *Journal of Health Care for the Poor and Underserved* 21(1):82–91. doi: 10.1353/hpu.0.0237.

Wilson, William Julius. 1987. *The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy*. Chicago, IL: University of Chicago Press.

Wood, Gavin, Deb Batterham, Melek Cigdem, and Shelley Mallett. 2014. *The Spatial Dynamics of Homelessness in Australia 2001–11*. 227. Australian Housing and Urban Research Institute.