

Visual Change in the Urban Landscape: Taste, Gentrification & Displacement

by
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Author's Declaration

This thesis consists of material all of which I authored or co-authored: see Statement of Contributions included in the thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Statement of Contributions

This thesis is comprised of two primarily methodological manuscripts. I, Caleb Babin, am the primary author of each manuscript presented below. The first, “The Visual Geographies of Retail Displacement”, has been completely written by myself and has not yet been presented at any conferences or published in any papers. The second, “Gentrification and changing visual landscapes: a Google Street View analysis of residential upgrading and class aesthetics in Hamilton’s Lower City” had approximately 70% of its content written by myself following the contributions of Dr. Brian Doucet prior to its presentation at ACSP 2022 and 2024 publication under the citation “Babin, C., & Doucet, B. (2024). Gentrification and changing visual landscapes: a Google Street View analysis of residential upgrading and class aesthetics in Hamilton’s Lower City. *Visual Studies*, 39(1-2), 127-143.”. Furthermore, the thesis abstract is a modified version of the abstract employed in the second manuscript’s publication. Dr. Brian Doucet proposed the research topic and provided guidance throughout the composition of this thesis.

Abstract

Measuring the pace, characteristics and spatial distribution of gentrification is important to developing policies to mitigate its negative consequences, most crucially displacement. Typically, this is done through an analysis of census data on demographic, socioeconomic or housing change. However, this approach has numerous shortcomings, including the homogenizing effect on differences within neighbourhoods and the infrequency of census data collection. Visual analysis, particularly when examining multiple temporal views of the same location, has the potential to render visible fine-grained detail about spatial, economic and cultural changes within the urban landscape. Google Street View (GSV) is emerging as a source of repeat photography data. In this thesis, GSV is employed for analysis within a number of neighbourhoods and retail streets in Hamilton, Ontario. Coding and analyzing GSV images between 2009 and 2021 reveals an array of specific home upgrades, retail turnover as well as aesthetic changes that reflect middle-class tastes, values and lifestyles that suggest more upgrading than found within conventional statistics or dominant narratives about the city. Mapping these changes paints a complex, and fine-grained, block-by-block picture of gentrification that reveals why some areas are more conducive to gentrification than others and how retail gentrification can lead to both direct and indirect displacement. This analysis is important for critical visual methodologies, gentrification and neighbourhood change theories in addition to planning and policymaking.

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Chapter 1: Thesis Introduction

Expressing itself differently globally, and between the rural and urban, displacement has become a constant feature of modern development. Displacement in an urban context most often refers to either direct physical displacement resulting from a tenancy being forcefully ended, indirect displacement that renders units less affordable between tenancies and the pressure of displacement caused by a loss of necessary amenities or community ties (Marcuse, 1987; Elliott-Cooper et al., 2020). The sources and impacts of displacement are not confined to a given neighbourhood or city, let alone country. Several societal trends are making displacement an increasingly acute problem in population centres of various sizes, with even rural areas witnessing displacement pressure due to migration from cities (Phillips et al., 2021). A post-Fordist labour market marked by growing income inequality, a rollback of Keynesian welfare programs, a failure to institute or maintain tenant protections such as rent control combined with housing increasingly being valued for its ability to be exchanged as a financial asset are all trends causing or worsening urban displacement (Moos, 2014; Chapple, 2017; August, 2020). Recording the impact of these trends impacting displacement has proven difficult due to the inherent limitations of existing data. Data surrounding the various forms of urban displacement is not consistently available meaning rigorous studies can yield contradictory results (Easton et al., 2020). Combined with captions contextualizing ‘...the rapid realignment of markets, decisions, and political struggles over investment and disinvestment’ repeat photography presents a medium able to overcome the ahistorical presentation gentrified downtowns and reveal injustice (Wyly, 2010).

The Canadian mid-sized city of Hamilton, Ontario, is experiencing rapid growth and social change linked to shifts in the labour and housing markets over the last three decades, being

in many ways a microcosm of accelerated housing financialization and income inequality between professionals and the working class. Hamilton's quoted 'revival' emerged from Toronto's problems, reacting to a crisis of real estate speculation and affordable housing that pushed residents into a historically disinvested city in search of homes with access to a downtown lifestyle (Berman, 2017). Urban boosters have been attempting to rebrand Hamilton as a creative city, playing on the city's steelmaking history by circulating the slogan 'art is the new steel'. The artists that are being celebrated for attracting investment have themselves been suffering the consequences of gentrification and displacement from the downtown, a process consistent with literature on arts-initiated revitalization (Ley, 2003; Carter, 2018). As comedian Gavin Stephens who recently moved to Hamilton from Toronto described in a 2022 CBC op-ed: *"In Hamilton, real estate is the new art"*.

Hamilton's rise as an industrial centre, decline with automation and offshoring, and subsequent gentrification-fueled 'revival' has been the subject of much literature in both academic and popular formats. Two recent books on Hamilton's recent transformations have garnered public attention (Weinburg, 2020; Dale, 2021). Public awareness over changes occurring within Hamilton reinforces the need for research demonstrating precisely how cities are impacted by gentrification. Understanding the material cultus of gentrification embodied in residential neighbourhoods and on retail streets is key to understanding patterns of displacement across population centres.

The degree to which displacement has been recognized as a problem in Hamilton in addition to its recent wave of gentrification having been the subject of ongoing study offers an opportunity to experiment with how visual methods can serve as the basis for analysing displacement. Existing research includes detailed intraprovincial migration patterns showing

where those moving to Hamilton's gentrifying neighbourhoods originate. The Greater Toronto Area is by far the greatest source of new residents for Hamilton, with in-movers from the City of Toronto showing a propensity to settle in Hamilton's lower city (Doucet & Wilson, 2022). This potentially points to the consumption patterns of former Toronto residents being transposed to alter Hamilton's retail landscape. Indeed, through a series of interviews Van der Merwe (2021) points to Torontonians in Hamilton seeking to emulate their urban Toronto lifestyle and reproduce their middle-class distinction in a choice to move that was part economic, part demand oriented.

Through an analysis of London occupations in conjunction with a genealogy of conceptions of class, Davidson & Wiley (2014) contest the dominant narrative that post-industrial cities have become more inclusive as the working class transitioned towards a broader middle-class, instead highlighting occupational bifurcation and competition for the ability to dwell in certain neighbourhoods within this vaguely defined middle-class. Broader economic and class-based changes also factor heavily into understanding how Hamilton is developing in the post industrial era, particularly with how rent strikes in Hamilton illustrate the growing role of the housing question in class struggles (Risager, 2021).

Despite a half-century of research on the topic, gentrification remains difficult to empirically measure. Lees et al (2008) discuss the four elements of gentrification as being: displacement, higher-waged incoming groups, the reinvestment of capital and landscape change. Most empirical and theoretical research focuses on the first three and, in recent years, less attention has been paid to the relationship between landscape changes and the other three parts of the gentrification process. Census data can record changes in occupation and incomes, however in Canada censuses are only conducted quinquennially meaning most policies meant to mitigate

displacement lack recent data. Furthermore, there are limitations to relying on census data itself that can lead to differing conclusions depending on the research methodology (Easton et al., 2020). One of the most challenging limitations derived from census tract boundaries is recording exactly where households were displaced from or towards. Displacement can occur internally within a census tract, or the displaced can instead find themselves in another region entirely. This thesis aims to refine how the microgeographies of gentrification and displacement are recorded between and within neighbouring census tracts via visual methods. As Wyly (2010) highlights, photography paired with accurate contextualization has the opportunity to expose how gentrifying landscapes intensify inequalities.

The criteria employed are intended to analyse invested capital and subsequent changes in the material landscape that could indicate incoming higher-waged professionals and displacement of existing residents, direct or not. This data is additionally contrasted with census data to contextualize findings against demographic trends and compare what different methods of analysis reveal about displacement. How does the arrival of higher income households, displacement and capital investment shape changing neighbourhood landscapes? What do changing visual landscapes reveal about the arrival of wealthier inhabitants, displacement and capital flows? Both these questions lend themselves to critical visual methodologies. Hence, this thesis seeks to evaluate and harness visual methodologies for understanding gentrification and displacement. This thesis is divided between two chapters covering retail and residential; the main research questions of each are as follows:

Chapter 1: The Visual Geographies of Retail Displacement

Research Question: **What roles do retail tastes play in creating exclusions and propelling displacement?**

Chapter 2: Gentrification and changing visual landscapes: a Google Street View analysis of residential upgrading and class aesthetics in Hamilton's Lower City

Research Question: **What can repeat photography say about the movement of people and capital in a gentrifying city?**

Chapter 2: The Visual Geographies of Retail Displacement

Introduction

This section of the thesis seeks to illustrate how the visual is indispensable to deepening our understanding of retail gentrification and provides a fine-grained analysis of how retail spaces in Hamilton are being molded to the image of a culturally hegemonic middle-class. Retail streets are spaces offering intense sensory experiences, be it through sights, smells or sounds whose regulation is a key part of how a retail street's image is mediated (Hubbard, 2017). The overall mix of sensory experiences emanating from different businesses creates an ambience that is part-curated part-spontaneous. An individual business conscientiously constructs its outward display to the street in order to garner patronage from a target clientele. The manner in which this outward display is constructed is a function of both the resources available to an individual shop owner and tastes the shop-owner seeks to associate themselves with (Adami, 2020). Catering to specific tastes in shopfront designs are far from an apolitical business practice, but reflects wider divisions in income, levels of education and ultimately political autonomy (Trinch & Snadjr, 2016; Ding, 2023). The visual elements of any given retail establishment can be a proxy for the types of clients and values the retailer seeks to associate with. At times retailers do not have any target clientele in mind, while others attempt to curate a more exclusive offering for higher-income customers. From the materials used, to business types to shop names there is an incredible wealth of information contained within the assemblage of an individual shop that can better our understanding of how consumption patterns and gentrification intermingle to create exclusionary spaces.

Review of Literature – Dimensions of Retail Displacement

Key to furthering our understanding of the already heavily studied process of gentrification is one of its most immediate consequences: displacement. Spatial displacement has proved a difficult problem to quantify, not always being evident from census data due to geographies varying greatly in scale, calling for novel approaches to documenting the process (Easton et al., 2020). In addition to methodological challenges, there are numerous countervailing studies highlighting how residents can experience displacement differently (Elliot-Cooper et al., 2020; Frank, 2021). Among the different forms of displacement emerging from recent literature is non-spatial displacement (Shaw, 2015). Marcuse (1985) referred to the perception by long-time residents they were no longer able to access amenities within a gentrifying neighbourhood as *displacement pressure* as one of his 5 forms of displacement. Tied to critiques of mixed-income communities, even as low-income households remain in-situ, their smaller makeup of the wider population means they are outcompeted from access to amenities as the latter's delivery is re-oriented to serve higher-income residents (Shaw, 2015; Addie & Fraser, 2019; Stein, 2019). Beyond income, there is a rising tide of literature studying the cultural dimensions of displacement pressure, often tied to transnational middle-class consumption as an entrenchment of middle-class interests with implications for access to amenities, aging in place and residential displacement (Ley, 1996; Hackworth & Reckers, 2005; Kim, 2022; Bourlessas et al., 2022; Ding, 2023). However, studies on the processes behind and displacement-related impacts of retail gentrification remain relatively understudied compared to residential gentrification and displacement (Hubbard, 2017; Mermet, 2017). Studying processes of retail gentrification is vital to understanding how amenities change to reinforce displacement pressure to the detriment of marginalized populations, be it economically, politically or culturally.

Defining Retail Displacement

According to Rankin & Maclean (2014) retail displacement occurs through both fragmentary and hegemonic constructions of space:

“Everyday practices on the commercial street may themselves generate spatial exclusions—both of a subversive variety (for example, autonomous spaces free from surveillance, à la Sibley [1998]) and of a hegemonic one (those that replicate the ideologies of structural racism).”

Retail displacement encompasses all five forms of displacement outlined by Marcuse (1985) with retailers of gentrifying districts having difficulty continuing to pay commercial rents, however retail displacement plays an outsized role in creating what Marcuse term the ‘pressure of displacement’ for residents that rely on a certain retail mix, commonly referred to as displacement pressure. In neighbourhoods where affordable housing persists, the opening of retail catering to higher incomes can have effects on resident perceptions if small in scale and cut access to amenities if more widespread. At earlier stages the effects retail displacement are mostly phenomenological, however a commonality between wholesale and subtle changes to a neighbourhood’s retail mix is that such occur against the backdrop of complex neighbourhood politics (Anguelovski, 2015; Rankin & Maclean, 2015; Addie & Fraser, 2019; Kim & Holifield, 2021; Bourlessas et al., 2022). In his book *‘Battle for the High Street’*, Hubbard (2017) offers what is perhaps the most detailed account to date of the processes behind retail gentrification and what such transformations entail for the social fabric of cities. Establishments accessible to the working class are problematized as a moral hazard, even as middle-class consumption embodies many of the same health and social problems (Hubbard, 2017) This microgeographic study of

retail gentrification is predicated on an understanding of gentrification whereby both gradual and accelerated state-lead forms of retail displacement occur in a set of recognizable stages whose simultaneity varies from one context to another.

The initial stages: political and cultural displacement

In its initial stages, retail displacement is largely a discursive phenomenon where a middle-class distaste for the existing retail and by extension social mix is applied to justify or attract more upscale establishments. In Cincinnati's Over-the-Rhine neighbourhood, this was done by associating its black population with criminality while constructing idealized version of the neighbourhood's distant European past, a strategy developers employed to prime the area for investment that also muted its black population and history (Addie & Fraser, 2019). Within the Greater Toronto Area, the overwhelmingly white middle-class neighbourhood association harassed black owned businesses by repeatedly calling the police and trying to prevent black-owned restaurants from obtaining liquor licences, while urbanists sought a more 'creative' retail scene by calling for the neighbourhood to become an arts hub (Rankin & Maclean, 2015). These are some examples of how Bloch & Meyer (2023) describe race as a form of technicity founded on excluding groups for the purpose of reinventing urban space for a dominantly white middle-class.

In Boston's Jamaica Plain neighbourhood, a Latino grocer was replaced by a Whole Foods cutting access to affordable and culturally appropriate foods for the area's Latino population (Anguelovski, 2015). Against the backdrop of Whole Foods moving in to replace the Latino grocer, local activists clashed with white residents on social media, the latter viewing the former grocer as dirty and disorganized (Anguelovski, 2015). Even as social preservationists attempt to ally themselves with economically or racially marginalized groups and advocate to

maintain community amenities, the social capital of such alliance is often outweighed by the political and economic capital of a locally ascendant middle-class (Monroe Sullivan & Shaw, 2011; Alkon & Cadiz, 2020). Even in instances where politicians in office vocally oppose gentrification in their jurisdictions, it is difficult for local authorities to prevent displacement (Mermet, 2017; Kim & Holifield, 2022). Prior to the existing retail mix being physically displaced, said retail mix is stigmatized and those depending on the retail mix are politically displaced. In a manner similar to Kern's (2016) analysis of temporal power, the middle-class reshapes retail streets through a contradictory mix of a distaste for the extant local culture while in mechanism described by Zukin (2008; 2009) coopting cultural elements associated with authenticity. The consumption of foreign cuisines exemplifies this contradiction, with racial hierarchies emphasizing the "Italianess" of cafes or the "sophistication" of Japanese cuisine while such establishments catering to middle class tastes sell the other in a "safe" package excluding more meaningful cross-cultural contact (Bridge & Dowling, 2001; Ding, 2023; Bourlessas et al., 2022).

When an area's retail mix is problematized, it sometimes garners municipal support for state-lead gentrification initiatives of varying scale. Like with the geographies of housing markets, retail gentrification is indirectly influenced by investment into the public realm. This can range from financial support for neighbourhood or business association neighbourhood improvement initiatives on the smaller scale that facilitate more gradual forms of gentrification, to larger state-lead or state-supported projects aimed at increasing raising ground rents and attracting more premium retail outlets. National or Provincial policies can also have indirect yet profound effects on a street's retail mix, particularly surrounding licencing. After the decline of retail streets in the United Kingdom became a contentious policy issue in the early 2000s, the

UK government loosened licensing requirements to help stimulate a nightlife economy on retail streets across the country (Hubbard, 2017). This had the effect of creating a youthified retailscape with bars focused exclusively on selling drinks, at times displacing classic British pub culture whose establishments served hot food and catered to more diverse walks of life (Hubbard, 2017).

Attracting artists to a historically disinvested community is a common strategy to facilitate gentrification in its more gradual forms, although as evidenced by such efforts in suburban Toronto is not void of symbolic violence (Ley, 2003; Kern, 2016; Rankin & McLean, 2016). This can come in the form of aestheticizing industrial heritage or more perversely commodifying poverty. Ley's (1996) study of how Vancouver's Granville Island shifted from a site of production to one of consumption was an early observation of the type of post-industrial arts-based revitalization that would become a *de rigueur* gentrification strategy. One world-famous example is Busan Korea's Gamcheon Culture Village that was once considered a 'moon village', an euphemism for informal settlements. A city-supported project encouraged artists to decorate the streets, turning the informal settlement into an 'arts village' that is now an international tourist attraction raising rents for both retail spaces and apartments along avenues seeing heavy foot traffic (Kim & Holifield, 2022). Ontarian and by extension Hamiltonian retail streets often benefit from community improvement plans that provide grants to businesses for installing streetscape enhancements such as planters (City of Hamilton, 2024).

A more violent aspect of seemingly market-lead neighbourhood revitalization projects is the state's role in policing groups perceived as detrimental to an area's economic vitality. In Toronto's suburbs this included repeated police calls on black-owned businesses for perceived transgressions (Rankin & Maclean, 2015). Cincinnati's Over-the-Rhine's gentrification was

marked by a more direct attack on the public realm, requiring local activists to obtain a permit to protest in the park and arresting vendors of an activist newspaper if they come too close to an ATM (Addie & Fraser, 2019). These examples may be extreme compared to some of the more gradual beautification or cultural sector-lead forms of retail gentrification, however they reveal seemingly organic taste-lead back to the city movements can be accompanied by violent forms of sanitization.

In stark contrast to the indirect gentrification and displacement caused by funding artists, state-lead retail gentrification can also take a more hands-on approach. Such is the case of Turin's '*Mercato Centrale*' in the Piedmont district's Piazza Della Repubblica market. The newly built food court-style complex replaced part of the plaza's once occupied by informal stalls. Situated within a broader Italian post-industrial economic development strategy that seeks to use food as a vehicle for local branding, the new Mercato Centrale plays the dual role of educating consumers on local cuisine and offering said culinary experience in a more sanitized package (Bourlessas et al., 2022). The Mercato Centrale was once predominantly a working-class market stigmatized for its informality.

Class-based identity is no longer studied as strictly being derived from the workplace or level of education, as it is additionally constructed via interactions with urban space on personal time (Preece, 2019). The retailscape is reflective of the practices of patrons, including class-based distinctions. Occurring alongside the loss of secure working-class employment during deindustrialization was the loss of patrons with the means to support establishments that functioned as working-class community spaces (Preece, 2019). Following de-industrialization in the United Kingdom, dying retail spaces came to be comprised of more establishments catering to the urban poor such as pound/dollar stores, charity stores and payday loan stores (Hubbard,

2017). Retail gentrification introduces establishments that are more tailored to the needs and desires of middle-class professionals (Bridge & Dowling, 2001; Hubbard 2017). Bridge & Dowling (2001) highlight how a handful of middle-class practices visibly imprint themselves onto retail streets. These can include exclusive fitness clubs, hair salons and furniture stores for managing one's body or making one's home according to how middle-class individuals or households seek to distinguish themselves (Bridge & Dowling, 2001; Sirois, 2021). This can have implications for the accessibility and inclusivity of retail areas for aging in place and racialized groups (Doucet & Koenders, 2018; Versey, 2018).

Tailing the political and cultural displacement of the pre-existing retail scene, economic displacement comes to play a greater role in the alteration of retail space, all while continuing to accentuate these two former forms of displacement. To illustrate how economic displacement accentuates political and cultural displacement, consider the case of Toronto's Little Portugal. Of the Portuguese retailers, those who didn't own their retail space were those most vulnerable to displacement as a new wave of retailers opening cafes and galleries altered the street's aesthetics, resulting in the street's primal political body, the business association, being displaced of Portuguese retailers (Takahashi, 2017).

Rent gaps & economic displacement

Rent gaps emerge to be capitalized upon in instances where retail streets became valorized in the public imaginary. In the case of Busan's Gamcheon Culture Village, rent increases for retail spaces on the main tourist-frequented avenue displaced necessity-oriented establishments into deeper parts of the neighbourhood (Kim & Holified, 2022). Meanwhile, opportunistic retailers from outside the neighbourhood came to occupy these retail spaces, which

from an outsider's perspective offered comparatively low rents for access to high levels of pedestrian traffic (Kim & Holifield, 2022).

Changes to the accessibility of retail streets for prospective vendors has implications for the types of establishments available that in turn hampers accessibility for lower-income patrons. A recent study analysing Yelp data found that closing stores in gentrifying neighbourhoods were more likely to be replaced by restaurants (Glaeser et al, 2023). This heavily aligns with other literature highlighting foodification as a frontier for gentrification (Bridge & Dowling, 2001; Burnett, 2014; Bourlessas et al., 2022). Barring restaurants, Glaeser (2023) erroneously downplays how the character of retail establishments changes despite clarifying how his study didn't capture such fine-grained data. However, studies have revealed that at times even working-class establishments that aren't displaced change their menus to items encompassing the demands of foodies who act as early gentrifiers as observed in Vancouver's Downtown Eastside and around Turin's Piazza Della Repubblica (Burnett, 2014; Bourlessas et al., 2022). With more mature stages of gentrification seen Paris, restaurants play a less significant role vis-à-vis fashion, organic groceries and health and beauty establishments, with these being concentrated in areas with prime access to pedestrian traffic (Mermet, 2017). Paris's Marais district has undergone residential and retail gentrification for many decades, with commercial rents so high the retail mix has increasingly been restricted to flagship brands able to afford exorbitant rents.

Similarities can be drawn between the effects of industrial decline on retail spaces in the UK as observed by Preece (2019) and Marcuse's (1987) observations of residential gentrification in New York City. The lack of capacity to pay landlords rent because of shocks to the labour market through industrial decline and subsequent lack of working-class jobs meant that it was no longer profitable or feasible to maintain the property in a habitable condition, causing the

property to fall into disrepair (Marcuse, 1987). The hollowing of Barton's businesses documented by Buist (2013) a street that once held a distinct working-class identity before falling into disinvestment when said working class was financially weakened due to de-industrialization, is expected to be a key site of change in this study. As cities continued to grow and downtowns were revalorised through the 'return to the city' movement and more recently Florida-esque 'creative economy' strategies, rent gaps appeared and

A retail mix changing to the benefit of a middle class is one frontier in creative economy strategies for valorizing urban spaces, as in addition to increasing retail rents trendier shops have been shown to open rent gaps in the residential sector. One of the more well-documented instances of such valorization is the *Whole Foods Effect*, whereby the opening of a new Whole Foods store increased nearby land values by between 5.8% and 29.3% (Angelovski, 2015). Condominiums near Turin's new food hall were noted to have seen increased interest from investors following the project and touristification in Busan lead to localized residential rent hikes (Bourlessas et al., 2022; Kim & Holifield, 2022). Based on currently available knowledge, retail gentrification appears to create a positive feedback loop with residential gentrification with on visible form of class change coming to reinforce the other. However, more research is required to determine exactly how and to what extent residential gentrification and retail gentrification influence each other.

What is better understood, as previously alluded to, public infrastructure is one of the mechanisms by which rent gaps can be opened to later be capitalized upon, a phenomenon relevant in light of Hamilton's upcoming LRT. Following the launch of the Region of Waterloo's light rail project, landlords of several neglected properties along the LRT line began renovating low-income tenants and repositioning the units on the market (Ellis-Young & Doucet, 2021).

This came as lands surrounding LRT stations saw increased land values depending on nearby amenities and institutions such as universities (Babin & Parker, 2016; Huang et al., 2024). Interviews with residents suggest Hamilton is undergoing the early stages of such speculative development attempting to capture the value created by its upcoming LRT (Meyers et al., 2023). Considering the role higher-order transit plays in attracting speculative entrepreneurship, Hamilton's LRT is an important underlying factor influencing the investment of capital into retail streets that should be taken into account. Keeping in mind that in Waterloo's case increase to land values associated with the LRT varied with types of amenities situated around the stations, it is assumed any impact the LRT will have on retail change in Hamilton will be accordingly varied.

Scope of study in relation to retail displacement

Having covered some of the complex institutional arrangements of middle-class dominance driving retail gentrification within neighbourhoods have been elucidated above, this study is concerned with the visual after-effects of such processes. While such neighbourhood politics are an important discursive initiator and of later forms of cultural and economic displacement, they are beyond the scope of this study. Also outside the study's scope is the economic displacement of retailers as measured through rent increases obtainable through interviews or listing data. This study is chiefly concerned with recording physical upgrades or downgrades to retail premises and how middle-class tastes and imprint themselves onto the material cultures of Hamilton's gentrifying retailscape, hence seeking to record evidence of cultural and economic displacement within retail spaces. That is not to say the visual elements of a shopfront bear no relation to local political discourse. On the contrary, as explained further ahead many shopfronts carry political undertones the coding scheme will attempt to capture. Considering the intersection between displacement in Hamilton and aesthetics, this study

attempts to further our understanding of where and how retail displacement occurs along urban retail streets in addition to exploring what the best methods of harnessing the advantages of visual data. These points are described individually below:

Relationship Between Retail Change and the Visual

Clustered signage can be viewed as transgressive by local authorities seeking to maintain a sanitized image (Gonzalez & Waley, 2013; Hunt 2016; Adami, 2020; Ding 2023). Cluttered visual arrays are produced via a mixture of the necessity to maximize the use of often limited shop space and intuitively signalling to potential customers that the goods or services required are readily available (Hunt, 2016; Trinch & Snajdr, 2016; Adami, 2020). For example, in London it's common for convenience store owners to be paid by advertisers to plaster billboards on shopfronts or sell informally packaged items meant to catch the eye of passersby, much to the ire of local business associations (Hunt, 2016). Hubbard (2017) brings to light how municipal discourse on regulating fast-food outlets often confounds health and aesthetic concerns. The glaring signage of fried chicken and pizza parlours is described as a blight on the urban landscape, while being limited in number within some planning jurisdictions under health pretenses even as limiting the number of fast-food outlets has not been shown to reduce local obesity rates (Hubbard, 2017).

Google Street View has previously been used to elicit shop owner perceptions of changes on a gentrifying retail street of Sydney Australia. Recently established retailers sought to represent local authenticity primarily via aesthetic means, while those who had been vending on the street for the longest viewed authenticity as being derived from local social networks (Molnar & Walters, 2021). In light of aesthetics increasingly becoming a structural marker of class distinctions, Sirois (2021) employed photography to analyse the material cultures of designer

boutiques in Montreal. Exteriors included objects and styles attempting to link establishments to an idealized past, such as crafty materials or sewing machines. In addition to conforming to middle-class expectations of authenticity that mirror any boutique in any city as Sirois (2021) points out, such design elements heavily align with the forms of conspicuous thrift earliest recorded gentrifiers would employ to distinguish themselves in 1960s London (2007). The interior design of these boutiques was structured to put clients at ease and foster social interactions that act as a means of both grounding the shop in the neighbourhood's social fabric and gaining word-of-mouth advertisement (Sirois, 2021).

In earlier interviews with designers, it was found that designers openly situated themselves within the capitalist economy but purported to pursue an alternative form of capitalism separate from the predominant consumer culture dependant on mass production (Sirois, 2021). Such internal contradictions between social preservation and cultural distinction sought by foodies are argued by Hyde (2014) to marginalize more critical discourse on displacement. Due to this focus on a quality over quantity being a heavily moralized class distinction in modern consumer society and alliances between artists and authorities pushing revitalization projects, Hubbard (2017) goes on to suggest such hipsterfication forms the core of gentrification rather than being a spontaneous prelude. Papen (2015) further explains how trendy retail signage plays a role in commodifying urban spaces. Textual elements often contain messages meant to convey political or cultural consciousness, while artistic elements of a shopfront attempt to build cultural capital, with both textual and material elements attempting to align with the tastes of a highly educated consumer base (Papen, 2015). To further explain the link between text and material cultures in the retail landscape and how they can be deciphered to record visual change indicative of gentrification, a general overview of research on semiotic

landscapes is required. The theoretical background of semiotic landscapes and implications for this study are explored below.

Measuring The Visual Aspects of Retail Gentrification

When measuring gentrification through imagery, Hwang & Sampson (2014) had employed new construction or renovations as a measurement of investment, without considering how such upgrading was aligned with a gentrifier's cultural tastes. Loukaitou-Sideris & Gonzalez (2019) had factored in *upscale/trendy signage* as a sign of gentrification, which offered an intuitive measure suitable for triangulating with other methods adept at detecting gentrification. When relying more heavily on the visual as a data source for measuring gentrification, a rigorous interpretation of what makes a given retail establishment representative of gentrification is required. Enter the field of semiotic landscapes, combining geography, sociolinguistics and semiotics to analyze how places are constructed. This allows the research to contextualize what shopfronts and their materials say about their patrons. There is an emerging literature of gentrification studies conducted by semiologists and sociolinguists that have delineated some features of and power structures behind gentrifier tastes (Ding, 2023; Trinch & Snajdr, 2017). For example, semiotic exclusion refers to when a shop's signage contains exclusionary messaging that renders it less accessible to lower incomes or levels of education (Ding, 2023). Following the forays of semiologists into planning topics, this study takes the reciprocal move of integrating semiotic landscapes under a planning lens, ideally serving as proof of concept for further geography and planning research. Regarding how appropriate it would be for planning or geography researchers to borrow semiotic concepts, a pioneer in semiotics, Roland Barthes (1970), encouraged planners to think of the sign systems that constitute cities in his essay *semiotics and planning*. It was argued that instead of being confined

to any one discipline, anyone hoping to develop an urban semiology must be “part geographer, historian, planner, architect and probably a psychoanalyst” (Barthes, 1970).

Shopfront semiotics had traditionally followed Bourdieu’s *tastes of distinction* and *tastes of necessity* dichotomy (Adami, 2020). Tastes of distinction could be characterised by a spacious shopfront layout, owing to the owners being able to afford more space and selling small, high-priced items. Tastes of necessity are often described as part of the local vernacular, at times considered transgressive (Hunt, 2016). These sell diverse sizes of goods with a lower average price, and a lack of space can cause clutter. Vernacular shopfronts were cluttered out of necessity, while those of distinction are spacious because they can afford to be (Hunt, 2016; Ding, 2023). More recent ethnographic research in retail markets suggests limits to the explanation of material necessity as there can be some level of retailer autonomy to appeal to higher incomes through craft products (Adami, 2020).

Vernacular shopfronts tended to be more direct about the products on offer. Branding tends to be more inclusive with advertisements directed towards to a wider range of socioeconomic backgrounds. They may be explicit about the affordability of items on sale, and sometimes indicate options for credit. Shops geared either towards the wealthy, educated or both and rarely explicitly advertise what is being sold with subtlety and silence being a marker of upper-class distinction (Trinch & Snajdr, 2017). With semiotic landscape studies detailing the characteristics of both language and materials employed by storefronts in relation to pursued or excluded clientele, there are new angles from which to analyse retail gentrification and the construction of retail streets as places of consumption. In the following section I delve deeper into applicable theory discussing the relationship between semiotic landscapes and retail

gentrification, and explain how it was integrated into the coding scheme in pursuit of a more class-conscious method.

Retail Gentrification & Semiotic Landscapes

While such research is not new, studies focusing on displacement pressure seldom consider the roles of the linguistic landscape and semiotics play in reproducing often racialized class distinctions. Jaworski and Thurlow (2010) and Papen (2015) draw attention to the role linguistic landscapes and semiotics play in constructing consumption-oriented places. Linguistic landscapes study the use of language across space, while semiotics concerns the use of symbols; Jaworski and Thurlow (2010) stress each are intimately wound, proposing the study of both should be merged as the study of *semiotic landscapes*.

Power relations in urban space are manifested through place-naming, and the act of transforming space into place is a semiotic process dependent on identity-claiming codes (Hwang, 2016; Jaworsky & Thurlow, 2010; Christ, 2007). The linguistic landscape component analyzes the meanings of signage beyond the ostensive messages displayed, as they reflect the changing roles languages have in reproducing power relations within society (Kallen, 2010). Responding to David Harvey's assertion that human practices within the urban are overlooked, Jaworski and Thurlow (2010) stress the importance of studying the semiotic landscape to this end:

"The city itself can be read as a text, as a festival of signs – an 'iconosphere' in which the tensions between the globalizing and localizing displays of words and images manifest the aggressive ideology and dominance of global capitalism and often struggling, local identities of communities rooted in 'real' or 'imagined' places. As the competing voices of overlapping

communities contend for the visibility and for economic and political survival, the mosaic of different texts becomes commodified and objectified in creating a dazzling spectacle and an icon of the modern city scrutinized and consumed by the gaze of the international tourist. It is in this way that the topic of semiotic landscapes is not only timely but also politically relevant.” (2010, pp. 32)

Kallen (2010) proposes 7 spatial frameworks for studying semiotic landscapes:

- 1) Civic frame: Role of the state in labeling and driving behavior
- 2) Marketplace: World of exchange and services, public or private
- 3) Portals: Physical or digital exists to another environment
- 4) Walls: Containing posters and graffiti as means of expression
- 5) Detritus Zone: Transient effect of consumption; discarded objects contributing to the linguistic landscape
- 6) The community: Clubs and religious groups.
- 7) School: Education at all levels.

Signage in the civic frame often plays a role in reinforcing dominant linguistic ideologies while private signage associated with the marketplace or unfixed signage from the detritus zone reveal more about actual language use within a city (Jaworski & Thurlow, 2010; Sebba, 2010).

However, compared to the detritus zone, the marketplace is more often detached from actual language use to linguistic ideologies shaping consumer preferences, particularly surrounding the consumption of other cultures deemed ‘exotic’ or ‘refined’ (Coupland, 2010; Vandenbroucke, 2018; Ding, 2023)

Lessons can be drawn from the study of semiotic landscapes in order to contextualize gentrification and displacement. There are noted differences in the naming conventions and streetscape presentations of middle-class and often more inclusive working-class retail establishments, with Brooklyn developers being noted to view new middle-class retail as an indicator of emerging rent gaps (Trinch & Snajdr, 2016). Upmarket establishments often deliberately omit information on their shopfronts both as a design choice and because of the assumption that their clientele has the privilege of not worrying about prices. This minimalistic design choice, while conveying a sense of luxury for those who desire it, has the effect of making those on limited budgets feel excluded from that particular establishment (Jaworski & Thurlow, 2010; Trinch & Snajdr, 2016)

In Seoul's Itaewon district, itself a microcosm of the impacts transnational flows can have on urban space, state-lead gentrification displacing Koreans and lower-income south Asians is shown to manifest itself in the semiotic landscape (Ding, 2023). Most importantly, Ding (2023) points to how the semiotic landscape serves as a simultaneous indicator and reinforcer of racial and class-based hierarchies within a neighbourhood with the naming and street-level presentation of establishments denoting the education level, income and tastes of their target clientele. Studying Hamilton's retailscape as a semiotic landscape will contextualize changes in shop signage within wider societal trends and divisions. This study is restricted to a single spatial framework, being the *marketplace*. This study builds upon an ongoing project in Hamilton, where changes in the semiotic landscape reflective of class turnover were quantified with the aid of visual data to study retail gentrification. A list of the semiotic criteria included within the coding scheme are presented below:

- I. Uncluttered or aligned window displays**
- II. Cryptic or polysemic names**
- III. Text sparse signs / lack of ancillary signs**
- IV. Languages other than English that convey worldliness**

To demonstrate the relevance of semiotic landscapes to the coding scheme and how said scheme was applied to observing shopfronts, a handful of sampled examples will be explored in further detail.

Examples from Hamilton

One example highlights a wider trend of how working-class culture can be appropriated for consumption by the middle class, either under the guise of local authenticity or mockery (Zukin et al., 2009; Hyde, 2014; Trinch & Snajdr, 2017). Consider the upscale brunch restaurant named “Motel” on Barton Street, with its retro motel themed shopfront. It attempts to offer a novel motel-themed experience to an urban population that by-and-large has the means to stay in less barebones accommodation. This is evidently a play on working class culture for consumption by the middle-class. There are no signs advertising deals, let alone a menu available to be viewed from the street. The one sign displaying the restaurant name employs a subtle font and has little information about the restaurant itself or whether it even is a restaurant. This goes back to what Jaworsky & Thurlow (2010) refer to as the ‘luxury of silence’, being silent by choice to put oneself above society’s problems. The name “Motel” could even imply a more mocking tone when one considers this area of Barton Street has a local reputation for prostitution and there are actual budget motels nearby. It could be evoking the ‘grit’ or ‘edginess’ valued by some early gentrifiers of Hamilton that generally features prominently in the frontier discourse among early

gentrifiers more. This particular establishment was recorded as having a cryptic or polysemic name, text sparse signs and a lack of ancillary signs.



Figure 2.1 - Motel Restaurant

Another example situated near Motel was Verlan, a French-themed restaurant and premium grocer. Its title is the French word for a commonly used variety of

slang that inverts the pronunciation order of words. Verlan is actually an inverted pronunciation of backwards, i.e. ‘(à) l’envers’, hence the inverted Eiffel tower doubling as a V. Beyond being in French, this is a very particular cultural reference that few would immediately comprehend. This conveys a sense of culinary superiority associated with French cuisine and attempts to denote a sense of ‘otherworldliness’ among consumers. In addition to being in a non-English language, notions of cultural refinement also permeate the name itself, as the verlan phenomenon is not commonly known in English-speaking countries. The combination of a locally obscure yet globally trendy cultural phenomenon and being in a language that many learn as a second language implies consumers who frequent their restaurant are more educated. Like Motel, there is little accessible information as to what type of restaurant it is and the signs are text sparse. Consider the adjacent restaurant: 1-876 Bar and Grill’, where the type of restaurant is more directly comprehensible by the name alone. Although ‘creperie’ and ‘little market’ is written on the side of the building, this most prominently displayed information is in French. This

establishment triggered all four criteria in the semiotic component of the coding scheme, in addition to structural and cosmetic upgrades.



Figure 2.2 - Verlan

To further demonstrate how the previous examples embody the cultural capital associated with middle-class professionals and can be perceived as

exclusive, consider another example of more a budget-friendly establishment nearby on Barton.

A corner store and associated sandwich shop have text-dense signs immediately conveying the fact it's an establishment that sells groceries and sandwiches. There are additionally numerous ancillary signs advertising deals on food items, conveying how the establishment is accessible to those with a limited food budget. It also contains a message welcoming potential patrons, a form of inclusivity that contrasts with the exclusivity of ambiguous stores: "Welcome to the home of the original Hefty Hoagie"

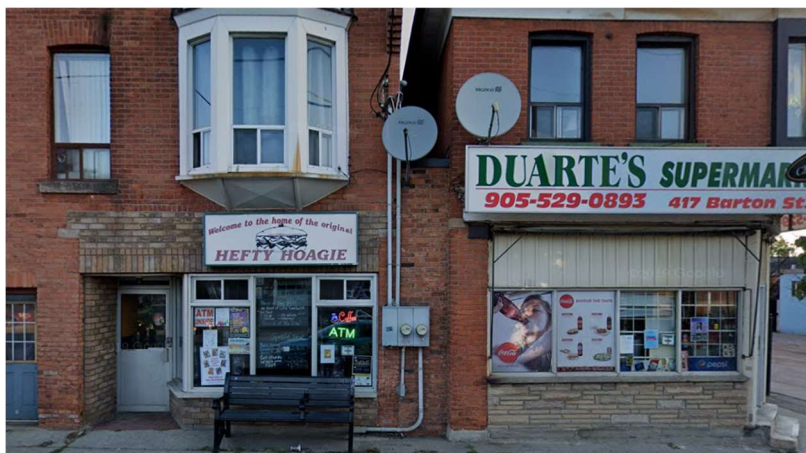


Figure 2.3 - Duarte's

As some of these highlighted examples attempt to convey, elements of a shopfront offer suggestions about the education levels and incomes of

patrons and/or surrounding populations. To better grasp the significance of the visual to retail

gentrification, it's necessary to understand how the naming conventions and layouts of shopfronts relate to their patrons. Semiotic landscapes reflect the changing demographics, values and habitus of an area. Shopfronts are a semiotic resource that can be studied to contextualize whether specific establishments are targeting an audience with a higher level of education and disposable income. Based on what social semiotic literature has to say regarding retail gentrification, existing semiotic landscape theories were operationalized into a set of easily observable codes across the city to assist in mapping retail gentrification. While quantifying the semiotic landscape is not conducive to studying the semiotics behind a particular retail establishment, it is necessary for understanding the geographies of retail displacement.

Methods

Like the portion of this thesis on home upgrading, open-source 360-degree images provided by Google Street View since 2009 were employed as a source of visual data for observed retail streets. For each observation, the first year observed served as a baseline from which the presence or absence of change was recorded in the second observed year. Changes were assessed just beyond a 10-year timeframe, with the first observation being recorded in 2009 and the second observation being recorded either on 2019, 2020 or 2021. The irregular publication of Google Street View images prevented the time period observed from being exactly 10 years. There were no images taken in 2010, and images for the second observation varied in availability between 2019 and 2021. Of the streets chosen for observation, continuous sections were delineated based on those containing retail and ended when the street transitioned to strictly being comprised of residential uses. Each side of the street was observed. Each observation utilized a copy of the coding sheet, whereby the number of structures, addresses and number of individual establishments contained within the structures were recorded. Upgrades or signs of

decay were isolated between individual retail spaces and the host structure, as one structure often contained multiple retailers. Individual establishments would first be observed with potentially multiple establishments being recorded, while changes occurring to the single host structure were recorded second. To exemplify how such changes would be captured by the coding scheme, if a shop received a new sign that would count as an upgrade for the establishment while if the building was repainted it would count as an upgrade for the structure.

The first change included within the coding sheet for individual establishments was whether a new gentrified establishment arrived, classified under *trendy restaurants/cafes*, *trendy shops* or *premium services* (Table 1). Whether an individual retail establishment was recorded as gentrified was a matter of binary opposition, being marked as ‘gentrified’ as opposed to ‘non-gentrified’. Further down along the coding sheet, multimodal semiotic analysis-derived criteria evaluate the degree to which each establishment has been gentrified (Table 2 – Cultural/Cosmetic upgrades). Each retail establishment required at least one of these criteria to be triggered in order to be considered ‘gentrified’. Both the occurrence and the degree to which each retail store is gentrified is thus recorded.

Table 1.1 - Gentrified Establishment Criteria

Gentrified Establishment Types	Included within criteria
Trendy restaurant / cafe	Visibly upmarket restaurants, cafes and bars
Trendy shop	Boutique clothing, art vendors, health stores, antique stores, upscale home furnishings
Premium service	Art studios, lawyers, chiropractors, financial consultants, exclusive fitness clubs

Table 2.2 - Retail Space Coding Sheet

Individual Retail Establishment Coding Sheet		
Cultural/Cosmetic Upgrades	Structural Upgrades	Decay
Uncluttered or aligned window displays	New Sign	Inactive / boarded shopfront
Cryptic or polysemic names	Front Planters	Conversion from retail to

		residential
Text sparse signs / lack of ancillary signs		Collapsed / worn sign
Languages other than English that convey worldliness		
Conspicuous thrift		
Artistic decorative elements		
Creative fonts		
Horizontal fence		

Table 2.3 - Structural Coding Sheet

Host Structure Coding Sheet		
Cultural/Cosmetic Upgrades	Structural Upgrades	Decay
Soft modernist colour palette	New construction/building	Peeled paint
Renovation emulating historic styles	Sandblasting/renovated brickwork	Lack of maintenance to building exterior
Upmarket modernity	Recladding	
	Repainting	
	New windows	
	Additions or extensions	
	Conversion from residential/industrial to commercial	
	(re)construction of patio, railings or fence	
	New development sign	
	New door	

The coding scheme for assessing shop frontages was devised to reflect a combination of structural and taste-oriented upgrades indicative of localized economic change and changing household demand for particular types of amenities. A combination of structural and cultural upgrades were recorded for both every structure and establishment observed. Counting structural upgrades aims to account for changes that align with classical rent gap theories. Cultural upgrades attempt to better contextualize how such structural changes align with changes in local demographics along the lines of income, education and occupation. Most cultural upgrade criteria were only applicable to individual shopfronts, although some cultural criteria that served

as the basis of the analysis on housing, namely gentrification grey, emulations of historic styles and upmarket modernity were used to code changes to host structures. Serving as a significant foundation on the cultural criteria within the coding scheme, the analysis quantifies attributes typically studied under linguistic and semiotic landscape studies for the purpose across retail.



Figure 2.4 - Total Number of Observations

Study Area

Table 2.4 - Retail Streets in Study Area

Retail Street	Length Observed (Km)	Ob. Establishments	Ob. Structures
James St. N	0.98	153	107
Barton St.	4.24	279	223
Locke St. S	0.96	89	63
Ottawa St.	1	123	95

Four retail street sections within Hamilton's lower city were selected for analysis. The selected streets are known to either be in the process of being gentrified or already having

undergone significant gentrification in the past. Only sections of the streets host to retail establishments were selected for observation. A total of 644 retail establishments and 488 host structures were observed. Being in Hamilton's lower city means the observed streets are mostly situated within the historic pre-war urban fabric, being composed of older low-rise, mixed-use structures. A brief description of each retail street will be provided below, including their locations vis-à-vis the wider city, physical characteristics, histories and the demographic profiles of nearby census tracts.

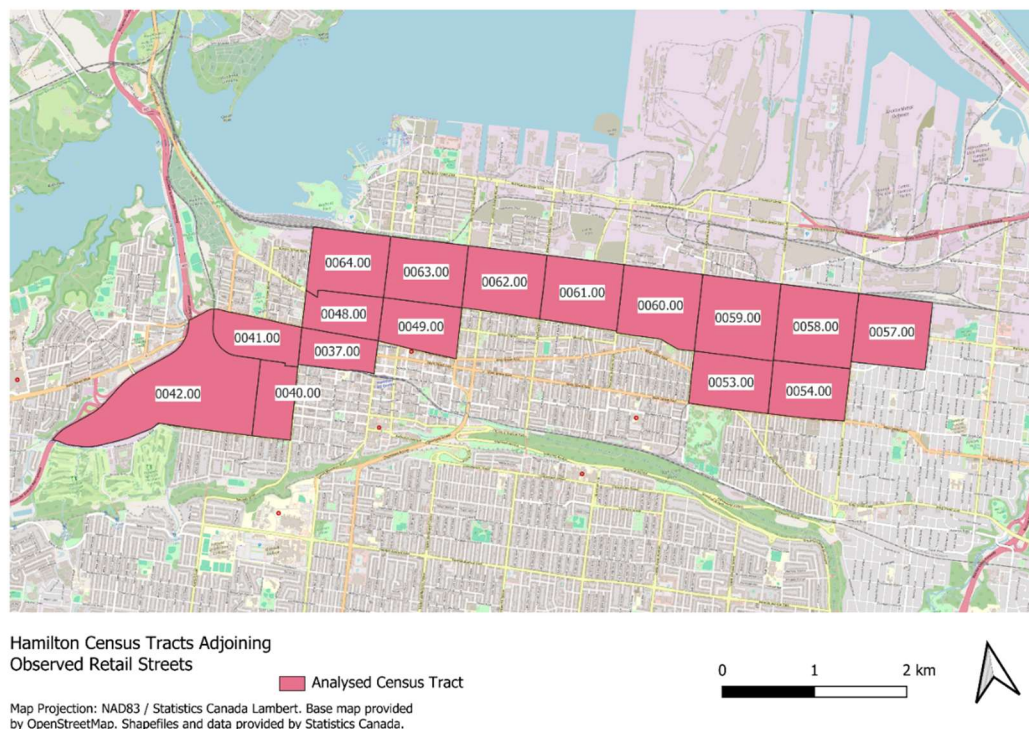


Figure 2.5 - Map of Observed Streets

Census variables indicative of class turnover, namely income, the share of residents with a bachelor's degree or higher and professional occupations likely to necessitate higher levels of

education were selected to help gauge the degree of residential gentrification nearby retail streets of interest. Of the occupations selected for analysis were *occupations in art, culture, recreation and sport, occupations in education, law and social, community and government services, health occupations, natural and applied sciences and related occupations and business, finance and administration occupations*. Occupations excluded from the analysis are *sales and service occupations, trades, transport and equipment operators and related occupations, natural resources, agriculture and related production occupations, occupations in manufacturing and utilities*. Census tract 5370036, which also adjoins James Street North, was omitted due to 2006 data being hidden as a result of anonymity policies that apply to census tracts with too few residents. While the census data presented below reflects surrounding residents that are likely to patronize the studied retail streets, it does not account for the possibility of residents from more distant census tracts travelling to patronize businesses in the area.

Figure 2.6
Analyzed
Census
Tracts



Preliminary demographic analysis suggests stark changes in the makeup of nearby residents conducive to retail displacement. Despite median incomes in all observed census tracts remaining lower than the city-wide median, every census tract saw its median income increase at a rate far higher than the CMA-wide rate of increase of 26%. While the share of the labour force across with occupations in art, culture, recreation and sport remained at 3% across Hamilton between 2006 & 2021, there were disproportionate increases to this category across Hamilton's lower city, namely in the census tracts surrounding Barton, James and Locke streets. There were broad increases to the share of professionals in the public service and business-related occupations pushing many census tracts above the CMA average, however in a few census tracts increases to these occupational groups still placed them slightly shy of the CMA average. As for those holding a bachelor's degree or higher, the percent change between 2006 and 2021 was several times higher in many observed census tracts compared to the CMA-wide increase of 62%. These changes highlight some of the cultural dimensions of displacement that are not accounted for by income alone.

Table 2.5 - Median Incomes

Median Household Income						
Retail Street	Adjoining Census Tract	2005	2020	% Change	2005 CT / CMA Average	2020 CT / CMA Average
Locke St. South	5370040	\$46,977.00	\$73,000.00	55%	65%	80%
	5370041	\$37,961.00	\$56,000.00	48%	53%	62%
	5370042	\$53,522.00	\$83,000.00	55%	74%	91%
James St. North	5370037	\$18,368.00	\$48,080.00	162%	26%	53%
	5370048	\$25,736.00	\$53,000.00	106%	36%	58%
	5370049	\$31,575.00	\$42,000.00	33%	44%	46%
	5370063	\$31,547.00	\$52,400.00	66%	44%	58%
	5370064	\$49,905.00	\$72,500.00	45%	69%	80%
Barton St.	5370063	\$31,547.00	\$52,400.00	66%	44%	58%
	5370062	\$42,497.00	\$65,500.00	54%	59%	72%
	5370061	\$39,078.00	\$60,400.00	55%	54%	66%
	5370060	\$41,427.00	\$70,000.00	69%	58%	77%
	5370059	\$42,835.00	\$68,000.00	59%	60%	75%
	5370058	\$34,082.00	\$60,800.00	78%	47%	67%
	5370057	\$44,475.00	\$64,500.00	45%	62%	71%
Ottawa St.	5370053	\$43,425.00	\$73,000.00	68%	60%	80%
	5370054	\$49,141.00	\$72,500.00	48%	68%	80%
	5370058	\$34,082.00	\$60,800.00	78%	47%	67%
	5370059	\$42,835.00	\$68,000.00	59%	60%	75%
Hamilton CMA		\$71,989.00	\$91,000.00	26%	100%	100%

Table 2.6 - Post-secondary Education

Percent of Individuals with a Bachelor's Degree or Higher (of Total # of Individuals)						
Retail Street	Adjoining Census Tract	2006	2021	% Change	2006 CT / CMA Average	2021 CT / CMA Average
Locke St. South	5370040	25%	44%	74%	177%	191%
	5370041	20%	27%	35%	143%	119%
	5370042	22%	35%	58%	157%	153%
James St. North	5370037	8%	36%	345%	58%	158%
	5370048	12%	17%	41%	84%	74%
	5370049	10%	18%	78%	72%	79%
	5370063	5%	15%	188%	37%	65%
	5370064	9%	28%	206%	64%	121%
Barton St.	5370063	5%	15%	188%	37%	65%
	5370062	4%	14%	240%	29%	61%
	5370061	2%	10%	363%	16%	44%
	5370060	3%	10%	200%	24%	44%
	5370059	3%	10%	281%	19%	44%
	5370058	1%	8%	1248%	4%	35%
	5370057	2%	9%	342%	14%	38%
Ottawa St.	5370053	2%	13%	453%	16%	56%
	5370054	1%	11%	795%	9%	50%
	5370058	1%	8%	1248%	4%	35%
	5370059	3%	10%	281%	19%	44%
Hamilton CMA		14%	23%	62%	100%	100%

Table 2.7 - 2006 Occupations

Occupations as % of labour force (2006)						
Retail Street	Adjoining Census Tract	Occupations in art, culture, recreation and sport	Occupations in education, law and social, community and government services	Health occupations	Natural and applied sciences and related occupations	Business, finance and administration occupations
Locke St. South	5370040	4%	13%	12%	6%	13%
	5370041	7%	14%	4%	5%	14%
	5370042	3%	14%	8%	6%	12%
James St. North	5370037	4%	18%	8%	7%	15%
	5370048	2%	6%	7%	3%	10%
	5370049	1%	5%	6%	1%	9%
	5370063	2%	3%	1%	1%	11%
	5370064	3%	3%	4%	4%	15%
Barton St.	5370063	2%	3%	1%	1%	11%
	5370062	3%	5%	6%	3%	10%
	5370061	1%	1%	4%	4%	13%
	5370060	0%	3%	6%	3%	11%
	5370059	1%	2%	6%	1%	20%
	5370058	1%	6%	4%	4%	13%
	5370057	1%	3%	2%	2%	14%
Ottawa St.	5370053	3%	3%	5%	3%	11%
	5370054	1%	3%	4%	4%	11%
	5370058	1%	6%	4%	4%	13%
	5370059	1%	2%	6%	1%	20%
Hamilton CMA		3%	8%	6%	6%	17%

Table 2.8 - 2021 Occupations

Occupations as % of labour force (2021)						
Retail Street	Adjoining Census Tract	Occupations in art, culture, recreation and sport	Occupations in education, law and social, community and government services	Health occupations	Natural and applied sciences and related occupations	Business, finance and administration occupations
Locke St. South	5370040	8%	23%	9%	10%	18%
	5370041	7%	15%	8%	5%	16%
	5370042	9%	19%	8%	11%	19%
James St. North	5370037	4%	16%	11%	11%	14%
	5370048	4%	11%	3%	10%	13%
	5370049	4%	9%	7%	7%	12%
	5370063	5%	9%	5%	10%	12%
	5370064	10%	12%	7%	8%	17%
Barton St.	5370063	5%	9%	5%	10%	12%
	5370062	4%	6%	6%	5%	15%
	5370061	6%	7%	9%	7%	8%
	5370060	4%	6%	10%	5%	13%
	5370059	5%	9%	4%	4%	9%
	5370058	1%	6%	6%	5%	18%
	5370057	1%	8%	6%	6%	12%
Ottawa St.	5370053	4%	10%	8%	6%	11%
	5370054	4%	12%	6%	5%	12%
	5370058	1%	6%	6%	5%	18%
	5370059	5%	9%	4%	4%	9%
Hamilton CMA		3%	12%	9%	8%	17%

James Street North

Physical Description

James Street North is the main retail street in downtown Hamilton. The observed section begins from the central Gore Park and extends to the West Harbour GO transit station, which offers frequent rail service to Toronto. The street is notably home to the Jackson Square, a 1970s urban renewal project that demolished blocks of the city's older mixed-use urban fabric with an office complex and indoor shopping mall (McNeil, 2021). The remainder of James Street North is comprised of more historic low-rise buildings dating from the late 19th and early 20th centuries. In recent years the street has gained a reputation as an arts hub and hosts a monthly arts crawl. Local news attributes recent retail change, more precisely the gastronomic scene, to the art crawl event: *"Thanks to the artists the area is a beautiful space and have become an attraction for it's booming food scene"* (Nagy, 2019) In recent years there has been a recent spat of commercial and residential construction along the street, introducing more upmarket residential offerings.

Demographic Analysis

The areas surrounding James Street North witnessed the starkest increases to median household incomes compared to census tracts surrounding other retail streets. This was most profoundly witnessed in census tract 5370037 which encompasses the downtown area surrounding city hall. It was the census tract with the lowest median income in 2005 at \$18,368.00 but grew 162% to \$48,080.00 in 2020, closing the gap between or surpassing nearby census tracts. Similarly, the second-lowest 2005 median income in the adjacent 5370048 census tract grew 106% from \$25,736.00 to \$53,000.00. The moderately higher income 5270064 census tract near the West Harbour Go station grew at a slower rate of 45% from \$49,905.00 to

\$72,500.00, remaining one of the higher income census tracts observed. It is likely that a portion of the low-income inner-city population remained while the median income was increased by an influx of university-educated professionals inhabiting newly-constructed multi-unit buildings in the area.

The share of university-educated residents additionally grew at higher rates than the CMA average. The central 5370037 census tract again saw the highest rate of increase among census tracts surrounding James Street, increasing 345% from 8% to 36% of residents. For context, in 2006 it was 6% below the 14% CMA average, while in 2021 sat 13% above the 23% CMA average. The higher income 5370064 census tract also saw a sharp increase from 9% to 28% of residents holding a university degree. The remaining census tracts saw increases that left them short of surpassing the CMA average, resting between 15% and 18%.

The hype associated with artists on James Street may not have been corroborated with evidence from 2006, yet local perceptions of James as an arts hub are concretized by the most recent 2021 census data. While the share of those engaged in art-related occupations remained below or a single percentile above the 3% CMA average in 2006, every census tract surpassed the CMA average in 2021. This ranged between 4% to 10% in census tract 5370064, the highest of all observed census tracts across the city. Sparing natural and applied sciences-related occupations that also increased above the CMA average, other professional occupations remained slightly below average compared to the rest of the city.

Barton Street

Physical Description

The longest of all observed streets stretching from James Street North and giving way to post-war suburbs at the eastern end of Hamilton's lower city, Barton Street transects some of the of the most stigmatized areas of the city. Barton was the centerpiece of the multi-issue 'Code Red' series on the street's decline, economic inequality and recent investments by local business owners (Buist, 2013). Separating industrial and residential areas of Hamilton, Barton was once a vibrant working-class retail street, and its decline is tied to industrial decline. At the time of the Code Red series, the number of businesses had roughly halved since the 1960s (Buist, 2013). More recently, a CBC article highlighted the retail gentrification occurring on the once disinvested street, as business owners from neighbouring cities seeking to capitalize on the street's revival. Although stretching almost the entire city, retail is primarily situated within clusters of low-rise structures, many of which are of post-war construction although heritage buildings are also present. Being more removed from the urban core, large-scale development projects as seen on Locke or James streets are not yet occurring. There are also suburban-style big box stores, automotive uses, the Hamilton General Hospital that has expanded in recent years and a detention centre.

Demographic Analysis

Incomes in census tracts increased at rates that were either slightly above or below the CMA average. Census tract 5370058, which also adjoins Ottawa street, saw the highest rate of increase from \$34,082.00 to \$60,800.00, equating to a 78% increase. The lowest increase was incidentally the furthest from the urban core and closest to the city's steel plants, with census tract 5370057 witnessing a 45% increase from \$44,475.00 to \$64,500.00. Compared to the CMA's rate of

income increase between 2005 and 2020, 6 of 7 census tracts increased at a rate over twice that of 26%. The less dramatic increases surrounding Barton are in part due to 2005 incomes having been higher than those surrounding James.

Increases to the share of university-educated professionals surrounding Barton were some of the most disproportionate, albeit remaining below the CMA average of 23%. Census tract 5370058 witnessed the most disproportionate 1248% increase from 1% to 8% of residents being university-educated. The most educated census tract was 5370063 which equally adjoins James Street, increasing from 5% to 15% of the population. Overall, despite the increases noticeably fewer residents surrounding Barton Street hold a university degree compared to census tracts surrounding James and Locke streets.

Census tracts extending from downtown Hamilton underwent sharp increases to the number of individuals working in arts-related professions. Census tract 5370060 covering the Stipley neighbourhood that were previously found to exhibit visual cues of a recent upswing of gentrification in some sections saw its share of arts-related professionals go from 0% to 4% of the labour force (Babin & Doucet, 2024). Closer to the core, census tracts 5370061 and 5370062 saw rates of 6% and 4% respectively. The share of artists in the labour force remained at the low 1% mark in the 5370057 and 5370058 census tracts farthest from the urban core. A couple census tracts near the Hamilton General Hospital saw their share of healthcare-related professionals increase to be at or above the CMA average. While other professions saw increases within census tracts surrounding Barton, they remained lower compared to the CMA average spare business-related occupations in census tract 5370058.

Locke Street South

Physical Description

Located southwest of Downtown Hamilton near Locke Street first experienced gentrification earlier than its observed counterparts. Class-based tensions came to a boiling point in 2018 as a group of local activists arrived in the night to smash the shopfront windows of upscale establishments in an attempt to dissuade further gentrification. Coverage of the event condemned the attack for inhibiting entrepreneurship while omitting the challenges caused by gentrification (Ellis-Young, 2020). Locke is the shortest of all observed retail streets and is lined with low-rise structures and homes converted into retail use, creating a village-like retail space separate from the downtown. Locke street is also currently the most upscale of all retail streets observed. The surrounding neighbourhoods are comprised of single-detached homes, with some streets being comprised of single-storey bungalows and others containing Victorian mansions that once housed the City's industrial elite. The premium retail mix has attracted upscale residential development, and the sidewalks were recently enlarged in a 2020 streetscaping project.

Demographic Analysis

Neighbourhoods surrounding Locke Street contain census tracts with the highest incomes observed. All three census tracts remain below the CMA median after their increases since 2005, however inched closer to narrow the gap. Census tract 5370042, which encompasses an area with heritage Victorian homes, saw the median income increase 55% from \$53,522.00 to \$83,000.00, the closest of all observed census tracts to the \$91,000.00 CMA median. Census tracts surrounding Locke had rates of increase roughly twice that of the CMA median, despite these census tracts already having somewhat higher incomes compared to other lower-city neighbourhoods.

The percent of individuals holding a university degree was interestingly already nearly double that of the CMA average in 2006 and pushed up further to again become several percentage points higher than the 2021 CMA average. The highest share was census tract 5370041, which pushed upwards to 44% from 25% in 2005. A more modest increase to 27% occurred in census tract 5370041, although it was already considerably higher than the CMA average in 2006 at 20%. These statistics reveal neighbourhoods surrounding Locke were already highly educated compared to the rest of the city, pointing to recent changes being a consolidation of earlier foundations for gentrification.

As with education levels, the percentage of the labour force engaged in arts-related occupations was already higher than the CMA-wide median. In 2021 these inched upward to 7%, 8% and 9% in the three census tracts placing them higher than nearly all census tracts in areas surrounding the fabled arts hub of James Street. Furthermore, census tracts surrounding Locke had some of the highest shares of public servants compared to other retail streets, with census tract 5370040 having 23% of its labour force engaged in public service related occupations compared to the CMA average of 12%. Unlike areas surrounding other retail streets where only a couple occupations were at or above the CMA average, representation in other professional fields was also consistent with CMA averages, being either a few percentages above or below the rest of the Hamilton CMA. These statistics suggest the area surrounding Locke had already been and continues to be a largely white-collar rather than working-class neighbourhood.

Ottawa Street

Physical Description

Ottawa street is located to the far east of Hamilton's downtown, intersecting Barton Street at its northern portion south of the city's industrial sector and extending until Main street in the

south near the expansive Gage Park. Like Barton, its built form is mostly comprised of two-storey structures. Ottawa street has the distinction of being Hamilton's retail street historically specializing in fabrics, with a handful of furniture, fabric and clothing alteration shops continuing to maintain a presence. It was also notably home to the first Tim Horton's coffee chain, with the same location continuing to operate with a recently added franchise museum. Media coverage on gentrification in Hamilton has typically not focused on Ottawa street and there are no new significant residential construction projects, however there are visual cues suggesting some early stages of residential gentrification are occurring in its surrounding neighbourhoods (Babin & Doucet, 2024).

Demographic Analysis

Two of the four census tracts surrounding Ottawa Street, 5370058 and 5370059 also adjoin Barton Street and were previously discussed. The two aforementioned census tracts had median incomes that increased at a rate twice that of the CMA median. The median incomes in the two remaining census tracts also increased at high rates. The lowest 48% increase in census tract 5370054 was in large part due to starting at a higher 2005 income of \$49,141.00, as it ultimately ended with the third-highest observed 2020 income of \$72,500.00. Census tract 5370053 saw its median income increase more precipitously from \$43,425.00 to the second-highest observed 2020 income of \$73,000.00.

As with census tracts surrounding Barton, the share of university-educated individuals increased at a disproportionate rate despite remaining at roughly half of the CMA average. In 2006 the share of university-educated individuals was well below the 14% CMA average sitting between 1-3%, while in 2021 this increased to half the 2021 average ranging between 10-13% of

individuals. As with neighbourhoods surrounding Barton, sharp spikes in the share of university-educated individuals suggest gentrification is occurring in its peripheral stages.

Following the increase in the share of university-educated individuals, the share of the labour force engaged in professional occupations increased but remained below the CMA average. Aside from census tract 5370058 that remained at 1%, the remaining census tracts surrounding Ottawa street saw their share of individuals working in arts-related occupations increase above the CMA average to between 4-5%. There was also an increase in the share of public servants, especially census tract 5370054 that increased to meet the CMA-wide average of 12%. Sparing census tract 5370058 that saw its share of business professionals increase to 1% above the CMA average, the shares of professionals in other occupations remained below-average across the four census tracts.

Results

Gentrification Patterns

The results emerging from this study demonstrate retail gentrification is occurring in all four retail streets in patterns linked to surrounding demographic change. The highest proportion of gentrified retail establishments was observed on James and Locke streets, noted for having disproportionate increases shares of artists in their immediate vicinity and some of the more drastic increases to incomes and levels of education in the previously analyzed census tracts.

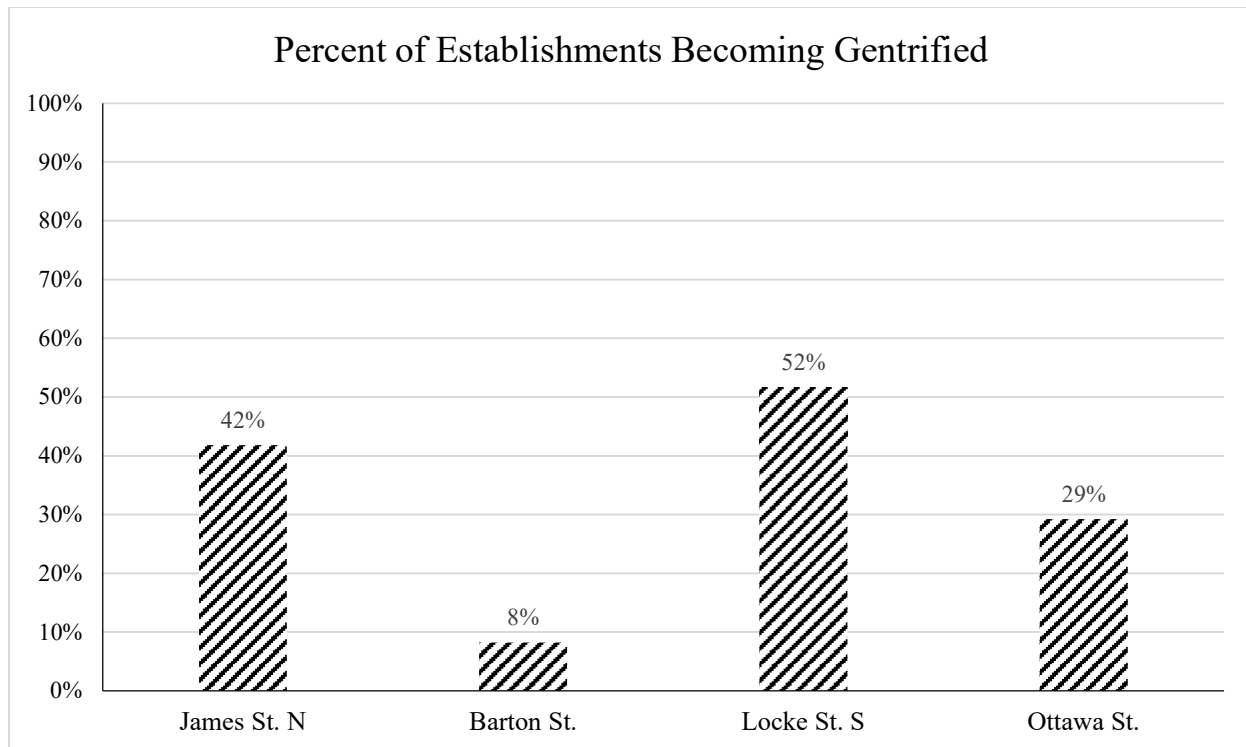


Figure 2.7 - Percent of Establishments Becoming Gentrified

Moreover, by breaking down the makeup gentrifying businesses these findings illustrate how early and late forms of retail gentrification differ in the types of goods and services on offer. These results, notably those from emerging pockets of gentrification on historically disinvested Barton, suggest foodification plays an outsized role in the early stages gentrification. On Locke, whose surrounding census tracts already had a relatively high share of residents holding a bachelor's degree and higher incomes than near other observed streets, there was a greater turnover towards premium services. Ottawa and James Streets saw significant turnover towards trendy shops, including establishments such as health food stores, bookstores and clothing boutiques.

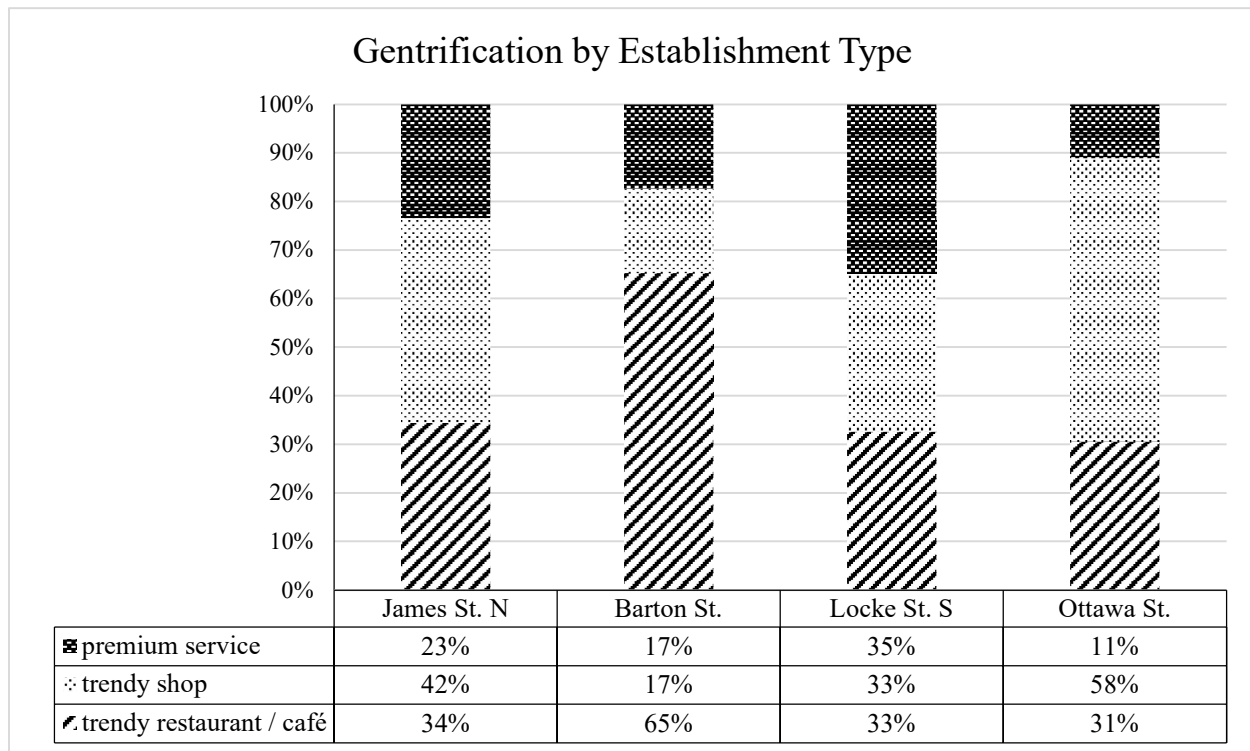


Figure 2.8 - Gentrification by Establishment Type

When mapping the distribution of gentrified establishments across the four streets (Figure 2.8), continuously dense clustering can be found along Locke and James streets, reflecting the numerical data pointing to these streets being at more advanced stages of gentrification. While there are fewer instances of turnover towards gentrified retail along Barton and Ottawa, they follow isolatable patterns clustered around certain blocks and street corners. Also included within the map are instances of new signage, whether from new shops or old shops refurbishing their signs. This provides a measure of investment not associated with gentrification. As can be seen, lengthy portions of Barton Street and roughly half of Ottawa street have seen investment and retail turnover not categorized as gentrification.

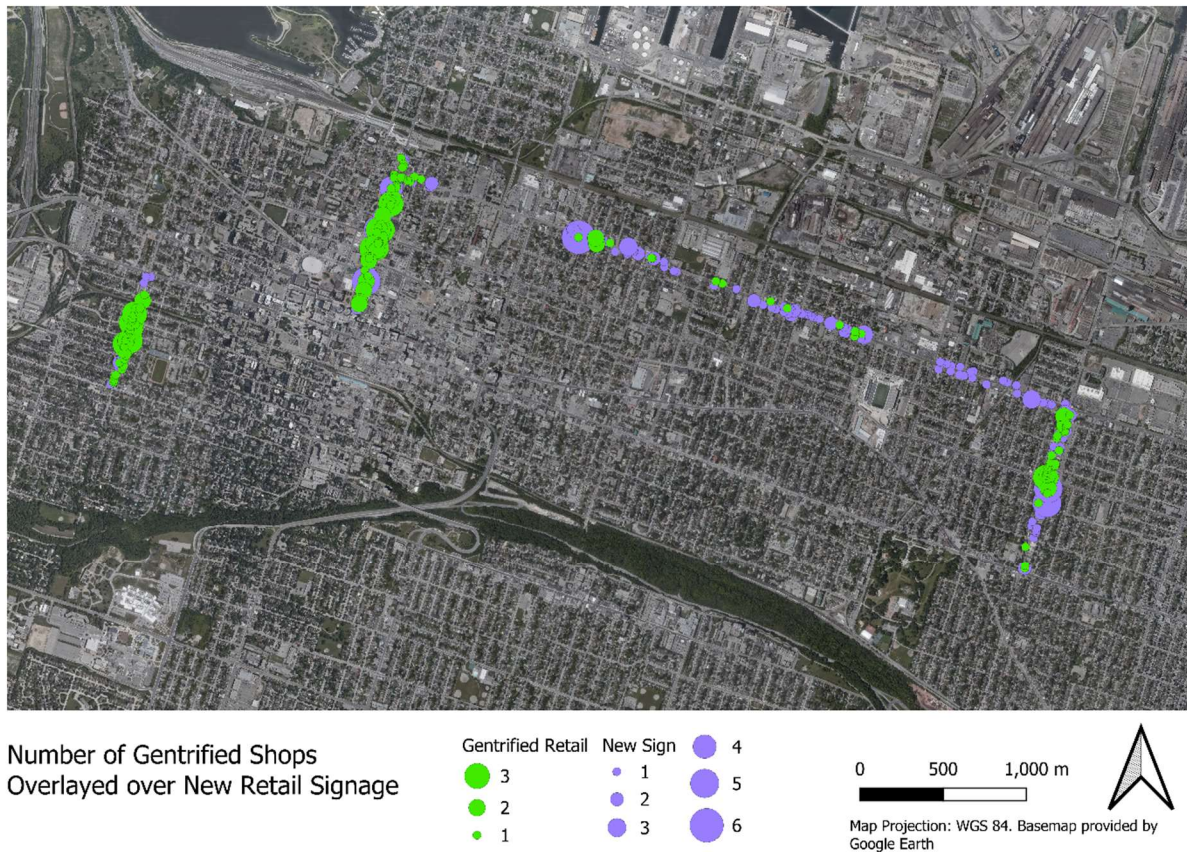


Figure 2.9 - Gentrified Shops versus New Retail Signage

When turning attention to exclusively observing upgrades to host structures, it offers only modest clues in two respects; for one, it shows upgrades of all scales are occurring wherever there is a concentration of host structures. It largely conforms to the preceding map of new signage, revealing little in the way of patterns. Second, it suggests that upgrades can occur which do not directly constitute gentrification, highlighting how gentrification is as much a matter of cultural change as patterns of investment.



Figure 2.10 - Host Structure Upgrades

James

As downtown Hamilton's main retail street and arts hub, James Street North was the site of multiple trends. First, multiple gentrified businesses were established in both gentrifying and previously disinvested sections of the street, creating a dense cluster of gentrification observations throughout the street. Second and linked to its widespread gentrification, the greatest number of new structures were constructed on James. Third, despite intensive investment and class turnover apparent across the street, multiple sections of James continued to host working-class and recent immigrant-oriented establishments albeit they now make up a smaller portion of the retail mix. This suggests some marginalized communities may still depend on the area for specific needs yet could be facing displacement pressure. Indeed, multiple local diasporic associations, anti-racism organizations and tenant rights organizations have advocated

against residential displacement through renovictions occurring in nearby apartment towers (Hristova, 2019)

Gentrification along James Street had the most balanced mix of shops, restaurants and services compared to other streets where gentrification seemed to be most prominent among certain types of businesses. Nonetheless, a significant share of businesses along James had Cryptic or Polysemic names that sought to convey a certain sense of prestige or trendiness valued by the middle-class (Kern, 2016; Trinch & Snajdr, 2017; Ding, 2023). While it can be seen that James has a lower proportion of such naming conventions compared to Barton, the latter has a far lower share of gentrified restaurants.

Table 2.9 - Share of Gentrified Establishments with Cryptic Names

Percent of Gentrified Establishments with Cryptic or Polysemic Names	
Locke St. S	54%
James St. N	64%
Ottawa	44%
Barton	70%



Figure 2.11 - Distribution of Retail with Cryptic Names

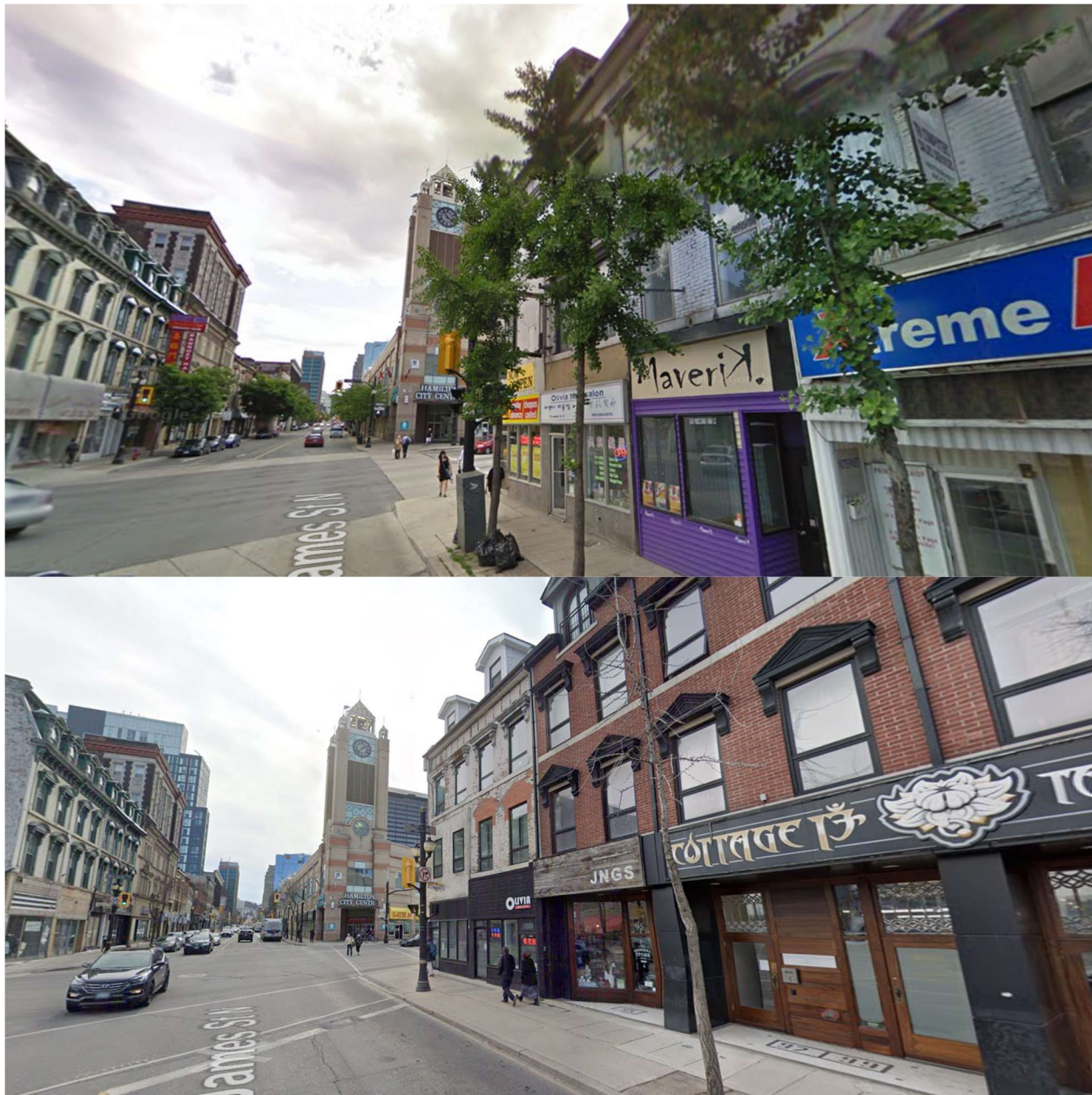


Figure 2.12 - Example 1 of retail turnover on James from 2009 (top) to 2021 (bottom)

Existing establishments may be re-semiotized to cater to a more upmarket clientele, as is the case with the Olivia Korean hair salon. Textual elements have been reduced while the shopfront has adopted a sleek black appearance. Interestingly, the Korean text identifying it as “Vienna Hair Salon” was reduced to a neon sign simply reading “Hair Salon” in Korean. The continued prominence of Chinese characters could possibly be due to demand for Korean

hairstylists by a Chinese clientele. A payday loan establishment was closed, and its renovated space awaits a new tenant. Moving closer towards the foreground, the structure has had its heritage elements refurbished in addition to shopfronts having their corrugated steel replaced by stained wood and patterned glass to evoke a classical aesthetic. The cryptically labelled James North General Store ‘JNGS’ selling premium coffees replaced a sports-related shop and a tattoo parlour replaced a defunct printing shop. A newly constructed student residence is visible in the far background.



Figure 2.13 - Example 2 of retail turnover on James from 2009 (top) to 2021 (bottom)

In this block view, a modest Mexican grocer was replaced by a modern structure hosting microbrewery. The brewery's distinctive name 'MERIT' and oversized lightbulb decoration associates itself with a mix of skill and innovation prized by upper middle-class professional cultures. The adjacent brick structures have had new windows installed and been coated in gentrification grey, with upscale food offerings replacing a convenience store. A newly constructed commercial building combining heritage and modern elements is also visible in the background.



Figure 2.14 - Example 3 of retail turnover on James from 2009 (top) to 2021 (bottom)

Despite evidence of accelerated gentrification across James Street, some sections of the street remain relatively unchanged, as illustrated in Figure 2.14.

Barton

Consulting the map of gentrification patterns (Figure 2.9), gentrification along Barton occurred along three clusters. The first apparent cluster to the far east of Barton is the bleed-off of gentrification from James Street. The second cluster is situated near the Hamilton General Hospital, that has undergone significant expansions encompassing a research institute, children's hospital, and a rehabilitation center. Following in suit, surrounding census tracts have experienced a modest upswing in the number and share of healthcare related professionals. It is possible that this second pocket of gentrification on Barton is the result of an increase in the number of hospital workers living and working in the neighbourhood. The third and most minor cluster of the three was situated just northeast of Hamilton's new football stadium. Interestingly, the section of Barton Street extending off more prominently gentrified Ottawa Street to the far West of the observed area did not see any turnover towards gentrified establishments, but was rather a center of disinvestment.

With the majority of its comparatively few gentrified establishments being restaurants or cafes, Barton Street exemplifies the role of gastronomy in claiming disinvested spaces as middle-class ones. The role of restaurants in commodifying poverty and laying the foundation for further rounds of gentrification and displacement has been well-documented in Sydney (Bridge and Dowling, 2001), Vancouver (Burnett, 2014; Hyde, 2014) and Turin (Bourlessas et al., 2022). With a comparatively low percentage of the overall retail mix being gentrified, and with such gentrification limited to a select few pockets, I argue that upscale restaurants along Barton are establishing new frontiers for gentrification in previously disinvested communities.



Figure 2.15 - Example 1 of retail turnover on Barton from 2009 (top) to 2021 (bottom)

In one of the clusters of gentrified retail near the Hamilton General Hospital on Barton, a mixed-use building was repainted black to conform to contemporary tastes for soft modernist colours. An art gallery, which may already be considered an early indicator of gentrification, was replaced by a yoga studio. One of the previously vacant retail spaces was occupied by novel desert shop “Crumbled”, styling itself in a minimalist design of sparse text and neon colours. The pizza shop on the far right was updated, however the general function remains the same. It’s

possible this combination of residential and retail gentrification is due to the increase of healthcare professionals residing in the neighbourhood.



Figure 2.16 - Example 2 of retail turnover on Barton from 2009 (top) to 2021 (bottom)

Change along the section of Barton jutting off James Street bears more similarity with the latter, seeing significant evidence of invested capital and an evident replacement of the previous retail mix. The worn mixed-use structure to the right has undergone significant exterior renovations including sandblasting, new windows, a new addition and paint at retail level. A local real estate agency visible in the center was replaced by Steeltown Garage Co., which

despite the name is in fact a café. Steeltown is one of Hamilton's nicknames paying homage to its industrial heritage, and the building itself has had windows resembling garage doors installed. This is a good example of how foodie culture commonly appropriates elements of working-class culture under the guise of authenticity (Hyde, 2014; Burnett, 2014).

Moving further east along Barton away from the downtown, pockets of investment aimed at capturing the middle-class demographic continue to appear. This block face in particular offers a glimpse at how retail gentrification can be accompanied by residential displacement, with the previously disinvested upper floor apartments being rebranded as lofts that have had modern windows and frames installed and its emergency stairs removed. At the bottom left a modern bar named "Mosaic" with tile siding and minimal text has replaced a vacant wood-sided space. Hubbard (2019) highlights the hypocrisy of the middle-class image of craft beer as 'refined' and for the 'moderated' drinker due to the emphasis on quality, when in reality middle-class professionals are not immune to the alcoholism working-class bars have become stigmatized for propagating. An art gallery was replaced by a bicycle shop, and a used baby goods store was replaced by a pawn shop. The latter is a type of establishment not commonly associated with gentrification, again showcasing some of the simultaneously observable disparities that characterize early gentrification.



Figure 2.17 - Example 3 of retail turnover on Barton from 2009 (top) to 2021 (bottom)

Locke

Gentrification patterns on Locke follow a dense line throughout most of the street, with its high proportion of gentrified shops meaning the density of gentrified retail turnover being more dictated by the density of retail spaces rather than distinct factors within a specific section that induced retail displacement in other less gentrified streets. However, the very ends of Locke street that adjoined arterial roads and hosted more typical establishments such as banks,

convenience stores and auto shops were excluded from this gentrification cluster and saw more structural rather than taste-oriented transformations.

Locke Street’s gentrification is notable for having a higher share of premium services. These included multiple financial consultants, an urban spa, chiropractor, yoga studio, private gym and even a modelling agency. This exemplifies how Bridge & Dowling (2001) argued middle-class practices such as managing one’s body to conform to modern beauty standards imprint themselves on the urban landscape. It is likely Locke is also a destination for those outside the neighbourhood seeking such services, leading to consumption of the nearby shops and restaurants as a secondary activity

Locke street was notable for having the highest share of gentrified establishments with non-English names and signage. Most of these non-English names along Locke were Italian, however German and Japanese names could also be found. Being surrounded by a neighbourhood that had by far the highest share of university educated individuals or incomes compared to other observed census tracts and a slightly higher share of previously identified professional occupations compared to the Hamilton CMA average. This aligns with existing literature on how highly-educated members of the middle-class distinguish themselves through the consumption of foreign foods deemed ‘exotic’ (Bridge & Dowling, 2001; Bourlessas et al., 2022; Ding, 2023) This exotic consumption is again selective, as in spite of Locke being a locus of non-English branding, a Vietnamese grocery was replaced by a new mixed-use condominium.

Table 2.10 - Percent of gentrified shops with languages other than English by retail street

Percent of Gentrified Establishments with Languages Other Than English	
Locke St. S	20%
James St. N	13%
Ottawa	11%
Barton	9%



Figure 2.18 - Distribution of gentrified shops employing languages other than english

This section of Locke illustrates how despite the lack of upgrades to physical structures, increasingly upmarket establishments can come to replace other unassuming forms of retail. In the right-hand structure, an audio-system vendor was replaced by “AMO gelato/caffè” and the second floor’s flower shop was replaced by “Nest” an animal-themed home decoration shop. The salon and spa that occupied the heritage home to the left has continued to operate and even upgraded their signage, suggesting this premium service has had success attracting clientele on Locke.



Figure 2.19 - Example 1 of retail turnover on Locke from 2009 (top) to 2021 (bottom)



Figure 2.20 - Example 2 of retail turnover on Locke from 2009 (top) to 2021 (bottom)

The ‘Bar on Locke’ on the bottom left has been completely overhauled into ‘Rugantino’, an upscale Italian restaurant. The façade’s modern styling has been completely replaced with a traditional Italian appearance. While the previous establishment can be argued to have been upscale as well, the new Italian-named restaurant exemplifies middle-class demand for ‘exotic’ gastronomic experiences (Bridge & Dowling, 2001; Bourlessas et al., 2022; Ding, 2023). A discount antique shop and a wine bar have had their retail spaces merged and replaced by an upscale soup and sandwich restaurant called ‘The Burnt Tongue’. In the case of the antique shop, the turnover of thrifty arts-based establishments echoes previous findings artist-initiated forms of

gentrification eventually lead to attracting more upscale commercial uses (Ley, 2003).



Figure 2.21 - Example 3 of retail turnover on Locke from 2009 (top) to 2021 (bottom)

On this section of Locke, the general function of most retail spaces has remained the same. Two boutique apparel stores occupying the white low-rise structure on the right were replaced by a DIY pottery shop and an art vendor. While it was previously discussed that thrifty arts-oriented stores often gave way to more premium forms of retail as gentrification became more entrenched and artists became displaced, here it can be seen that despite Locke becoming more gentrified as a whole, businesses selling arts-related goods continue to maintain a presence despite a higher share of businesses on Locke being classified as gentrified and nearby incomes increasing. The antique store in the centre has been painted black and had some ancillary signs

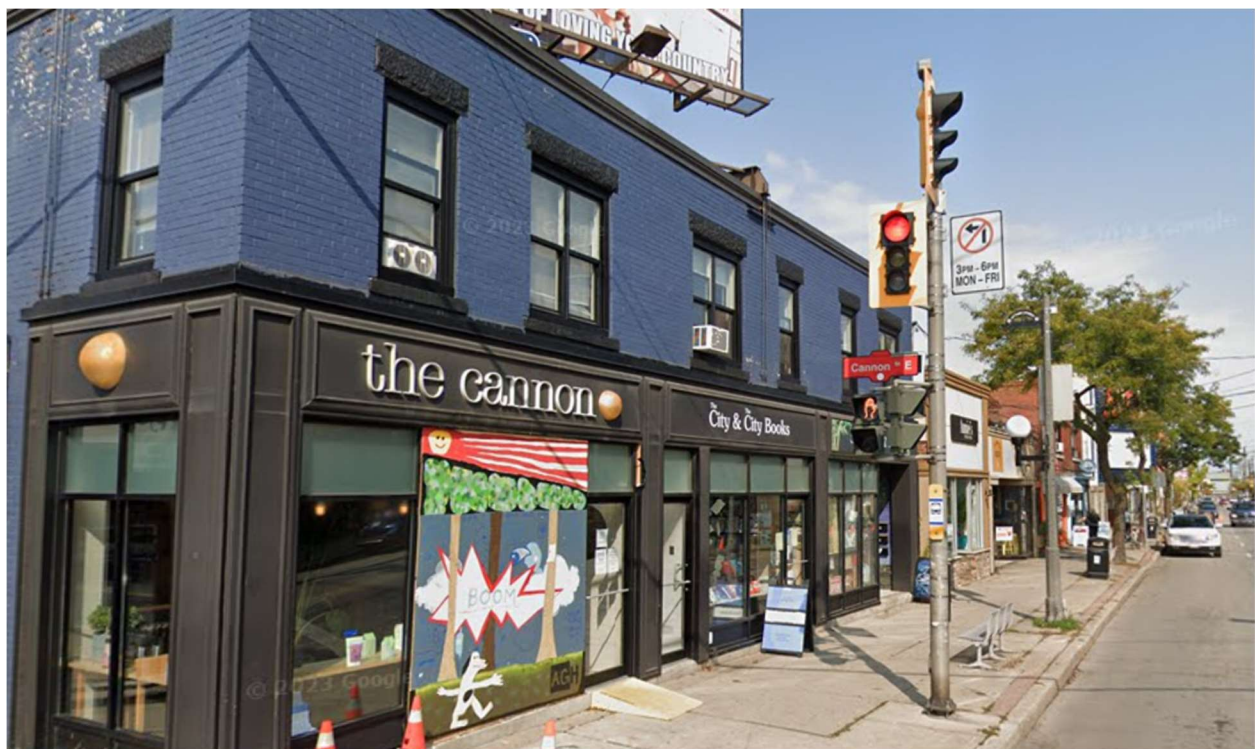
removed. The most notable change occurred to the plainly labeled bakery to the left, replaced by the vegan restaurant ‘Democracy*’, whose name is both cryptic in relation to the goods on offer and carries political undertones highlighting the discursive aspects of commodifying spaces (Papen, 2015). The typical retail look was replaced with an industrial aesthetic; the new sign is made of COR-TEN steel with the restaurant name cut into the metal and garage-style doors have been added.

Ottawa

Of all the streets observed Ottawa had the highest share of trendy shops as opposed to services that were more prevalent on James or Locke. Trendy bakeries, cafes and restaurants are also present in concentrations nearly equal to James and Locke streets at just above 30%. The distribution of such retail gentrification is largely confined within a couple blocks immediately north of Ottawa’s Street’s halfway point. These concentrations of gentrified businesses are not directly correlated to the density of available retail spaces, as some densely-lined sections of Ottawa Street had yet to see a shift towards gentrified businesses. Ottawa Street’s heritage as a fabrics related street has shifted itself towards different forms of home furnishings. Upscale furniture and antique stores are now more prominent compared to their more modest equivalents that once defined the street. Other home lifestyle products, bookstores and boutique grocery stores are also gaining prominence.

Considering the absence of furniture stores on other streets, Ottawa Street appears to be a premium home furnishings destination for Hamiltonians rather than simply reflecting the local needs of a gentrifying neighbourhood. In contrast to the other streets observed, there also appears to be a lack of establishments such as bars or fine dining catering to nightlife. Regardless of the types of retail on offer, visual and census data analysis points to gentrification taking Place on

Ottawa Street. What makes Ottawa Street's retail gentrification notable is its distance from the urban core and proximity to pockets of disinvested retail. The only new residential buildings recorded on Ottawa Street were for non-market affordable housing, contrasting with the new market offerings appearing on Locke and James Streets. The patterns observed suggest that rather than the retail gentrification being densest at the urban core and dissipating with distance, satellite retail streets with urban characteristics appear to have an anchoring effect for upmarket businesses.



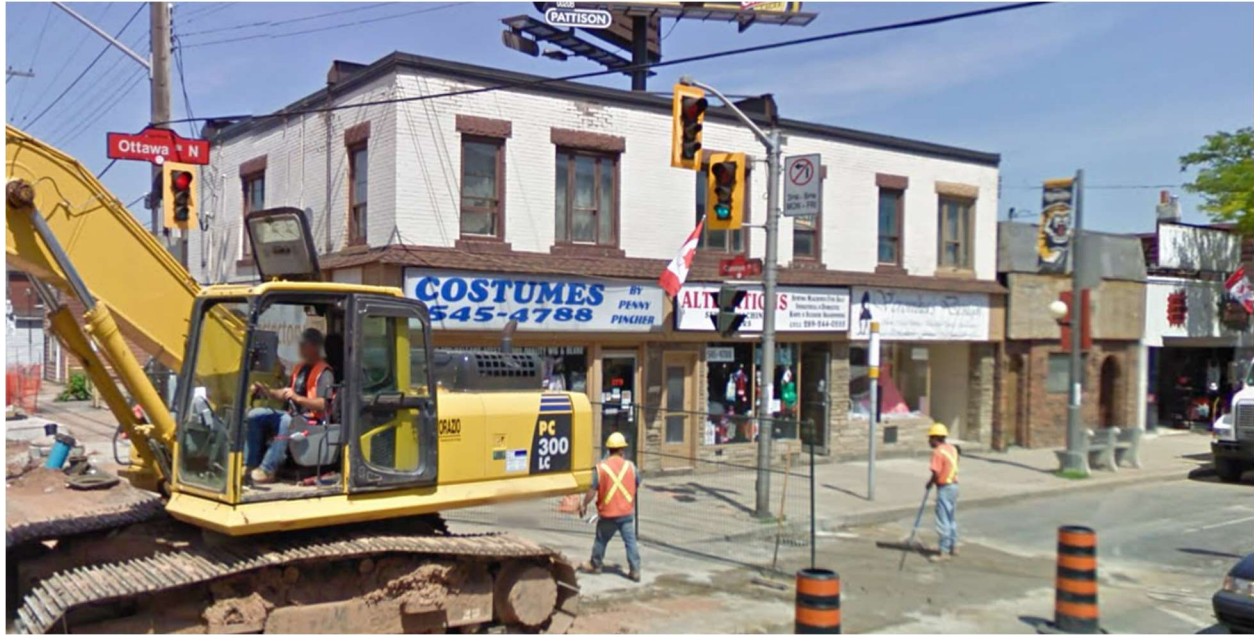


Figure 2.22- Example 1 of retail turnover on Ottawa from 2009 (top) to 2021 (bottom)

The brick building at the corner of Ottawa and Cannon streets underwent significant investment and a turnover of its retail spaces to trendy shops. The host structure was painted dark blue with black trimmings, and the retail façades were transformed from brick to wide-windowed wood frames reminiscent of the early 20th century. A boutique furniture store named ‘the cannon’ in reference to the intersecting street complete with a decorative cannon ball has replaced an unassuming costume store. Moving further up Ottawa street a bookstore has replaced a seamstress, and the ‘Simply Zen’ incense shop has replaced a wedding dress shop.



Figure 2.23 - Example 2 of retail turnover on Ottawa from 2009 (top) to 2021 (bottom)

The vacant retail space on the right was painted black and hosts a new boutique furniture store. One of Ottawa street's many fabric stores was replaced by a boutique home decor and furniture store named 'Artiques'. Its offerings are more novel than many neighbouring furniture stores, with furniture and home decorations of many 'exotic' international styles making up the window display. The 'European Textiles' store at the street corner hasn't seen any changes over the last 10 years, although the building appears to have been recently constructed.



Figure 2.24 - Example 3 of retail turnover on Ottawa from 2009 (top) to 2021 (bottom)

This section of Ottawa Street shows how traditionally working-class establishments can be replaced by middle-class offerings fulfilling a similar function. A family-named deli shop and diner advertising affordable prices were both replaced by gourmet burger restaurants ‘BurgerLab’ and ‘HAMBRGR’ respectively. Between the two, a pair of antique shops was replaced by a larger scented candle making shop featuring more artistic flair to its shopfront. Throughout most

of the visible shops and host structures, there is again the emergence of the soft modernist colour palette of greys and black.

Patterns of Disinvestment

As expected, the densest clusters of disinvested retail premises occurred along Barton Street at the smallest individual shopfront level. Barton's clusters of downgraded shopfronts are even more significant when accounting for the fact that the density of retail along the street is sparse compared to James and Locke Streets. A similar scenario played out when observing changes to the host structures. James and Barton Streets were actually tied for the share of structures showing signs of decay, albeit these were more numerous and severe in scale along Barton. Signs of disinvestment at both scales appear to co-exist with investment at some level on nearly all streets, suggesting some degree of retail vacancy and weathering of building façades is to be expected on any street. The former may be further compounded by data collection dates, which coincide with the COVID-19 pandemic that was noted to be a driving factor behind many retail closures. Finally, simply because some structures showed signs of decay didn't exclude gentrified retail from flourishing at street grade, especially along James Street.



Figure 2.25 - Distribution of retail spaces experiencing signs of disinvestment

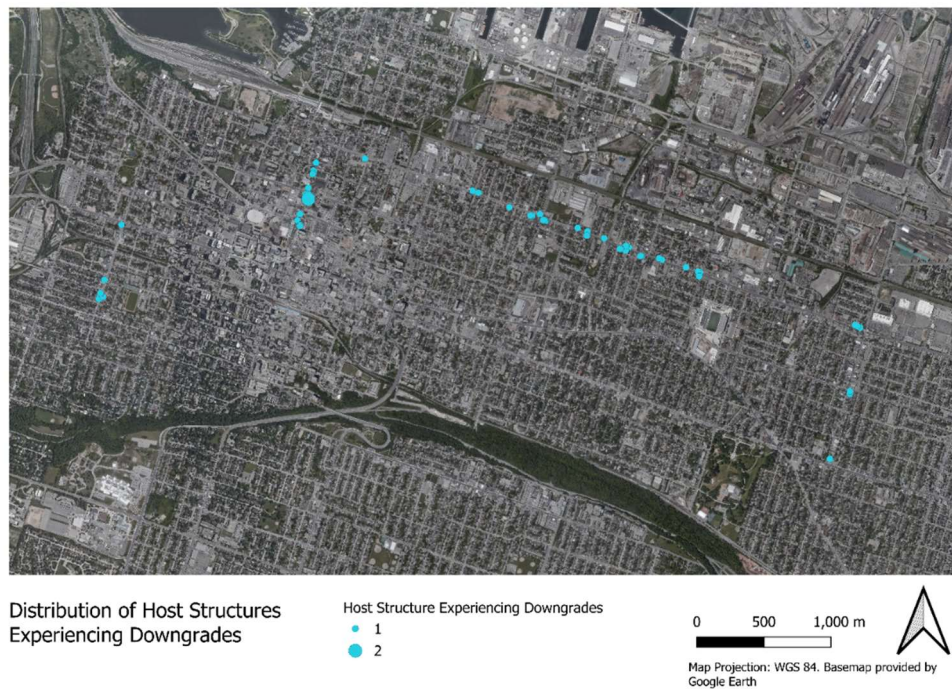


Figure 2.26 - Distribution of host structures experiencing disinvestment

Table 2.11 - Rates of disinvestment by retail street

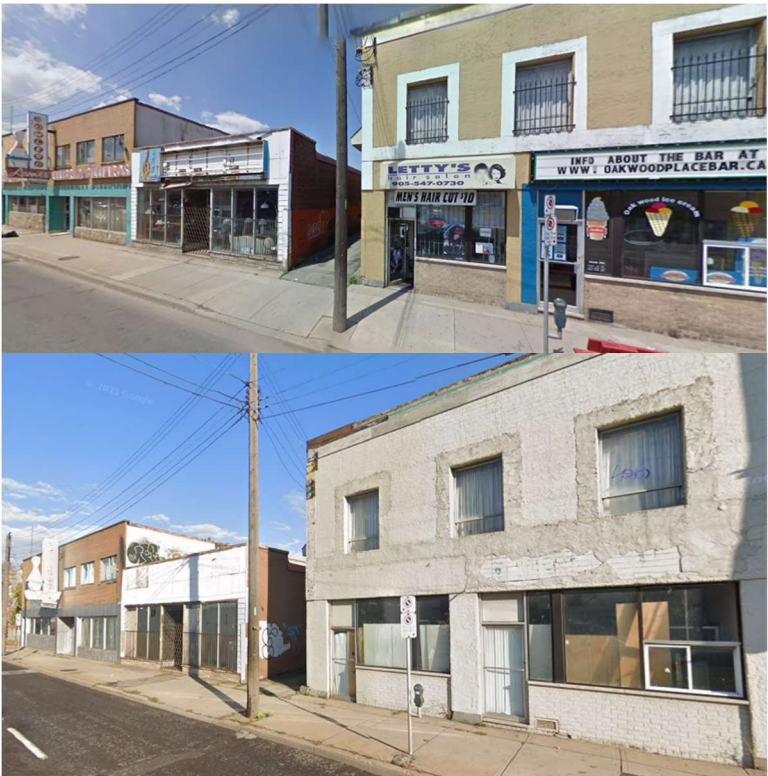
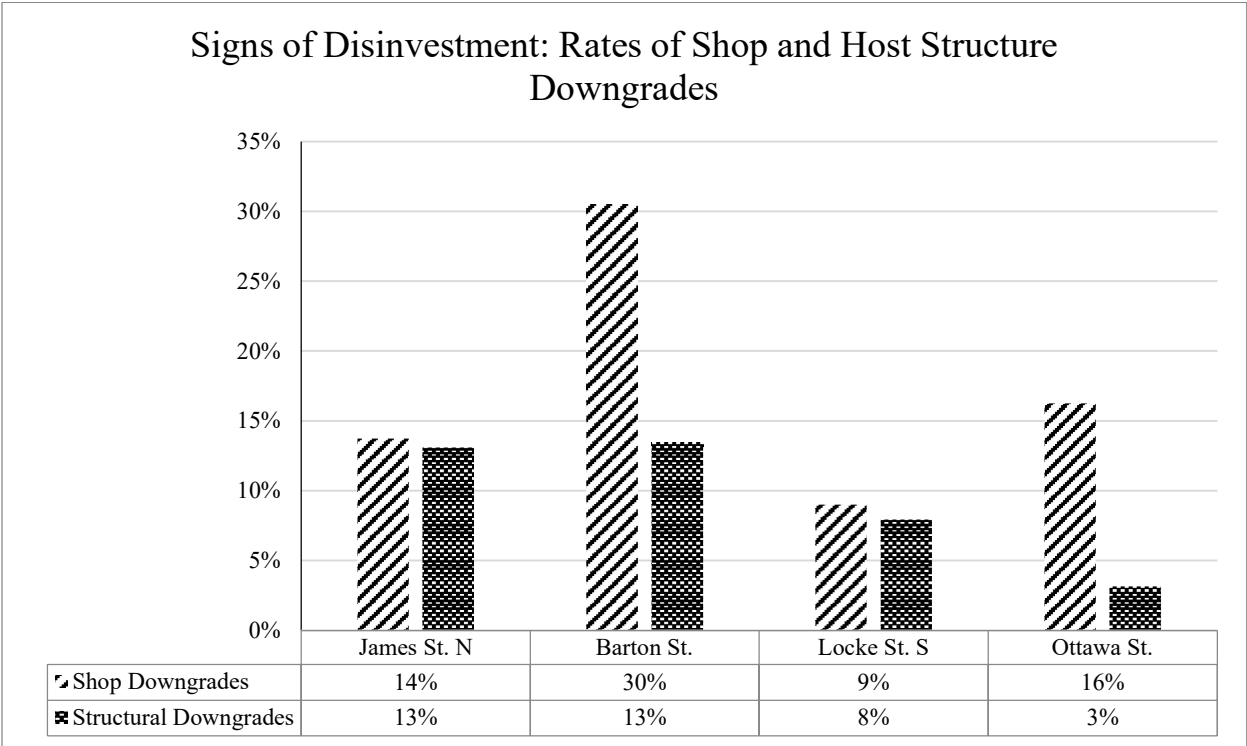


Figure 2.27 - Example 1 of disinvestment on Barton from 2009 (top) to 2021 (bottom)

Even as sections of Barton to its far east experienced signs of retail gentrification, to the west near Ottawa the picture could not be more different with retail spaces becoming vacant and structures decaying. Such unevenness in patterns of investment and disinvestment is one of

foundational aspects of the rent gap theory (Smith, 1979; 1982; 1987) In this view of one of the

more disinvested pockets near Ottawa Street, a dairy bar and hairdresser have given way to vacant retail space. The host building was repainted grey and its decorative window bars were removed, with its stucco beginning to crumble. Moving left, an abandoned furniture store with a worn music store sign has been completely emptied and stripped of its sign. At the very far left, a bowling alley has been replaced by an African church, although the main bowling pin shaped sign has remained in place with its paint continuing to fade.



Figure 2.28 - Example 2 of disinvestment on Barton from 2009 (top) to 2021 (bottom)

Looking east from the previous observation, further signs of decay can be seen. The ‘Shoe King’ store that continued to operate until 2017 even as letters began to fall off the sign became somewhat of an iconic quirk of Barton Street (Wilson, 2013). Its shop windows are now boarded up and the sign continues to fall apart. To its left, the ‘Oakwood Place’ music venue is announcing upcoming events on its billboard. Ten years later, the venue has closed and the billboard now grimly displays “save our jobs – shop Canadian”.

Displacement

While direct displacement from retail space rent hikes, renovictions or a disappearing client base are outside the means of the visual methods employed in this study, these methods have captured evidence of exclusionary displacement and displacement pressure within retail spaces. Displacement would be more commonly observed when vacant or non-gentrified shop spaces would be replaced by a trendy and visibly upmarket gentrified establishment. This creates exclusionary displacement, where businesses offering affordable goods and services that are open to a wider share of the population can no longer afford rents in the area. Such displacement is not a matter of a few individual buildings being renovated but of wider neighborhood transformation broadly driven by increased professionalization and locally intensified by demand among professionals to live near urban amenities. As discussed in the analysis of each street, this displacement is visibly clustered marking a divide between areas that have seen retail gentrification and diminishing pockets of retail remaining accessible to those with low incomes.

Also as previously discussed, the retail turnover was not always a gradual shift to premium uses but could be initiated by significant investment into the host structure, capturing rent gaps by repositioning it on the market. It was common for buildings formerly hosting working-class oriented establishments to be upgraded and for formerly occupied spaces to

remain vacant while awaiting a new tenant. These findings suggest that direct displacement may have occurred in cases of significant host structure upgrades and that exclusionary displacement has meant only certain types of businesses can come to occupy renovated retail. With sections of Ottawa and nearly all of James and Locke being heavily gentrified, it is increasingly rare to find more generic and family-owned forms of retail open in these areas or see investment without ensuing cultural displacement. In the most intensely gentrified clusters, retail turnover is a matter of one gentrified shop moving onto the next rather.

Furthermore, and perhaps even more crucially, my results highlight a direct link between retail and residential displacement. As elaborated in some of the snapshots from my observations, there were multiple instances of older mixed-use buildings receiving investment that in addition to having their retail spaces come to be occupied by upmarket businesses, simultaneously showed evidence of captured rent gaps in the residential spaces above. These showed signs of inhabitation such as lamps, flags and curtains adorning worn window frames before receiving significant upgrades. Another pathway for residential displacement induced by retail gentrification was when a retail space that had long been converted into affordable residential unit following a period of high retail vacancy would be re-converted into a commercial space. This phenomenon was almost exclusively found on Barton due to its history of disinvestment once making residential use a more profitable avenue for landlords than retail. Across all observed retail streets, the fact that older mixed-use buildings are the bedrock for retail means that consistent retail gentrification is not simply a matter of exclusion from access to certain amenities, but an initiator of displacement for lower-income downtown tenants.

Retail as a Destination

Significant divergence in the types of shops, services and restaurants constituting gentrification on each of the four observed streets suggests gentrified retail played a role in constructing each street as a distinct destination rather than only being a reflection of the practices of surrounding residents. Many observed areas certainly had some a mix of gentrified uses that hinted at consistent patronage by a local middle-class population, such as Locke, Ottawa and Barton all having at least one health food store. Yet the three retail uses categorizing the coding scheme point to streets being more specialized in certain types of retail. This finding leads onto the possibility local retail tourism from other areas of the Hamilton CMA and beyond is playing a role in spurring retail gentrification. Some of this can already be seen in the popular branding of certain areas, such as James Street being associated with art or Ottawa Street being associated with textiles. That isn't to say these popular conceptions of these spaces should be taken at face value, as gentrification has displaced much of the retail mix from a decade ago that helped cultivate these popular images.

More phenomenological yet not systematically recorded observations about the specific goods and services on offer among the gentrified retail of each street offered their own clues as to how each street adopted a specific role. Ottawa street appeared to emerge as a center for homemaking with furniture, bookstores and antique stores among other home-related gentrified businesses. Locke could be argued to be a centre for premium services, offering a gamut of aesthetic, financial, health-related, educational services and other demands of middle-class professionals. Retail gentrification on Barton shares elements of poverty tourism as seen in Vancouver's foodie scene (Hyde, 2014, Burnett, 2014). There isn't quite the same level of state support for the food scene as with Italy, however sections of Barton within the range of gentrifying neighborhoods have become host to novel food options. With their different

combinations of urban aesthetics, histories and surrounding demographic changes, each street offers its own character. As evidenced by more concrete data on uses and material cultures, this extends beyond a simple ‘sense of place’ towards specialized functions that make each street a potential destination for obtaining something not offered in other parts of the city.

The Efficacy of Criteria

Certain coding criteria excelled at showing fine-grained patterns of investment. ‘New Retail Signage’ was a good measure of both investment into the physical appearance of retail spaces and the establishment of new businesses as while not recorded a new business was the most common reason for store signage to be replaced. Although less frequent, existing businesses would also renew their signage, often with more modern styles emblematic of middle-class tastes. Likely due to the relatively low cost of investment vis-à-vis other forms of upgrades, and due to most other potential upgrades being dependent on the host structure rather than the individual retail space, new retail signage was the most fine-grained measure of retail change excluding gentrification.

Other more capital-intensive criteria such as new structures, while revealing their own patterns, were not numerous enough in their observations to contrast with some of the finer-grained criteria. I deduce there is a ‘goldilocks zone’ when it comes to criteria for observing retail change, and a need to compare criteria of similar scale. Furthermore, as discussed in my similar study on residential gentrification, the size of the investment any upgrade represents, let alone the impact that investment has upon that building’s visual appeal are each relative to the characteristics of any individual retail space or host structure. Simply relying on upgrading patterns to map gentrification revealed little when such upgrading patterns are simply a reflection

of the density of structures and retail being observed. To this end, measuring raw investment flows into particular areas of a street would be better measured through building permits

What remained effective and a good example of the aforementioned goldilocks zone for visual criteria was specific cultural phenomena associated with gentrification, especially those that necessarily implied some form of significant investment such as modern or heritage styles or trendy fonts, among many other forms of upgrading. Such criteria produced visibly differentiated patterns of gentrification consistent with the degree of change experienced in surrounding census tracts. While raw structural upgrades didn't reveal any significant pattern, the distribution of downgrades showed more concentration in certain areas making it an effective measure for capturing the inverse yet intimately related side of gentrification.

Discussion

Retail Displacement in Hamilton

The results provide evidence of widespread class turnover among Hamilton's main downtown retail streets. Concentrations of retail gentrification were most pronounced in downtown neighborhoods, while middle-class establishments made inroads into more distant areas of the lower city displacing clusters of visibly working-class establishments there. Such establishments oriented towards middle-class consumption appeared to anchor themselves to either a sense of place or proximity to the mobility patterns of urban or commuting professionals. Gentrifying establishments were often accompanied by renovations that heavily altered the appearance of host structures, assumingly to capitalize upon rent gaps. These upgrades either fell under two umbrellas; heritage restorations or renovating shopfronts to have a rustic or classical appeal that inflated their age, or infusing an older building with modern architecture.

Regardless of style, the changing demand towards middle-class tastes for whom invested capital sought to attract replaced significant portions of streets hosting more affordable and practical options with more upscale offerings. It is within the scope of this study to suggest exclusionary displacement is occurring within these renovated retail spaces with uncertain consequences for residents formerly dependent on displaced retail offerings with the limited availability of extant affordable retail. As with other studies whose main focus was on retail gentrification, ancillary evidence of direct residential displacement was recorded in several older mixed-use structures that underwent significant renovation (Bourlessas et al., 2022; Kim & Holifield, 2024)

The exact patterns and uses differed by street, especially between those at earlier and later stages of gentrification. These trends were mostly consistent with the literature, however there were some new findings regarding the types of uses and distribution of upmarket styles. For one, despite street branding not explicitly advertising as such, newly gentrified establishments were clustered along similar uses. Ottawa Street, which was branded as a fabrics street, had most of its gentrified retail specializing in all things related to home-making including antique furniture, incense and books among others. With these fulfilling a similar yet distinctly gentrified alternative to the previous retail's function, it begs the questions of whether a retail street's branding may be appropriated for more upscale uses. Similar appropriations of working-class culture have been recorded in the food scene (Hyde, 2014; Burnett, 2014).

An additional finding related to a street's branding and sense of place was how gentrification along each street appeared to specialize in certain goods or services. Novel dining experiences were found on Barton, the most health or wealth related experiences were almost exclusively concentrated on Locke, Ottawa with home furnishings and finally the more

generalist downtown James Street that hosted an eclectic mix of fine dining, banking services, trendy shops and galleries in addition to retail oriented towards recent immigrants. The findings from this study concur statements by Bridge & Dowling (2001) on the retail mix being a reflection of class identities and practices, however what remains left mostly in the dark in how significant the difference between local and retail tourism-derived consumption are in imprinting themselves on the retail landscape. Given how new gentrified retail on the more peripheral Locke, Ottawa and Barton streets was more specialized, they may be ‘retail destinations’ for middle class consumers rather than a pure reflection of residential displacement which is nonetheless occurring in these areas (Babin & Doucet, 2014)

Demographic change in the surrounding neighborhoods corroborates much of what is known about gentrifiers. Establishments offering exotic culinary experiences were most concentrated in the very neighborhoods with the highest rates of education, as evidenced by the distribution of establishments with non-english or cryptic names valued as a sign of distinction by middle-class consumers (Bridge & Dowling, 2001; Papen, 2015; Ding, 2023). A preference for minimalistic fonts, sleek shop designs and subtle cultural references in the semiotic landscape are creating an exclusionary retail mix predicated on the ‘luxury of silence’ of setting one’s self above social problems (Jaworski & Thurlow, 2010). In neighborhoods surrounding Barton and Ottawa Streets where signs of gentrification were at an earlier stage, the growth in the observed demographic characteristics was less compared to the more centrally located Locke and James, yet remained above the CMA average translating into emerging clusters of gentrified businesses that replaced overtly inclusive businesses.

This study reinforces the link between geographies of demographic change and retail change, that being the link between highly educated middle-class professionals and gentrified

retail. Retail gentrification plays a role in driving exclusionary and direct displacement of low-income residents and affordable amenities from downtown neighborhoods as evidenced investment in the built form, retail with performative displays of sophistication and ultimately retail and residential turnover. These findings may be useful for other growing mid-sized cities and their business associations in understanding how inter- or intra-provincial migration by professionals towards urban cores impacts the accessibility of their retail streets. If not already being done, municipalities should include data on occupations, income and education in their growth reports and brainstorm strategies against displacement where such data is pointing towards class turnover.

Opportunities for further research

Opportunities exist for both quantitative and in-depth ethnographic enrichment of research methods seeking to further our understanding of retail gentrification and ensuing displacement be it within retail or extending to residential displacement. Such broad requirements for enhancing the capture of retail displacement stem from how gentrification encapsulates many cultural phenomena in addition to economic change. It's impossible to have a serious discussion on urban displacement without addressing class-based social inequality marked by intersecting economic inequality, exclusionary tastes and racial hierarchies both explicit and implicit. This list is already excluding the task of studying the regional and transnational flows of people and commodities that constitute the geographies of displacement. Repeat photography excelled at capturing the geographies of taste associated with gentrification but lagged in recording investment patterns, crucial in an era of increasing financialization in real estate.

There is a handful of quantitative measures on retail gentrification that would complement some of the material cultures captured by repeat photography. Access to building or development permit data that's initially collected using construction quotes among specific addresses lining retail streets would be the most direct way to capture the raw quantity of investment irrespective of taste. Alternatively, land value assessments could be used. While early and late stages of gentrification sought similar styles but whose scale and use of premium materials are more often greater in the latter, as previously discussed the quantitative difference between upgrades of the same criteria varied widely. Quantitative data on the value of renovations or construction would overcome this issue of scale and allow investment patterns to be mapped. Additionally, it would add another measure that while not all-encompassing, can help track how retail gentrification may lead to residential displacement.

Yelp data has previously been used to help track retail turnover in a preceding study on gentrification (Glaeser, 2023). It is just one of many review services creating a repository of changing businesses. Given Yelp's waning popularity, like employed imagery Google reviews may be another untapped source of retail data listing information about the businesses on hand. No matter the method, even more fine-grained information on the types of businesses that existed during the first and second observation date, regardless of whether they were gentrified or not would have yielded data on exactly how many working-class establishments were displaced by more upscale offerings.

Another angle repeat photography was far from developing a complete picture for was the travel patterns of consumers. While the preliminary demographic analysis of this study suggests stark increases in median income, the share of individuals holding a post-secondary degree and representation by professional occupations in neighborhoods surrounding the

observed retail streets, this is likely one factor among others requiring comparison. Local retail tourism is another factor that should be studied. Research on the urban retailing patterns of residents is scant, with those existing mostly concerning tourism as a strategy and the perceptions of residents (Kim & Holifield, 2024, Ding, 2023). Data sorely lacking for retail gentrification are the neighborhoods of origin and travel patterns of patrons. Interviews with patrons could provide a sample to compare how many are from the surrounding neighborhood and how many arrived from elsewhere. In-depth fieldwork could also terse out the reasons retail tourists chose to frequent these streets as opposed to others, explaining why each street seemed to specialize in one type of offering over the other. Similar studies have been done with retailers, but there is little data on how customers value retail streets (Molnar & Walters, 2021; Sirois, 2021) Is frequenting retail on a certain street a by-product of other travel patterns such as work, or is it a destination in itself? Answers to these questions would reveal information about the causes of and displacement pressures induced by retail gentrification. Few of the methods or approaches described above are new, but could complement this repeat photography method if the latter was narrowed in scope to evaluate cultural capital and combined with suitably triangulated methods.

Chapter 3: Gentrification and changing visual landscapes: a Google Street View analysis of residential upgrading and class aesthetics in Hamilton's Lower City

Introduction

Gentrification is about class transformation that involves both investing capital into the built environment and doing so in a way that reflects particular middle-class tastes, values and aesthetics. In this regard, the process is inherently visual. Early studies of gentrification noted how pioneering gentrifiers would paint houses white to distinguish them from working-class neighbours whose houses were covered in decades of soot and grime (Jager, 1986; Ley, 1996; Walks and August, 2008; Author, 2020). Bridge (2001, p. 212) describes gentrification aesthetics as a “form of social coordination over renovation that occurred when first wave gentrifiers moved into what they perceived to be risky inner urban neighbourhoods.” Today, whitepainting and potted fern plants have been replaced by sandblasted brick walls, soft colour palettes (such as the ‘gentrification grey’), and horizontal fences (Kane, 2021; Coleman, 2017), but the same goals of the gentrification aesthetics remains: assert middle-class identity (Bridge, 2001) while striking a balance between history and modernity (Jager, 1986).

In this article, the gentrification aesthetic is explored through the use of Google Street View (GSV), which is emerging as a major source of repeat photography data. Its regular coverage and publicly accessible images enables an immediate and fine-grained assessment of both capital investment and socio-cultural/class aesthetics, both of which are important to explaining and interpreting gentrification. Because of this, GSV's possibility in documenting the spread and scale of gentrification across a variety of different neighbourhoods is explored. Too often, questions of how and where gentrification spreads are answered using statistical analysis of census data that tends to undercount key aspects of the process (see Wyly and Newman, 2006;

Loukaitou Sideris et al., 2019). With a growing interest in critical visual analysis, GSV is increasingly used to shed light on questions such as this (Hwang and Sampson, 2014; Ravuri, 2021). However, these studies do not distinguish between capital investment in the built environment (such as a new fence) and upgrades that adhere/conform to particular middle-class aesthetics (such as a horizontal fence).

In this article, I analyzed 10 neighbourhoods in Hamilton, Ontario's Lower City using a detailed coding scheme developed to explicitly look for the visual presence of investments that constitute the closing of the 'rent gap' (Smith, 1979) as well as aesthetic changes that could be ascribed to contemporary gentrification tastes and values (Ley, 2003). Hamilton makes for an insightful case study; most neighbourhoods in Lower Hamilton are statistically lower-income and many are still in economic and social decline, at least according to the most-recent census data. However, there are many media stories, anecdotes and scholarly articles that discuss the gentrification of many of these neighbourhoods (see below). I aim to understand what a visual analysis of gentrification of residential properties throughout the Lower City reveals about these different narratives of upgrading and decline.

To this end, I develop a series of neighbourhood typologies on the basis of this visual analysis that do not necessarily conform to the statistical assessment of these areas. I assert that visual analysis such as this has much to offer to on-going debates about how cities change and why, and a GSV analysis in particular offers important early indicators of change that are not yet visible in statistics.

Measuring gentrification

The most common way to track the spread and intensity of gentrification is through statistical analysis of data from sources such as a census. Most census counts, including in

Canada, contains information on income, occupation, ethnicity, immigration, education and housing tenure. In most statistical analysis, rising incomes, home ownership rates and education levels, increases professional or creative employment and increasing percentages of non-ethnic or non-immigrant populations are indications of class the class transformations associated with gentrification (Walks and Maaranen, 2008). At a neighbourhood level, if these variables rise faster than a city's average, and if they were lower than the average to begin with, researchers conclude that gentrification is taking place (see Grube Cavers and Patterson, 2015).

While this data has its uses, there are several shortcomings. First, this analysis happens after the fact; most countries conduct a census every five or ten years and it often takes another year or two before all the data is public. Therefore, any data that is used will be out of date by the time researchers are able to analyze it. Second, statistical data often undercounts the full scale of gentrification, especially in its early phases (Newman and Wyly, 2006). Loukaitou-Sideris et al (2019) used a mixed-methods approach to study gentrification around transit stations in Los Angeles. They noted how many early signs of gentrification that were evident in their interviews and field observations did not show up in their statistical analysis. Displacement is also virtually impossible to measure empirically with statistics (Easton et al., Slater, 2009; Author 2021).

A third challenge of relying on statistics to measure the extend and spread of gentrification is that while most statistical analysis can delve into small spatial areas such as census tracts, these still constitute areas of one square kilometre or more, and can include six or seven thousand people. This ignores the *internal* variation that can exist *within* a census tract. Ruth Glass's initial observations of the process noted how the process occurs one house at a time; measuring change in a census tract ignores the way gentrification spreads house-to-house, block-

to-block, intensifying on some streets, while skipping over others entirely (Walks and August, 2008)

Finally, a statistical analysis of gentrification does not address the question of why it happens. Traditionally, there have been two explanations as to why gentrification occurs. The first is related to capital flows and investment into the built form in order to extract greater profit from land and property (Smith, 1979). Neil Smith's rent gap theory argued that inner city housing was significantly undervalued as it had fallen into disrepair and was inhabited by low-income households. But the underlying potential values remained high due largely to its proximity to the city centre. For Smith, gentrification is about closing this rent gap through upgrading physical structures and putting properties to their best and highest use (i.e. as middle class housing rather than housing for the poor). This means that gentrification entails renovations, upgrades or in some cases, demolishing an old structure and building a new one.

On the other hand, David Ley (1996; 2003) asserted that gentrification was much more about the values, lifestyles and preferences of new middle class households, who were increasingly employed in post-industrial jobs within city centres. Proximity to these jobs was one factor which accounted for the gentrification of inner-city neighbourhoods. But within this approach, Ley and others also accounted for how inner-city housing reflects the new middle-class lifestyle and identity (Bridge, 2006). Seen from this perspective, changes to individual houses would constitute *a certain type of upgrading* that aesthetically reflected these middle-class identities.

Cities neighbourhood change and (repeat) photography

Photography and visual analysis is one of the ways in which these shortcomings can be rendered visible. Becker (1974, 1995) and Harper (1988) promulgated foundational arguments supporting the wider use of photography in the social sciences. Both authors concluded that images can be used across multiple modes of research so long as adequate context is provided. Contextualising how images are made, what they show and do not show is also central to Wyly's (2010) assertion that photography is essential for critical urban studies. He encourages us to move beyond the disillusionment found in some visual studies literature which he describes as inherently hostile to the visual and instead focus on the power and potential of photography to begin and enhance conversations about cities and urban space. Wyly argues that if critical urban scholars retreated from the world of visual communications, then these spaces would be much more stereotypical and conservative with our absence.

As Wyly and other notes, photography can be easily exploited to represent stereotypes, or places in ideal form, which ultimately detaches the images from the object place's typical functioning (Keralvel, 2019; Kowalewski, 2021; Nelson, 2005). In response to the poststructuralist view of the image as a representation, researchers have begun actively participating in photography in what has been coined the non-representational approach. Under this approach, researchers must integrate themselves with the rhythms, senses and textures of said place in if they wish to discover processes at play yet must also shy away from seeking any truth since it is thought to stiffen reality (Arnold, 2019a, 2021; Hunt, 2014, 2016; Latham, 2009; Pink, 2008; Pyyry, 2019). Non-representational approaches are not without limits: surrealist pursuits of the extraordinary within the ordinary provide a cautionary tale of why elements of everyday life are to be progressively discovered (Jemison, 2011; Latham, 2009) An alternative response to the question of representation is empowering participants through self-representation,

combined with photo elicitation (Datta, 2012; Moore, 2008; Oldrup, 2012). Nonetheless, capturing everyday life remains challenging when it is socially unacceptable to photograph places where most of everyday life occurs (Oldrup, 2012).

As a form of data collection, repeat photography – the process of rephotographing places at different moments in time – has been deemed a scientific mode documenting what writing or statistical data cannot by attempting to draw a truth from images (Harper; 1988; Rose, 2016). Alone it is neither post-structural nor non-representational, although I argue it can act in symphony with these approaches. Drawing upon multiple sources of imagery and revisiting their original sites of capture, Jon Rieger (1996) first pioneered the use of repeat photography in the social sciences – though it has long been a technique in the natural sciences to measure changes in glaciers, tree lines and other natural phenomena. Through his decades-long work in small communities in Michigan’s Upper Peninsula, Rieger demonstrated how to illustrate the progression of social changes with the aid of photography (1996).

As with other critical constructive approaches to photography (cf Wyly, 2010) Rieger described the circumstances guiding the original photography and the state of subject landscapes were disclosed in detail, before describing the forces of change leading to the contemporary landscape in order to provide adequate context of both past and present. Theory is also essential to grounding the analysis of this visual imagery. Repeat photography has since formed the basis of analyses on deindustrialization, financialization and gentrification (Author, 2019; DeVerteuil, 2004; Parak & Vergara, 2016), evolving occupations (Czesznek, 2019), and rural decline (Wetherholt, 2020).

While social scientists using repeat photography have relied either on their own images (Deverteuil, 2004; Vergara, 2016) or secondary images taken by others (Author, 2022; Arreola

and Burkhart, 2010), Google Street View (GSV) offers new possibilities to visually analyze changes over a period of more than a decade. GSV has been producing 360° images on most streets since 2007, updating them regularly, so that on many urban streets, there are ten or more images over a period of 15 years.

Analysis of repeat GSV images have been used to track the progression of gentrification (Christensen et al., 2018; Hwang & Sampson, 2014; Ravuri, 2021). Hwang and Sampson's (2014) pioneering use of street view to observe gentrification built upon Suchar's (1988) in-person shooting scripts of Chicago neighbourhoods to reliably show how a neighbourhood's racial composition as revealed by census data influenced upgrading patterns. Their method of block face evaluation, called the 'gentrification index', was a cumulative score of subjective evaluations of change that both represented investment and had previously been shown to attract or dissuade gentrification, the results of which were further classified under a stage of gentrification in a 'neighbourhood life cycle'. Ravuri (2021) took inspiration from Hwang and Sampson's (2014) method while sampling more selectively within an individual neighbourhood to observe the role the 2008 recession played in accelerating gentrification.

The gentrification index itself creates a homogenous output, combining multiple types of change under a single score. An issue with representing the results of a GSV data on gentrification solely within a neighbourhood life cycle is that it mirrors problems with census data. While census tracts accumulated over the wider city can indeed represent gentrification's spatial distribution, individually the representation purely temporal without seeing how census tracts may vary within. GSV had indeed previously been used to represent the distribution of change within Hamilton's Beasley neighbourhood, yet this lacked a systematic scoring system

and was instead based on a subjective impression of block frontage change (Christensen et al., 2018).

GSV has since seen its use combined with other methods and been applied to new phenomena. As a basis for photo elicitation interviews with shop owners, repeat GSV images were able to bring out a dichotomy between aesthetic authenticity valued by new shop owners opposed to the social authenticity prioritized by long-time shop owners (Molnar, 2021).

Capturing more ephemeral phenomena such as the shifting distribution of tent encampments required linear interpolation in order to define trends (Finnigan, 2021). Within small areas such as the site of a fertilizer plant explosion, GSV imagery was able to give a finer-grained analysis of reconstruction after a technological disaster that showed how many houses classified as livable still suffered exterior damage (Hendricks, 2021).

Hamilton: gentrification and urban decline in the shadows of Toronto

Hamilton is situated at the western end of Lake Ontario, approximately 70 kilometres southwest of Toronto. The city has long lived in the shadows of Canada's largest city and is increasingly home to people leaving the Greater Toronto Area in search of more affordable housing options (Author, 2022). Older neighbourhoods in Hamilton are situated below the Niagara Escarpment (known locally as The Mountain); due to prevailing winds, western and southern parts of Lower Hamilton have tended to be wealthier than neighbourhoods in the east, or close to the waterfront, where two large steel mills dominate. Hamilton's industry produced ample employment during the middle decades of the 20th Century, and along with it, many stable working-class neighbourhoods. However, a combination of suburbanization to new neighbourhoods on The Mountain, and declining industrial employment led to rapid economic and social decline in many inner-city neighbourhoods. While poverty was concentrated in and around urban cores in most

major cities in Canada in the 1970s, this pattern persisted (and expanded) in Hamilton in the intervening decades, while other cities such as Toronto or Vancouver saw most of their inner-city neighbourhoods gentrify (Grant et al., 2020). Statistically, some of Canada's poorest urban neighbourhoods can be found in Lower Hamilton; in the 2016 census, all but a handful of census tracts had average incomes of 80% or less than the Census Metropolitan Area (CMA) average, with 10 CTs (constituting 5% of the CMA's total) having average incomes of between 53 – 60% (see Harris, 2020).

Despite Hamilton being a 'poster child for concentrated poverty' (Harris, 2020., p. 149), there are much literature about the gentrification of parts of Lower Hamilton (Author, 2022; Risager, 2021; Ellis-Young, 2020; Dale. 2021). Much attention has been paid to the influx of residents from Toronto and the impact this is having on gentrification (van der Merwe, 2021; Dale, 2021). While migration from Toronto to Lower Hamilton is happening, a far bigger trend is migration from the suburbs around Toronto to suburban and exurban parts of Hamilton that were amalgamated with the city in 2000 (Wilson & Doucet, 2022). However, within these urban flows, van der Merwe (2021) found that many in-movers from Toronto try to replicate their urban, middle-class lifestyle in Hamilton, with the aesthetic qualities of older housing stock playing a significant role.

This suggests that the visual and aesthetic qualities of the housing stock within Lower Hamilton neighbourhoods is important to the production of gentrified spaces. Lower Hamilton has the largest supply of pre-World War II housing of any city in southern Ontario outside Toronto, meaning for those who are priced out of older, walkable, mixed-use neighbourhoods have plenty of options a short train journey away in Hamilton.

Methodology

My research builds on the pioneering work of Hwang and Sampson's Gentrification Index (2014), which was the first significant attempt to use GSV to analyze gentrification. Additionally, I also attempt to integrate cultural currents of gentrification. More recent studies are drawn upon, such as Christensen et al. (2018) and Ravuri (2021) which have also used GSV in order to assess the extent, nature and spread of gentrification, through an examination in changes in the visual landscapes of commercial and in this particular paper, residential streets.

Like other studies, I have developed a coding system that is based on the theories and explanations of the different factors accounting for gentrification. Unlike other studies, this research examined each residential property individually rather than doing this on a block-by-block scale. I searched for the presence/absence of different aspects of upgrading that are associated with gentrification (new extensions, renovations, aesthetic elements that reflect middle-class tastes and lifestyles) elements related to the economic, social and policy aspects of gentrification, rather than doing this on a block-by-block scale. Overall changes would be represented in colour-coded maps while kernel density maps created in QGIS. When describing coded streets in later analyses, qualities not captured by the coding are sometimes described to explain how these findings relate to neighbourhood change.

The scoring system is able to document many of the capital (Smith, 1979) and demand (Ley, 1996; 2003) aspects of gentrification in an attempt to separate out upgrades that are primarily about investing money in the built environment and others which (also) reflect specific middle-class tastes and values, as identified in the literature. While there is also an extensive body of literature articulating how gentrification is central to public policy, the coding scheme

did not include many aspects of these, as the policy-side of gentrification is often associated with new amenities and enhancements to public space, rather than specific home-upgrades.

On the capital side, I looked for the presence of new upgrades to residential buildings, such as new windows, renovations, or extensions. I also look for demolition of older structures and the construction of new ones, or the repurposing of industrial or commercial buildings into residential spaces.

Accounting for homeowner tastes and demand/lifestyle aspects of gentrification is what differentiates this study against other attempts to analyse gentrification through GSV. I specifically coded properties for the presence or absence of certain class aesthetics that are considered part of contemporary gentrification. Home DIY culture presents a blend of consumption and identity-making, with outcome-oriented taste-making media influencing notions of good design (Rosenberg, 2008). An example of one such taste included in the coding scheme is colour. Colour is a sticking point for homeowner anxiety, explaining why the safer “soft modernism” colour palette of off-whites and faded greys is frequently called upon to guarantee compatibility with the tastes of others and an increase in the resale price (Rosenberg, 2011). The phenomenon has recently attracted *The Guardian* to cover what has been labeled “gentrification grey” in San Francisco (Kane, 2021; see also Coleman, 2016). As the style comes in combinations of white, black and grey, it will be referred to as the “soft modernist colour palette”.

Horizontal fences are another aspect of design aspect which were categorized as part of the gentrification aesthetic. These fences have been called ‘hipster fences,’ ‘flipper fences’ and ‘gentrification fences’ and have been noted to be a feature of gentrifying neighbourhoods (Coleman, 2016;). Architectural designer David Bantz stated that: “we see this fence in

transitioning neighborhoods because it can be built cheaply and quickly and it exudes a modern appeal that signals that the home itself may also be updated ... [signalling that] this neighborhood has potential. But it's still a place where you're going to want a sense of protection from the street.” (as quoted in Coleman, 2016)

Unlike previous studies (Hwang and Sampson, 2014), the residential coding scheme applied in this study did not attempt to track signs of visual disorder or disinvestment. A common measure of visual disorder, Graffiti is thus excluded in response to policies of zero tolerance limiting expression due to the relationship between aesthetics and politics (Arnold, 2019b). Graffiti could potentially be used as a vehicle for expressing displeasure with intense processes of gentrification.

For my research, ten neighbourhoods within Hamilton’s Lower City were observed (Figure 29), which, as noted above, has traditionally been predominantly lower income, but where there are now many indicators of gentrification taking place (Harris, 2021). A variety of different neighbourhoods that are statistically at various stages of upgrading/downgrading were selected. One or more Census Tracts (CT) roughly align with official and perceived neighbourhood boundaries. In addition to selecting neighbourhoods where there is statistical evidence (and media discussions) of gentrification, neighbourhoods where this was not yet evident were selected. I also avoided neighbourhoods that have long been affluent.

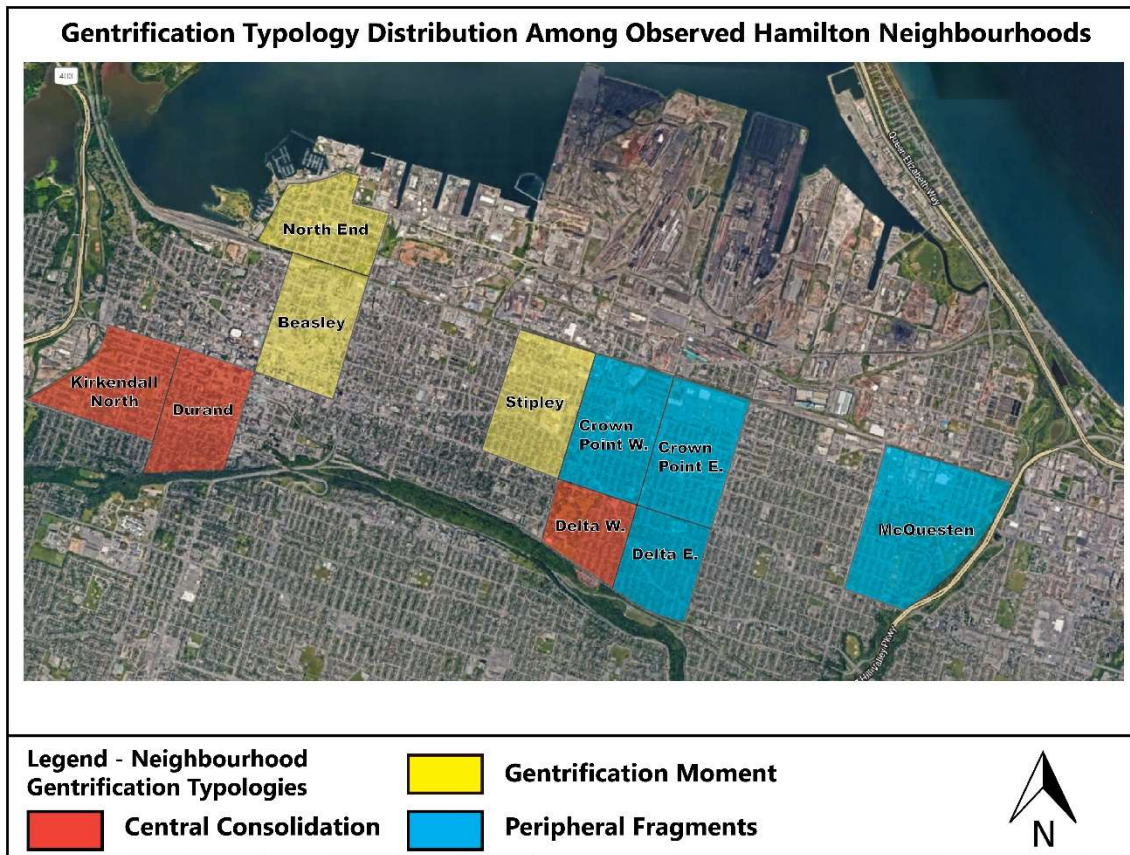


Figure 3.1 - Gentrification typologies by observed neighbourhoods

Within each CT, I attempted to include all residential streets, rather than a sample, enabling the entire neighbourhood to be viewed and coded. Due to time and resource constraints, only one side of the street was observed and coded. Blocks that contained primarily, or exclusively retail and commercial activities were also excluded, as forthcoming research will discuss GSV and commercial gentrification. Streets without GSV coverage from 2019 or beyond were either skipped, or field surveys provided the most recent views for analysis. Field surveys and site visits were common throughout the project, and prior knowledge of Hamilton specifically and urban change in southern Ontario more broadly helped to inform the selection of neighbourhoods and coding scheme criteria.

Across the 10 census tracts selected for this study, 4944 single-detached homes and 88 multi-family residential buildings were observed. To code each residential parcel, I examined GSV images from 2009 and the most recently available images between 2019-2021. The presence particular upgrades or tastes in 2009 was not recorded. Instead, the coding scheme looked at whether there had been a change between the original 2009 image and most recent GSV capture. A change in a single home would be recorded has a '1' on the coding sheet and later compiled in a final sheet for all streets. Individual home Residential properties were observed in small groups ranging from 2 – 5 homes per sheet, meaning the same change recorded twice could be recorded as a '2' for that particular observation. Homes exemplifying specific middle-class tastes had their GPS coordinates recorded for representation in QGIS.

As noted, above, coding was made possible through a sheet listing common upgrades, divided between raw structural upgrades that could be considered capital being invested in the property, and the aesthetic tastes thought to be representative of changing residential demand. In many instances, these two categories overlapped, however, as this analysis will show, this was not always the case and I was able to analyze where aesthetic upgrades reflecting middle-class values were more common than simply capital improvements or routine maintenance. A slightly modified copy of the residential coding accounted for changes specific to multi-unit buildings, such as building management signs that hold increasing relevance with the financialization of housing (August, 2020).

In addition to coding residential properties, notes were taken that helped to explain some of the differences or elements that may not have easily shown up in the GSV coding. For example, if there were a lot of upgrades on a street, but they constituted only minimal work, rather than substantial renovations or expansions, this was noted.

Analysis

Across the ten neighbourhoods, there were some major trends and broad patterns observed. To start, there were more instances of upgrading of residential properties in all neighbourhoods than the statistics would suggest (Table 3.1). Part of this could be due to the delay in data from the census, which at a census tract level largely dates from 2016. However, as Loukaitou-Sideris et al (2019) note, observations tend to render visible early phases of gentrification better than statistics. There were many differences between neighbourhoods, in particular, the degree to which aesthetic upgrades that could be considered to be gentrification were far less evident in neighbourhoods that were either in early phases of gentrification, or were not showing many signs of class upgrading (Table 3.2).

To assist with the analysis and conceptualisation of the types of change taking place, three neighbourhood typologies were developed. Hess & Authier (1994) caution that cutting problems into categories has the effect of making their interpretation opaque and accessible only to specialists. Since the coding system creates a language needing rigorous interpretation to read on its own, caution was taken to create accessible typologies that still labeled critical points in the flux of urban change.

Table 3.1 - Median income changes among observed neighbourhoods

Neighbourhood	Census Tract	Household income					Gentrification aesthetic typology
		2005	2015	Change 2005 - 2015 %	2005 CT/CMA average	2015 CT/CMA average	
Kirkendall North	5370040	\$ 46,977.00	\$ 61,280.00	30.4	78%	81%	Central consolidation
	5370041	\$ 37,961.00	\$ 44,192.00	16.4	63%	59%	
	5370042	\$ 53,522.00	\$ 68,681.00	28.3	88%	91%	
	5370037	\$ 18,368.00	\$ 20,552.00	11.9	30%	27%	
Durand	5370038	\$ 29,318.00	\$ 35,346.00	20.6	48%	47%	
	5370039	\$ 34,366.00	\$ 43,418.00	26.3	57%	58%	
Delta West	5370031	\$ 61,564.00	\$ 69,888.00	13.5	102%	93%	
North End	5370065	\$ 32,783.00	\$ 45,733.00	39.5	54%	61%	Gentrification moment
	5370066	\$ 43,450.00	\$ 54,421.00	25.2	72%	72%	
Beasley	5370049	\$ 25,513.00	\$ 28,555.00	11.9	42%	38%	
	5370063	\$ 29,213.00	\$ 36,147.00	23.7	48%	48%	
Stipley	5370052	\$ 38,388.00	\$ 43,872.00	14.3	63%	58%	
	5370060	\$ 40,008.00	\$ 51,584.00	28.9	66%	68%	
Delta East	5370030	\$ 64,827.00	\$ 78,336.00	20.8	107%	104%	Peripheral fragments
Crown Point West	5370053	\$ 43,425.00	\$ 52,608.00	21.1	72%	70%	
	5370059	\$ 42,835.00	\$ 49,536.00	15.6	71%	66%	
Crown Point East	5370054	\$ 49,141.00	\$ 53,717.00	9.3	81%	71%	
	5370058	\$ 34,082.00	\$ 46,336.00	36.0	56%	61%	
McQuesten	5370071	\$ 34,766.00	\$ 41,909.00	20.5	57%	56%	
Hamilton CMA		\$ 60,567.00	\$ 75,464.00	24.6	100%	100%	

Table 3.2 - Upgrading rates by criterion

Neighbourhood	Homes Observed	Homes Upgraded	Changing Demand	Soft Modernist Colour Palette	Horizontal Fence	Emulation of Historic Styles	Upmarket Modernity	Gentrification aesthetic typology
Kirkendall North	818	46%	27%	25%	9%	6%	3%	Central Consolidation
The Delta (West)	340	39%	19%	2%	3%	2%	3%	
Durand	330	49%	28%	7%	3%	6%	2%	
Beasley	345	47%	22%	24%	13%	19%	1%	Gentrification moment
North End	679	41%	21%	29%	9%	6%	5%	
Stipley	675	47%	24%	11%	4%	0%	0%	
Crown Point West	301	50%	22%	8%	3%	0%	0%	Peripheral fragments
Crown Point East	383	54%	20%	6%	3%	4%	3%	
The Delta (East)	561	43%	22%	4%	3%	1%	0%	
McQuesten	512	46%	22%	13%	2%	1%	0%	

Gentrification by Central Consolidation (Kirkendall North, Durand, Delta West)

The “central” of central consolidation has three meanings. In its first sense, it is gentrification in or near the urban centre. Second, central also refers the power dynamics underpinning the process of gentrification. In what’s been termed the *Lefebvre Effect*, the tendency of centres to reinforce themselves to become more central (Hess, 1978/2001). The final sense of the word ‘central’ describes how the spread of upgrading is concentrated around a few easily discernible anchors, or central places, within the neighbourhood. Centrality is never natural or neutral and must always been consolidated and propped up, both in its own right, and relative to the social and spatial peripheries.

In Delta West (CT 0031), for example, the biggest clusters of residential upgrading could be found near Ottawa Street, which contains many trendy businesses, and Gage Park, one of the largest public parks in Lower Hamilton. While upgrading was also evident close to King Street, which will soon see a new light rail transit line, on this main thoroughfare itself, there was less evidence of gentrification compared to the adjacent side streets.

Consolidation refers to how the remaining non-upgraded housing stock becomes amenable to gentrifiers and no section of the census tract is completely free from signs of gentrification. In these instances, there is an established concentration of wealthier residents occupying a historically upmarket housing stock (that may have declined over time) and central consolidation neighbourhoods tend to be almost completely gentrified or gentrifying. Variations within neighbourhoods are common – this is one of the key strengths of a fine-grained visual analysis – but what sets central consolidation neighbourhoods apart from others I have studied is how all sections of the neighbourhood have seen some degree of upgrading.

Kirkendall North (CTs 0042 and 0040), situated 1 kilometre southwest of downtown Hamilton is a good example of *central consolidation* (Figure 30). Locke Street South is the main

retail centre of the neighbourhood and the adjacent side streets were home to the most intense clusters of capital upgrading and changing residential demand. Recladding homes with stucco or board-and-batten siding in a soft modernist colour palette were common, with the occasional horizontal fence. Larger modern homes can be found, yet even smaller homes have seen major capital upgrades that constitute both investments in capital and middle-class aesthetics. Larger homes with grand features were consistently maintained, with little change between 2009-2020. The far southwest corner of Kirkendall North near the expanding McMaster Innovation Park saw a high intensity of capital upgrading and changes in taste in nearby residential homes. Many of these dwellings had few obvious signs of maintenance and upgrading in the late 2010s; by 2020, this part of the neighbourhood actually saw higher proportions of home upgrades than more established streets closer to Locke Street and downtown, reflecting the consolidation of gentrification in the neighbourhood. Horizontal fences, gentrification grey, emulations of historic styles and other cosmetic additions such as shutters and flower-holders are present in this cluster, as well as other clusters within *consolidation* neighbourhoods (Figure 31) particularly on homes with unique architectural styles. Exceptions remained however, with poorly-maintained subdivided homes still present throughout the neighbourhood. However, these constitute the minority of properties in a neighbourhood where most of the housing stock is in good condition, often with recent investments and upgrades.

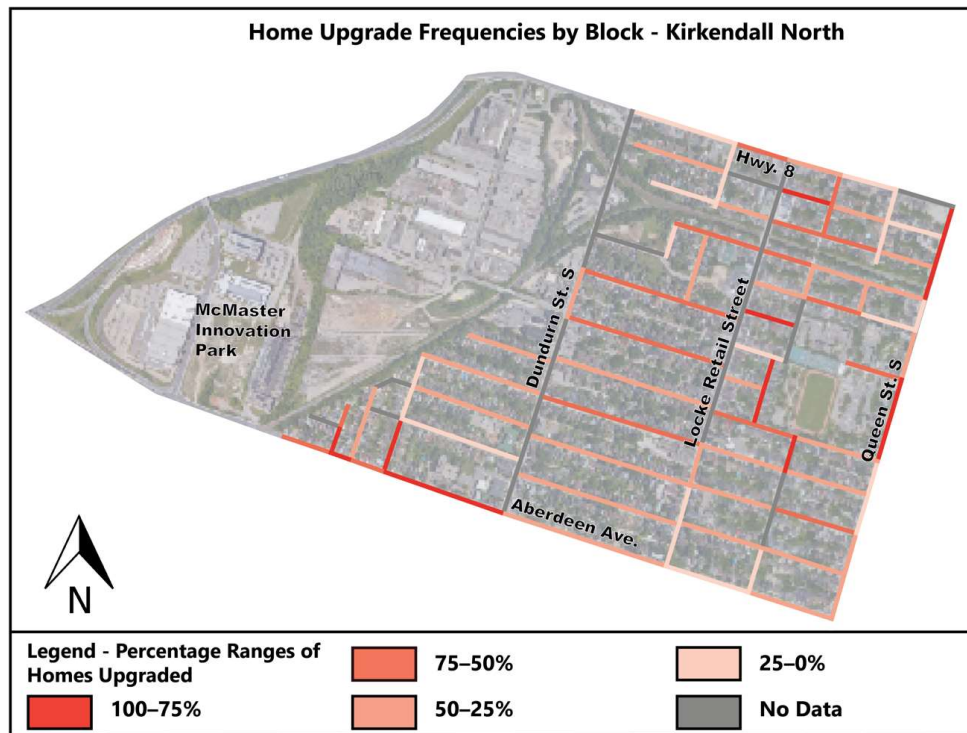


Figure 3.2 - Home upgrading frequencies by block in Kirkendall North

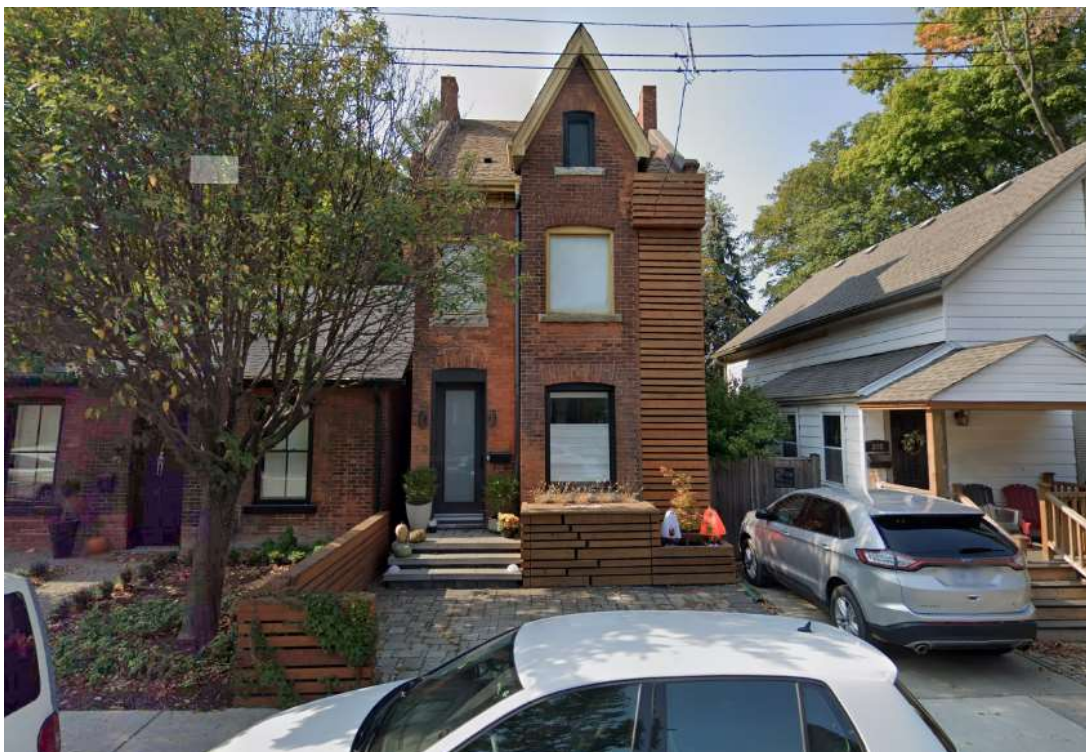


Figure 3.3 - Horizontal fences taken to the extreme in Durand

The Gentrification Moment (North End, Beasley, Stipley)

Being present in the *gentrification moment* means one can easily see contrasts and contradictions within their immediate surroundings. Gentrification is happening and juxtapositions of decay and investment are common. Upgrading is far from complete, but nor is gentrification in such an early phase that one must look very carefully to see it. What makes the *gentrification moment* particularly unique is its intense state of flux and transition. Multiple instances of seemingly haphazard spontaneity coalesce into a broader trend of a rapidly changing neighbourhood. In contrast with central consolidation's linear pull by easily discernible anchors, investment can be scattered between competing anchors at varying intensities (Figure 32).

Defining this phase as a "moment" is not a simple choice of words, but an attempt to align the study of gentrification with one of Lefebvre's early theories where he described "moments" as modalities of presence (Lefebvre, 1958/2009). But the *gentrification moment* is ultimately an anti-moment, with gentrification and neighbourhood change negating pre-existing moments for the earlier inhabitants.

In Beasley (CT 0063), situated immediately north of downtown, gentrification is very much happening in the present. Throughout the neighbourhood, but particularly within its northeast corner, renovations and upgrades could be seen in older, 'heritage' homes, which sit alongside houses in disrepair. Many small bungalows sat empty adjacent to newly renovated homes. There is little in the way of clustering, and even the presence of social housing has not deterred investment in the nicer properties on adjacent streets. On major streets, some of the larger homes that were subdivided into apartments decades ago have been given new coats of jet-black paint or stucco over their original brick finish. But they sit side-by-side with similar properties that have not seen any significant upgrading in many years.

Immediately to the north of Beasley in the North End (CTs 0065 and 0066) (Figure 34). The two neighbourhoods are separated by a railway line which also has a commuter station with hourly trains to Toronto. Most clusters of gentrification can be found on the edges of the neighbourhood, close to the train station, the waterfront and a major park. The earliest instances of gentrification can be found in older housing close to the waterfront, in the western side of the neighbourhood. More recent gentrification has expanded into more modest, but historic homes further east. Large, newly-constructed homes featuring the most modern styles sit side-by-side with modest bungalows that have either been gentrified, or have not yet seen any upgrading. Working class populations remain in the neighbourhood, yet many of these homes seem increasingly out of place by the continued proliferation of upper middle-class tastes. It was possible to find entire blocks of homes that had seen little repair, however more intense upgrades and changes in demand could be found nearby. With these contrasts and juxtapositions, the North End is firmly within the *gentrification moment*.

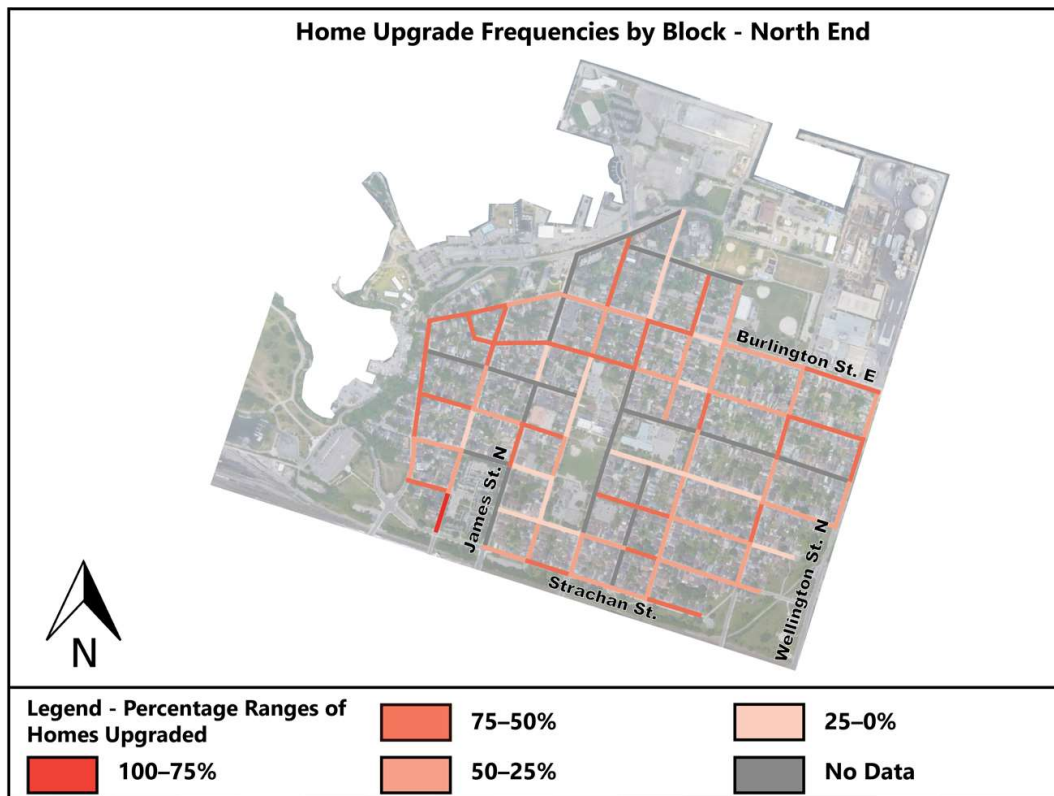


Figure 3.4 - Home upgrading frequencies by block in North End



Figure 3.5 - Contrast between decline and gentrification in Beasley

Gentrification in Peripheral Fragments (Delta East, Maquesten, Crown Point East + West)

The final typology, 'peripheral' refers both to a neighbourhood's geographic position relative to the urban centre, but also how gentrification and upgrading tend to exist in fragments. Peripheral Fragments also result from the strengthening and gentrifying urban centres pushing people to the social and spatial peripheries. A direct consequence of the Lefebvre effect, peripheral gentrification is a manifestation of the *Basaglia Effect*: the increasing tendency of centres to marginalize people and push them to the periphery (Hess, 1978/2001). There are visual indicators that small fragments of gentrification are occurring, but the process has yet to materialize in full force. This upgrading also exists alongside downgrading, which has been the dominant neighbourhood trend throughout many Lower Hamilton neighbourhoods for more than forty years (see Harris, 2020). This is not to say that there were no upgrades to residential properties. Yet, these tended to be done with more functional or basic materials, and instances of large scale gentrification aesthetics were uncommon.

In Delta East (CT 0030) was somewhere between the *gentrification moment* and fragmented gentrification (Figure 34). Near the base of the Mountain, there was more evidence of upgrading than the rest of the neighbourhood, where hardly any houses exhibited the visual aesthetics of contemporary gentrification, and homes that were upgraded made use of functional materials, making for little aesthetic difference between streets with a high percentage of homes seeing upgrades and those seeing little change. The few houses that have seen substantial aesthetic changes stand out very prominently among their neighbours.

The Crown Point neighbourhood consists of early 20th century homes of modest sizes. The neighbourhood sits north of Gage Park and south of the Arcelor-Mittal Dofasco steel works. Ottawa Street, a major retail street with a number of new restaurants and cafes divides the western section (CT 0053) with the eastern part (CT 0054). While Ottawa Street is a major

feature in the neighbourhood, it has not yet become an anchor for adjacent gentrification, especially compared to Locke Street. There were relatively low rates of upgrades on surrounding streets, and patterns of upgrading were diffused and sparse; upgrades representing a change in demand and aesthetic were scarce. Many of the upgrades that were present appeared to use lower-quality materials compared to other neighbourhoods where gentrification is in more advanced stages. In Crown Point East, specific spatial patterns of upgrading were difficult to discern, as blocks scoring highly were dispersed throughout the neighbourhood. In general, home maintenance appeared minimal, with upgrading rates being supported by new front decks. If there was new siding, it was vinyl. Doors and windows were less likely to be replaced. Older styles like pebbledash siding rarely observed in more established gentrified areas were also common. Signs of decay were widespread, with broken or missing roof shingles being a problem on most streets. There was even a home that had a makeshift porch roof made of plastic tarp. Interestingly, the neighbourhood contained a new home of a modern style that was far more upscale than its context. Its neighbours had also seen significant investment. Throughout the neighbourhood, board-and-batten siding was a popular style, frequently being applied in beige vinyl. It appeared that most upgrades recorded in the score sheet were simple maintenance projects, rather than major renovations, and signs of gentrification occurred only in fragments.

The final neighbourhood examined was McQuesten (CT 0071), situated in the east end of the city, and consisting of modest mid-century houses on wide streets with plenty of greenspace. In terms of construction, it was the only studied neighbourhood that features predominantly post-World War II housing stock. There were definite clusters of upgrading and investment in residential properties, though like other areas within the *peripheral fragments* typology, these homes were in the minority and there was also significant evidence of downgrading. While

upgrading was noted throughout the neighbourhood, there were very few instances of middle-class aesthetics within these changes and it appeared that many upgrades used more basic, rather than high end materials. For example, one home that had a horizontal fence only featured a crude version made from recycled wooden pallets. New homes were also of a more suburban design, with large garages in front and often very small windows, rather than either attempting to mimic the characteristics and aesthetics of older houses, or utilizing a highly contemporary design, both more common in gentrified neighbourhoods.

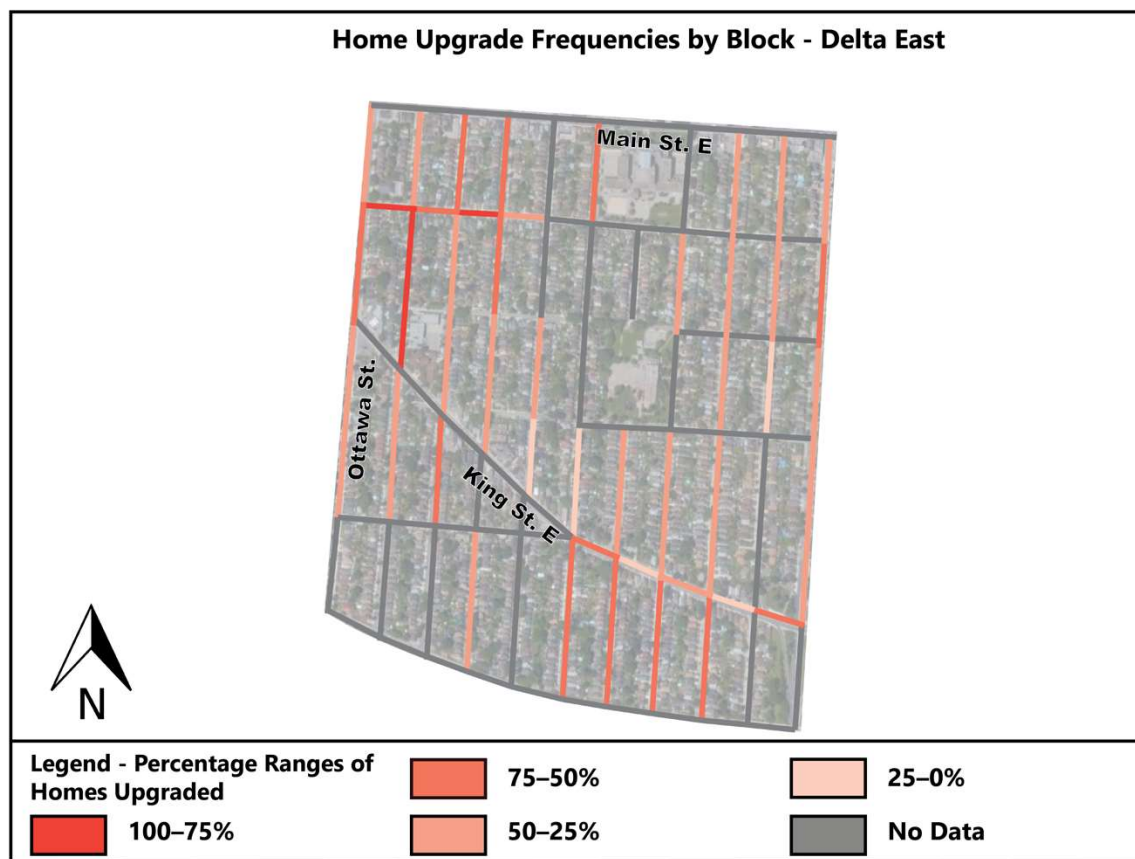


Figure 29 - Home upgrading frequencies by block in Delta East

Conclusion and discussion

In this article, I have demonstrated how a repeat photography analysis of Google Street View images can detect various forms of gentrification and upgrading in residential neighbourhoods. Gentrification is about capital being invested into the built environment (Smith, 1979), much of which is apparent when comparing multiple views of the same buildings at different moments in time (notwithstanding any interior/rear changes that are not visible from the street). But gentrification is more than simply a renovation project; the class dimensions of change can be visualized through middle-class aesthetics. While not every upgrade is necessarily an indication of class transformation and one horizontal fence does not make gentrification, this fine-grained account of change is lacking in most studies about the process.

GSV is able to discern not only where home renovations and upgrades take place, but also what type and what visual aesthetics. Intensive capital upgrades, such as extensions, as well as aesthetics that reflect middle-class tastes were more common in central neighbourhoods where gentrification was more advanced. In some cases, central consolidation neighbourhoods actually had lower rates of overall upgrading than other neighbourhoods. This could be because major renovations happened in earlier phases of gentrification that predate GSV images, when neighbourhoods transitioned from working- to middle-class. One distinction I did note, however, was that much of the renovation work in more peripheral neighbourhoods made use of practical materials that did not usually conform to gentrification aesthetics. Census tracts undergoing gentrification by central consolidation and the gentrification moment had more aesthetic upgrades indicative of changing residential demand, and both capital and aesthetic upgrades appeared in more extravagant forms within these neighbourhoods. It is possible for homes to undergo upgrading not reflective of gentrification, and certain tastes such as sustainability

upgrades historically associated with gentrification could commonly be found in neighbourhoods with signs of decay.

All of this points to a level of complexity in the visual analysis of gentrification that is both a challenge and an asset. Reliably observing gentrification in GSV is dependent on the shooting script coding it is derived from. The issue is that coding must both be refined to fit the shooting script yet the shooting script is wider than a set of codes. While repeat photography is a scientific mode of capturing what words cannot (Rose, 2016), the volume of collected data is limited by the ability to interpret it. The consequence of too broad a coding scheme is that changes indicative of gentrification become diluted amongst a sea of minute changes. The occurrence or absence of certain changes is meaningless without context as to what they represent. Context should not only refer to local historiography applied in Rieger's (1996) guide to documenting social change. Ongoing gentrification in Hamilton contains small, seemingly spontaneous changes that need to be culturally contextualized; this is difficult when readily available literature becomes scarce the more recent or particular a trend is.

The solution is possibly found in Zuev's (2020) suggestion that GSV is complementary to photo-tours. Arnold (2019a; 2021) argues non-representational, non-scientific photography has the advantage of capturing the ephemeral and inserting researchers into the unknown. She argues this can allow for more embodied critiques of the city to form. It is proposed that GSV-derived repeat photography should be a scientific method to measure the occurrence of phenomena discovered from aesthetic practices within and between neighbourhoods. I encourage other researchers employing GSV analysis to also go on psychogeographic photo walks prior to developing coding for a GSV study, to both narrow the shooting script and record spontaneous or particular aesthetics not yet recorded in academic literature to better inform coding. A necessary

by-product of these aesthetic assumptions is their progression from assumption to observation. While the analysis has primarily focused on the GSV imagery, many hours and days were spent walking and photographing much of Lower Hamilton, and other cities within southern Ontario. This knowledge helped to shape the coding scheme and the interpretation and analysis of GSV images. In my view, these practices are essential to any GSV analysis. Without reducing photography to a positivist tool, a marriage between aesthetic practices and GSV has the potential to reveal more about neighbourhood change.

While repeat photography can reveal many aspects about the frequency of upgrades, on its own, one must be cautious when concluding whether all these upgrades constitute gentrification. Gentrification is about class and social transformations, not simply if homeowners put a new driveway on their properties. I make no claim that every upgrade coded constitutes part of the gentrification process. That is also why theories of gentrification, displacement and uneven development must be central to any visual analysis of urban change. It is not possible or even desirable to give a precise measure of gentrification through upgrading frequencies. However, the fine-grained detail of this study, combined with the ability to tease out and interpret different kinds of visual changes sheds important light, at a fine-grained scale, of what kinds of changes are taking place to residential dwellings across the city. The clustering of home expansions or colour choices within a neighbourhood for example, have been shown to reveal gentrification more reliably than comparing the frequency of common upgrades. This study points to the yet untapped potential GSV to reveal changes in demand and invested capital that can visualize the *gentrification moment*.

Critically reflecting on my research, three points are worth noting. First, one must carefully interpret and analyse the intensity of upgrades evident using GSV. In order to confirm

whether a neighbourhood is gentrifying, it is necessary to discern if the upgrade types were of significance, and to further revisit the site in GSV to confirm whether upgrades made use of quality materials. Upgrades to a home's exterior are relative, meaning one form of upgrade does not necessarily hold a higher value than another. The individual components of a home can vary greatly, causing an amalgamation of both grand and minute changes in the final scores of rule-based coding applied in this study. A house almost entirely clad in brick can have sections of vinyl siding which get replaced, triggering the "recladding" criterion of the coding sheet. While it would be easy to assume recladding a home is more capital intensive than repainting, if the surface of building frontage occupied by siding is minor compared to the proportion of brick, repainting the brick would represent a more significant change.

Likewise, the nature of upgrading was often very different in areas experiencing significant gentrification and areas where it was not very obvious or in a nascent phase. Within *peripheral fragments* neighbourhoods, upgrades appeared to be primarily focused on maintaining one's home in good condition and improving its functionality rather than demonstrating one's taste and identities, or seeking the highest possible resale returns. In many ways, this speaks more to the incumbent upgrading noted by Van Criekeingen and Decroly (2003) in Montreal and Brussels than large scale class transformations. Related to this, it is important to stress that displacement is central to most scholarly interpretations of gentrification. A homeowner maintaining and upgrading their property shows capital invested in their dwelling, but it is not an indication of class transformation. Future studies could combine GSV analysis with real estate transaction data to distinguish between incumbent upgrades and home renovations that are connected to changes in ownership.

The second aspect to consider is upgrade style. This study has attempted to discern upgrades to residential properties that constitute closing the *rent gap*, and upgrades that constitute an assertion of middle-class tastes, values and identities. Of course, there are many upgrades that comprise both these features: if you are investing in a new fence, why not follow the trends and make it a horizontal one! But again, one must be cautious in drawing any major conclusions based purely on aesthetics alone and attention needs to be paid not only to the aesthetics of today's urban middle-class but how these tastes have shifted over time. In an example that will hopefully inspire others, Bourdieu's sociology has already been applied to streetscape photographs of suburban Melbourne in order to explore the suburban habitus across different income levels (Rajčan, 2020). Not only did gentrifying neighbourhoods have more horizontal fences, they also came in more extravagant variations. The horizontal fences present in neighbourhoods at an earlier stage of gentrification may have been less capital-intensive than their counterparts, yet their attempt to emulate an upmarket style was apparent. In this study, fences which happened to be horizontal, although were not perceived to represent gentrifier tastes such as recycled wood pallets, were also counted when coding. Despite such nuances not being captured by the coding, it was successful in demonstrating differences in the frequency of styles by neighbourhood. Even if the coding system included elements which were eventually discovered not to be concentrated in gentrifying neighbourhoods, it still has the opportunity to reveal something about the local habitus.

Purely focusing on structural upgrades, or order/disorder ignores how gentrifiers differentiate themselves by altering components of a home in order to reflect an alternative material culture. Selecting a handful of specific and taste-related indicators has been shown to be most effective in revealing patterns of gentrification. Renovations and upgrades to homes

occurred at different frequencies and spatial distributions throughout the city compared with the visual aesthetics of middle-class gentrification and in several neighbourhoods, it was clear that home upgrades were taking place without these aesthetics. This distinction helped construct the typologies about gentrification and neighbourhood change, rather than merely plotting the locations of any home renovation projects.

Finally, there were also several methodological limitations to this study that are worth noting. Data analysis was hampered by the somewhat piecemeal coverage of recent GSV imagery along residential streets, pointing to inequities in coverage by the service. This was addressed to some extent by field visits, but some streets were not included in the analysis because they had no recent data. Additionally, I did not code for disinvestment, and the coding scheme only included upgrades or new features, not whether a building had deteriorated. There were two reasons for this choice: first, I was primarily looking at gentrification which is a process of upward class transformation, not decline. Second, the decline or deterioration of buildings is much more complicated to measure as a researcher would need to look for slow and subtle signs of disinvestment, such as peeling paint, rather than features such as a new porch or windows. However, a consequence of not recording signs of disinvestment was that homes in an overall state of decay in an early GSV view with only piecemeal maintenance could be interpreted as being upgraded within the coding scheme. Again, this is where the gentrification aesthetics were useful to paint a clearer picture of neighbourhood change, rather than just home maintenance.

Despite these limitations, this study offers insightful analysis of the different ways in which gentrification spreads and gives important information, particularly at an early phase of gentrification, about the nature of urban change that does not necessarily show up in statistics. As

others have attested (see Loukaitou-Sideris et al, 2019), observations can render visible aspects of change that statistics cannot, particularly in early phases. By developing a systematic and comprehensive way to code and analyse visual changes, the GSV analysis of gentrification in Hamilton paints a far more complex picture than the census data shows. Too often, planners and policymakers rely exclusively on statistics to inform their decision-making, while this data is often several years out of date by the time it can be used. A study such as this one can *expose* (the first step in Marcuse's (2009) approach to critical urban planning) patterns through visual analysis far earlier than other methods can, thereby bringing it to the attention of key planners, policymakers and politicians. In Hamilton, which is already undergoing rapid change due to its proximity to Toronto (Author 2022) and its planned new LRT line (which will only accelerate change), it is imperative that these actors have a variety of tools and information to help guide planning and policymaking. Critical, constructive, systematic visual analysis, such as I have presented with this research using Google Street View, has the potential to move beyond statistics and play a meaningful role in enhancing our understanding about how cities and neighbourhoods change.

Chapter 4: Thesis Conclusion

Chapter 1 tapped into the visual resources employed by shopfront branding in conjunction with recording upgrades to host structures. Consulting with literature from the field of social semiotics alongside research on retail displacement from a geographic lens, each background was synthesized into criteria for observing imprints of middle-class tastes into four distinct Hamilton retail streets with their own histories. It was found that retail employing branding that catered to middle-class tastes as per consulted literature was most heavily concentrated within central retail streets, but that gentrification on peripheral retail streets was indeed occurring in distinct clusters. The retail mix among gentrified retail along the four observed streets showed signs of being specialized in a manner echoing each street's reputation and client base, with each showing a greater leaning towards either shops, gastronomy and services. Establishments drew upon discursive elements and imagery to in the case of gentrified establishments convey prestige, sophistication and creating an atmosphere set above societal problems, while non-gentrified establishments were more inclusive in their messaging. Displacement within the semiotic landscape was accompanied by upgrades to the build form, which brings evidence of not only exclusionary retail displacement but also direct residential displacement for tenants living in mixed-use buildings on gentrifying streets. Overall, diverse evidence was found suggesting retail gentrification plays a role in promulgating and intensifying displacement pressure.

In Chapter 2, foundational arguments on the methodological advantages of repeat photography as a source of visual data in the social sciences were distilled and applied to observing fine-grained home upgrading patterns. While there was significant heterogeneity between the types of upgrades homes experienced throughout the city, a singular 'gentrification

aesthetic' indicative of changing tastes behind residential demand emerged combining several contemporary design elements. The degree to which this gentrification aesthetic was enacted depended on the proximity of the neighbourhoods with desirable amenities such as retail streets, transit or parks. Homes nearest the core tended to have the most capital-intensive upgrades while more peripheral forms of gentrification mimicked the aesthetics of these central neighbourhoods albeit with cheaper materials. The discrepancy between the intensity, temporalities and spatial clustering of late and early gentrification revealed three patterns that were labeled by ascending degrees of class turnover: central consolidation, the gentrification moment and peripheral fragments. It was also shown that rigorous scoping of contemporary architectural styles made it possible to detect class turnover within neighbourhoods, as not all incidents of upgrading were indicative of gentrification.

This thesis illustrates mechanisms by which urban aesthetics reflect distinctive class tastes and the role they play in reproducing exclusionary spaces. The visual is linked to displacement both as a driving force behind middle-class constructions of place and as an artifact of such hegemonic urban transformations. It is hoped these findings will narrow the conceptual gap between displacement as a purely economic phenomenon and a cultural one, in addition to bringing further legitimacy to more accessible phenomenological understandings or displacement by highlighting inequalities reproduced by aesthetic means. With these concluding thoughts on each chapter, the time has come to propose ways in which both popular urbanism and the urban planning profession can understand displacement differently.

There is widespread interest in urban planning including housing issues among the general public, with Canadian YouTube channels such as *About Here* receiving millions of views. However, despite popular urbanism being concerned with the importance of urban densification

in promoting sustainable land use, transportation and affordable housing, it often fails to sufficiently address the limitations or negative externalities of market-led real estate development. Few urbanists have taken the less glamorous route of addressing how the working poor, unemployed, racialized, disabled or any other marginalized population should have the right to remain in and participate in their communities alongside new development. It's a much more difficult question to answer.

Among municipal planning departments, resources would have to be devoted to a team that can collect data on displacement patterns. Illustrating this need, in order to provide housing needs assessments to qualify for the Federal Rapid Housing Initiative, many municipalities lacking the resources had to outsource the drafting of housing needs assessments to consultants applying the University of British Columbia's Housing Needs Assessment Tool (HART). Building permit data can reveal information about the sum of invested capital, however combining visual data can help terse out what type of market invested capital is catering to. This is perhaps most important for retail streets where a team dedicated to mapping displacement patterns within cities can serve as a bridge between social development and planning departments, or where already integrated reinforce existing social planning initiatives. Alternatively, a larger organization dedicated to assessing displacement would provide data to cities.

All data regarding displacement would ultimately be in vain if there were to be no countermeasures. In a time when tenant protections vary between provinces, municipalities should implement what protections they can. The role municipalities can play should not be underestimated. Hamilton has already implemented an anti-renoviction by-law that could have prevented displacement caused by invested capital observed in this study (City of Hamilton,

2024). Hamilton is a mid-sized city by Canadian standards, yet population centres of all sizes should be investing resources into recording and preventing displacement.

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