

Detached Accessory Dwelling Units – Who benefits and who pays?

by

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Author's Declaration

I hereby declare that I am the sole author of this 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.

Abstract

Cities across North America are facing unprecedented challenges related to housing affordability, climate resilience and economic sustainability. In many cities, infill housing policies are being adopted in response to these issues. This research focuses on one particular type of infill housing - Detached Accessory Dwelling Units (DADUs). DADUs, also known as laneway homes, garden suites, or carriage houses, are independent rental units typically built in the backyards of single-detached homes. DADUs create opportunities for downsizing and age in community, multigenerational living, additional rental income, and flexible housing that adapts to people's needs across their lifespan. DADUs add incremental density to existing neighbourhoods and are often put forward as a form of affordable housing. This research examines DADUs from an affordability lens, addressing both affordability for renters and whether or not DADUs are affordable to build. A policy comparison of nine municipalities in Canada and the United States is used to determine DADU best practices and what characteristics are shared by municipalities that have had high DADU uptake. In addition, a secondary analysis of Edmonton DADU permitting data is used to analyze the spatial distribution of DADUs as it pertains to affordability. Finally, a survey of DADU owners and residents interested in building in Edmonton is used to examine barriers to develop. Tenants of DADUs were not surveyed. Findings from the policy comparison suggest that municipalities looking to spur DADU development should focus on reducing onerous regulations to allow for flexibility in DADU size, height, and orientation. Eliminating parking minimums, owner occupancy requirements, location restrictions, and contextual regulations that require DADU height and size to be subsidiary to the principle dwelling will help create the conditions in which a successful DADU market can take root. That being said, the success of DADUs in any particular city is in large part dependent on

local housing markets, as cities facing extreme housing pressure were more likely to see high rates of DADUs, likely as a means of offsetting the high cost of homeownership and offering relatively affordable rental alternatives. Findings from the survey and secondary data analysis suggest that DADUs are being built by residents who have high household incomes and access to considerable personal savings, in higher income neighbourhoods. From a rental perspective, voluntary affordability was observed in Edmonton whereby rental rates for family and friends of the owner tend to be ultra-low based purely on relationship, however, DADUs rented to unrelated tenants tend to be rented at slightly above market rate. Findings also show that cost and financing remain a primary barrier to DADU development, and that financial products and knowledge of DADUs is lacking from lenders. As such, it is recommended that financial institutions develop more sophisticated DADU products to better serve this growing market.

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I owe thanks to the researchers, planners and community organizers who continue to push for more equitable and just housing policies in Canada and North America. I wish to express my deepest gratitude to my research participants for making this study possible; you are the inspiration behind this research, and one of the main reasons I have chosen the planning profession. The outcomes of good city planning can often only be observed years after changes are made. Through my work and research on garden suites in Edmonton, I feel privileged to be able to see positive planning outcomes happening in real time. This research was a reminder that city-builders are not just found behind desks or at city-hall. We are all involved in remaking, shaping, and sustaining our cities - our human habitats - and we all have a responsibility to ensure we create the conditions in which all people have the opportunity to thrive.

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Chapter One: INTRODUCTION

Background

Over the past 10 years, municipalities across North America have started to recognize the need to densify existing built-up areas. Environmental and fiscal realities have forced cities to consider how they can grow more efficiently and sustainably, in order to mitigate the negative externalities that come with unchecked outward expansion (Song, 2012; Newman, 2014). At the same time, pressures to provide more affordable, appropriate housing for diverse demographics and changing household forms has come to the forefront of city-building discussions (Boudreaux, 2018).

Loosening zoning bylaws to encourage more compact development and diverse housing options has been one of the primary strategies for tackling these challenges. Infill agendas continue to be adopted across North America as municipalities largely rely on market-based solutions to solve housing-related issues (Boudreaux, 2018). As part of the infill agenda, many cities are turning to Accessory Dwelling Units (ADUs), to try to deliver more compact and affordable housing (CMHC, 2009).

ADUs are independent residential rental units located on the same lot as an existing single-detached home. They can take the form of a secondary suite, an addition to an existing home, or a detached, free-standing dwelling in the backyard of the primary residence, known as detached ADUs (DADUs). See Appendix D for example images of DADUs. Beyond their purported benefits to cities on the whole, they offer owners a number of benefits from a “needs”

perspective (Maaoui, 2018), including ageing in place, additional rental income, and multi-generational living.

The focus of this research is on DADUs, also known as laneway homes, carriage homes, ‘granny flats’ garage suites, or garden suites. The City of Edmonton will be used as a case study to help better understand what role DADUs play in the affordable housing spectrum, and whether they are a viable option for responding to the density and affordability challenges cities are facing. Ultimately, this research finds that, contrary to popular belief, DADUs do not function as a form of affordable housing without significant incentives, price reductions, and creative financing mechanisms. This research has implications for DADU policies in Canada and the United States and is part of broader research on the limitations of market-based solutions to affordable housing and urban intensification.

Research Context

This research focuses on the City of Edmonton. Edmonton has some of the country’s most progressive infill housing regulations and has shown a commitment to policy reforms that make it easier for DADUs to be built. As one of Canada’s fastest growing cities, Edmonton is at a critical point in its development where it must decide how to accommodate future growth in a manner that is fiscally, environmentally, and socially acceptable (City of Edmonton, 2020b). Its population is set to reach 1 million people by the end of 2020 with an anticipated 2 million by 2060 if steady growth rates continue (City of Edmonton, 2020b). Based on stated goals and targets, Edmonton is aiming to accommodate all future growth within the City’s current

boundaries. Infill will account for an increasing proportion of development – 35% to 80% - as population rises and Edmonton nears 2 million (City of Edmonton, 2020b).

Compared to other cities, Edmonton’s geography and lack of physical or political barriers to constrain outward growth makes it an interesting city to study (Guo & Fast, 2019). Edmonton is not landlocked. Edmonton also has the second highest per capita household income among major Canadian cities, with housing relatively more affordable as compared to other major Canadian cities (Statistics Canada, 2016; National Bank of Canada, 2020). It is not subject to the same kinds of housing scarcity and affordability challenges that cities like Vancouver or Toronto face. These characteristics make Edmonton an interesting case for examining infill housing, particularly DADUs, as more often than not, the growth of DADUs is seen in cities that are facing significant affordable housing pressure, such as Vancouver, the Bay Area, Los Angeles, Seattle, and most recently, Toronto. Whether or not DADUs are good solutions to help alleviate the pressures these cities are facing, they represent low hanging fruit for cities looking to densify and increase market affordable housing. Many would argue that higher density forms of housing are what will truly ameliorate the situation, but DADUs are seen as a relatively low-risk, ‘acceptable’ form of ‘gentle density’ that is socially and politically palatable.

As DADUs become more popular, it is important to consider the implications of their proliferation. What role do they play in the provision of market affordable housing? Who is building them, who is not, and where are they being built? To date, a number of notable regulatory barriers to DADU development in Edmonton have been removed, yet obstacles still exist. For instance, research suggests that the cost and financing of DADUs is preventing more

middle-income households from building them (Salvador, 2017; Chapelle, Wegmann, Mashhood & Coleman 2017). This may limit their supposed affordability benefits to upper income households in upper-income areas of the city where rental rates are considerably higher, thereby diminishing affordability claims.

Purpose of Research

The purpose of this research is to describe who is benefitting from DADUs in Edmonton, what barriers are preventing them from being built, whether they are attainable for middle-income households, and how municipalities can reduce policy barriers to their development.

There is a built-in assumption that ADUs function as a form of affordable housing. This may be true for some forms of ADUs, such as secondary (basement) suites, but very few studies examine DADUs in particular. Almost all of the studies conducted to date have examined ADUs on the whole. This research makes a point of distinguishing between secondary (basement) suites, additions, and DADUs. Building a detached, standalone unit is a considerable undertaking with a much higher price tag compared to an addition or renovation. They may also be seen as a more appealing form of development because they are independent from the principle dwelling (i.e., they don't share a wall, and are above grade).

Research by Chapelle et al. (2017) on ADUs in Vancouver, Portland and Seattle – all considered 'hot' housing markets – suggests that the cost of ADUs and homeowner's ability to obtain financing is a primary limiting factor in their widespread uptake. This research looks to build on this finding by examining the Edmonton context.

It is known that amending restrictive zoning regulations is the first step in encouraging wider uptake, but research out of Edmonton suggests that the cost of building is still a major barrier, and that homeowners who build DADUs are typically in the top 30% of earners (Salvador, 2017). Furthermore, existing studies indicate that the affordability benefits of DADUs on the rental side are reserved for family members or friends of the homeowner, suggesting that in general, DADUs may not be affordable for homeowners to build or for tenants who are not family of the owner to rent (Salvador, 2017; Brown & Palmeri, 2014). This research explores whether uptake is simply a function of zoning regulations, or if deeper affordability barriers exist, which would ultimately challenge the underlying assumption that DADUs can help address our affordable housing and intensification challenges.

Significance of this Study

From a city-building lens, there are often very few opportunities for everyday citizens to take part in the redevelopment of their communities. Redevelopment is usually led by industry professionals, developers, or the municipality itself. In theory, DADUs are a way for citizens to contribute to urban intensification, sustainable development, revitalization, and maybe even the provision of affordable housing, all the while acquiring benefits themselves; be they financial in the form of additional rental income, social by being able to live in a multi-generational setup, or health by being able to down size and age in place.

DADUs are unique in that they are driven by private homeowners who see opportunities to capitalize on under-used land that they already own. Several housing and demographic trends support DADUs as a housing form that can meet evolving needs over time. First, many of

today's young adults struggle to enter the housing market due to precarious work, higher debt loads, and increased education. As a result, they are choosing to remain at home longer (Maroto & Severson, 2019; Moos, Pfeiffer, & Vinodrai, 2019). The second trend to consider in this context is our rapidly ageing population. In Canada, it is expected that by 2036, 25% of the population will be over 65 years of age (The Canadian Medical Association, 2013). Not only does this present a challenge for our healthcare system, but cities will have to consider how to accommodate an ageing population in safe, adequate, and accessible housing. Research suggests that in general, housing preferences for this group are trending towards smaller dwelling, rental tenure, and a reluctance to move (Abramsson & Andersson, 2015). As both of these trends converge, questions around multigenerational housing come to the fore. Between 2001 and 2016 multigenerational households were the fastest growing household type in Canada (+37.5%) (Battams, 2017). DADUs may act as a form of housing that responds to these shifting preferences and needs. At the same time, as cities around the world stare down a climate crisis, they must actively take steps to reduce their emissions and overhaul their low-density land-use patterns. One of the primary ways cities can do this is by creating dense, compact, and walkable urban environments that allow us to shift away from carbon intensive modes of transportation (Newman, 2014).

Overview of the Thesis

Chapter two provides an overview of existing literature on affordable housing, ADUs, urban intensification, infill development, and the City of Edmonton's DADU policy context. Chapter three introduces the research questions, as well as the research philosophy, approach, and

methods. This chapter also covers data collection and analysis for the Garden Suite Survey, Policy Comparison, and Open Data Analysis. Chapter four offers findings and analysis from the study, and chapter five provides conclusions about the research, elaborates on the significance of the research findings, and provides policy recommendations. Finally, chapter six proposes opportunities for future research.

Chapter Two: LITERATURE REVIEW

The Growth of DADUs in North America

DADUs are not a new concept. They date back to 1830s London where they existed as housing above stables facing mews (alleys) for staff of wealthy residents in upscale neighborhoods (Worsley, 2001). Eventually, the concept of these lane homes was transferred to North American colonies where they became known as carriage houses (Antoninetti, 2008).

Following their arrival in North America, carriage houses soon became stigmatized housing for low-wage workers and predominantly inhabited by new immigrants (Antoninetti, 2008). Moving into the 20th Century, DADUs remained an unregulated form of housing in various North American Cities (Antoninetti, 2008). From this point forward, DADUs shifted from being housing for low-wage workers to “family-run rental businesses” (Antoninetti, 2008, p. 1), as well as housing for family members and in-laws – hence the name “granny flat.” With the rise of the North American suburb during the 1950s, DADUs fell off of people’s radar as suburban communities were devoid of alleys and detached garages, making DADUs an incompatible housing form (Ford, 2001). Furthermore, with populations becoming more mobile, care for elderly parents shifted from familial to institutional care (Antoninetti, 2008).

In North America, during the 1980s and 1990s, interest in DADUs resurfaced as a possible solution to suburban decline, and as a way to house an aging population (Chapman & Howe, 2001; Gellen, 1985; Wegmann, Schafran, Pfeiffer, 2017). In Canada, evidence of this interest can be found in early provincial plans and pilot projects to explore the benefits of DADUs (Lovatt Planning Consultants & Alberta Municipal Affairs, 1990). DADUs were also one of

several housing typologies popularized by the New Urbanist movement which championed walkability, mixed-use development, sustainability, mixed income communities, and traditional neighbourhood design (Moore, 2017; Johnson & Talen, 2006). However, after a relatively unsuccessful uptake, they fell to the wayside once again until the late 1990s when people began to challenge the principles of Euclidian zoning and the dominance of the single-detached homes (Gottlieb, 2017). Today, cities across North America are increasingly turning to DADUs as an affordable housing solution and strategy for urban intensification, and subsequently altering their zoning bylaws to allow for these types of units (Wegmann & Chapple, 2014; Chapple, Wegmann, Mashood, 2017; Pfeiffer, 2015; Peterson, 2018).

DADUs as Affordable Housing

In cities across North America, lack of affordable housing has become a major problem. In Canada, one in four Canadian households are spending more than 30% of their income on housing (Housing For All, 2016). This issue is particularly pronounced for renters as the cost of housing continues to outpace incomes (CMHC, 2017). Compared to 19% of homeowners, 40% of renters pay over 30% of their income to housing (Housing For All, 2016). With federal investment in affordable housing having declined since the late 1980s, provinces and municipalities have had to assume greater responsibility for the provision of affordable housing, as have private sector and non-profit organizations (Gaetz, DeJ, Richter, Redman, 2016). Furthermore, Canada's housing market has increasingly become two tiered with homeownership being prioritized over renting. This is reflected in the current housing stock and overall lack of affordable market-rental housing. As such, many cities have started to consider other ways in

which they can help create more affordable housing while adhering to other policy priorities related to urban intensification.

In the Edmonton context, in 2016, 41% of Edmonton renter households lived in homes where they were paying more than 30% of their income on housing (City of Edmonton, 2016). Of those who struggle with housing affordability, one-person households, followed by families with children are most in need (City of Edmonton, 2016). In the City's Affordable Housing Strategy (2016-2025), there is a focus on non-market housing (i.e. supportive housing, social housing, independent living) as opposed to market housing, which is where DADUs fall. That being said, Edmonton remains one of the most affordable cities in the country when looking at average income versus household price, resulting in ownership levels that are the highest in the country (City of Edmonton, 2018). In addition, the City's Affordable Housing Investment Plan "prioritizes investment in supportive housing, surplus school site redevelopment, secondary suites grants, affordable housing grants, social housing renewal, and developer-sponsored affordable housing" (City of Edmonton, 2020, p. 1).

One way that municipalities are attempting to balance affordable housing with increasing urban density is through the promotion of infill development. Infill is seen as a way to reduce sprawl and associated infrastructure costs, while creating more dense, mixed-use, and walkable neighbourhoods (Wegmann & Nemirow, 2011). Residential infill is the process of building new homes on existing city lots through redevelopment. It is essentially a "filling in the gaps" approach to urban development, which stands in contrast to building in greenfield areas. Infill housing is diverse and can take many forms including everything from apartments, to row

housing, to DADUs (City of Edmonton, 2018c). Several things stand out about DADUs from other forms of infill including the following: 1) they have a unique financing, ownership, and rental structure, whereby homeowners take on the role of developer and landlord, 2) they are dispersed rather than clustered, and are a form of “hidden density,” 3) they create mixed-tenure housing by mixing owners and renters on a single lot.

When examining Edmonton’s infill housing market, data shows that most of the infill housing being built in Edmonton continues to be single-detached homes in the form of narrow lot subdivisions. According to the City’s Housing Market and Affordability Study (2018), in terms of housing tenure, “Edmontonians historically (and still to this day) prefer single-detached homes [...] however, most infill single-detached homes are unaffordable for the average middle-class family” (City of Edmonton, 2018, p. 2). This presents a challenge. Single-detached home prices in new suburban neighbourhoods are more affordable than infill equivalents because the true cost of building in greenfield areas – new roads, services, utilities, schools, fire stations, libraries, etc. – is not reflected in the price of homes. Affordable infill housing exists, but in the form of apartment condos, which results in a mismatch in supply and demand (City of Edmonton, 2018). Interestingly, it must be considered whether housing preferences are truly driving Edmonton’s supply of single-detached homes, or if single-detached homes have dominated the home building industry for so long that consumers are not offered attractive, viable alternatives. This dominance is also reflected in zoning bylaws across North America (ex. single-detached only zoning, making secondary suites or multi-family developments illegal), resulting in a systemic tendency towards single-detached homes (Lorinc, Bozikovic & Case,

2019). So, cities including Edmonton are locked into a self-reproducing state whereby single-detached homes beget single-detached homes.

There seems to be growing recognition that Missing Middle Housing is a form of infill that may satisfy demands for typologies that are similar to single-detached homes, while achieving density goals and affordability requirements for the middle-class (Wegmann, 2019). Missing Middle Housing is typified by low-to medium density developments that are compatible in scale to single-detached homes (i.e. duplexes, row housing, courtyard developments, etc.) (Missing Middle Housing, 2020). A growing number of cities across North America are starting to realize the disastrous consequences of single-detached zoning from a land use, equity, and climate change perspective (Wegmann, 2019). In recognition of this, Edmonton eliminated single-detached only zoning in December 2018 by allowing duplex housing to be built city-wide. Further to this change, they allowed secondary (basement suites) in semi-detached, duplex, and row-housing. With the City of Edmonton's 2019 Missing Middle Housing Review, opportunities for multi-unit housing and courtyard developments were introduced, as well as opportunities to have both a garden suite and secondary suite on the same lot in conjunction with single-detached homes. When considering the Missing Middle Housing spectrum, DADUs occupy the lower-end. They are a departure from single-detached only zoning, especially when they are built in conjunction with homes that have secondary suites, yet they maintain the single-detached form. That being said, even if consumer preference is for single-detached homes, cities should be striving for higher densities as their baselines. This is especially apparent in hot markets where single-detached only zoning is contributing to higher housing prices through artificial scarcity. Furthermore, single-detached zoning is often used as a tool to exclude racialized or economically

marginalized groups form certain neighbourhoods, which poses ethical problems for urban planning on the whole (Yerena, 2020; Manville, Monkkonen, & Lens, 2019). On these grounds, it can be argued that single-detached only zoning should be abolished entirely (Yerena, 2020; Wegmann, 2019, Manville, Monkkonen, & Lens, 2019).

When considering literature on ADUs and affordable housing, only a handful of major studies have been done on this topic between 2001 to 2020. Several studies look at ADUs in Oregon (Brown & Palmeri, 2014; Chapple et. al., 2017), Seattle (Chapman & Howe, 2001; Chapple et. al., 2017), Vancouver (Chapple et. al., 2017), and Edmonton (Salvador, 2017). Outside of these studies, there is a general perception or belief that ADUs are inherently affordable, however the above-mentioned studies are the first to attempt to measure affordability.

A study by Ramsey-Musolf (2018) examined ADUs in California built as low-income housing and found that there was no evidence ADUs are functioning as low-income units. Although cities in California are counting ADUs towards their affordable housing quota, this research concluded that without government oversight or enforcement through zoning bylaws, ADUs are not actually serving low-income occupants. Research by Brown and Palmeri (2014) and Salvador (2017) points to something called “voluntary affordability” as a key factor in what makes ADUs affordable. Voluntary affordability is where ADUs are rented for low to ultra-low rent based on the relationship between owner and renter. Brown & Palmeri (2014), Salvador (2017) and Wegmann and Chapple (2012) found that a large percentage of ADUs are rented to family members (26%, 36%, and 29% respectively) and that family members were charged significantly less than tenants with no pre-existing relationships. In Portland, 18% of ADUs were less than

\$500/month (Brown & Palmeri, 2014) and 25% of ADUs in Edmonton were less than \$700/month (Salvador, 2017). Of the ADUs rented for less than \$500/month and less than \$700/month, 85% and 89% were family, respectively (Brown & Palmeri, 2014; Salvador, 2017). Furthermore, it was found that 13% of ADUs in Portland (Brown & Palmeri, 2014), 17% of ADUs in the Bay Area (Wegmann & Chapple, 2012), and 11% of ADUs in Edmonton (Salvador, 2017) were rented for zero-cash-rent. Outside of voluntary affordability, Wegmann and Chapple (2012) and Salvador (2017) found that on average, ADUs are rented for slightly below market rate compared to similar rental units, while Brown and Palmeri (2014) found that compared to similar rental units, ADUs are rented for slightly more than comparable units.

Taking these studies into consideration, it becomes clear that ADU owners are not acting like typical landlords. Instead of trying to maximize profit, a large proportion of ADU owners are choosing to prioritize things such as keeping family close to home. When it comes to affordability, there is not a clear answer as to whether they truly provide affordable housing. Some arguments have been made around the inherent affordability of ADUs due to their smaller size (Rudel, 1984; Wegmann & Chapple, 2012), however, when adjusted for size, and zero and ultra-low rents are removed, ADUs rent for slightly above market rent (Brown & Palmeri, 2014). Although the relationship between ADUs and affordability requires further research, the phenomenon of “voluntary affordability” seems to be unique to this form of housing. This concept will be further addressed in the subsequent section on ADUs and social care networks.

Considering DADUs in a larger Canadian context, against a backdrop of limited public investment in affordable housing, it has been argued that DADUs are “a private investment in the

public good” (Salvador, 2017a, p. 1). With DADUs, homeowners play the role of developer and landlord. These homeowner-developers benefit from the rental income brought in by their DADU and are more willing to charge low to zero-dollar rent based on who they rent to. This is not the case with larger, professional developers. With federal spending on affordable housing wanting, lower levels of government in concert with the private sector have had to pick up the pieces (Hulchanski & Shapcott, 2004). This comes after years of downloading the responsibility of affordable housing onto provinces and municipalities. In this sense, ADUs can be seen as an outcome of neoliberal policies and attitudes towards affordable housing. Homeowners who want to generate additional income, or who want to house a family member close to home, choose to pursue DADU developments, and in doing so, fill a gap in Canada’s affordable market housing landscape. However, this option is not available to everyone. Household income seems to play a key role in determining the distribution of DADUs and their benefits.

Urban Intensification

Cities across North America are increasingly realizing how unsustainable it is to continue to grow outwards as opposed to inwards and upwards (Matsumoto, 2016). The cost of servicing new suburban communities, including building and maintaining new roads, schools, sewers, and amenities is high (City of Edmonton, 2018d). This realization comes at the same time as demands to accommodate increasing numbers of people in urban centres (Matsumoto, 2016).

With more people moving to cities, the pressure is on to provide people with housing that meets their diverse needs in ways that are fiscally and environmentally sustainable. This is where infill housing comes in. As mentioned in the previous section, ADUs as a form of infill housing are

particularly interesting as they have the potential to double or triple the density of typical single-detached homes without significantly changing the existing built form (Gratton, 2011; Pfeiffer, 2015; Matsumoto, 2016; Brown & Palmeri, 2014; Foley, 2016). Compared to other forms of infill, such as midrise apartments or townhomes, DADUs are less-invasive and minimal in their disruption, which is why they generally receive relatively little pushback from neighbours or the community at large (Chapple, Wegmann, Nemirow, Dental-Post, 2011; Foley, 2016; Spevak, 2013). With this in mind, DADUs are often referred to as a form of “gentle density” or “hidden density” (Wegmann & Chapple, 2014).

Another interesting feature of DADUs is their dispersed and incremental nature. Compared to Transit Oriented Developments for example, which add higher density to small pocketed areas, DADUs increase density in a more spread out, city-wide manner (Spevak, 2013; Huchzermeyer & Misselwitz, 2016). Of course, DADUs are not a blanket solution to increasing urban density. They are but one solution to urban intensification that suits existing single-detached neighbourhoods particularly well. When considering a typical North American city, single-detached homes remain the most dominant housing form. In prairie cities, like Edmonton, the first suburban build-out of the 1950s resulted in large, highly uniform lots upon which single-detached homes were constructed. These ‘mature neighbourhoods’ are where the majority of infill redevelopment is taking place. That being said, a good portion of the existing housing stock is still functional and affordable. Of the redevelopment that has happened to date, the majority of it has involved tearing down older homes and replacing them with larger, more expensive homes. When considering the role of DADUs in urban intensification, they offer a progressive approach

to redevelopment that adds density to the neighbourhoods that need it, while maintaining the existing housing stock.

Under Edmonton's current regulations, up to 200,000 residential lots in the City can accommodate DADUs. If DADUs were built on even 1% of all single detached lots, this could substantially increase the density of areas that are not amenable to mid to high-rise developments. By integrating DADUs into the existing single-detached housing landscape, neighbourhoods could become more diverse, both in terms of housing tenure and potentially socio-economic mix (Wegmann & Chapple, 2014; Foley, 2016).

The urban intensification opportunities associated with DADUs may be amplified if they are built in conjunction with secondary (basement) suites, or on lots with duplex, semi-detached, or row housing. Opportunities to have more than one DADU, in the form of cluster housing or pocket communities are also important to consider. Very few cities currently allow this level of density in predominately single-detached zones, but, as is the case in Edmonton with its Missing Middle Zoning Review, these changes are on the horizon.

Since DADUs almost always have to be included on the same title as the principal dwelling (they cannot be severed) they function as a form of *rental* housing. From this perspective, they integrate rental housing and home ownership on the same lot. Considering the lack of rental housing in many Canadian cities, promoting mixed tenure seems like an effective way to meet diverse housing needs, while preventing the clustering of rental housing in less desirable areas. Due to this mixing of tenure, DADU renters can enjoy all the amenities and benefits of a

neighbourhood they might not have been able to afford were homeownership their only option (Foley, 2016).

Informal Housing, Sociability & Demographic Relevance

The idea that our built environments are connected to our physical, social, and psychological well-being is well supported across urban planning and public health literature (Montgomery, 2014). Built form has the power to influence the sociability of spaces; it can foster social interaction and it can discourage it (Montgomery, 2014). Built form has the power to structure our daily lives to encourage transit ridership, run-ins with neighbours, healthier food choices, or access to care networks. When considering the relationship between ADUs and sociability, it has been found that the “just close enough” aspect of ADUs encourages positive social interactions and the formation of care networks (Brinig, 2014).

The social benefit of DADUs are evident when examining who is living in them, as well as the relationship between owners and occupants. As mentioned previously, DADU owners are unique in that a large percentage of owners rent to family members (Salvador, 2017; Brown & Palmeri, 2014; Wegmann and Chapple, 2012). In many cases, ADU owners who rent to family are charging ultra-low to no rent, providing a close, but private multi-generational housing set-up at affordable rates (Peterson, 2011). Across the literature, it is well-founded that renting to aging parents, adult children, or family members with disabilities is common practice among ADU owners, demonstrating their ability to facilitate and foster social connection (Salvador, 2017; Goodbrand, Humphrey & Gondek, 2017; Chapman & Howe, 2001; Nichols & Adams, 2015).

DADUs have long been thought of as a form of housing that is particularly well suited to older adults who wish to age in their communities (Chapman & Howe, 2001; Antoninetti, 2008; Nichols & Adams, 2015; Bolduc, 2015; Brinig, 2014; Foley, 2016). For example, the flexibility associated with DADUs allows homeowners to raise families in their principal house, transition to their DADU when they want to downsize, and potentially rent out their main homes for a retirement income (Wegmann & Chapple, 2014; Nichols & Adams, 2015; Brinig, 2014; Gottlieb, 2017; Peterson, 2018). Furthermore, many grandparents have a strong desire to live close to their grandchildren, which becomes a possibility with DADUs (Brinig, 2014). Families with children also serve to benefit from having grandparents in their backyards, as they may be able to share childcare responsibilities and resources (Brinig, 2014). Finally, with social isolation increasingly recognized as a physical and mental health issue for older adults, having family close by can help prevent this (Leibig, Koenig, & Pynoos, 2006).

ADUs may also function as a form of housing for young adults who may not be able to afford a home in their desired neighbourhood (Chapman & Howe, 2001; Mukhija, 2014; Foley 2016; Gottlieb, 2017). With some research suggesting that today's young adults desire a more urban lifestyle, close to transit and amenities, DADUs become an appealing alternative to high-rise apartments (Gottlieb, 2017). Foley (2016) examined ADUs as housing for students and seniors in college towns. They found that ADUs offer students affordable rent and “a safe, quieter alternative to apartment-block or dorm life” (Foley, 2016, p. 29).

Seeing that DADUs directly serve the needs of both seniors and young adults, and by proxy serve the needs of middle-aged individuals or families through additional rental income, resource

and cost sharing, childcare, and social support, it becomes clear that in theory DADUs are a flexible, mutually beneficial form of housing that supports multigenerational living (Goodbrand, Humphrey & Gondek, 2017; Battams, 2017). This is particularly relevant given current demographic trends and the rise of multigenerational households in North America (Battams, 2017). As more Canadian households take on a multigenerational form, DADUs may become an appealing housing option that allows families to reap the rewards of living close together while preserving privacy and independence (Brinig, 2014). Although multigenerational households are becoming more common, it is also important to remember that on the whole household sizes are shrinking (Infranca, 2014; Tang, Galbraith, & Truong, 2019). This shift could bode well for DADUs since their modest size may be more suitable for one- or two-person households.

Edmonton Context

In Edmonton, residential infill has been a policy priority for the past decade (City of Edmonton, 2010). Residential infill “is the development of new housing in established neighbourhoods” (City of Edmonton, 2019a, p. 1). It includes “secondary suites, garden suites [DADUs], duplexes, semi-detached and detached houses, row houses, apartments, and other residential and mixed-use buildings” (City of Edmonton, 2019a, p. 1).

ADUs, both secondary suites and garden suites, were first introduced into Edmonton’s Zoning Bylaw in 2007 (Gratton, 2011). At the time of implementation, DADUs were a discretionary use, subject to the approval of a development officer, and were only allowed in certain zones in the city, as well as certain locations on blocks (i.e. corner lots). Since their introduction, Edmonton has progressively relaxed its zoning restrictions on where DADUs can be built and what form

they can take. As such, uptake has increased dramatically (Salvador, 2017). In 2015, location criteria were further relaxed, but DADUs were still a discretionary use, which contributed to high levels of uncertainty and risk, dissuading people from building. Further changes to the zoning bylaw in 2017 made it easier to build a DADU in almost all residential zones in the city (City of Edmonton, 2017). Since then, DADUs have become a permitted use, minimum lot size requirements have been removed, allowable DADU sizes have increased up to 130m², parking requirements have been reduced, incentives for building barrier-free units were introduced, and DADUs were permitted on sites with existing secondary suites. In general, community pushback against DADUs has been minimal. Since the City of Edmonton has encouraged various types of infill development, some more ‘intrusive’ than others, DADUs are seen as a discreet option with less impact on surrounding properties.

Based on Edmonton’s Open Data Portal (City of Edmonton, 2020a), approximately 370 garden suites have been permitted in Edmonton from 2009 to 2020. Edmonton also maintains an affordable housing program for DADUs and secondary suites, called Cornerstones, which provides a grant up to \$20,000 to citizens who build a garden suite or secondary suite that will be rented to a low-income household for five years (City of Edmonton, 2018b).

A 2017 study by Salvador (2017) showed that close to half of the DADUs being built in Edmonton were built for family members or friends of the owners, further supporting claims about the social benefits of ADUs. It was found that the median cost to build a suite was \$135,000, however, it is postulated that this cost has risen since. The 2017 research captured the early adopters of DADUs in Edmonton, many of which had experience in the trades and

construction industry, so costs were brought down by doing some of the work themselves. The average cost to rent a DADU at the time was \$926 regardless of the relationship between owner and occupant, however, when excluding DADUs rented to family members, the average rent was \$1,154. A comparable 1-bedroom unit as set out by CMHC at the time was \$1,000 (Salvador, 2017).

Barriers to DADU Development

Despite progress being made by municipalities across North America on DADUs, barriers to development still exist and, in many cases, the DADU market remains blocked due to regulatory constraints (Peterson, 2018). Based on the existing literature, typical policy barriers include minimum lot size requirements, owner-occupancy requirements, parking requirements, size restrictions, use class (permitted versus discretionary), location criteria, and regulations that govern design. In general, barriers are associated with strict and inflexible regulations (Chapple, Wegmann, Mashhood, & Coleman, 2017).

Other barriers include community pushback and fear of neighbourhood change, which can hamper efforts to pass more progressive DADU policies or shut down projects directly if they are subject to neighbour's appeals. It is well known that infill development in general can receive a significant amount of community pushback and that urban intensification can be a contentious subject. The introduction of row-housing, duplexes, walk-ups, or apartments to neighbourhoods which contain majority single-detached homes has typically generated a "Not-in-my-backyard" effect. ADUs on the other hand are more often seen as a "friendly" form of development that is more palatable to existing residents as the character of the existing neighbourhood remains

virtually unchanged. Although ADUs generate *less* pushback than larger developments, pushback does occur and barriers do exist (Wegmann & Chapple, 2012). In terms of community pushback, parking congestion due to increased density, construction nuisance, shadowing, and integrating rental units in a primarily single-detached home neighborhood are commonly cited concerns associated with ADUs (Wegmann & Chapple, 2012; Brown & Palmeri, 2014; Foley, 2016; Goodbrand, Humphrey & Gondek, 2017).

Obtaining financing for ADUs remains a challenge. According to Wegmann (2015) who studied the financial barriers to ADUs in California, homeowner's inability to borrow against the future rental potential of the ADU is a major limiting factor. Despite their income producing potential, in many cases, homeowners looking to construct an ADU must portray the project as a home-renovation in order to get buy-in from traditional lenders (Wegmann, 2015). Previous research suggests that due to the inability to access financing for ADUs, many homeowners are using their personal savings/cash (Brown & Palmeri, 2014). This also supports findings that show ADUs are usually built by wealthier households (Salvador, 2017). In the Edmonton context, financing options for DADUs are limited. The most common lending options are a traditional mortgage, or a mortgage plus improvement (also known as an "as-is, as-complete" mortgage). Typically, major banks will allow homeowners to pull up to 80% of the equity from their main house to use towards the DADU. If that isn't enough, homeowners can also borrow up to 80% of the pre-appraised value of their DADU. Since most banks and appraisers are still unfamiliar with DADUs, there is a tendency to under value them relative to cost, which may limit homeowner's borrowing capacity and make projects unattainable. Qualifying is also a primary consideration. ADUs are a relatively new form of housing, which means very few financial institutions offer

products designed specifically for DADUs and oftentimes homeowners will struggle to connect with a mortgage specialist who is familiar with DADUs. VanCity's Laneway Housing product, offered in Vancouver, is one notable exception (VanCity, 2020). Vancity appears to be unique as they will take the future rental income of the DADU into account. In addition, they offer a preferred rate on a 5-year, 7-year, or 10-year fixed-rate mortgage, or on a 5-year fixed term mortgage for DADUs (VanCity, 2020). Other than Vancity, overall, a lack of maturity and awareness surrounding DADU financing may be creating barriers to DADU development.

Chapter Three: RESEARCH DESIGN & METHODOLOGY

Research Questions

This research addresses four primary research questions. Note that questions move from broad to specific, with question one focusing on characteristics of municipalities that have had high DADU uptake, question two focusing on barriers and challenges to DADU development, and finally questions three and four addressing affordability from two perspectives - affordable for homeowners to build, and affordable for tenants to rent. Given that DADUs are relatively understudied, questions one and two aim to generate greater understanding of the barriers to development and to explore possible solutions which would result in greater uptake.

1. What characteristics are common across municipalities with high DADU uptake?
2. What barriers, challenges, and deterrents exist to developing DADUs in Edmonton?
3. Affordable for Homeowners to build:
 - a. Is the cost to build a DADU a primary factor limiting the widespread adoption of DADUs in Edmonton?
 - b. At what price point do DADUs become a viable housing solution for average income Edmontonians?
4. Affordable for tenants to rent:
 - a. Are DADUs becoming a luxury good as opposed to an affordable housing option?
 - b. How does the spatial distribution of DADUs in Edmonton interact with affordability?

Research Philosophy & Approach

This research will be guided by a philosophy, or worldview, of pragmatism. Given that this research is problem-centered and deals with real world practice-oriented research (Creswell, 2014), pragmatism is an appropriate philosophy to guide this research. This study is concerned with determining what conditions help or hinder the development of DADUs, and what municipalities can do to encourage the development of DADUs. As such, the research focuses on the barriers to DADU development in order to uncover how policies interact with DADU uptake. Compared to other research approaches, pragmatism offers the benefit of being a practical middle ground between positivism and constructivism. Where positivism “asserts an objective knowledge acquired by examining empirical evidences and hypothesis testing,” (Kaushik & Walsh, 2019, p. 6) and where constructivism “propose[s] that knowledge is relative and reality is too complex, pragmatists believe that the process of acquiring knowledge is a continuum, rather than two opposing and mutually exclusive poles of either objectivity and subjectivity” (Kaushik & Walsh, 2019, p. 6). One of the primary benefits of this approach is that it provides flexibility in choice of methodology and moves away from the dichotomy of quantitative and qualitative to allow for a convergence of methods aimed at producing useful, actionable findings (Feilzer, 2010).

Rather than focusing on one method of inquiry to get at these questions, a multi-pronged research approach is used. This approach implies that arriving at a comprehensive solution to the problems embedded in the research questions can be done through a variety of means. The goal is to provide a practical solution to an issue by “merging views [and methods] to help interpret

data” (Ihuah & Eaton, 2013, p. 938). This approach relies heavily on the lived experience of those who have built or are interested in building DADUs.

Answering the research questions will require a mixed methods approach that combines elements from both qualitative and quantitative approaches. This will ensure a more comprehensive, multi-dimensional analysis (Creswell, 2014; Centre for Innovation in Research and Teaching, n.d.). More specifically, a convergent parallel mixed methods approach has been selected, which involves the collection of qualitative and quantitative data simultaneously (Creswell, 2014). This allows for a broader exploration of the research question and for more knowledge to be gained of an under-studied topic.

Research Methods

For this research, survey methods were employed alongside a content analysis, and a secondary data analysis. The content analysis looks at DADU policies in several cities that have had successful uptake. This analysis will help determine which policy commonalities are shared across cities with high DADU uptake. A secondary data analysis of City of Edmonton permitting data for garden suites was also conducted. This will provide a breadth of insight into longer terms trends for DADUs in Edmonton, especially as they relate to distribution across the city and popularity over time. Finally, the survey component of this research addresses various questions related to demographics, DADU use, barriers to DADU development, and affordability. It contains both qualitative and quantitative questions to allow for both numerical and descriptive analysis. The qualitative components of the survey were included in part because “survey questions can be interpreted differently but also that the same answers can have very different

explanatory value” (Feilzer, 2010). This allows for greater nuance and depth of understanding. Non-probability, purposive sampling was used in that individuals interested in, or who currently own a DADU were sought out for the survey.

These research methods were selected for several reasons. First, the research questions necessitated a multi-pronged approach. The research questions ask both *what* is happening, and *why* it is happening. For example, the policy comparison asks what is happening across municipalities with high DADU uptake, whereas the survey of DADU owners asks questions around why people chose to build and tries to identify why certain people build DADUs while others do not. Second, this allows for a variety of complimentary data sources to be used to produce more robust findings. If this research relied solely on survey responses, it would be challenging to corroborate findings. A mixed-methods approach enables responses from the survey (primary data) to be compared and contrasted against secondary data from the City of Edmonton’s permitting data. In addition, the City of Edmonton’s permitting data provides insight into local trends, which can then be examined alongside the policy comparison across jurisdictions. Finally, practicality influenced the choice of methods for this research. Having access to DADU owners and people who are interested in this form of housing supported the choice to pursue a survey component. Similarly, having access to municipal permitting data and policy documentation for DADUs allowed for a policy comparison and secondary data analysis to be conducted. Taken together, these three methods combined in a complimentary manner to effectively answer the questions posed by this research.

Data Collection Procedure

This section details the data collection procedure for the DADU policy comparison, secondary data analysis, and Garden Suite Survey.

Policy Comparison

The policy comparison portion of this research aims to analyze select DADU policies across Canada and the United States to determine what characteristics are shared by municipalities that have had high DADU uptake. The method for comparison was borrowed from Carriere (2017), who looked at DADU policies across 10 different cities in order to make a recommendation for Toronto's Laneway Housing Bylaw. This study looked at the following cities: Vancouver, Victoria, Edmonton, Calgary, Regina, Saskatoon, Ottawa, Moncton, Austin, and Portland across seven different categories, including: policy context, lot guidelines, size guidelines, number of ADUs permitted on site, orientation and setbacks, parking, and accessibility, affordability and sustainability.

Since a number of these municipalities have undergone significant bylaw changes since 2017, it is worth revisiting some of these city's bylaws, as well as adding more cities to the comparison. Cities included in the comparison for this research are: Vancouver, Edmonton, Calgary, Ottawa, Toronto, Portland, Seattle, Austin, and Los Angeles. Several of these cities were chosen because they have clear DADU policies and have been recognized across the literature as leaders in DADU policy (Peterson, 2018; Wegmann, Chappelle & Mashood, 2017; Salvador, 2017). These cities include: Vancouver, Portland, Seattle, and Austin. In addition, the availability of DADU permitting data and publicly accessible information on DADU policies was a determining factor

in their inclusion. Calgary, Ottawa, Edmonton, Toronto, and Los Angeles were chosen as other major cities for comparison. Each of the cities included have at least 300 permitted DADUs except for Ottawa, Calgary and Toronto, which should help provide comparative insight into DADU policies across jurisdictions. Importantly, all of the cities included in this analysis *have* explicit DADU policies. In many cities, DADUs are simply not permitted. Data for the policy comparison was collected through a content analysis of each city’s zoning bylaw and supporting documentation. Each City’s Open Data Platform was also searched to retrieve permitting data for DADUs.

Secondary Data Analysis

Garden Suite permitting data was pulled from the City of Edmonton’s Online Open Data portal. This data provides information on permit dates, building types, construction cost estimates, and permit locations. This data was filtered for garden suite permits from 2009 to 2020 to allow for a spatial analysis of DADUs in Edmonton, as well as an analysis of longer-term trends.

Garden Suite Survey

Data collection began on September 24, 2019 and closed on December 31, 2019. An online survey was used to gather data from DADU owners, and Edmontonians interested in DADUs. The survey contains both closed and open-ended questions so that participants could elaborate on their experience. It was approximately 10 minutes long. Questions covered motivation for building a DADU, costs associated with DADUs, challenges and barriers, property values, rental rates, and demographic information. The full list of survey questions can be found in Appendix A.

The survey was distributed through YEGarden Suites online mailing list and social media feeds. YEGarden Suites is an Edmonton-based non-profit organization that caters to homeowners who are interested in building a DADU. At the time of the survey, they maintained a mailing list of approximately 1,500 people who are interested in the research topic. Most people who are part of this mailing list are interested in garden suites but haven't built yet. Some are current suite owners. Using the mailing list, a general call for participants was put out inviting people to take part in the online survey. DADU renters were not explicitly sought out, therefore, affordability for renters is examined using owner-reported rental rates.

Participants who own a garden suite were also recruited via mailout postcards. Postcards were sent to 334 total households who have a permit for a Garden Suite. Households were identified using the City of Edmonton Open Data filtered for garden suite permits, which contains the addresses of permit applicants. Upon receiving the postcard, individuals were directed to follow a link on the postcard to the online survey. YEGarden Suites also had a link to the survey on the front page of its website in order to catch passive web traffic.

Participants were free to withdraw from this study at any time during the survey by closing the survey form. However, once the survey was submitted, they were not able to withdraw as personal identifiers were not available. Survey data was stored on a password protected personal laptop. Ethics clearance was received from the University of Waterloo.

Data Analysis

For the DADU Policy Comparison, six major categories were used. These categories include: policy context, lot guidelines, size and orientation, parking, affordability, and public resources. Within each category there are criteria for comparison. These criteria were selected following a scan of the zoning bylaws and policy documents from the nine cities being compared. Since each city regulates DADUs in a different manner, these categories will help draw out commonalities and differences across cities.

The following categories were used:

Zoning & Policy Context	Lot Guidelines	DADU Size & Orientation
Use Class	Maximum coverage	Maximum floor area
Zoning	Minimum lot area	Maximum height
Permits Issued	Minimum lot width	Front setback
DADUs per 1000 people	Location in rear yard	Rear setback
Must be located on a lane		Side setback
Severable		Separation distance
Number of ADUs/lot		Basements in DADUs
Restrictions on occupancy		Maximum width of DADU
Permitted uses		Exemptions for storage/stairs

Parking	Affordability & Accessibility	Public Resources Available
Minimum requirements	Affordability Incentives	How-to-guide
Exemptions	Accessibility Incentives	

These categories were borrowed from Carriere (2017) with some minor adjustments. In particular, categories for which most municipalities had no guidelines or requirements were omitted, such as addressing for DADUs and sustainability requirements. Furthermore, a scorecard developed by Chapple, et al. (2020) for grading ADU ordinances in California was used to frame criteria for success for the policy comparison.

For the secondary data analysis, ArcGIS was used to map garden suite locations using Edmonton's Open Data. This data was used to determine the spatial distribution of garden suites. For some parts of this analysis, municipal census data was overlaid to examine average income levels by neighbourhood and affordability implications.

The Garden Suite Survey was analyzed using STATA to provide descriptive statistics in the form of data tables (see Appendix B). Open-ended survey questions were coded for common themes and included in the data tables in Appendix B. Additional data tables, charts, and cross tabulations were produced to highlight key findings. Multiple regression was also used to examine the relationship between rental rates and the relationship between owners and occupants of the suite. A factor variable for relationship was used. The variables friend and family/relative were included. The constant term represents rental rates of persons unrelated to suite owners. The use of regression in this analysis allows us to isolate the effects of relationship on rental rates to see whether voluntary affordability is associated with DADUs. For this regression, the independent variable is relationship between owner and occupant, and the dependent variable is rental rate.

Limitations

Several limitations exist related to this research. First, survey participants were gathered using YEGarden Suites mailing list, which means people who may be interested in garden suites, but have not signed up with YEGarden Suites are excluded. The survey used non-probability sampling, which means the results are not generalizable to an entire population, however, they can be generalized across people who are interested in DADUs.

Although this research focuses on Edmonton, lessons learned can be used to help inform policy decisions in other municipalities. A common misunderstanding of case study research is that it lacks transferability and generalizability (Flyvbjerg, 2006). “Although some may view this [case study research] as a limitation impeding generalizability, it should be noted that naturalistic case studies should be judged not on the basis of generalizability, but on the basis of transferability and comparability” (Chreim, Williams, & Hinings, 2007, p. 1535). As such, the goal of this research is not to produce a generalized theory, rather the purpose is transferability and comparability of DADU policies and trends across municipalities. Research on ADUs, and DADUs specifically, remains sparse, which is why this study will act as a key contribution to a small, but growing body of literature.

Chapter Four: FINDINGS & ANALYSIS

This Chapter presents the findings from the comparative policy analysis of DADU zoning regulations and policies from select municipalities in Canada and the United States. It also details findings from a secondary data analysis of the City of Edmonton’s garden suite permitting data, followed by findings from the 2019 Garden Suite Survey.

Policy Comparison

Nine municipalities with existing DADU regulations were examined to analyze best practices and commonalities for DADU policies. The cities selected for the comparison include; Vancouver, Edmonton, Calgary, Ottawa, Toronto, Los Angeles, Portland, Seattle, and Austin. Detailed findings from the policy comparison are included in Appendix C. In general, findings suggest that several key regulations can encourage the development of DADUs. A summary of the policy comparison and best practices is detailed below. These indicators of “success” were arrived at by drawing on existing literature surrounding barriers to DADU development, as well as identifying policy and zoning commonalities between municipalities with over 1.00 DADUs per 1000 people. In addition, “The ADU Scorecard” (Chapple, et al., 2020) for grading ADU ordinances in California was used to frame criteria for success as outlined in the DADU Policy Best Practices below. California’s ground-breaking state-wide ADU ordinance, which aims to address barriers to ADU development, was also used to help guide the policy comparison and arrive at best practices (State of California, 2020).

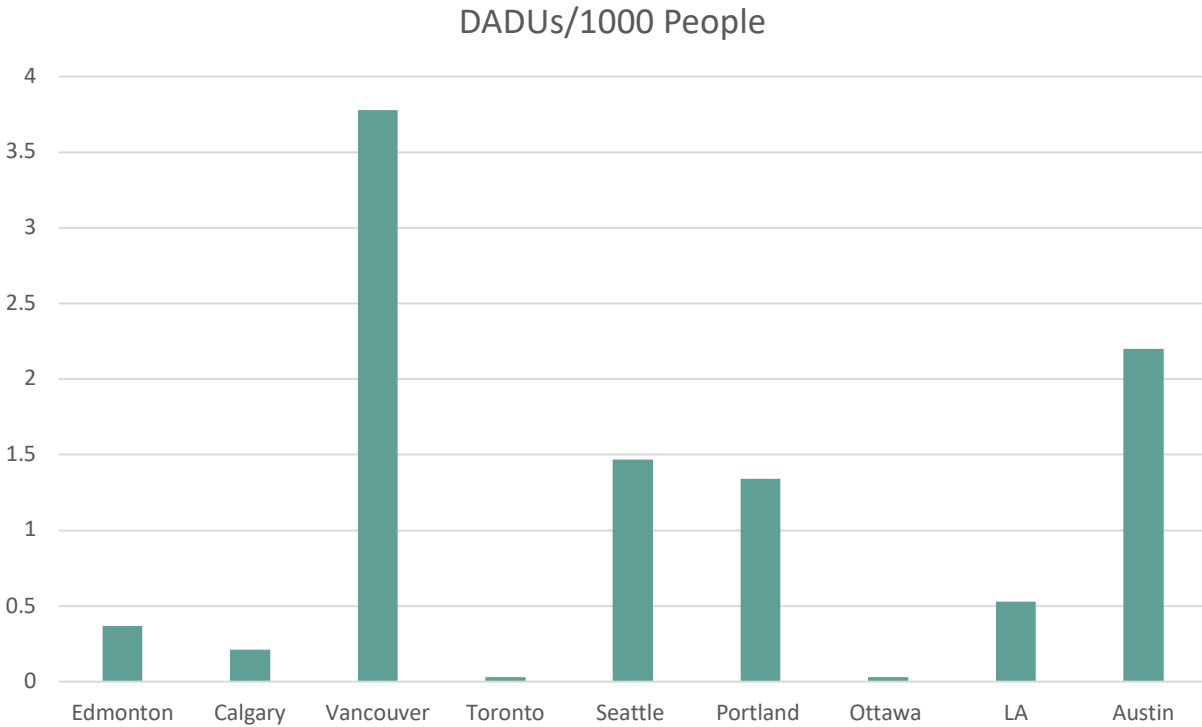


Figure 1: DADUs per 1000 people in each of the nine cities included in the policy comparison. Data collected from municipal Open Data Platforms, filtered for DADUs.

It should be noted that most of the cities included in the policy comparison are facing affordable housing pressures with the exception of Edmonton, Calgary, and Ottawa. Vancouver and Toronto have two of the least affordable housing markets in Canada (CMHC, 2020), however, Toronto’s laneway housing bylaw was adopted in 2018, making it the most recent city to permit DADUs in the policy comparison (City of Toronto, 2018). Los Angeles, Portland, Seattle, and Austin are all listed in the top thirty least affordable cities in the United States as of November 2019 (RealtyHop, 2019). As such, even in similar regulatory environments, uptake of DADUs is in-part dependent on how much housing pressure cities are facing. Rental is a critical tenure for residents in many of these cities where homeownership is not attainable, which means demand and opportunities for DADUs is expected to be higher. It is also reasonable to expect that cities

facing high affordable housing pressure are more motivated to introduce policies and amendments, such as allowing DADUs, that will relieve some of this pressure. Cities with supportive demographics (ex. ageing population) can also expect to have higher uptake, even under similar regulatory contexts.

DADU Policy Comparison and Best Practices

Zoning & Policy Context

All of the cities included in the policy comparison, except for Calgary, list DADUs as a permitted use, as opposed to discretionary. Discretionary uses require an additional layer of planning permissions and are subject to appeal by neighbours. This can increase uncertainty and risk for homeowners, as there is a possibility that their project will be denied, or costly revisions will have to be made. As evidenced by the literature, this may prevent broad uptake. Chapple, et al. (2020) suggest that any jurisdictions that have conditional use permits for ADUs only receive negative points in their scorecard methodology. In terms of zoning, permitting DADUs in all low-density, residential zones was common practice across cities with higher DADU uptake. This helps to create a consistent regulatory landscape for residents and industry members. Given that low-density residential neighbourhoods in most North American cities are typified by single-detached housing, DADUs can be easily added to this type of urban form. Interestingly, Portland (1.34 DADUs/1000 people) zoning permits DADUs in residential, commercial and central employment zones. Seattle (1.47 DADUs/1000 people) also goes beyond just single-family zones to allow DADUs in low-rise zones as well. In contrast, although Ottawa permits DADUs on any lot that contains a detached, semi-detached, linked detached, duplex or townhouse dwelling, they only have 0.03 DADUs/1000 people. In general, DADUs should be permitted in

low to medium density residential areas, where the incremental nature of DADUs can easily boost baseline densities. They would not necessarily be appropriate in areas where cities are trying to achieve higher density developments, such as downtowns or priority growth nodes slated for mid-rise development.

Looking at severability, Austin was the only city in which it was identified that homeowners can sever the DADU from the main dwelling via condo. In all other cities, the expectation is that DADUs remain on the same title as the primary dwelling and used as rental housing. Most of the cities included in the comparison had no restrictions in place for who could occupy the DADU. The ones that did include Portland, Seattle, and Austin. Austin stipulates that DADUs should not be used for short-term rental. Both Portland and Seattle have occupancy rules based on definitions of household. In Portland, “the total number of residents that can live in both units (the ADU and the primary house) is limited to the total allowed for a household,” (City of Portland, 2019, p. 6) with household defined as “one or more persons related by blood, marriage, legal adoption or guardianship, plus not more than 5 additional persons, who live together in one dwelling unit; or one or more handicapped persons as defined in the Fair Housing Amendments Act of 1988, plus not more than 5 additional persons, who live together in one dwelling unit” (City of Portland, 2019, p. 6). In Seattle, “if there is one accessory dwelling unit (1 AADU or 1 DADU), the total number of residents in both the primary dwelling and the accessory units cannot exceed eight, unless all residents of both units are related to each other. For SF zoned lots with two accessory dwelling units (2 AADUs or 1 AADU and 1 DADU), the total number of unrelated residents cannot exceed 12 people” (City of Seattle, 2019, p. 1). In general, cities should avoid attaching owner occupancy requirements to DADUs (Chapple, Wegmann,

Mashood & Coleman., 2017; Chapple et. al., 2020). The State of California’s ADU ordinance (2020) also removes owner-occupancy requirements. Similarly, narrow and prescriptive definitions of households may prevent broad uptake as the flexibility of the DADU may be limited. In the cases of Portland and Seattle, both conceptualizations of ‘household’ seem quite generous and broad.

Lot Guidelines

In their research on DADUs in Seattle, Vancouver, and Portland Chapple, et. al. (2017) concluded that “in cities that have reformed their zoning regulations (particularly minimum lot size and floor area) production has jumped” (p. 23). As such, if cities desire greater numbers of DADUs, minimum lot sizes should not be required. The State of California’s ADU ordinance, which is considered to be one of the most progressive DADU policies in North America also states that “development standards shall not include requirements on minimum lot size” (State of California, 2020, p. 1). Of the cities included in the policy comparison, only Seattle had a minimum lot size requirement, set at 297m², which could be considered a minor barrier, given the small size. From an equity perspective, minimum lot sizes suggest that one must have a large lot, which are often more costly, in order to access the benefits of a DADU. Furthermore, in reports from the City of Edmonton’s Garage and Garden Suite Buildability engagement, it was found that minimum lot sizes restrict DADUs to older, large-lot neighbourhoods, limiting uptake in new communities where there is high demand (City of Edmonton, 2016).

Size and Orientation

In general, cities with higher DADUs uptake avoided tying the height of the DADU to the height of the primary house. Ottawa (0.03 DADUs/1000 people) is the only city included in the policy comparison that states that the height of the DADU must not exceed the height of the primary dwelling. The remaining cities provide for a range of heights between 5.18m to 9.1m for two-storey units. It can be inferred that providing for greater variability and flexibility in height allows homeowners to design a suite that better meets their needs. Making the height of DADUs contingent on the height of the primary dwelling also creates an equity issue. For example, homeowners who live in a small, single storey bungalow that is 4m high would be limited to building a DADU that is 4m high. One can imagine this scenario playing out in a neighbourhood with a mix of homes of different heights. If the neighbour directly beside the 4m bungalow has a two-storey home that is 9m high, they would be able to develop a taller DADU, which brings into question the utility and true purpose of contextual height requirements. This regulation becomes even more problematic if cities maintain off-street parking minimums. If building a DADU in addition to an existing single-detached home will require three stalls of parking to be provided on site, and height is tied to the principle dwelling, homeowners will likely be left building a three-car garage DADU with little to no space left over for living area as a two storey DADU is not permitted.

For simplicity and consistency, most cities in the policy comparison matched setback requirements to the underlying zone. The maximum allowable size of DADUs ranged from 74m² (Portland) to 130m² (Edmonton). It should be noted that some cities exclude any garage area from their maximum size calculation, while others include it. For example, Portland

excludes garage space from the 74m², while Edmonton's 130m² is inclusive of any garage space the owner chooses to build (ex. they may choose to build 130m² of living area, or 70m² of living area with a 60m² garage). The only two jurisdictions that require the size of DADUs to be less than the primary dwelling are Toronto and Ottawa. Similar arguments can be made regarding contextual regulations for the size of DADUs as were made for height. Requiring the size of the DADU to be lesser than the primary dwelling may limit the size of units to a single bedroom or bachelor studio, which limits the market for DADU renters to single-individuals or couples without children. These types of contextual regulations also overlook the inevitable redevelopment of the principle dwelling (City of Edmonton, 2016). The implications of size maximums were recognized by the State of California, which "prohibits a local agency from establishing a maximum size of an ADU of less than 850 square feet, or 1000 square feet if the ADU contains more than one bedroom" (State of California, 2020).

Parking Requirements

Calgary, Los Angeles and Austin were the only cities that required additional parking for DADUs. Vancouver, Seattle, Portland, Toronto, and Ottawa do not require additional parking for DADUs, although parking still must be provided on site for the primary dwelling, with the exception of some transit-oriented development areas. Edmonton is unique in that it has eliminated parking minimums city-wide, meaning homeowners may choose to provide no parking on site (City of Edmonton, 2020c). There is an extensive body of research on the negative implications of parking minimums in general (Shoup, 2011). Existing literature on parking requirements recommends a market-based approach where landowners decide how much or how little off-street parking to provide based on their needs and context. As they relate to

DADUs and infill development, parking minimums should be avoided as they restrict an owner's ability to respond to market demands, limit livable floor area, and make it challenging to design efficient and effective DADUs on smaller lots. According to Chapple, Wegmann, Mashood, & Coleman (2017), restrictive regulations, including parking requirements, "may render ADU construction prohibitively expensive or impossible on many lots" (p. 5). Based on the results on the policy comparison, and existing bodies of literature, cities should eliminate parking requirements for DADUs.

Affordability & Accessibility Incentives

Only Toronto and Edmonton offer incentives for affordable DADUs. Toronto's Affordable Laneway Suites Pilot Program offers eligible homeowners a forgivable loan up to \$50,000 who agree not to rent their suite above market rates for fifteen years (City of Toronto, 2018). The City of Edmonton offered a grant up to \$20,000 for homeowners who agreed to rent their DADU at affordable rates for five years, however, this grant was placed on hold in 2020, and it's uncertain whether it will be offered again. Toronto also offers a development charge deferral program. Calgary is waiving permitting fees for DADUs, however, this is a time-limited offer, coming to a close at the end of 2021 (City of Calgary, 2020), while Portland waives fees for DADU owners who agree to not use the unit for short-term rentals for ten years (City of Portland, 2018). Chapple et. al. (2020) suggests that "fees may act as a major deterrent to residents, especially low-income residents, who wish to construct an ADU." As such, cities looking to encourage DADU development may wish to explore incentive-based programs that focus on waiving permitting and impact fees.

Taken together, the findings from the policy comparison suggest that cities with higher DADU uptake have regulations that are flexible and relatively simple for homeowners to navigate. In general, the literature alongside this policy comparison points to reducing onerous bylaws and regulatory barriers so that risk and uncertainty are reduced.

City of Edmonton Open Data Analysis

According to the City of Edmonton's Open City Database for Building Permits, 374 DADU permits were issued as of March 30, 2020. The Open City Database for Building Permits includes permit date, location of unit, floor area, and neighbourhood. As seen in Figure 2, permit numbers have been increasing year over year for garden suites (DADUs) in Edmonton. Significant increases were seen in 2016 and 2017 due to the removal of location criteria, and the introduction of garden suites as a permitted use as opposed to discretionary. The available data also lends itself to a locational analysis of where DADUs are being built. The top twelve neighbourhoods for DADU permits in Edmonton are shown in Figures 3 and 4. For context, there are 401 neighbourhoods in Edmonton (City of Edmonton, 2020). Eighty-nine of Edmonton's neighbourhoods have 1 or more DADU permits.

Garden Suite Permits in Edmonton 2009 to 2019

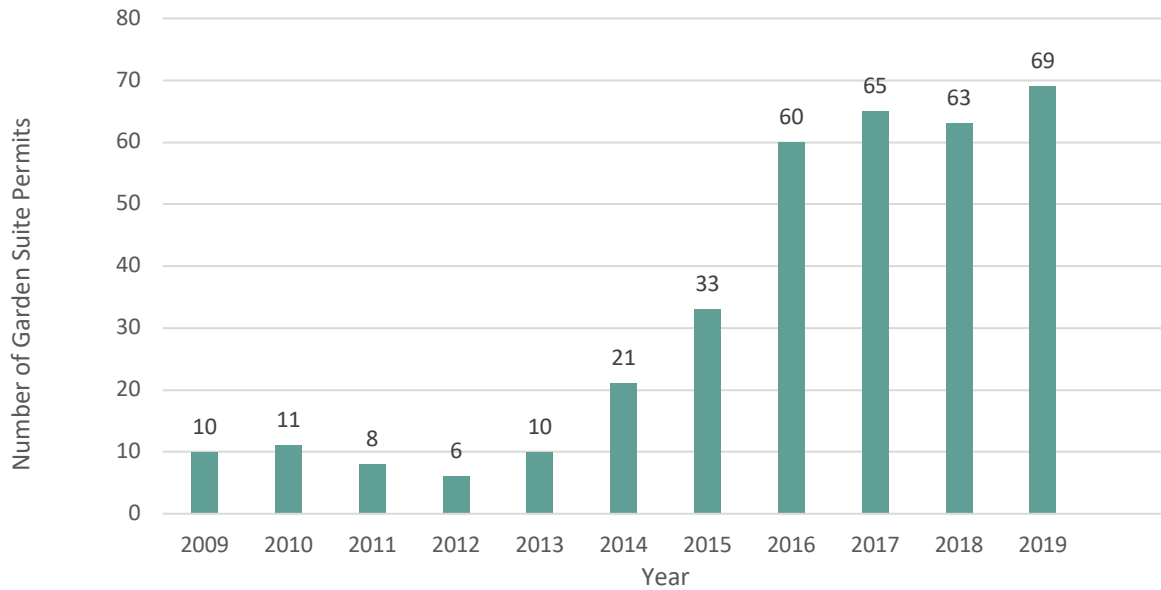


Figure 2: Garden Suite Permits in Edmonton 2009 to 2019. City of Edmonton Open Data. (2020). General building permits filtered for garden suites.

DADU Permits by Neighbourhood

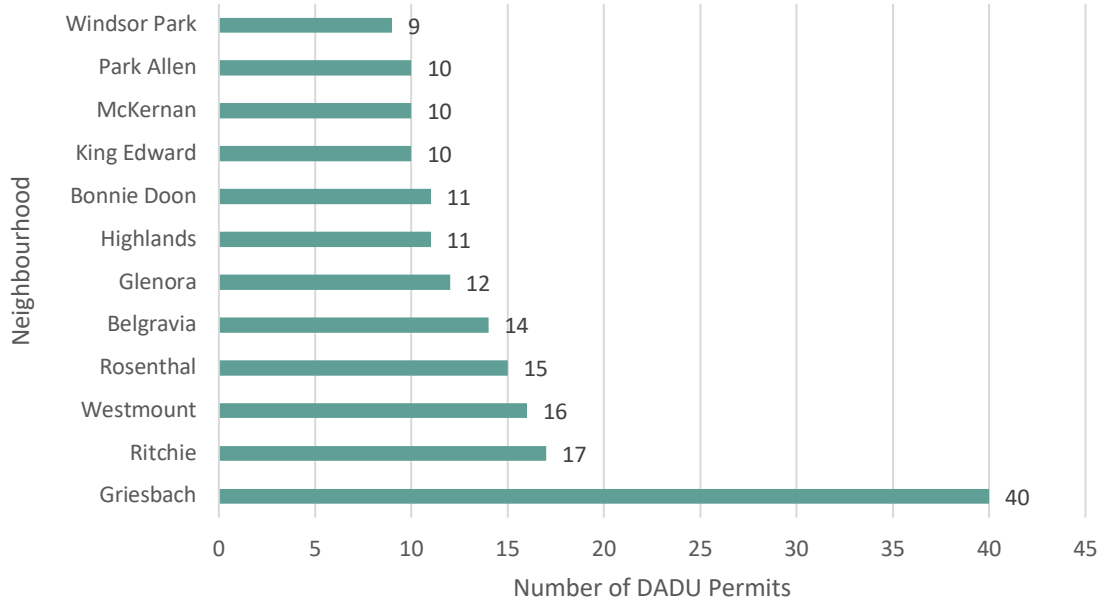


Figure 3: DADU Permits by Neighbourhood. City of Edmonton Open Data. (2020). General building permits filtered for garden suites by neighbourhood.

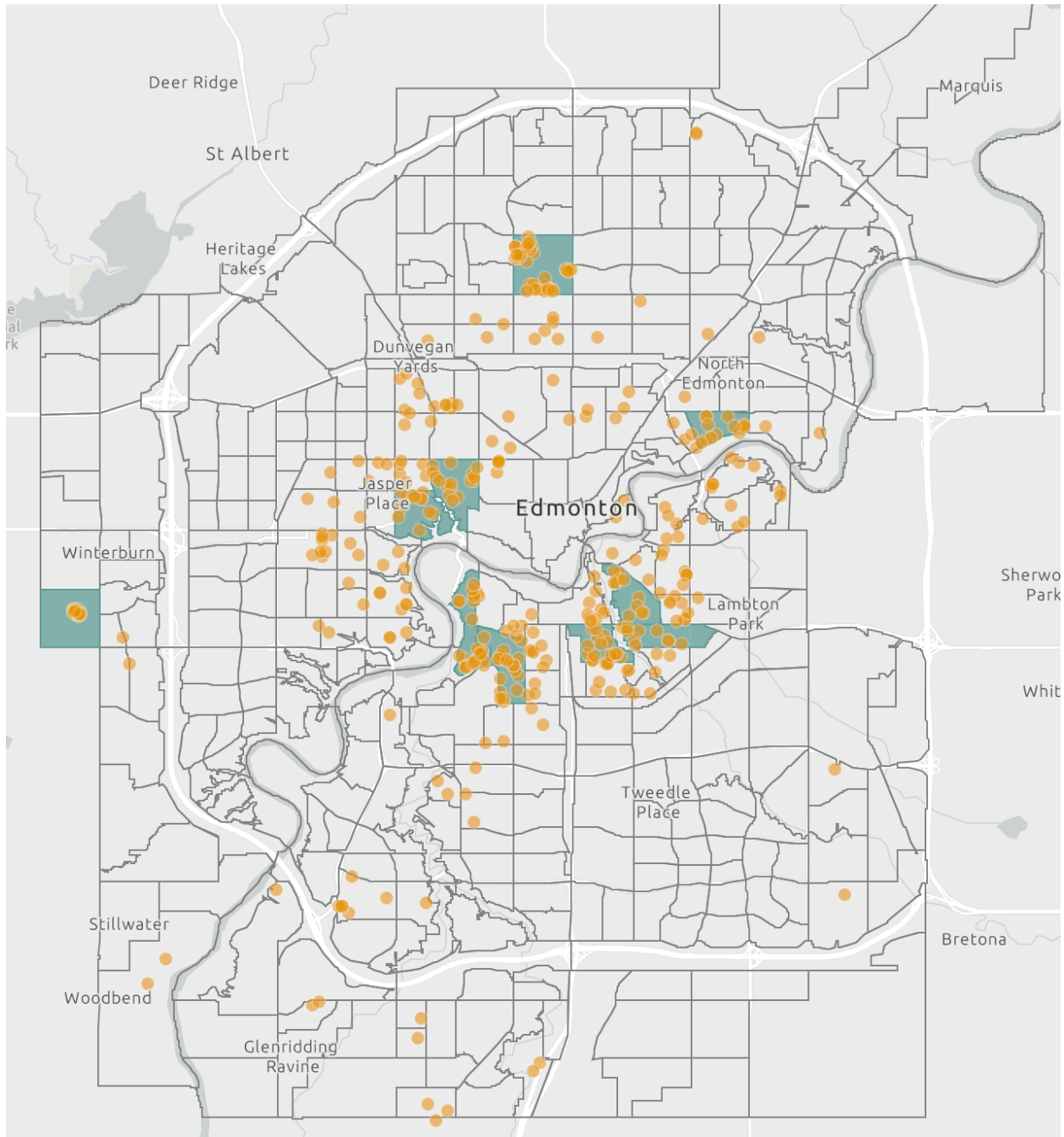


Figure 4: Map of Garden Suite Permits in Edmonton. City of Edmonton Open Data. (2020). General building permits filtered for garden suites. City of Edmonton Neighbourhood Boundaries. (2019). ArcGIS Online.

Using the City of Edmonton’s Open Data for the 2016 Municipal Census, it was found that in these neighbourhoods, 43% of households make \$100,000 CAD or greater/year on average. This finding is similar to that of Chapple et. al. (2020a), who found that 57% of the ADUs completed

in California had household incomes greater than \$84,000 USD. Digging deeper into the affordability questions surrounding DADUs, 2016 federal census data shows that the average prevalence of low-income households in these neighbourhoods is 8.1%, compared to 10.9% city-wide. To visualize the relationship between household income and DADU permits, ArcGIS was used to map the location of all DADU permits in Edmonton alongside household income brackets using 2019 census data. Figure 5 shows this relationship.

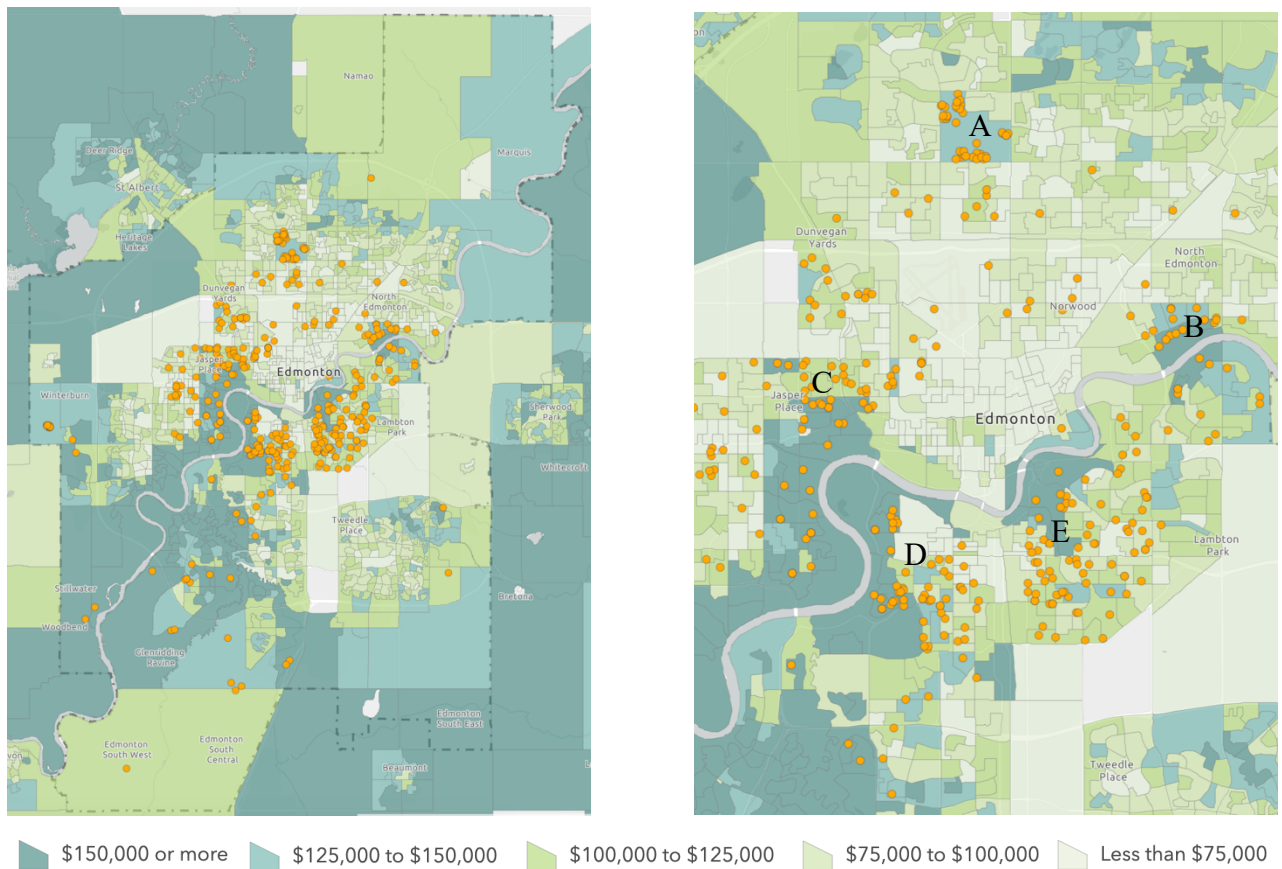


Figure 5: Map of Garden Suites in Edmonton and Income by Neighbourhood. City of Edmonton Open Data. (2020). General building permits filtered for garden suites. EdmIncomeDemos2019 (2020). Retrieved from <https://www.arcgis.com/home/item.html?id=150a8047e4554d178ecb8a68366601bd>

When examining the spatial distribution of DADUs in Edmonton, it is evident that the majority of units are being added in neighbourhoods with average annual household incomes greater than \$100,000. Although analysis at the tract level may not correspond directly to individual level relationships, these findings are also supported by the Garden Suite Survey.

Several clusters of DADUs can be seen across the City, labelled from A to E. On the north side of the North Saskatchewan River Griesbach (A), a master-planned community owned by Canada Lands Corporation, can be seen to have a significant number of DADUs (40). As a planned community, the developers of Griesbach decided to incorporate DADUs into the community from the outset. Cluster B is the neighbourhood of Highlands, a community that sits atop the riverbank with views of downtown with a high proportion of historic housing stock. It is one of Edmonton's first streetcar suburbs and has a developing high street running through the centre of it. It is presently the highest income neighbourhood on the northeast side of Edmonton, but is surrounded by medium to lower income neighbourhoods. Highlands has good access to downtown, the River Valley, and Concordia University. Cluster C encompasses the neighbourhoods of Westmount and Glenora, two of Edmonton's most rapidly redeveloping neighbourhoods. Historically, Glenora has been one of Edmonton's wealthiest neighbourhoods. These communities have good access to amenities and are directly adjacent to a planned LRT line. Cluster D includes McKernan, Belgravia, Park Allen, and Windsor Park. These neighbourhoods surround the University of Alberta. They have a large student population and a greater proportion of rental units, as well as good access to the LRT. In this case, DADUs are likely filling a student housing niche. Cluster E includes Bonnie Doon, King Edward Park, and Ritchie. These walkable neighbourhoods have seen some of the most infill development in

Edmonton over the past ten years. Ritchie in particular has seen a resurgence of a quiet main street that runs through its core. This street is now home to a central community hub of commercial and retail amenities that attract residents from across the City and is within walking distance of Whyte Avenue and Old Strathcona, one of Edmonton's trendiest destinations for locals and tourists.

Using data for average household income and housing tenure by neighbourhood, Figure 6 was created to determine what commonalities exist between the neighbourhoods with the greatest number of DADUs. Figure 6 shows that there are two "types" of neighbourhoods where DADUs are being built. The first type of neighbourhood has a low percentage of rental units, but high household incomes. The second type of neighbourhood has a high percentage of rental units, and lower household incomes. All of these neighbourhoods still have household incomes greater than or equal to the Edmonton average. This suggests that DADUs may be serving two markets. The first being the investor market in neighbourhoods with high rental potential, and the second being the owner-occupied or family-occupied market where household incomes are high, but rental units are less common. It is also fair to consider that savvy homeowners in high income neighbourhoods with low percentages of rental units see DADUs as a way to integrate rental tenure into communities that are not as welcoming of 'traditional', more dense forms of rentals (i.e. duplexes, townhomes). Given that DADUs are seen as gentle density, they may get around some of the stigma associated with rental tenure more generally. In these cases, DADUs may be serving as a more luxury rental for people who would like to live in some of Edmonton's wealthiest neighbourhoods, but can't afford homeownership in those locations. Note that McKernan is quite a large outlier. Although it has similar household incomes to Belgravia and

Glenora, McKernan has a significantly greater percentage of rental tenure. It's postulated that this effect is caused by the difference in dwelling typology between these neighbourhoods. Belgravia and Glenora have predominantly single-detached homes, whereas McKernan has more medium-density, multi-family, purpose-built rental developments serving the University.

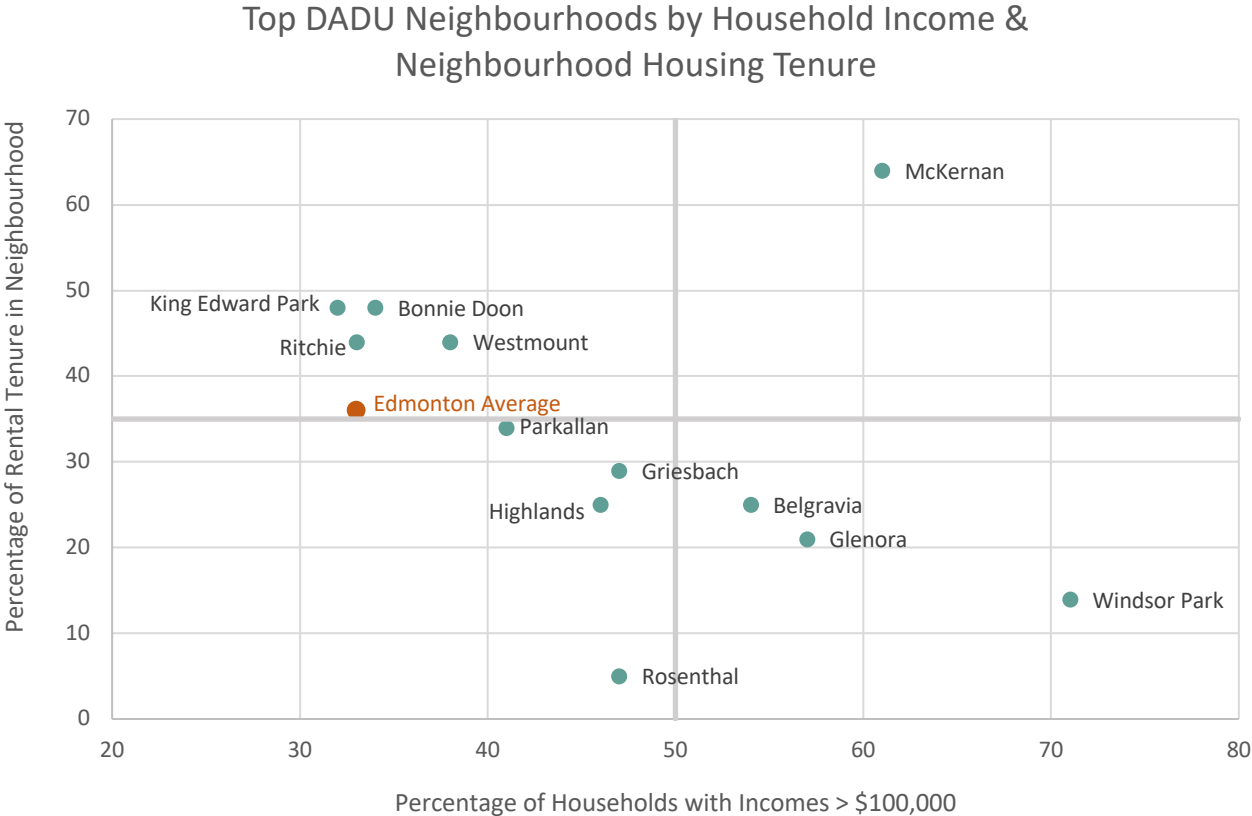


Figure 6: Neighbourhoods with the Greatest Number of DADU Permits by Household Income and Neighbourhood Housing Tenure. City of Edmonton Open Analytics. (2020). 2016 Census Neighbourhood Profiles. Retrieved from <http://ace.edmonton.ca/projects/visualizations/2016-census-neighbourhood-profiles/>

These findings are interesting in light of research by Chapple et. al., (2020a) which examined California’s ADU market. This study looked at who is building ADUs and where. Their findings show that in neighbourhoods in the lowest quartile of median income for the state, ADU development has lagged. In contrast, neighbourhoods in the highest quartile have seen the

greatest share of development. Chapple et. al., (2020a) also compared property owners by quartile of home value and found that just 2% of owners in the lowest quartile have developed ADUs. This is compared to 40% in the top two quartiles where median home values are above average. That being said, they note that significant ADU development has taken place in some lower-cost zip code area (Chapple et. al., 2020a).

In relation to the guiding research questions, the analysis of Edmonton's Garden Suite permitting data suggests that the spatial distribution of DADUs is related to affordability both for homeowners, and for renters. For homeowners, the data shows that DADUs are primarily built in neighbourhoods with high household incomes in areas of the city that are in close proximity to amenities. In the subsequent section, this research delves deeper to examine barriers to development for DADU owners and potential DADU owners through the Garden Suite Survey. This section also reveals findings related to affordability and willingness to pay.

Garden Suite Survey

The Garden Suite Survey focused on questions related to barriers to development, as well as cost and affordability for homeowners looking to build DADUs. Questions also examined affordability for renters, using owner-reported rental rates. Of the 198 survey participants, 39 own a garden suite, 134 do not own a suite, but would like to, and 25 are in the process of building a suite. Note that in Edmonton, due to its climate, garage renovations or conversions to suites are exceedingly rare, and almost all DADUs are new construction.

The data reveals that primary motivations for building a suite are split between those who want to build for additional rental income (32%), those who want to build for family members or friends (23%), and those who want to move into the suite themselves and rent out the main house (25%). 11.9% of respondents mentioned that they are drawn to garden suites for their flexibility of use over time (ex. music room, visiting family, eventual ageing in place). This is also demonstrated by participant's willingness to live in the suite themselves. When asked if they would ever consider living in the suite themselves, 71% of respondents said yes, which underscores DADUs ability to provide flexibility over the lifespan (Coppage, 2017). Of the suites that are currently rented, occupants range in age, however, 39% were young adults between the ages of 18-24. Older adults aged 55+ accounted for 17% of DADU occupants. 13% of occupants were under the age of 18, 13% were aged 25-34, and 17% were aged 45-54. On average, suite occupants owned 1.0 cars compared to an average of 1.63 for Edmonton households.

Consistent with previous research by Salvador (2017) and Brown & Palmeri (2014), voluntary affordability was revealed by this research (see Figure 7). Family members and friends of the DADU owner are charged less than unknown tenants. On average, family members were charged \$360/month, friends were charged \$1,063/month, and previously unknown tenants were charged \$1,175/month. Removing family members who are charged zero rent, the average rent per month for family members is \$540. Removing suites that are rented under the Cornerstones affordable housing program, the average rental rate per month is \$1,180. Cornerstones provides homeowners with up to a \$20,000 grant conditional upon renting their suite at pre-determined

affordable rates for five years. It aims to promote the development of garden suites that are rented at affordable rates to lower income tenants.

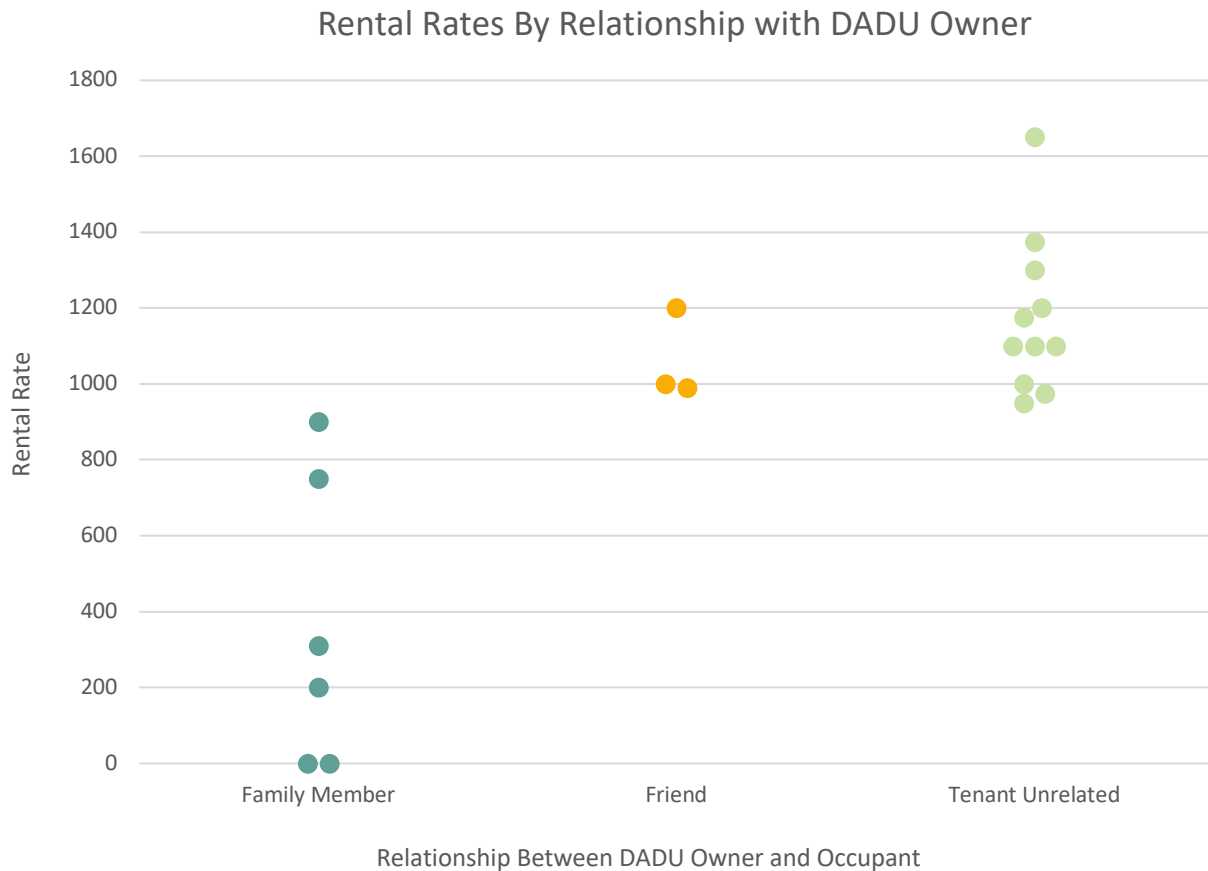


Figure 7: Rental rates by relationship with DADU owner. Data from 2019 Garden Suite Survey.

Using a regression including only a factor variable for the relationship between owner and suite occupant, regression is able to predict 65.7% (adjusted R-squared) of variability in rental rates (see Figure 8). The effect of a family relationship with the owner on rental rate is statistically significant at the $p = 0.01$ level. These findings corroborate the findings related to voluntary affordability by Salvador (2017) and Brown & Palmeri (2014).

Source	SS	df	MS	Number of obs =	20
Model	2657727.08	2	1328863.54	F(2, 17) =	19.16
Residual	1179066.67	17	69356.8627	Prob > F =	0.0000
Total	3836793.75	19	201936.153	R-squared =	0.6927
				Adj R-squared =	0.6565
				Root MSE =	263.36

How much rent do you charge?	Coef.	Std. Err.	t	P > t	95% Conf. Interval	
Relationship w/tenant						
A Friend	-111.667	171.5346	-0.65	0.524	-473.5713	250.2397
Family/Relative	-815	133.6587	-6.10	0.000	-1096.995	-533.0048
Unrelated to owner (cons)	1175	79.4051	14.80	0.000	1007.47	1342.53

Figure 8: Rental rates predicted by relationship between owner and suite occupant. Data from 2019 Garden Suite Survey.

When considering affordability for suite occupants, the Garden Suite Survey also asked questions about the City of Edmonton’s Cornerstones Grant. Of the survey participants who either own a suite or are in the process of building a suite, only 11% applied for and were awarded the Cornerstones Grant. 75% of respondents chose not to apply. Respondents felt that the amount offered by the grant was not enough to make up for lost rental revenue, and that the rental thresholds and five-year time commitment limited the flexibility of the suite (see Figure 9). Since garden suite owners value the flexibility associated with garden suites this finding suggests that the structure of Cornerstones may be incompatible with typical Garden Suite projects. Furthermore, since 63% of garden suite owners have a household income over \$100,000 and 48% of respondents said their main motivation was to move into the suite themselves or rent to a family member or friend (versus an unknown tenant), the efficacy of a grant premised on renting to lower-income individuals is brought into question.

If you did not apply for Cornerstones, why not?

	Frequency	Percent
[Did not know about it]	6	15.00
[Restrictions on tenants/income thresholds]	16	40.00
[Grant amount not enough to make up for lost rental revenue]	5	12.50
[Not eligible]	4	10.00
[Wanted to maintain flexibility/control over suite use]	7	17.50
[N/A]	2	5.00

Figure 9: Respondent feedback regarding the Cornerstones affordable housing grant for garden suites in Edmonton. Data from 2019 Garden Suite Survey.

Turning to the affordability of DADUs for homeowners, the data suggest that DADUs are reserved for those with higher than average incomes who have substantial personal savings. The median cost to build a suite (including design, permitting, construction, labour, etc.) was \$189,500. Of the respondents who have built a suite or are in the process of building a suite, 63% have a household income of \$100,000/year or greater, and 37% have a household income over \$150,000/year. For reference, the average household income in Edmonton is \$93,600 (Government of Alberta, 2020). Of the respondents who do not own a suite but are interested in building, 52% have an income of \$100,000/year or greater. Looking at property value, the average pre-DADU property value of those who built or who are in the process of building is \$420,253, with a median of \$358,500. Interestingly, those who have not built have a higher average property value of \$434,271 with a median of \$418,500. The overall city average property value for 2019 was \$387,000 (City of Edmonton Open Data, 2019).

When considering affordability for homeowners, it is critical to consider how suites are being financed. According to data gathered by the Garden Suite Survey, 43% of survey respondents who are either in the process of building a suite or who have already built a suite, financed their

suite in-part with personal savings. When asked what percent of the cost of the suite was financed with personal savings, on average, 45% of the cost was financed with personal savings. This may point to two things. First, it suggests that households building DADUs have greater personal savings. Second, it may mean that traditional financing options for DADUs are limited, forcing homeowners to use personal savings or lines of credit.

When considering DADUs from an investment perspective, of the survey participants who reported their assessed property values before and after the suite was built, on average, property value increased by 84% of the cost to build the suite. The median increase in annual property taxes after building a suite is \$1,251.

Barriers to development were also examined in this survey (see Figure 7). The primary barrier preventing respondents from building a suite was cost and difficulty getting financing. 48.3% of respondents listed cost and financing as a barrier. Other primary barriers included zoning and regulatory barriers (15%), limited time to devote to the project/too busy (10.3%), and timing isn't right/it's a future plan to build a suite (9.2%). Less prevalent were feelings of uncertainty about the project and lack of expertise (8.1%), as well as questioning the value it will add to a property due to lack of comparable properties (4.6%). If cost was listed as a barrier to development, respondents were also asked at which price point would they be willing to build. The average price deemed 'acceptable' by respondents was \$123,974, \$62,526 less than the median cost to build.

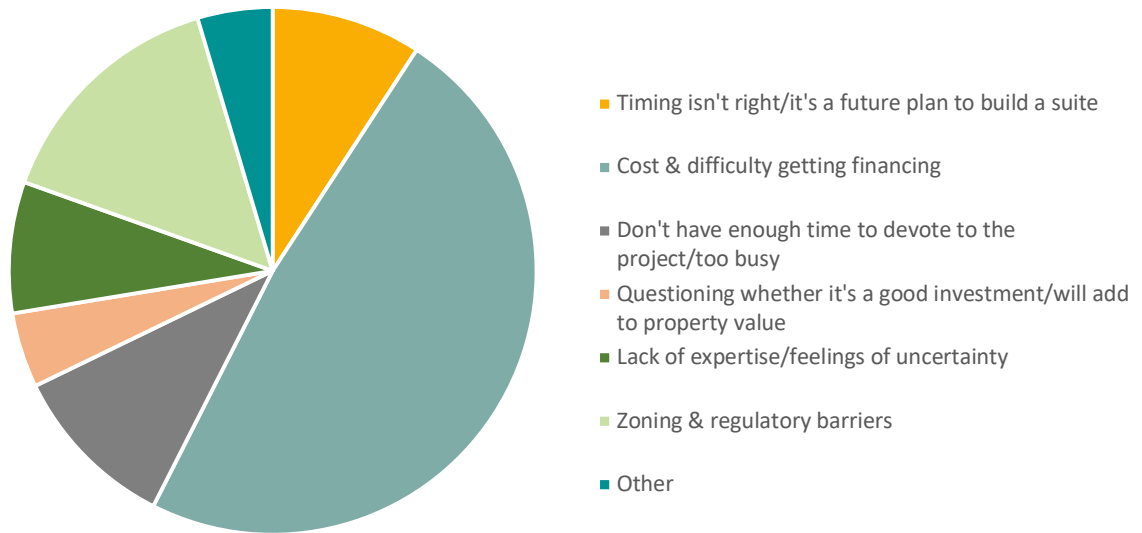


Figure 10: Primary barrier preventing respondents from building a suite. Data from 2019 Garden Suite Survey.

Respondents were also questioned on the challenges they faced while building their suite, and whether these challenges added to the cost of their project. Of the respondents who had project challenges, a median of \$5,000 in additional costs was attributed to regulatory constraints. Having to get new plans drawn and redesigned following conversations with development officers/inspectors was identified as a particularly costly challenge. The lengthy permitting process for garden suites was cited as a frustrating challenge which added costs to the project in the form of project delays.

In general, among the respondents who own a DADU or who are in the process of building, the most commonly cited challenges were the permitting process (24%), size/floor area limits (14%), and inconsistent development officers/inspectors (13%). Other issues included challenges with builders/contractors (11%), height limits (9%), difficulty obtaining financing/paying for the suite (6%), as well as utility connections (6%).

In summary, the Garden Suite Survey revealed several key pieces of information, including the finding that the cost to build a DADU is a primary barrier to development. In general, those who are building have high household incomes and live in wealthier neighbourhoods. They often finance projects in part with considerable cash savings, which poses challenges for the widespread distribution of DADUs, and leads to questions around the efficacy of existing DADU financial products. The gap between the average cost of DADUs and respondent's willingness to pay is approximately \$60,000, with the average reported willingness to pay sitting around \$124,000. Finally, looking at rentability, DADUs were found to rent for slightly above market rate for an average rent of \$1,180 in cases where the owner is unrelated to the occupant. In cases where family members occupied the suite, average rent was \$360, further confirming that voluntary affordability is at play.

Chapter Five: DISCUSSION & CONCLUSIONS

In this Chapter, conclusions are drawn about the policy comparison, secondary data analysis, and survey results. Research questions will be addressed, and the significance of the research findings will be elaborated on.

One of the primary questions of this research was to establish what characteristics are common across municipalities with high DADU uptake. This was done through a policy comparison of nine North American cities, some of which were included for their status as policy leaders across existing literature, and some of which were included as comparative cities with lower DADU uptake, but explicit policies and zoning for DADUs. The policy comparison of DADU regulations showed that zoning and use class plays an important role in determining DADU uptake. All of the cities included in the comparison, except for Calgary listed DADUs as a permitted use, and allowed them in all low-density residential zones. Cities with bylaws that provided flexibility in height, size, and orientation had greater numbers of DADUs. As did those with lower parking requirements and no minimum lot sizes.

A major takeaway from the policy comparison is that local housing markets play a critical role in determining uptake. For example, Edmonton (0.37 DADUs/1000 people) has very similar bylaws to Portland (1.34 DADUs/1000 people), and in some ways is less restrictive (i.e. no parking minimums, larger allowable size), yet Portland has 262% more uptake. Ensuring that the regulatory landscape is amenable to DADU development is an important step in unlocking the market, but regulations alone will not drive growth.

As demonstrated by the City of Edmonton Open Data Analysis, DADU distribution seems to be tied to neighbourhoods with higher than average household incomes. Two ‘types’ of neighbourhoods were identified as having the highest proportion of DADUs in Edmonton. The first type of neighbourhood has exceptionally high household incomes, but lower rental potential. These neighbourhoods are all historically wealthy areas in Edmonton’s mature core, often with good access to amenities and Edmonton’s River Valley. The second type of neighbourhood has lower household incomes, but still comparable to or higher than Edmonton’s average. These neighbourhoods have high rental potential and are located in close proximity to the University of Alberta and Whyte Avenue, Edmonton’s most popular commercial districts for locals and tourists. The distribution of DADUs in Edmonton aligns with the two most frequently cited motivations of DADU owners in the Garden Suite Survey: rental income, and housing family or themselves. It can be inferred that households in type one neighbourhoods may be building suites for family members to move into or for themselves to downsize to, but still appreciate the flexibility of being able to rent it out. Households in type two neighbourhoods are likely building to generate rental revenue, but still appreciate the flexibility of downsizing or housing family in the future.

Another foundational question asked by this research was whether the cost to build a DADU in Edmonton is a primary limiting factor in their widespread adoption. When asked to identify what the primary barrier preventing them from building is, 48% of respondents cited cost and difficulty getting financing. The remainder of respondents cited a variety of barriers, including timing, lack of expertise, and zoning or regulatory challenges. These responses suggest that the

cost to build a DADU and difficulty getting financing are the primary barriers limiting their widespread adoption.

Interestingly, it seems that respondents are not getting very far into the process of building a DADU before deciding that cost and financing are a barrier. While 83% of respondents conducted preliminary research and 54% attended information sessions on garden suites, only 10% of respondents spoke with a financial institution. This brings into question whether cost and financing are truly a barrier, or whether homeowners are experiencing 'sticker shock'. Upon learning the average cost of DADUs during preliminary research, are homeowners deciding that the cost is simply too much? It may also be possible that when presented with traditional financing options for DADUs homeowners do not find them attractive. These findings challenge the validity of respondents' answers to the survey question that addresses primary barriers preventing DADUs from being built. Further questioning around property value revealed that those who have not built a suite, but cited cost and financing as a barrier had property values 16% higher than those who have built DADUs. Even if we assume that the respondents are carrying the median 2016 mortgage debt for homeowners in Edmonton of \$260,000 (Statistics Canada, 2016) and that their DADU is appraised low at \$110,000, using traditional financing options (as-is, as-complete mortgage), many should still be able to obtain financing for a DADU.

Given these findings, it is difficult to conclude that cost and financing are truly a barrier to DADU development. Rather, cost and financing may be a *perceived* barrier. Edmontonians interested in building a DADU reported that they would be willing to move forward with building if the average cost to build was closer to \$124,000, approximately \$63,000 less than the

median cost to build reported by survey respondents who have already built. Although DADUs are ultimately full-fledged homes, the nature of DADUs as a ‘secondary’ or ‘accessory’ unit that is subordinate to the primary dwelling may create an expectation among homeowners that the cost to build should be lower than it is. It’s also important to remember that the responses received to the question of how much homeowners would be willing to pay is a self-reported preference. This means there may be a gap between self-reported willingness and willingness to accept or revealed preference (Plott & Zeiler, 2005). It may be the case that respondents are likely to report preferring lower costs, while being willing to pay higher costs. This is where it becomes noteworthy to consider why people are building DADUs and what their motivations are. Is it possible that those who are following through with building DADUs are able to see beyond the sticker shock because they have stronger drivers? Maybe those who are building a DADU for family members or for themselves to live in have a very different looking cost-benefit analysis than those looking to turn a profit and use their DADU as a rental unit. 48% of respondents who have yet to build a DADU said their main motivation for wanting to build a suite was to house a family member or to live in the suite themselves. Of the homeowners who have already built DADUs, 44% said their primary motivation was to build for family or for themselves to move into as opposed to rental. This is consistent with past findings from Salvador (2017) and Brown & Palmeri (2014), suggesting that family can be a strong motivator.

Of the homeowners who successfully completed their DADUs, instead of citing cost and financing as a primary challenge, 24% report that the permitting process was the most significant challenge, as well as size limits (23%), and inconsistent development officers (21%). Only 6% cited cost and financing as a challenge. 63% of respondents who own a DADU report a

household income of \$100,000/year or greater, with 37% over \$150,000/year. This is in contrast to those who have yet to build. 52% of respondents who have not built reported a household income greater than \$100,000, with 25% over \$150,000. This suggests that in general, DADUs are reserved for households with higher incomes and for those who have the ability to put a significant amount of their personal savings towards a DADU. 43% of DADU owners report putting personal savings towards paying for their DADU and of those who used personal savings, an average of 45% of the DADU was paid for with savings. This finding challenges the assertion that DADUs are an inherently affordable form of housing and is consistent with findings from Brown & Palmeri (2014), who found that 62% of people used personal savings to pay for their DADU.

There seems to be multiple factors influencing homeowner's behaviour around DADUs that result in uptake by higher income individuals. The first is that many potential DADU owners self-select themselves out of the DADU process early on due to the cost, even if they have similar household incomes and assessed property values to those who have successfully built a suite. Before speaking with a financial institution, they may pre-emptively decide that the cost is simply too much. They may expect they will have difficulties financing it, whether or not this is accurate. Alternatively, it could be that some homeowners view a DADU as a risky proposition with an uncertain return, however, only 4.6% of respondents said that the primary barrier preventing them from building was uncertainty around whether a DADU is a good investment that will add to their property value. That being said, it is reasonable to assume some homeowners may feel uncomfortable with taking on such a large amount of debt. The second phenomenon demonstrated by this research is that those who decide to go ahead with building a

DADU have significant savings they can tap into and a high household income. This may indicate that the financing options available to homeowners at this time are limited. Without a security blanket such as personal savings and a high income, as well as a strong motivator, such as family, they would be less likely to proceed with a DADU project. Overall, these findings show that getting people through the door of financial institutions is an important step in the process of moving from project concept to completion. However, without appealing and sophisticated financial products that make homeowners feel safe and secure in their decision, this will remain a barrier. The creation of DADU specific products that recognize the unique nature of DADU projects may help reduce this barrier.

Turning to affordability for renters, this research shows that on average, DADUs are rented for a slight premium, unless they are rented to family members. On average, DADUs in Edmonton are rented for \$1,180. This rate is reflective of the DADUs rented to tenants who are not family members of the owner. Average rental rates for DADUs occupied by family members of the owner are markedly lower at \$360/month. This finding is consistent with research on voluntary affordability by Brown and Palmeri (2014) and Salvador (2017) that shows DADU owners who build for family and/or rent to family are prioritizing something other than financial gain.

According to the Canada Mortgage and Housing Corporation rental market report, comparable one-bedroom units in Edmonton rent for \$1,028 (CMHC, 2019). Using CMHC's definition of affordable housing, affordable rental rates for one-bedroom units in Edmonton are determined to be around \$720. Where voluntary affordability exists, DADUs do present as an affordable form of housing. However, in general DADUs occupy the upper-end of the market-rate affordable

housing spectrum. With this in mind, it's important to consider who is building DADUs alongside the *relative* affordability they provide to occupants. If the majority of people who build DADUs occupy upper income brackets and have considerable savings, it's fair to assume that the family members receiving affordability benefits from the DADU are already connected to households with high annual incomes and savings. This is not to say that they cannot benefit from access to affordable housing, but it does bring into question the limits of DADUs direct affordability claims. Looking at the role of DADUs in a city's overall housing stock, DADUs built for family members potentially still remove these individuals from looking for units elsewhere in the rental market, thereby providing relief for others simply by increasing supply. That being said, making a dent in overall supply would require sufficient and sustained growth of the DADU market.

Outside of programs like Cornerstones, it is unlikely that DADUs are providing widespread affordable housing options to Edmontonians. Although arguments can be made that increasing the overall housing supply through the addition of DADUs can bring cost down, the addition of 60-70 DADUs per year is unlikely to make a significant mark on rental rates. It is also expected that even with increased supply, DADUs would remain a somewhat 'luxury' rental option as they are an independent unit without shared walls or common areas, which may make them more attractive than a basement suite or apartment. One specific group that stands to benefit from DADUs and their relative affordability as a rental are seniors and their family members. DADUs can offer older adults opportunities to downsize and age in their communities alongside familial care networks. In many cases they are an alternative to independent living facilities or seniors' homes – hence the name 'granny flat'. As such, DADUs may help open up space at senior's

homes or independent living centres that would have otherwise been filled by residents who are not quite ready for that level of care, and who cannot afford to pay the high price of approximately \$3,200/month for assisted living (A Place For Mom, 2020). However, as illustrated above, the opportunity to use a DADU as an intermediary housing option before assisted living is generally only available to family members of higher income households. Another piece of the affordability puzzle to consider is the sizeable group of survey respondents (25%) who said their primary motivation for build a DADU is to move into the DADU themselves. In these cases, questions can be raised around what happens to the primary house that they move out of. Most often, the primary houses they are downsizing from are older, larger, multi-bedroom ‘family homes’ in desirable neighbourhoods. These homes may provide families who cannot afford to buy into these neighbourhoods a rental alternative.

As long as DADUs remain a form of housing built only by higher income households with access to considerable personal savings, widespread adoption will be stalled, and the affordability benefits associated with DADUs will be limited to family members of wealthier DADU owners that have higher levels of social capital. As financial institutions become more sophisticated in their product offerings for DADUs, and DADUs become more mainstream, it is possible that middle income homeowners will be more likely to move forward with projects as their perceived risk is lower. Speaking more generally, the addition of DADUs to desirable neighbourhoods that are primarily single-detached homes, may create opportunities for renters to live in communities they would not otherwise be able to afford through homeownership. That being said, DADUs are not a sweeping solution to the affordable housing challenges cities across North America are facing, and there is undoubtedly a gap between who can afford to build

DADUs, who is renting them, and those who are in need of affordable housing. Simply relying on market solutions, such as unsubsidized DADUs, to resolve housing affordability is misguided. On a per-unit basis, DADUs are considerably more expensive than other forms of affordable housing. DADUs are one form of housing that can help cities build more diverse neighbourhoods that are more environmentally and socially sustainable, but they should not be viewed as an alternative to public investment in affordable housing. Given that affordable housing exists on a spectrum, in general, DADUs can be seen to represent market-rental housing. In cases where voluntary affordability occurs, they function as affordable rental housing. Similarly, DADUs should not be viewed as the sole solution to densifying existing built up areas as they occupy the lower end of the missing middle housing spectrum. DADUs act as a complementary housing form to densify neighbourhoods with predominantly single-detached housing. They are an opportunity to retrofit the low-density suburban build out of the late 20th Century. More generally, forward-thinking cities should be looking to set the stage for middle density development to take hold. In order to address the affordability, sustainability, and economic realities of the 21st Century, cities should be focusing their efforts on aligning policies and zoning bylaws to allow for medium density development, such as mid-rise apartments, courtyard housing, townhomes, and mixed-use, multi-family developments in existing neighbourhoods.

Recommendations

The DADU policy comparison, in conjunction with existing literature, suggest that successful DADU policies provide flexibility in size, height, and orientation. Eliminating onerous regulations like parking minimums, owner occupancy requirements, location restrictions, and contextual regulations that require DADU height and size to be subsidiary to the principle

dwelling help create the conditions in which a DADU market can take root. In general, policies should aim to provide homeowners with greater amounts of certainty surrounding the development process, while reducing risk. Figure 11 provides a summary of regulatory recommendations based on existing literature and the policy comparison.

Recommendation	Rationale
DADUs as a permitted use	Discretionary uses, as opposed to permitted, require an additional layer of planning permissions and are typically subject to appeal by neighbours. The uncertainty and risk associated with a discretionary process can discourage homeowners from building as there is a possibility that their project will be denied, or costly revisions will have to be made. As long as the DADU is bylaw conformant, it should receive approval by-right.
Permitted in all low to medium density zones	Restricting DADUs to certain zones can create equity and access implications.
Permitted on lots with or without lane access	Restricting DADUs to certain lot typologies can create equity and access implications. This is especially true when considering suburban contexts, where many properties may have large backyards, but no laneway access.
Severable from primary dwelling	To allow for affordable housing opportunities beyond rental tenure, DADU severability should be considered (ex. via condominium conversion). Some homeowners may wish to sell their primary dwelling and move into the DADU, allowing them to access existing home equity. Similarly, they may wish to sell a portion of their backyard to someone wishing to build a DADU, thereby facilitating more affordable homeownership.
Multiple DADUs/ADUs permitted on a lot	Several cities already permit multiple DADUs/ADUs on a single lot. This allows greater opportunities for gentle density in existing neighbourhoods. Allowing a secondary suite in combination with a DADU and single-detached home may also assist

	with financial feasibility as passive income is built into the project.
No owner occupancy requirements	Owner occupancy requirements are administratively cumbersome, and from an equity lens, presume owner occupied properties are maintained to a higher standard. This is inherently discriminatory towards renters. As a general rule, bylaws should regulate the use, not the user.
No minimum lot sizes	In most cases, cities already have setback and coverage regulations in place to control the scale of DADU development. Given this, requiring minimum lot sizes is a redundant rule that limits adoption. For example, lots may be deemed unsuitable and too small for a DADU based simply on existing setback and coverage requirements.
Maximum livable floor area of at least 75m ²	75m ² provides enough floor area for a small two-bedroom unit. If cities wish to expand the market for DADUs beyond single-bedroom and bachelor units, they must provide enough room for a functional two-bedroom unit. Ideally, a maximum allowable size of at least 90m ² should be pursued, which allows for a comparable size to a two-bedroom condo or apartment.
Avoid contextual regulations related to size	Requiring the size or height of the DADU to be lesser than the primary dwelling may limit the size of units to a single bedroom or bachelor studio, which limits the market for DADU renters to single-individuals or couples without children. These types of contextual regulations also overlook the inevitable redevelopment of the principle dwelling.
Setbacks consistent with underlying zone	Setbacks for DADUs should be consistent with underlying zones to avoid additional layers of complexity.
Basements permitted in DADUs and do not count towards floor area calculation	Given their subterranean nature, basements do not have a noticeable impact on the look of a DADU, however, from the perspective of livability they can provide significant additional living or storage area.
No minimum parking requirements	Parking minimums should be avoided as they restrict an owner's ability to respond to market demands, limit livable floor area, and

make it challenging to design efficient and effective DADUs on smaller lots.

Figure 11: Recommendations for DADU regulations.

From an affordability lens, municipalities should use their legislative powers to open the door to market driven solutions, like DADUs, while simultaneously playing a leadership role in supporting public investment in subsidized affordable housing. As demonstrated by this research, DADUs have a role to play in affordable housing, specifically related to voluntary affordability, but they should not be viewed as a silver bullet solution. In order to further boost DADU uptake and facilitate affordability, cities may also wish to explore affordability incentives such as grants and the waiving or deferral of permitting fees. Furthermore, given that DADUs are homeowner-driven projects as opposed to professional developers, cities may benefit from the creation of toolkits and how-to-guides in order to raise awareness and educate homeowners on the process and regulations surrounding DADUs. Given that they are still considered a relatively new form of housing, city planners may also benefit from learning more about DADU so that they can amend zoning bylaws and policies to accommodate them.

Beyond DADU policies and zoning, the creation of DADU specific financing products may help spur development. As financial institutions become more familiar with DADUs, they may wish to offer DADU specific products that recognize the unique nature of them as homeowner-driven projects. This may help bring DADUs into the mainstream and normalize this form of development so that homeowners don't feel as if they are trying to build something unusual and unconventional. Given that Van City was the only institution in Canada with a laneway housing product, it can be expected that the institutions who are first to market have an opportunity to lead in the DADU space.

Chapter Six: FUTURE RESEARCH OPPORTUNITIES

DADUs and ADUs more generally are a niche but growing research topic. As cities across North America work towards creating more dense, sustainable, urban areas, DADUs and ADUs will undoubtedly be part of the conversation alongside various other forms of infill development. While this research offers insight into Edmonton's DADUs context, comparative studies must be done to help establish trends and patterns across municipalities. The methods used for this research were effective in analysing the affordability implications of DADUs in particular. The Garden Suite Survey provided direct insight into rental rates, barriers to development, and demographic trends for who is building DADUs. The secondary data analysis provided an additional layer of insight into the spatial distribution of DADUs, while the policy comparison provided context around best practices. Future researchers may wish to apply an affordability lens to local spatial analysis for DADU using permitting data. This method provided rich and interesting findings that have implications for the equitable distribution of housing typologies such as DADUs. Furthermore, future research may wish to use interviews with key informants, such as city planners or members of the building industry, to gain a more in-depth understanding of DADU policy rationale and barriers.

At this time, it seems that there is general consensus across the literature that best practices exist for DADU and ADU zoning and regulations. Successful uptake has been achieved in a number of cities across Canada and the United States. This was supported by the DADU policy comparison carried out by this research. Willingness to change bylaws and community pushback around legalizing ADUs may be stalling their widespread adoption in other cities. As such, it can be inferred that political will remains a barrier to implementation. This pushback is consistent

with general pushback around infill development and neighbourhood change. Speaking to the implications of this research for planning practice more broadly, planners and municipalities must be aware of the regulatory power they hold in either blocking or unlocking markets. This is especially true in relation to affordability. In the case of DADUs, overly prescriptive or onerous regulations may lock out low to middle income earners from accessing a housing form that may suit their evolving needs. This logic, applied broadly causes artificial housing scarcity, putting upward pressure on the overall cost of housing.

Given the findings of this research on DADU affordability, future research should explore ways to take DADUs beyond a rental-only form of housing. Exploring alternative tenure models, such as condominiums, strata title, and subdivision from the primary home may create development opportunities for homeowners who otherwise couldn't afford to build a DADU. Consideration should also be given to improving granting opportunities for those looking to build DADUs. As demonstrated by the low uptake of the Cornerstones Grant, future research may look to determine how incentive structures and grant programs can better align with DADU owner's experiences, motivations, and barriers.

Finally, one of the most important future research opportunities is to examine how DADUs can be used as a steppingstone to higher density development. DADUs are an important element in building a more compact, sustainable, and healthy city, but greater efficiency will be found once cities start allowing multiple DADUs on a lot, in combination with medium density, multi-storey development. Since DADUs are marginal investments where the best returns are made only in the most expensive neighbourhoods allowing multiple DADUs on a lot, or multiple units in a

DADU, may also improve the quality of the investment and therefore increase uptake. In some ways, DADUs can be seen as the next iteration of the single-detached home. They are a low-enough density that they are still palatable to even the staunchest opponents of infill.

In many cases, they are seen as a preferred alternative to row housing, for example. If we are able to move DADUs from a single-detached, rental housing option to a multi-unit form of housing available in diverse tenures – think duplex DADUs with secondary suites as part of a cluster housing development – cities could achieve real affordability gains. Not only would this create more diverse and affordable housing, but it will also get us closer to the densities we need to sustain our cities. Stopping at single-detached homes plus one DADU is not the solution to the immense environmental, fiscal, and social pressures cities across North America are facing.

Research that reimagines DADUs in this light will help move us towards a better, more equitable urban future.

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Appendix A

Edmonton Garden Suite Survey 2019

Survey Consent

Dear Potential Participant,

My name is Ashley Salvador and I am a MA Planning student at the University of Waterloo conducting research under the supervision of Dr. Markus Moos, on Garden Suites in Edmonton. Garden Suites (also known as Laneway Homes, Accessory Dwelling Units, Garage Suites, or “Granny Flats”) are becoming an increasingly common form of rental housing across North America. Edmonton in particular has seen a significant increase in the number of Garden Suites over the past 10 years. As someone who has expressed interest in Garden Suites your opinions may be important to this study. If you have ever considered building a Garden Suite, are a current Garden Suite Owner, plan on building one in the future, or are simply interested in the topic, you are eligible for this survey.

Your involvement in this survey is entirely voluntary. If you agree to participate, the survey should not take more than 15 minutes. The questions are quite general, however, you may decline answering any questions you feel you do not wish to answer. Your identity will be kept confidential and data will be grouped with responses from other participants. Further, you will not be individually identified in any thesis, report or publication resulting from this study. Any quotations used will be stripped of personal identifiers. The data collected from this study will be stored for at least 3 years on a password protected laptop. Your email address will only be used if you would like to receive further information on Garden Suites or this research study.

You will be completing the study by an online survey operated by Survey Monkey. When information is transmitted or stored on the internet privacy cannot be guaranteed. There is always a risk your responses may be intercepted by a third party (e.g., government agencies, hackers). Survey Monkey temporarily collects your computer IP address to avoid duplicate responses in the dataset but will not collect information that could identify you personally.

This study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Committee (ORE 40219). If you have questions for the Committee contact the Office of Research Ethics, at 1-519-888-4567 ext. 36005 or ore-ceo@uwaterloo.ca.

For all other questions, or if you would like additional information to assist you in reaching a decision about participation, please feel free to contact Dr. Markus Moos at 519-888-4567, Ext. 31113. Please note that you are free to withdraw from this study at any time during the survey by closing the survey form. Once the survey is submitted, you will not be able to withdraw as personal identifiers are not available.

By agreeing to participate in the study you are not waiving your legal rights or releasing the investigator(s) or involved institution(s) from their legal and professional responsibilities.

Thank you in advance for your interest in this project.

Sincerely,

Ashley Salvador
University of Waterloo
School of Planning
aasalvador@uwaterloo.ca
ashley@yegardensuites.com

* 1. Do you consent to participating in this research?

I agree to participate

I do not agree to participate

Edmonton Garden Suite Survey 2019

General Info

2. Do you own a Garden Suite?

Yes

No

I am in the process of permitting or building a suite.

Edmonton Garden Suite Survey 2019

Garden Suite Owners Questionnaire

Please provide answers to the following questions related to your Garden Suite. Questions related to property value and taxes will be used to determine how much value, on average, a Garden Suite adds to a property in Edmonton, and on average, how much Garden Suite owners pay in additional taxes.

3. What was your primary motivation for building your suite?

- Built for family member or friend
- Additional rental income
- To move into the suite myself
- Investment property
- Other (please specify)

4. What was your assessed property value before you built your suite in dollars?

5. What is your assessed property value after you built your suite in dollars?

6. If your taxes have increased after building your suite, by how much have they increased in dollars/year?

7. Is your property "owner occupied" (i.e. the owner lives on the property) or was the suite built on an investment property?

- Owner occupied
- Investment property

8. Is your suite currently rented?

- Yes (including to family, friends, tenant, etc.)
- No
- I live in the suite
- I rent the suite via Airbnb (or other short-term rental options)

Edmonton Garden Suite Survey 2019

Airbnb

9. Why have you decided to do Airbnb (or other short-term rental options) as opposed to regular, longer-term rentals?

Edmonton Garden Suite Survey 2019

Rented Suite

These questions are related to the rental of your Garden Suite. Understanding who is living in Garden Suites in Edmonton can help inform future policies that may make Garden Suites more suitable for a diversity of occupants. In addition, knowing how much rent is being charged can provide insight into whether Garden Suites are acting as a form of affordable housing or not.

10. What best describes your relationship with the current suite occupant? The suite occupant is....

- A family member (parent/parent in-law)
- A family member (adult child)
- A family member (sibling/sibling in-law)
- A friend
- A tenant (unrelated)
- Other (please specify)

11. What is the approximate age of each suite occupant?

	<18 years	18-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65+
Person 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Person 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Person 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Person 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. In total, how many cars do the occupants own?

13. How much rent do you charge per month including utilities (in dollars)?

Edmonton Garden Suite Survey 2019

Future Use

14. Would you ever consider living in the suite yourself?

Yes

No

15. If yes, how come?

Edmonton Garden Suite Survey 2019

Construction

The following questions are critical to the success of this study.

If your suite is under construction, answer the following questions based on what you expect when the suite is complete. If your suite is complete, please answer the following questions as accurately as possible.

All answers will be averaged out and no personal financial information will be revealed. Understanding the financial barriers, opportunities, and mechanisms available to Garden Suite owners (or potential owners) can help explain why some citizens choose to build, while others do not.

Findings from this section may also suggest that new incentive programs should be developed to make Garden Suites more feasible.

16. When did you receive your building permit for your suite? Please give the month and year.

17. What was the total cost of your suite in dollars (including design, permitting, construction, labour, etc.)?

18. How did you finance your suite? Check all that apply.

0 (studio)

1

2

3 or more

26. Which of the following best describes the type of Garden Suite you have?

All living space is above a detached garage (2 storeys)

Some living space on the first floor, some on the second above a garage (2 storey)

Some living space on the first floor, some on the second (2 storey), with no garage

Single storey suite with all living space at grade, with garage

Single storey suite with all living space at grade, with no garage

27. What were three of the biggest challenges you faced in building your Garden Suite? (Check up to three)

Obtaining financing/Paying for the suite

Permitting Process

Size (floor area) limits

Height limits

Utility connections

Meeting minimum parking requirements

Design constraints/challenges

Issues with builder/contractor

Inconsistent development officers

Other (please specify)

28. If you wish, please elaborate on the challenges you faced.

29. Did any regulatory constraints (zoning, permitting, variances, etc.) increase the cost of your build? Ex. time delays, redesigns, etc. If so, how much would you estimate this cost? Briefly explain.

Edmonton Garden Suite Survey 2019

Future Use (Currently not rented)

30. Why is your suite not currently rented?

- Using it as extra space
- In-between tenants
- Other (please specify)

31. Would you ever consider living in the suite yourself?

- Yes
- No

32. Please explain your answer.

Edmonton Garden Suite Survey 2019

Living in the Suite

33. If you are living in the suite, what do you do with your main house?

- Renting it to tenants
- Renting to family members or friends
- Nothing
- Other (please specify)

34. If you are renting out your main house, how much do you charge in rent, including utilities? (skip if not applicable)

35. Why did you decide to move into the suite?

Edmonton Garden Suite Survey 2019

Non-owners Questionnaire

36. Which of the following best describes your situation?

- I have not built a garden suite, but I would like to
- I considered building a suite, but decided against it
- I am interested in garden suites, but don't plan on building one myself

Edmonton Garden Suite Survey 2019

Haven't built a garden suite but I would like to

37. What is the primary reason you would like to build a suite?

- Build for family member or friend to live in
- Additional rental income
- To move into the suite myself (downsizing, ageing in place, etc.)
- Investment property
- Other (please specify)

38. Why have you not built a suite?

- Cost/Difficulty getting financing
- Confusing process
- Unsure if it's the right choice for me
- Don't have time to go through the process
- Want to retain yard space
- My lot can't accommodate a suite (lot size, zoning, etc.)
- Other (please specify)

39. If your lot can't accommodate a suite, what specific regulation is preventing you from building? (skip if not applicable)

40. What is the primary barrier preventing you from building a suite?

41. If cost is a barrier to building a suite, what price point would you find acceptable? Please provide a dollar value. (skip if not applicable)

42. How far into the suite building process have you gotten? Check all that apply.

- Preliminary research
- Attended a YEGarden Suites workshop, tour, or event
- Worked with a builder or designer to come up with concept plans
- Approached a financial institution to discuss financing a suite
- None of the above
- Other (please specify)

43. If you were to build, would this be an "owner occupied" property (the owner lives on the same property as the suite) or an investment property?

- Owner occupied

Investment property

44. What is the current assessed value of your property in dollars?

45. If you were to build, would you ever consider living in the suite yourself?

Yes

No

Unsure

Edmonton Garden Suite Survey 2019

Considered building a suite, but decided against it.

The following questions are critical to the success of this study. Understanding the barriers to building a suite can help inform policy decisions aimed at making Garden Suites more attainable for greater numbers of Edmontonians.

46. What is the primary reason you decided not to build a suite?

Cost/Difficulty financing

Confusing process

Other (please specify)

47. If cost was a factor in your decision not to build, what price point would you find acceptable? Please provide a dollar value. (skip if not applicable)

48. What was your initial interest in wanting to build a suite before you decided against it?

- Build for family member or friend to live in
- Additional rental income
- To move into the suite myself (downsizing, ageing in place, etc.)
- Investment property
- Other (please specify)

49. How far into the suite building process did you get before deciding not to build? Check all that apply.

- Preliminary research
- Attended a YEGarden Suites workshop, tour, or event
- Worked with a builder or designer to come up with concept plans
- Approached a financial institution to discuss financing a suite
- None of the above
- Other (please specify)

50. Was there a particular piece of information that stopped you from deciding to build?

51. What is the current assessed value of your property?

Edmonton Garden Suite Survey 2019

In the process of building a suite

Please provide answers to the following questions related to your Garden Suite. Questions related to property value and taxes will be used to determine, on average, which types of homeowners are choosing to build Garden Suites in Edmonton.

52. What was your assessed property value before you built your suite?

53. Is your property going to be “owner occupied” (i.e. the owner lives on the property) or is the suite built on an investment property?

- Owner occupied
- Investment property

54. Do you ever intend to live in the suite yourself?

- Yes
- No
- Not sure

Edmonton Garden Suite Survey 2019

Demographics & General Info

The following questions will help the researcher form an idea of what characteristics are common among people who choose or chose not to build a Garden Suite.

55. What is your household income? (before taxes)

- \$0-\$14,999
- \$15,000-\$24,999
- \$25,000-\$34,999
- \$35,000-\$49,000
- \$50,000-\$74,999
- \$75,000-\$99,999
- \$100,000-\$149,999
- \$150,000 or more

56. What neighbourhood do you live in?

We are interested in determining what neighbourhoods are associated with higher or lower rental rates. Please select your neighbourhood from the list below.

57. What is your gender?

58. What is your marital status?

- Single
- Married
- Living Common Law
- Never Married
- Separated
- Divorced
- Widowed
- Other (please specify)

59. What are the ages of each member of your household, including 94algary94?

	<18 years	18-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65+
Yourself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Person 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Person 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Person 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Person 5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Person 6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

60. How many people, including adults and children, live in the main house on the property?

61. What is your ethnicity?

62. What is your highest level of education?

- No certificate, diploma, or degree
- Secondary (high) school diploma or equivalency certificate
- Apprenticeship or trades certificate or diploma

- College, CEGEP or other non-university certificate or diploma
- University certificate or diploma below bachelor level
- University certificate, diploma, or degree at bachelor level or above

63. How long have you been interested in garden suites?

- Less than 6 months
- More than 6 months, less than 1 year
- More than 1 year

64. Have you ever attended a YEGarden Suites event, workshop, or tour?

- Yes
- No

65. Are you interested in receiving future information about garden suites in Edmonton from YEGarden Suites?

- Yes
- No

66. Are you interested in receiving the results of this research?

- Yes
- No

67. If you would like to receiving information from YEGarden Suites or would like a summary of the final results of this research, please provide your email address. The email address will be stored separately from the survey results and will only be used for this purpose.

Edmonton Garden Suite Survey 2019

Interested in Garden Suites

68. Why are you interested in Garden Suites?

69. Do you own a property that can accommodate a suite?

Yes

No

Not sure

Edmonton Garden Suite Survey 2019

Thank You

Thank you for participating in this survey! Your feedback is extremely valuable. Survey results will be available by August 2020.

This study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Committee (ORE 40219). If you have questions for the Committee contact the Office of Research Ethics, at 1-519-888-4567 ext. 36005 or ore-ceo@uwaterloo.ca.

For all other questions or if you have general comments or questions related to this study, please contact Dr. Markus Moos, University of Waterloo School of Planning, 519-888-4567, Ext. 31113.

If you would like more information on Garden Suites in Edmonton, please visit www.YEGardenSuites.ca.

Appendix B

Do you agree to participate in this research? Answered = 201

	Frequency	Percent
Yes	201	100
No	0	0

Do you own a garden suite? Answered = 198

	Frequency	Percent
Yes	39	19.70
No	134	67.68
I am in the process of permitting or building a suite	25	12.63

What was your primary motivation for building your suite? Answered = 32

	Frequency	Percent
Additional rental income	13	40.62
Built for family member or friend	6	18.75
Investment property	1	3.12
To move myself into the suite	6	18.75
Other	6	18.75

“Other” Answered = 7

	Frequency	Percent
[Don't know yet]	1	14.29
[Densification & land use]	2	28.57
[Flexibility of use]	2	28.57
Pay for house repairs	1	14.29
Garage and workshop space for married couple	1	14.29

What was your assessed property value before you built your suite in dollars? (Current suite owners). Answered = 26

	N	Min.	Max.	Mean	Median	Std. Deviation
What was your assessed property value before you built your suite?	26	230000	1100000	420253.8	358500	171058.5

What is your assessed property value after you built your suite in dollars? Answered = 20

	N	Min.	Max.	Mean	Median	Std. Deviation
What was your assessed property value before you built your suite?	20	330000	1350000	616255	506500	277845.4

If your taxes have increased after building your suite, by how much have they increased in dollars/year? Answered = 16

	N	Min.	Max.	Mean	Median	Std. Deviation
If your taxes have increased after building your suite, by how much have they increased in dollars/year?	16	250	2150	1361.719	1251.75	576.1565

Is your property “owner occupied” (i.e. the owner lives on the property) or was the suite built on an investment property? Answered = 32

	Frequency	Percent
Investment property	8	25.00
Owner occupied	24	75.00

Is your suite currently rented? Answered = 32

	Frequency	Percent
I live in the suite	3	9.38
I rent the suite via Airbnb (or other short term rental)	1	3.12
No	7	21.88
Yes (including to family, friends, tenant, etc.)	21	65.62

Why have you decided to do Airbnb (or other short-term rental options) as opposed to regular, longer-term rentals? Answered = 1

	Frequency	Percent
More potential for income	1	1

What best describes your relationship with the current suite occupant? The suite occupant is... Answered = 21

	Frequency	Percent
A family member (adult child)	5	23.81
A family member (parent/parent in-law)	1	4.76
Friend	3	14.29
A tenant (unrelated)	12	57.14

What is the approximate age of each suite occupant?

	Person 1	Person 2	Person 3	Person 4	Total
<18	-	-	2	1	3

18-24	7	2	-	-	9
25-34	2	1	-	-	3
45-54	3	1	-	-	4
55-64	2	-	-	-	2
65+	2	-	-	-	2

In total, how many cars do the occupants own? Answered = 21

	N	Min.	Max.	Mean	Median	Std. Deviation
In total, how many cars do the occupants own?	21	0	3	1	1	0.7071068

How much rent do you charge per month including utilities (in dollars)? Answered = 20

	N	Min.	Max.	Mean	Median	Std. Deviation
How much rent do you charge per month including utilities (in dollars)?	20	0	1650	913.75	1000	449.3735

Would you ever consider living in the suite yourself? – 29

	Frequency	Percent
No	5	17.24
Yes	24	82.76

If yes, how come? Answered = 18

	Frequency	Percent
[Ageing in place]	5	19.23
[Flexibility to rent out main house for more than suite]	6	23.08
[It's a nice, new house]	3	11.54
[Downsizing]	8	30.77
[Multigenerational opportunities]	1	3.85
[Smaller environmental footprint/energy efficiency]	1	3.85
[Allows for renovation of main house]	1	3.85
[Extra space]	1	3.85

When did you receive your building permit for your suite? Please give the month and year.

Answered = 47

	<2014	2014	2015	2016	2017	2018	2019	2020
January				2			1	1
February		1					2	
March				2	2	2	1	
April						1	2	

May			2	1				
June			1		1	1		
July				2	4	4		
August		1			2	2		
September	1				1	2		
October			1	1			1	
November		1						
December			1					
Total	1	1	2	9	6	11	16	1

What was the total cost of your suite in dollars (including design, permitting, construction, labour, etc.)?

	N	Min.	Max.	Mean	Median	Std. Deviation
	32	85000	300000	184625	189500	61921.26

How did you finance your suite? Check all that apply. Answered = 53

	Frequency	Percent
Personal savings	30	42.86
Purchase plus improvements	0	0
Refinance	20	28.57
Refinance plus improvements	7	10.00
Other	13	18.57

“Other” Answered = 13

	Frequency	Percent
[Family]	3	23.08
[Line of Credit]	8	61.54
[Corporate Funding]	1	7.69
[Credit Card]	1	7.69

What percentage of the total cost of your suite was financed with personal savings?

	N	Min.	Max.	Mean	Median	Std. Deviation
	31	0	1	.4492581	.25	.4182213

Did you use the Cornerstones grant? Answered = 53

	Frequency	Percent
Did not apply for the grant	45	84.91
Was awarded the grant, and used the grant to help finance the suite	6	11.32
Other	2	3.77

“Other” Answered = 2

	Frequency	Percent
[Will apply for it]	2	1

How could the Cornerstones Program be improved? Skip if not applicable. Answered = 26

	Frequency	Percent
[Increase awareness of the grant]	3	9.68
[Rental ceilings could be raised or removed]	5	16.13
[Grant amount not enough to make up for lost rental revenue]	11	35.48
[Simplify the process]	1	3.23
[Allow greater flexibility for owner to have different tenants – for example, the ability to rent to a family member if they become ill]	3	9.68
[N/A]	8	25.81

How satisfied are you with the Cornerstones Program? Skip if not applicable. Answered = 18

	N	Min.	Max.	Mean	Median	Std. Deviation
	18	0	100	32.61	45.00	30.07

If you did not apply for Cornerstones, why not? Skip if not applicable. Answered = 36

	Frequency	Percent
[Did not know about it]	6	15.00
[Restrictions on tenants/income thresholds]	16	40.00
[Grant amount not enough to make up for lost rental revenue]	5	12.50
[Not eligible]	4	10.00
[Wanted to maintain flexibility/control over suite use]	7	17.50
[N/A]	2	5.00

What is the square footage of the liveable space of your suite (not including garage or parking pad)?

	N	Min.	Max.	Mean	Median	Std. Deviation
	32	420	900	625.375	639	108.9977

What is the square footage of the liveable space of your suite (not including garage or parking pad)?

	N	Min.	Max.	Mean	Median	Std. Deviation
	52	320	1000	509.28	599.97	123.9712

Owners: How many bedrooms does your suite have? Answered = 32

	Frequency	Percent
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0 (studio)	2	6.25
1	25	78.12
2	5	15.62

Want to Build: How many bedrooms does your suite have? Answered = 53

	Frequency	Percent
0 (studio)	3	5.66
1	39	73.58
2	11	20.75

Owners: Which of the following best describes the type of Garden Suite you have?

Answered = 32

	Frequency	Percent
All living space is above a detached garage (2 storeys)	27	84.38
Single storey suite with all living space at grade, with no garage.	1	3.12
Some living space on the first floor, some on the second (2 storey), with no garage	1	3.12
Some living space on the first floor, some on the second above a garage (2 storey)	3	9.38

Want to build: Which of the following best describes the type of Garden Suite you have?

Answered = 53

	Frequency	Percent
All living space is above a detached garage (2 storeys)	42	79.25
Single storey suite with all living space at grade, with no garage.	2	3.77
Some living space on the first floor, some on the second (2 storey), with no garage	3	5.66
Some living space on the first floor, some on the second above a garage (2 storey)	6	11.32

What were three of the biggest challenges you faced in building your Garden Suite? (Check up to three). Answered = 52

	Frequency	Percent
Obtaining financing/Paying for the suite	10	6.37
Permitting Process	37	23.57
Size (floor area) limits	23	14.65
Height limits	14	8.92
Utility connections	10	6.37
Meeting minimum parking requirements	4	2.55
Design constraints/challenges	13	8.28
Issues with builder/contractor	17	10.83

Inconsistent development officers	21	13.38
Other (please specify)	8	5.10

“Other”

	Frequency	Percent
[None so far]	3	37.50
[Rules/regulations changing]	1	12.50
Asbestos abatement	1	12.50
[Pushback/hostility from neighbours]	1	12.50
[Utility connections & disconnections – EPCOR & ATCO]	2	25.00

If you wish, please elaborate on the challenges you faced. Answered: 38

	Frequency	Percent
[Inconsistency with development & permitting officers/inspectors]	2	4.55
[Size constraints]	8	18.18
[Parking]	1	2.27
[Issues with builder/contractor]	8	18.18
[Rules/regulations changing]	1	2.27
[Asbestos abatement]	1	2.27
[variances & appeal process]	2	4.55
[Utility connections & disconnections – EPCOR & ATCO]	3	6.82
[Financing the suite/bank not familiar with garden suites]	2	4.55
[Zoning requirements]	6	13.63
[City process/lengthy permitting time]	10	22.73

Did any regulatory constraints (zoning, permitting, variances, etc.) increase the cost of your build? Ex. time delays, redesigns, etc. If so, how much would you estimate this cost? Briefly explain. Answered = 24

	N	Min.	Max.	Mean	Median	Std. Deviation
	24	0	75000	9041.667	2250	19175.34

Why is your suite not currently rented? Answered = 7

	Frequency	Percent
Using it as extra space	1	
Other	6	

“Other”. Answered =6

	Frequency	Percent
[Looking for renter]	2	33.33
Owner living in it while main house is being renovated	1	16.67

Daughter is moving into it, but not paying rent	1	16.67
Having issues with contractors, so I will do all the work myself. Contractors have old way of doing things, I come from a modern world	1	16.67
Having a baby – currently getting the suite furnished.	1	16.67

Would you ever consider living in the suite yourself? Answered = 7

	Frequency	Percent
Yes	6	85.71
No	1	14.29

Please explain your answer. Answered = 7

	Frequency	Percent
[Downsizing for retirement]	2	25.00
[Suite is very nice]	2	25.00
[Rent out main house]	2	25.00
Not if I can help it. Suite was built as a transition while owner's house is being renovated. Never my intention to live in it.	1	12.50
[Don't know yet]	1	12.50

If you are living in the suite, what do you do with your main house? Answered = 3

	Frequency	Percent
Renting it to tenants	1	33.33
Other (please specify)	2	66.67

“Other”. Answered = 2

	Frequency	Percent
[family living in main house for free – multigenerational set up]	2	1

If you are renting out your main house, how much do you charge in rent, including utilities? (skip if not applicable). Answered = 1

N	Min.	Max.	Mean	Median	Std. Deviation
1	1600	1600	1600	1600	0

Why did you decide to move into the suite? Answered = 3

	Frequency	Percent
Moved out of my partners house and I needed a place to live.	1	33.33
I'm the grandmother and I help take care of the children when needed.	1	33.33

House too much work, didn't need room anymore but didn't want to leave neighbourhood	1	33.33
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Which of the following best describes your situation? Answered = 129

	Frequency	Percent
I have not built a garden suite, but would like to.	92	71.32
I considered building a suite, but decided against it.	4	3.10
I am interested in garden suites, but don't plan on building one myself	33	25.58

What is the primary reason you would like to build a suite? Answered = 84

	Frequency	Percent
Build for family member or friend to live in	19	22.62
Additional rental income	27	32.14
To move into the suite myself (downsizing, ageing in place, etc.)	21	25.00
Investment property	7	8.33
Other (please specify)	10	11.90

“Other”. Answered = 10

	Frequency	Percent
[Flex space (music room, office, accessory use, visiting family)]	5	
[Resale value]	2	
[Flexibility over time/across the lifespan – rental, ageing in place]	5	
[Make better use of large lot]	2	
Creating beautiful spaces is satisfying	1	

Why have you not built a suite? Answered = 84

	Frequency	Percent
Cost/difficulty getting financing	29	34.52
Confusing process	6	7.14
Unsure if it's the right choice for me	17	20.24
Don't have time to go through the process	6	7.14
My lot can't accommodate a suite (lot size, zoning, etc.)	4	4.76
Other (please specify)	22	26.19

“Other”. Answered = 22

	Frequency	Percent
[only allowed to build as of recent due to allowance of both a basement suite and garden suite]	2	8.70
[Timing isn't great due to life circumstances/longer term plan]	10	43.48
[Don't have the right property/haven't bought a lot]	6	26.09

[Don't know enough about the process/still researching]	2	8.70
Both cost and unsure if it's the right choice for me	1	4.35
Cost, and builder not getting back to us with estimate. May still pursue.	1	4.35
Regulations on square feet allowed were too small to make it worth the cost. Also confusing process.	1	4.35

If your lot can't accommodate a suite, what specific regulation is preventing you from building? (skip if not applicable). Answered = 15

	Frequency	Percent
[N/A]	7	46.67
[Don't live in Edmonton]	1	6.67
In my area, only end of block sites can have suites.	1	6.67
Do not have a lot yet	1	6.67
Have front attached garage	1	6.67
[Conflict with current zoning and/or land use]	2	13.33
Potential to build a suite but I have an older home and my garage is grandfathered in but if I was to make changes I would potentially have to tear the whole thing down, make it smaller and build again. Making it not cost effective	1	6.67
Cheaper to buy house and put suite in it then to build from scratch.	1	6.67

What is the primary barrier preventing you from building a suite? Answered = 75

	Frequency	Percent
[timing isn't right/it's a future plan to build a suite]	8	9.20
[cost & difficulty getting financing]	42	48.28
[don't have enough time to devote to the project/too busy]	9	10.34
[questioning whether it's a good investment/will add to property value]	4	4.60
[lack of expertise/feelings of uncertainty]	7	8.05
[zoning & regulatory barriers]	13	14.94
Want to build is as an attached unit, at which point it's just an addition. Even though it's basically an "attached" garden suite. I want my parents to be able to live in place, but not need to go out side to get to the vehicle (mother has slipped and banged up her knee once on the ice).	1	1.15
Knowing homeowners who would want to build a garden suite and that we share the same values in designing the garden suite such that it suits the small-scale lifestyle it allows.	1	1.15
I love my current house and do not want to move, just to build a suite	1	1.15
Neighbourhood against it	1	1.15

If cost is a barrier to building a suite, what price point would you find acceptable? Please provide a dollar value. (skip if not applicable).

	N	Min.	Max.	Mean	Median	Std. Deviation
	50	10000	275000	118095.2	100000	53998.11

How far into the suite building process have you gotten? Check all that apply. Answered = 83

	Frequency	Percent
Preliminary research	69	83.13
Attended a YEGarden Suites workshop, tour, or event	45	54.22
Worked with a builder or designer to come up with concept plans	12	14.46
Approached a financial institution to discuss financing a suite	9	10.84
None of the above	3	3.61
Other (please specify)	9	10.84

“Other”. Answered = 9

	Frequency	Percent
[Construction training/courses]	2	18.18
[Conversations with friends or industry members]	3	27.27
[Quotes from builders]	2	18.18
Designed multiple variations for a number of different potential lots myself	1	9.09
Preliminary work with potential designers started	1	9.09
Parents did a basement suite and consulted with their builder	1	9.09
Consultation with YEG, meeting with two potential builders	1	9.09

If you were to build, would this be an “owner occupied” property (the owner lives on the same property as the suite) or an investment property? Answered = 83

	Frequency	Percent
Owner occupied	70	84.34
Investment property	13	15.66

What is the current assessed value of your property in dollars?

	N	Min.	Max.	Mean	Median	Std. Deviation
	74	138000	789000	434628.6	418500	128647.6

If you were to build, would you ever consider living in the suite yourself? Answered = 83

	Frequency	Percent
Yes	59	71.08
No	10	12.05
Unsure	14	16.87

What is the primary reason you decided not to build a suite? Answered = 4

	Frequency	Percent
Cost/difficulty financing	2	50.00
No	1	25.00
Other (please specify)	1	25.00

“Other”. Answered = 1

	Frequency	Percent
Friends living on lot may move or die	1	100

If cost was a factor in your decision not to build, what price point would you find acceptable?
Please provide a dollar value. (skip if not applicable). Answered = 2

	N	Min.	Max.	Mean	Median	Std. Deviation
	2	50000	50000	50000	50000	0

What was your initial interest in wanting to build a suite before you decided against it?
Answered = 4

	Frequency	Percent
Build for family member or friend to live in	1	20.00
Additional rental income	1	20.00
To move into the suite myself (downsizing, ageing in place, etc.)	2	40.00
Investment property	1	20.00

How far into the suite building process did you get before deciding not to build? Check all that apply. Answered = 4

	Frequency	Percent
Preliminary research	3	37.5
Attended a YEGarden Suites workshop, tour, or event	4	50.00
Other (please specify)	1	12.5

“Other”. Answered = 1

	Frequency	Percent
Contacted city about zoning	1	100

Was there a particular piece of information that stopped you from deciding to build?

Answered = 4

	Frequency	Percent
[Zoning]	1	25.00
[Cost/difficulty getting financing]	2	50.00
Instability of rental	1	25.00

What is the current assessed value of your property? Answered = 4

	N	Min.	Max.	Mean	Median	Std. Deviation
	4	250000	700000	395000	315000	205993.5

What was your assessed property value before you built your suite? (Combined in the process of building & current owners). Answered = 49

	N	Min.	Max.	Mean	Median	Std. Deviation
	40	225000	1280000	452287.8	387500	203998.7

What was your assessed property value before you built your suite? (In the process of building).

Answered = 23

	N	Min.	Max.	Mean	Median	Std. Deviation
	23	225000	1280000	488478.3	440000	234450.8

Was there a particular piece of information that stopped you from deciding to build?

Answered = 24

	Frequency	Percent
Owner occupied	19	79.17
Investment property	5	20.83

Was there a particular piece of information that stopped you from deciding to build? Answered = 24

	Frequency	Percent
No	7	29.17
Not sure	7	29.17
Yes	10	41.67

What is your household income? (before taxes). Answered = 160

	Frequency	Percent
15,000 – 24,999	2	1.25
25,000 – 34,999	6	3.75
35,000 – 49,999	10	6.25
50,000 – 74,999	26	16.25
75,000 – 99,999	27	16.88
100,000 – 149,999	43	26.88
150,000 or more	46	28.75

What neighbourhood do you live in? Answered = 161

	Frequency	Percent
Alberta Avenue	3	1.86
Aldergrove	2	1.24
Allendale	3	1.86
Ambleside	2	1.24
Avonmore	4	2.48
Bearspaw	1	0.62
Belgravia	2	1.24
Bellevue	1	0.62
Beverly Heights	2	1.24
Blue Quill	1	0.62
Bonnie Doon	3	1.86
Boyle Street	1	0.62
Brander Gardens	1	0.62
Brookside	2	1.24
Calder	1	0.62
Callingwood North	1	0.62
Capilano	1	0.62
Cavanagh	1	0.62
Delton	2	1.24
Delwood	1	0.62
Dovercourt	4	2.48
Downtown	3	1.86
Duggan	1	0.62
Eastwood	1	0.62
Ellerslie	1	0.62
Elmwood	2	1.24
Forest Heights	2	1.24
Gariepy	1	0.62
Garneau	2	1.24
Glenora	2	1.24
Glenwood	1	0.62

Gold Bar	2	1.24
Griesbach	4	2.48
Hazeldean	2	1.24
High Park	1	0.62
Highlands	5	3.11
Hillview	2	1.24
Holyrood	4	2.48
Inglewood	2	1.24
Jamieson	1	0.62
Kenilworth	1	0.62
Kensington	1	0.62
King Edward Park	4	2.48
Lauderdale	1	0.62
Laurier Heights	2	1.24
Lendrum Place	2	1.24
Malmö Plains	1	0.62
Mayfield	1	0.62
McCauley	1	0.62
McConachie	1	0.62
McKernan	5	3.11
McQueen	2	1.24
Newton	1	0.62
North Glenora	2	1.24
Oliver	3	1.86
Ottewell	1	0.62
Parkallen	2	1.24
Parkview	1	0.62
Prince Rupert	1	0.62
Queen Mary Park	1	0.62
Rhatigan Ridge	1	0.62
Rideau Park	1	0.62
Ritchie	5	3.11
Riverdale	3	1.86
Rosslyn	1	0.62
Royal Gardens	2	1.24
Rundle Heights	1	0.62
Sherbrooke	1	0.62
Sherwood	2	1.24
Spruce Avenue	2	1.24
Strathcona	4	2.48
Strathearn	3	1.86
Tamarack	1	0.62
Twin Brooks	1	0.62
Wellington	1	0.62
Westmount	7	4.35

Woodcroft	5	3.11
Other (please specify)	6	3.73

“Other”. Answered = 6

	Frequency	Percent
Currently in Calgary, relocating for work to Edmonton Feb 1, neighbourhood TBD, ideally near downtown short term like Oliver	1	16.67
Old Strathcona	1	16.67
St. Albert	2	33.33
Spruce Grove	1	16.67
Sherwood Park	1	16.67

What is your gender? Answered = 162

	Frequency	Percent
Female	82	44.32
Male	73	46.20
X	1	0.63
me	1	0.63
Prefer not to say	1	0.63

What is your marital status? Answered = 164

	Frequency	Percent
Single	33	20.12
Married	95	57.93
Living Common Law	15	9.15
Never Married	1	0.61
Separated	2	1.22
Divorced	12	7.32
Widowed	2	1.22
Other (please specify)	4	2.44

What are the ages of each member of your household, including yourself?

	Yourself	P2	P3	P4	P5	P6	Total
<18	-	4	36	27	15	5	87
18-24	4	3	16	8	-	-	31
25-34	31	31	9	-	-	-	71
35-44	47	35	2	-	-	-	84
45-54	33	23	1	1	1	-	59
55-64	26	16	3	-	-	1	46
65+	22	17	3	1	-	-	43

How many people, including adults and children, live in the main house on the property?

Answered = 159

	Frequency	Percent
1	25	16.34
2	59	38.56
3	30	19.61
4	21	13.73
5	13	8.50
6	4	2.61
7	1	0.65

What is your ethnicity? Answered = 149

	Frequency	Percent
Caucasian	69	51.88
Canadian	25	18.80
Asian	3	2.26
Chinese	3	2.26
Mixed	4	3.01
N/A	5	3.76
Slovakian french	1	0.75
Born in Brazil, Canadian citizen	1	0.75
Caucasian/French Canadian/Ojibwe	1	0.75
Italian Canadian	1	0.75
Hispanic	1	0.75
German/113algar/indigenous	1	0.75
Chinese-Vietnamese	1	0.75
British Isles	1	0.75
Italian	1	0.75
Southeast Asian	1	0.75
Latino	1	0.75
European mix	2	1.50
Chinese-Canadian	2	1.50
Ukrainian	1	0.75
Jewish	1	0.75
German	1	0.75
Norwegian	1	0.75
Muslim	1	0.75
Biracial black	1	0.75
Born in Canada to immigrant parents from Italy and Greece	1	0.75
East Indian	2	1.50

What is your highest level of education? Answered = 161

	Frequency	Percent
No certificate, diploma, or degree	1	0.62
Secondary (high) school diploma or equivalency certificate	13	8.07
Apprenticeship or trades certificate or diploma	6	3.73
College, CEGEP or other non-university certificate or diploma	13	8.07
University certificate or diploma below bachelor level	20	12.42
University certificate, diploma, or degree at bachelor level or above	108	67.08

How long have you been interested in garden suites? Answered = 163

	Frequency	Percent
Less than 6 months	13	7.98
More than 6 months, less than 1 year	13	7.98
More than 1 year	137	84.05

Have you ever attended a YEGarden Suites event, workshop, or tour? Answered = 164

	Frequency	Percent
Yes	96	58.54
No	68	41.46

Why are you interested in Garden Suites? Answered = 28

	Frequency	Percent
[Multigenerational living opportunities]	5	13.16
[Ageing in place]	3	7.89
[Environmentally friendly]	2	5.26
[Increase density & more efficient land use]	8	21.05
[Attractive & unique form of housing that fits with community]	8	21.05
[Rental potential]	6	15.79
[Affordable housing]	6	15.79

Do you own a property that can accommodate a Garden Suite? Answered = 31

	Frequency	Percent
Yes	5	16.13
No	19	61.29
Not sure	7	22.58

Appendix C

	Vancouver	Calgary	Edmonton
Zoning & Policy Context			
Use Class	Permitted	Discretionary	Permitted
Zoning	All low-density residential.	Some low-density residential.	All low-density residential.
Permits Issued	2554 (2016) Peterson, 2018	281 (completed and issued)	364 (Feb. 6, 2020)
DADUs per 1000 people	2554/675,2018 = 3.78	281/1,336,000 = 0.21	364/972,223 = 0.37
Must be located on a lane	Yes.	No.	No.
Severable	No.	No.	No.
Number of ADUs/lot	Two (Secondary suite + DADU).	One (Secondary suite or DADU).	Two (Secondary suite + DADU).
Restrictions on occupancy	None.	None.	None.
Permitted uses			
Lot Guidelines			
Maximum coverage		45% overall.	18% for DADU. 42% overall.
Minimum lot area			
Minimum lot width	9.8m or discretionary 7.3m	9m or 7.5m when located on a corner property or a property with a lane; and three or more motor vehicle parking stalls are provided on the property.	Same as underlying zone.
Location in rear yard	A 1.5 storey DADU is limited to the rear 7.9m of the lot. A 1 storey DADU is limited to a maximum of 9.8m.		
DADU Size & Orientation			
Maximum floor area	Max. floor area determined by multiplying lot area by 0.16. 83m ² max. regardless of lot size. Partial upper storey limited to 60% of DADU footprint.	75m ²	130m ² (includes any area devoted to garage space).
Maximum height	Single storey – 3.7m flat roof, 4.6m sloped roof. Partial second storey – 5.5m to 6.1 depending on roof pitch.	7.5m	Single storey – 4.3m. Two-storey sloped roof – 6.5m Two-storey flat roof – 6.2m
Front setback			
Rear setback	0.9m	1.5m	1.2m
Side setback	Same as underlying zone or minimum of 10% of the lot width if DADU is 1 storey.	1.2m	1.2m
Separation distance	4.9m	5m	4m
Basements in DADUs	Yes. Counts towards floor area.	Yes. Counts towards floor area.	Yes. Does not count towards floor area.
Maximum width of DADU	RS3/3A – 50% of site width.		

	RS5 – 40% of site width + 4.2m. RS6 – 67% of site width.		
Exemptions for storage/stairs	Yes	Yes	Yes
Parking			
Minimum requirements	None. One stall required for the entire site.	One stall for DADU, in addition to stalls required for property (2).	None. No parking requirements city-wide.
Exemptions			No parking is required if it's located next to TOD or is a fully accessible suite.
Affordability & Accessibility			
Affordability Incentives	No.	Waiving permitting fees until December 31, 2021.	Cornerstones Program.
Accessibility Incentives		No.	Yes – Inclusive Design Standards. Additional square footage provided for suites that meet inclusive design standards.
Resources Available			
How-to-Guide	Yes.	Yes.	Yes.
Source	https://vancouver.ca/files/cov/laneway-housing-howto-guide.pdf	https://www.calgary.ca/PDA/pd/Pages/Home-building-and-renovations/new-backyard-suite.aspx https://www.calgary.ca/pda/pd/home-building-and-renovations/new-backyard-suite.html	https://webdocs.edmonton.ca/zoningbylaw/ZoningBylaw/Part1/Special_Land/87_Garden_Suites.htm

	Seattle	Portland	Toronto
Zoning & Policy Context			
Use Class	Permitted	Permitted	Permitted
Zoning	Single-family zones & low-rise zones.	Residential, commercial & central employment zones.	Some residential zones.
Permits Issued	1068	869	86
DADUs per 1000 people	1068/724,745 = 1.47	869/647,805 = 1.34	86/2,930,000 = 0.03
Must be located on a lane	No.		Must be abutting a lane for at least 3.5m.
Severable	No.		No.
Number of ADUs/lot	Two in single-family zones (secondary suite + DADU). One in low-rise zones (secondary suite or DADU).	One (secondary suite or DADU).	Two (secondary suite + DADU).
Restrictions on occupancy	If there is a DADU, the total number of residents in both the DADU and primary dwelling cannot exceed 8, unless the	Total number of residents that can live in the DADU and the principal dwelling is limited to the total allowed for a	

	residents are related. If there is a DADU and secondary suite, the total number of unrelated residents allowed on site is 12.	'Household". Household is defined as "one or more persons related by blood, marriage, legal adoption or guardianship, plus not more than 5 additional persons, who live together in one dwelling unit; or one or more handicapped persons as defined in the Fair Housing Amendments Act of 1988, plus not more than 5 additional persons, who live together in one dwelling unit."	
Permitted uses	Single family, semi-detached, duplex, or low rise housing.		Single family, semi-detached, or duplex housing.
Lot Guidelines			
Maximum coverage	Accessory structures, including DADUs, can not exceed 40 percent of the required rear yard. However, a DADU may cover an additional 20 percent of the required rear yard provided that the DADU 1) does not remove any exceptional trees and 2) does not remove any trees over 2 feet in diameters as measured 4.5 feet above the ground.	No larger than the building coverage of the primary house, attached house or manufactured home. The combined building coverage for all detached accessory structures may not exceed 15% of the total site area.	30%
Minimum lot area	297m ²		
Minimum lot width			
Location in rear yard			
DADU Size & Orientation			
Maximum floor area	92m ²	No more than 75% of the living area of the primary house or 74m ² , whichever is less – excluding garage area.	In some areas, maximum floor area is not regulated, and in some areas, it must be less than primary dwelling.
Maximum height	Pitched roof - 5.18m to 7.62m depending on lot width. Shed or butterfly roof – 5.18m to 6.70m depending on lot width.	6m	6m
Front setback			
Rear setback		Same as underlying zone.	1.5m
Side setback		Same as underlying zone.	1.5m
Separation distance			5m if the DADU is less than 4m high, 7.5m if the DADU is less than 4m high.
Basements in DADUs	Yes. Does not count towards floor area.	Yes. Does not count towards floor area if below 6ft 8 in.	

Maximum width of DADU			8m. Max. 10m length as well.
Exemptions for storage/stairs	Yes.	Yes.	
Parking			
Minimum requirements	None.	None.	None.
Exemptions			
Affordability & Accessibility			
Affordability Incentives		Fees waived if not used for short-term rental for 10 years.	Development charges deferral program & affordable laneway suites pilot program offering a forgivable loan up to \$50,000 for eligible homeowners who agree not to rent above market rates for 15 years.
Accessibility Incentives			
Resources Available			
How-to-Guide			
Source	http://www.seattle.gov/DPD/Publications/CAM/cam116b.pdf https://www.crdesignbuild.com/blog/can-i-build-a-backyard-cottage-seattles-new-rules-make-it-easier	https://www.portlandoregon.gov/bds/index.cfm?a=68689 https://www.portlandoregon.gov/bds/article/692111	https://www.toronto.ca/wp-content/uploads/2017/10/97ac-Laneway-Suits.pdf http://www.summerhilltoronto.ca/assets/uploads/ChangingLanesGuidelinesDRAFTHandoutFEB262018.pdf https://www.toronto.ca/legdocs/bylaws/2018/law0810.pdf https://www.toronto.ca/community-people/community-partners/affordable-housing-partners/laneway-suites-program/

	Ottawa	Los Angeles	Austin
Zoning & Policy Context			
Use Class	Permitted	Permitted	Permitted
Zoning	Any lot that contains a detached, semi-detached, linked detached, duplex or townhouse dwelling and is serviced by municipal water and waste- water.	All single-family residential zones.	Single-family residential zones.
Permits Issued	31	2118	2125

DADUs per 1000 people	31/994,837 = 0.03	2118/4,000,000 = 0.53	2125/964,254 = 2.20
Must be located on a lane	No.	No.	No.
Severable	No.	No.	Yes, through condo.
Number of ADUs/lot	One (secondary suite or DADU).	One (secondary suite or DADU).	One
Restrictions on occupancy			Not to be used for short-term rental.
Permitted uses	Single-family, semi-detached, duplex, or town-housing.		
Lot Guidelines			
Maximum coverage	Coverage may not exceed the lesser of 40% of the footprint of the primary dwelling, or where the primary dwelling has a footprint of 125m ² or less - 50m ² ; 40% of the area of the yard in which it is located; or 80m ² in Areas A, B, C or 95m ² in Area D.		40% maximum coverage for the total lot.
Minimum lot area			534m ²
Minimum lot width			
Location in rear yard			
DADU Size & Orientation			
Maximum floor area	Must be less than principle dwelling. Must not be greater in size than 40% of the footprint of the principal dwelling.	111m ²	102m ² with a maximum of 51m ² allowed to be allocated to the second storey.
Maximum height	Max. height not to exceed the building height of the primary dwelling; and maximum height of 3.6 metres, with maximum height of 3.2m for flat roof.	Two stories.	9.1m
Front setback			
Rear setback	1m if a lane is present, or where no entrance or window faces the rear lot line. All other cases - 4m.	The lesser of such setbacks as required by the underlying zone, or 1.5m.	
Side setback	Equal to or greater than the min. required for the principal dwelling.	The lesser of such setbacks as required by the underlying zone, or 1.5m.	
Separation distance			3m
Basements in DADUs			
Maximum width of DADU			
Exemptions for storage/stairs			
Parking			
Minimum requirements	None.	One parking space is required per ADU/DADU. Tandem parking is allowed.	One parking space for ADU in addition to required spaces for main structure.

Exemptions		No parking is required if it's near TOD, car share, in a historic preservation zone.	No parking required within ¼ mile of TOD.
Affordability & Accessibility			
Affordability Incentives			As of April 2020, the City is exploring low-interest loans, tax abatement, grants, a streamlined permitting process, and pre-approved designs for ADUs.
Accessibility Incentives			
Resources Available			
How-to-Guide			
Source	https://ottawa.ca/en/living-ottawa/laws-licences-and-permits/laws/law-z/planning-development-and-construction/maps-and-zoning/zoning-law-no-2008-250/zoning-law-2008-250-consolidation/part-5-residential-provisions-sections-120-143#section-142-coach-houses https://scsonline.ca/wp-content/uploads/2018/03/1-Coach-House-April-25-18.pdf	https://citylab.ucla.edu/adu-guidebook https://planning.lacity.org/ordinances/docs/ADU/Ordinance.pdf	https://www.austintexas.gov/edims/document.cfm?id=338872 https://maxablespace.com/accessory-dwelling-units-in-austin-texas/ https://library.municode.com/tx/austin/ordinances/land_development_code?nodeId=748299

Appendix D

Diversity of design and built form of DADUs.



