MISSING MIDDLE HOUSING: ACCCCESSORY DWELLING UNIT IMPLEMENTATION STUDY

CITY OF BURLINGTON

FEASIBILITY STUDY AND IMPLEMENTATION FRAMEWORK

norac planning + design

APRIL 5, 2018

200 University Avenue West
Waterloo, Ontario, N2L 3G1

Jamie Tellier, MCIP, RPP
Manager of Urban Design
City of Burlington
426 Brant Street, PO Box 5013
Burlington, Ontario
L7R 3Z6

April 5, 2018

RE: Missing Middle Housing - Accessory Dwelling Units in Burlington Ontario

Dear Mr. Tellier,

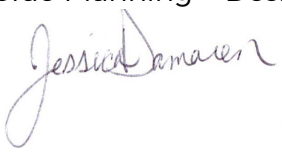
Norac Planning + Design is pleased to submit this final report related to the implementation of accessory dwelling units ("ADU") as a form of missing middle housing in the City of Burlington.

Norac's work on this project sought to define the feasibility of implementing ADUs as affordable housing opportunities in the City of Burlington, as well as to develop a recommended implementation framework specific to the Burlington context. All four phases of the Missing Middle Housing project have been completed and are outlined in this report and its appendices.

Ultimately, this report a) defines the recommended ADU typologies, b) summarizes best practices used by other Canadian municipalities, c) presents an analysis of the feasibility of ADU implementation, d) recommends a specialized implementation framework along with recommended planning tools for implementation, and e) provides nexts steps for implementation and addressing affordable housing on a broader scale.

Norac Planning + Design sincerely hopes the findings and recommendations provided in this report assist the City of Burlington in achieving their affordable housing objectives. Please do not hesitate to contact the undersigned at 519-897-2229 or jndamaren@edu.uwaterloo.ca should you have any questions or comments with respect to this report.

Yours very truly,
Norac Planning + Design



Jessica Damaren
Project Manager

Acknowledgements

The success and presentation of this study could not have been possible without the support and direction from Mr. Jamie Tellier at the City of Burlington. We would like to extend our sincere gratitude to the City of Burlington for the opportunity to participate in this project.

We thank our faculty mentor from the School of Planning at the University of Waterloo, John Lewis, for his valued support, guidance and assistance throughout the course of this project and the delivery of this report. We appreciate the time and knowledge that were shared with us throughout this process.

We would also like to acknowledge our course instructor from the School of Planning at the University of Waterloo, Kevin Curtis, for his support and consultancy throughout the term of this project.

Finally, we would like share our sincere appreciation to all other individuals who extended their time, knowledge and expertise to assist with the development of a specialized implementation framework for ADUs in the City of Burlington.

table of contents

executive summary

This Final Report has been prepared by Norac Planning + Design in association with the City of Burlington Missing Middle Housing project. The purpose of this report is to analyze the feasibility and present the findings and recommendations associated with implementing accessory dwelling units in the City of Burlington as a way of addressing affordable housing, particularly for the aging population. Additionally, other recommended solutions for addressing affordable housing are also presented in addition to accessory units.

Based on the context and background research established in the Phase 1 Background Research and Opportunities Report (dated February 20, 2018), the feasibility of implementing accessory dwelling units in the subject neighbourhoods of Appleby and LaSalle was analyzed. Three categories of feasibility were considered including physical, financial and social feasibility. Overall, it was determined that physically all types of accessory units (interior, attached, and detached) are possible to implement in both neighbourhoods; however, the existing zoning standards will ultimately dictate how much space there is for new detached units. In terms of financial feasibility it was determined that accessory dwelling units are a more financially sustainable housing solution, particularly for seniors, than other existing housing options such as nursing homes. Finally, it was identified that the increasingly common trend for seniors to share a home with members of their family or other individuals suggests that the implementation of accessory units will be supported by the social atmosphere in Burlington.

Building on the feasibility findings, an implementation framework for accessory dwelling units tailored to the City of Burlington was developed. The recommended strategy was characterized into three implementation timeframes (short-term, medium-term and long-term) each with specific goals and actions. Generally, in the short term, it is recommended that the guiding policies and regulations be put in place, the design and accessibility standards be developed, and that a permit system and associated fees be implemented. In the medium term, it is suggested that the goal of having new accessory units being created by homeowners be realized, along with the development of a system to address illegal units, incentive programs to assist with the construction of new units, and a mapping database to track new and existing units. Finally, in the long term, recommended goals relate to successful occupation of accessory dwelling units by seniors and low-income residents, and establishing an effective monitoring program to track the overall success of the program.

Overall, it is recommended that accessory dwelling units be implemented in the Burlington context in order to assist with addressing issues of housing affordability. However, it is also recognized that accessory dwelling units will not completely solve affordable housing alone. As a result, the City is encouraged to undertake a more fulsome consideration of other innovative housing models and forms of tenure to satisfy the demand for affordable housing that may not be entirely fulfilled solely by accessory units.

1.0 project scope

1.1 study purpose + scope

1.2 study process

1.3 study objectives + goals

In this section...

An introduction to the study scope and process will be provided. This section outlines the purpose for the implementation study and sets the foundation for the objectives and goals of the study. The process and methodology in which the study undertook is also found in this section.

1.0 project scope

1.1 study purpose + scope

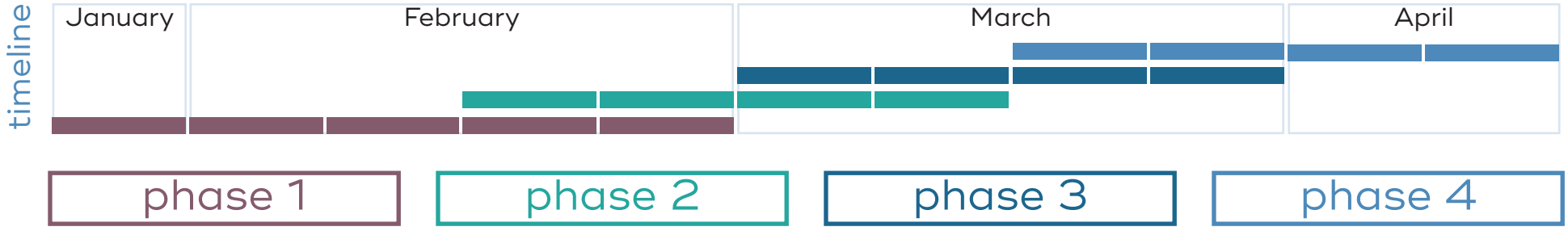
The City of Burlington is located in the Halton Region along the shore of Lake Ontario between Toronto and Niagara Falls. The City has a population of approximately 183,300, per the 2016 Census, and is experiencing population growth at a rate of approximately 10,000-15,000 people per decade. With this growth in population, the proportion of seniors in Burlington is expected to increase as well. An aging population provides a unique opportunity for municipalities to plan for housing that meets the demographic needs, as well as the complementing services and transportation networks.

Furthermore, there is a need to consider the availability of affordable housing opportunities, particularly in the context of seniors, to ensure that all citizens have access to adequate and affordable housing. In recent years, there has been noted growth in the Burlington real estate market (Goldring, 2013). As a result, the average cost of a home is continuing to climb, placing a lot of pressure on affordable housing options. Despite a 5.9% decrease in the total number of reported property sales from 2016, the total dollar value of sales for 2017 reached $8.972 billion, a new high for the Burlington-Hamilton market. In the 2017 residential market in Burlington alone, the average sale price for freehold properties was up 15.2% from 2016, and the average price for condominium properties was up 17.1% from 2016 (Realtors Association of Hamilton-Burlington [RAHM], 2018). In addition to rising housing costs, the affordable housing challenge in Burlington is further exacerbated by the fact that rental demand has increased more than supply resulting in low rental vacancy rates (Canada Mortgage and Housing Corporation [CMHC], 2017a). The vacancy rate for private rental apartments in the City of Burlington was as low as 1.4% in 2017, which is generally lower than in most other local municipalities within the Hamilton Census Metropolitan Area ("CMA"). Further, the average rent for private apartments of all bedroom types was $1,351 in 2017, which represents the highest rates of all municipalities in the CMA (CMHC, 2017a). Thus, there is a demonstrated need for new affordable housing solutions in the City of Burlington.

The purpose of the City of Burlington Missing Middle Housing project is to consider how accessory dwelling units (ADU) can be implemented in the City's established residential neighbourhoods, particularly for the senior population. This report will identify the unique contexts of the two study neighbourhoods, Appleby and LaSalle. A thorough background study of best practices and the current market were performed in conjunction with a GIS spatial examination of the subject neighbourhoods to determine the feasibility of accessory dwelling units in the Burlington context. The findings from this study formed the foundation and justification for a comprehensive implementation framework which includes recommended planning tools for successful ADU implementation citywide.

1.0 project scope

1.2 study process



phase 1: project initiation + background research

The project was initiated with detailed background research of the subject neighbourhoods, ADU typologies, the challenges and opportunities the City of Burlington faces in terms of affordable housing and housing for seniors.

phase 2: feasibility assessment + concept development at neighbourhood level

In the second phase, a thorough best practices review of implementation studies and strategies for ADUs in other Ontario municipalities was performed. Additionally, the feasibility of ADUs in the subject neighbourhoods was examined based on physcial, financial, and social factors.

phase 3: implementation in the burlington context

Using findings derived in Phases 1 and 2, a framework for implementing ADUs was developed for the City of Burlington. The implementation framework identifies recommendations and actions as well as planning tools for implementing ADUs. Additional recommendations were also identified to address affordable housing.

phase 4: findings, conclusions + next steps

Based on the recommendations arising from Phase 3, this report presents our final findings, conclusions and recommendations, as well as suggests appropriate next steps to achieve the successful implementation of ADUs as affordable housing opportunities in Burlington.

1.3 study objectives + goals

objective

The objective of this study was to establish the financial, physical and social feasibility of implementing accessory dwelling units in established Burlington neighbourhoods and propose an implementation framework for making future decisions in housing supply without altering the established neighbourhood character. The intention of this implementation framework is to be used by City staff and decision makers as a foundation for future housing supply planning and development in the City of Burlington.

goals

understand burlington + **understand seniors** + **understand the market** + **establish recommendations** + **implementation recommendations**

Understand the needs, opportunities and challenges that the City of Burlington currently faces in terms of housing supply. As well, understand the physical contraints and opportunities for implementing ADUs.

Understand the needs and challenges in the senior housing supply. Additionally, understand the financial and social feasibility of implementing ADUs for senior housing.

Understand the current housing prices and rental market. As well as the costs of contruction of ADUs.

Establish recommendations based on the background research and feasibility study of ADUs. Establish planning tool recommendations to encourage ADU development.

Develop an implementation framework based on the feasibility and planning tool recommendations for City staff and decision makers to use as the base for addressing future housing supply in Burlington.

2.0 project background research

In this section...

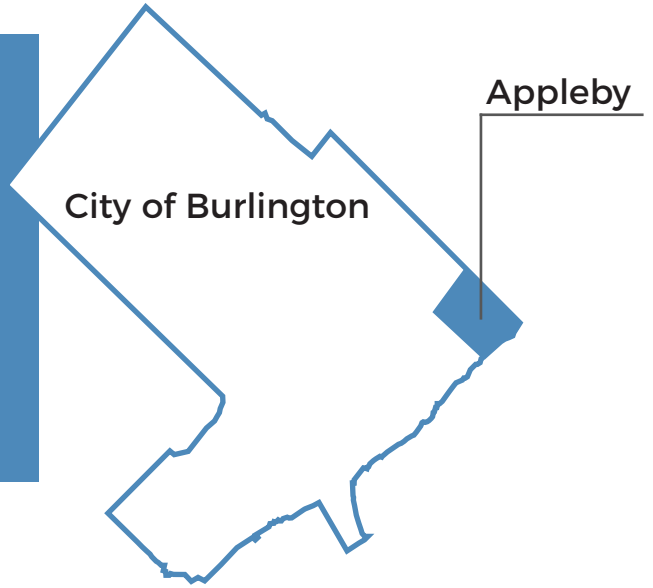
Developed from the findings of Phase 1 background research and best practices review, this section includes an overview of the subject neighbourhoods, defines the typologies of ADUs, and summarizes the findings from the comparable municipalities best practices review. A full background reserach report was submitted to the City of Burlington and is provided as an appendix to this report.

2.0 project background research

2.1 subject neighbourhoods

2.1.1 appleby

The Appleby neighbourhood is located on the southeastern boundary of the City of Burlington and is generally defined by the Centennial Bike-way to the north, Burloak Drive to the east, Lakeshore Road to the south and Appleby Line to the west. This area spans two of Burlington's community areas: the Pinedale community and the Elizabeth Gardens community. These communities both represent well-established neighbourhoods that offer convenient access to the Queen Elizabeth Way ("QEW") and rapid transit options through the Appleby GO station. A more detailed review of Appleby is provided in appendix a.



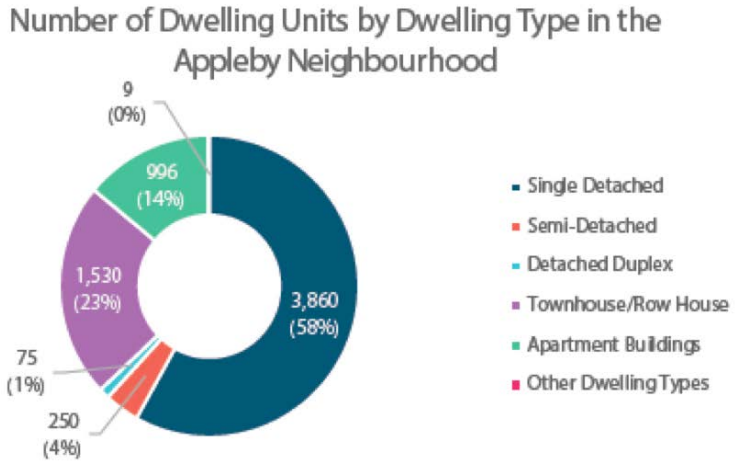
population: 18,106 (4,330 seniors)

built form:
- single detached (side-split), townhouse, duplexes

lot pattern:
- small / medium lots: 12-18 m. widths
- single detached lots: 400-700 sq. m.
- larger rear yards compared to Lasalle

community amenities:
- public parks
- education facilities
- Appleby Village Mall
- access to QEW
- Appleby GO Station

challenges + opportunities:
- existing dwelling unit form
- aging population



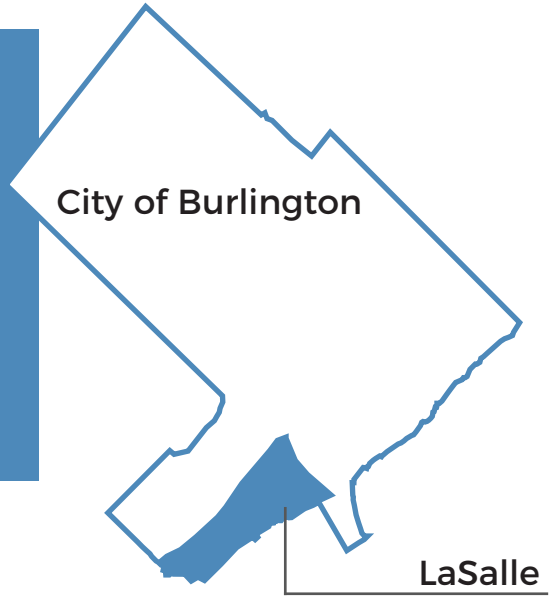
source: Statistics Canada, 2018

2.0 project background research

2.1 subject neighbourhoods

2.1.2 lasalle

The neighbourhood of LaSalle is located on the southwestern side of Burlington along the Lake Ontario shore front and within the Aldershot community area. The neighbourhood is generally bounded by the Metrolinx/CN rail corridor to the north, the QEW to the east, North Shore Boulevard East to the south and LaSalle Park Road/Waterdown Road to the west. Better known for its thriving retirement ambiance, LaSalle is home to several assisted living amenities such as the LaSalle Park Retirement Community and Pearl & Pine Retirement. A more detailed review of LaSalle is provided in appendix a.



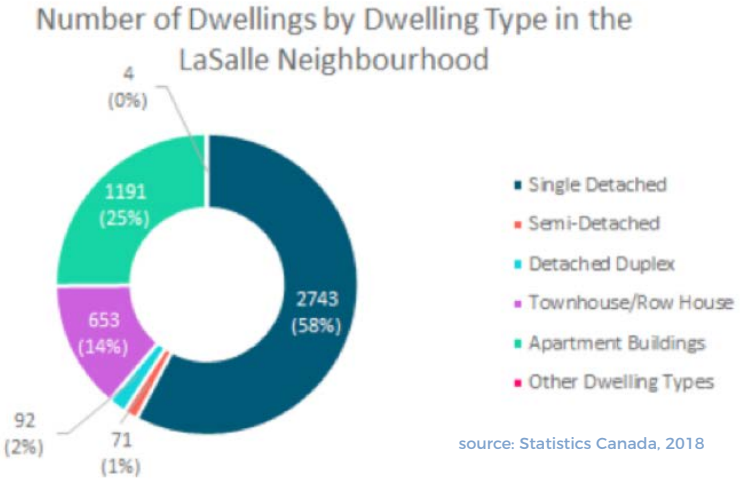
population: 7,731 (1,390 seniors)

built form:
- single detached, townhouse, bungalows, apartments

lot pattern:
- medium-sized lots: 16-18 m. widths
- single detached lots: 600-700 sq. m.
- small rear yards compared to Appleby

community amenities:
- public parks
- education facilities
- recreational facilities
- places of worship
- Aldershot GO Station

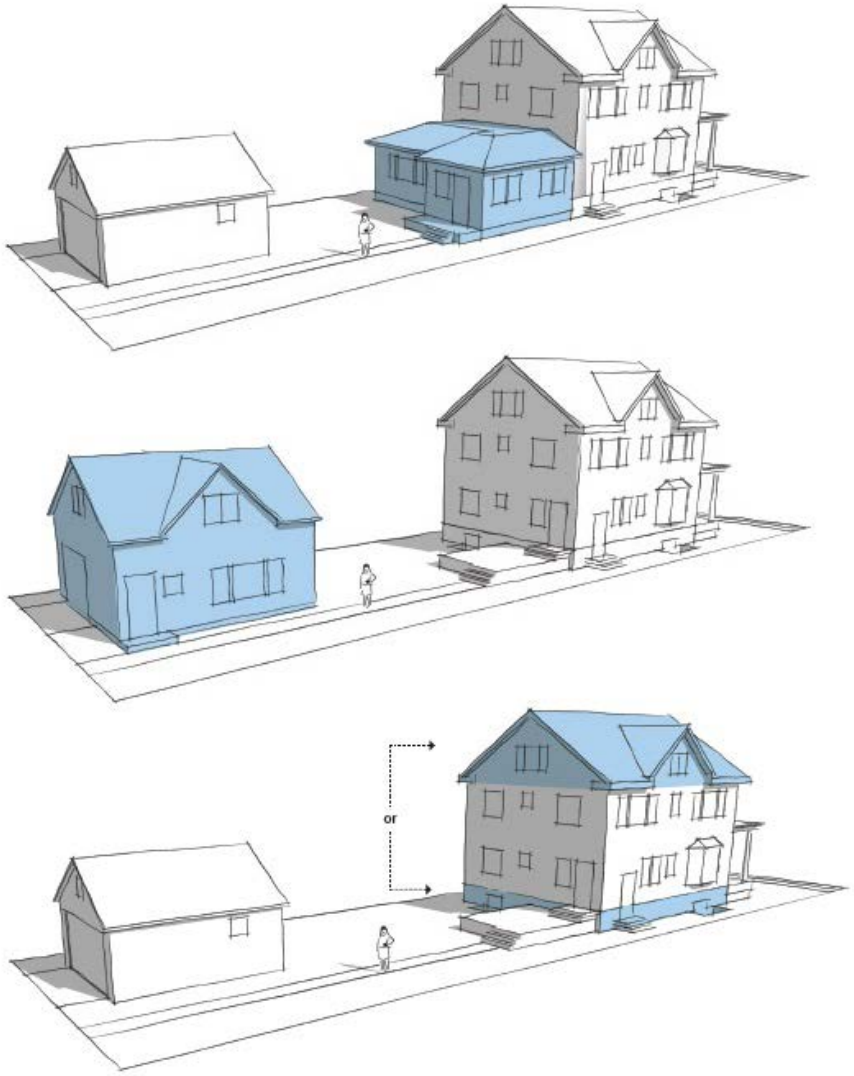
challenges + opportunities:
- small rear yards
- aging population
- existing rates of rental tenure



source: Statistics Canada, 2018

2.0 project background research

2.2 accessory dwelling unit typologies



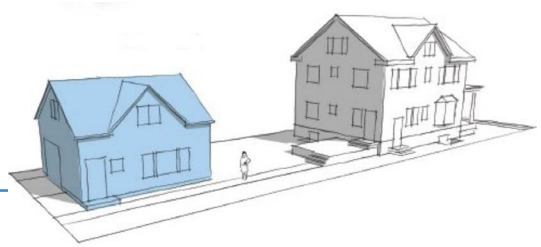
source: bistrend.com

defining ADU:

Accessory dwelling units is the concept of building a second smaller-sized residential unit on the same lot as an existing single family detached home. ADUs take many forms including attached or detached housing units. As neither consent nor subdivision is required for the development of an ADU, the ownership of these units coincides with the ownership of the main dwelling and they therefore cannot be purchased or sold separately. Accessory dwelling units can be a significant resource for the rental market and is a step towards addressing affordable housing in urban areas. In fact, the most common reason for the construction of an ADU is to gain extra income via rent or to house additional family members. ADUs can increase the flexibility and affordability of the housing market for a mid-sized city such as Burlington, which has limited opportunities for greenfield projects.

2.0 project background research

2.2.1 detached



detached ADU

- Garden suites / Granny flat
- Laneway homes
- Carriage/coach houses

features

- Private entrance
- Parking space
- Living area
- Kitchen
- Bathroom
- Bedroom
- Utilities (electrical, plumbing, water, sewers)
- Fire alarm, carbon monoxide detector

costs

$9000-$300 000
(avg $98 000)

typical residents

- Seniors who can live independently
- People with disabilities
- Family members
- Renters

benefits

- Provide a healthy and supportive environment that may enable occupants to continue to live independently longer
- Allows for intensification without disturbing a neighbourhood's sensitivity to look, feel and character of the streets
- Affordable access to established neighbourhoods
- Allows for more affordable property ownership as it is a form of rental income
- Can support multi-generational households

additional considerations

- Distance from primary house
- How long a temporary unit can stay on a property
- Appearance / design - minimum & maximum size of the secondary dwelling unit
- Must meet National Building Code of Canada requirement
- Loss of green space due to removal of trees and green space for these suites

definition

A detached accessory dwelling unit is a self-sufficient residential dwelling unit located in the rear or side yard of a primary dwelling unit. A detached dwelling unit can be rented, leased or purchased by seniors. dependants, or people with disabilities. A detached accessory dwelling unit has a lesser overall floor area than the primary dwelling unit on the property.

2.0 project background research

2.2.2 attached

attached ADU

- In-law suites
- Garage apartment

features

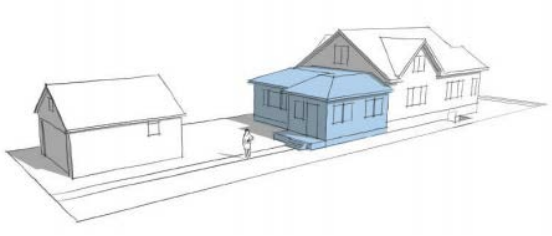
- Separate entrance / exit
- Fire separation
- Parking space
- Living area
- Kitchen
- Bathroom
- Bedroom
- Utilities (electrical, plumbing, water, sewers)
- Fire alarm, carbon monoxide detector
- Has the same design characteristic as the existing house and neighbourhood

costs

$3500-$200 000
(avg $52 000)

typical residents

- Multi-generational families
- Renters
- Aging parents



benefits

- Garage design already fits into the neighbourhood design and aesthetics
- Electrical, water and sewer systems could already be in place
- Creates discrete density without changing the neighbourhood character
- Availability of affordable housing choices while also offering a home owner an opportunity to earn additional income

additional considerations

- Garage apartment shell of the ADU would already be built saving on cost for foundation, excavation and other construction costs
- Can be built within or above an existing garage
- Must meet National Building Code of Canada requirements

definition

An attached accessory apartment is a completely self-sufficient and contained residential dwelling unit sharing at least one wall of the existing primary dwelling unit. Attached accessory apartments are often added onto the primary house or garage. Often, attached accessory dwellings are referred to as in-law suites or garage apartments.

2.0 project background research

2.2.3 interior

interior ADU

- Basement apartment
- Attic apartment

features

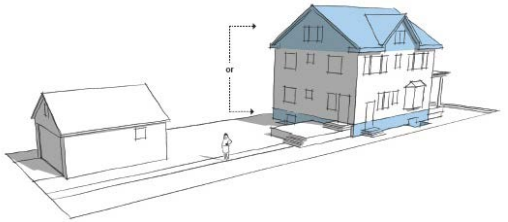
- Egress & exiting
- Fire separation
- Parking space
- Living area
- Kitchen
- Bathroom
- Bedroom
- Separate or shared entrance
- Utilities (electrical, plumbing, water, sewers)
- Bathroom must have ventilation
- Fire alarm, carbon monoxide detector

costs

$10 000 to $150 000
(avg $80 000)

typical residents

- Elderly family member who is no longer able to live on their own
- Young adult son or daughter who may be living at home but still seeking a level of independence
- Single parent families or singles



benefits

- Provides added income; first time home buyers can afford the dream home
- Benefit to seniors who want to stay in their own homes as they age but find it expensive on a fixed income
- Legal basement apartments provide an effective form of affordable housing and increase the availability of affordable housing choices while also offering a home owner an opportunity to earn additional income.

additional considerations

- Minimum Basement Apartment floor Area – 42 m^2 (452 ft^2)
- Maximum Basement Apartment floor Area – 30% of the total floor area of the house
- One parking space per basement unit (two parking spaces are required in some instances)
- Must meet National Building Code of Canada requirements
- Accessibility considerations with respect access to entrance (above or below grade)

definition

An interior accessory apartment is a completely self-sufficient and separately contained residential dwelling unit entirely within a single detached dwelling, semi-detached dwelling or townhouse dwelling. Interior accessory apartments are often referred to as basement apartments, second residential units or second suites.

2.0 project background research

2.3 best practice review

2.3.1 city of mississauga - second unit implementation strategy

In 2013, the City of Mississauga approved the Second Unit Implementation Strategy ("SUIS") as a component of the City's affordable housing strategy and housing plan (Mississauga, 2015). A second unit is permitted within a detached dwelling, semi-detached dwelling, or townhouse subject to zoning regulations (Mississauga, 2012; 2015). The following restrictions apply to all second units:

- One (1) second unit per dwelling is permitted;
- An addition to facilitate a second unit cannot alter the use of the existing dwelling;
- The minimum GFA is 35m2;
- The maximum GFA is no more than 50% of the GFA of the principal dwelling;
- A separate new entrance cannot face a street or private road, and a deck located above the first storey to facilitate entrance is not permitted;
- One (1) parking space is required and may be accommodated through tandem parking spaces; and
- Only one (1) driveway per lot is permitted.

The City of Mississauga requires property owners to obtain a license in order to secure approval for a legal second unit (Mississauga, 2015). The following items are required:

- Certificate of Occupancy for zoning compliance;
- Building Permit Care (signed off) for Building Code compliance;
- Letter of Compliance from Fire Chief for Fire Code compliance;
- Electrical Safety Certificate;
- Proof of Ownership; and
- Insurance Certificate.

The following second unit licence fee will be required to obtain a license:

- If the owner lives in the house: $500 for the first year and $200 for each renewal year;
- If the owner does not live in the house: $1000 for the first year and $500 for each renewal year.

Planning Tools Used:

Official Plan policies + Zoning Regulations + Education Program + Licensing Program + Stakeholder Partnerships

2.0 project background research

2.3 best practice review

2.3.1 city of mississauga - second unit implementation strategy

strengths

- An Education and Partnership Program was launched in 2014. The education program provides information for the new process for a legal second unit and is directed at second unit owners, tenants, stakeholders, special interest groups and the general public. The program consists of communications, including a website, brochures on licensing and a Second Units Building Code Guide; campaigns, including a mail campaign for homeowners of second units, and a mail campaign for homeowners where an inquiry, complaint or permit has been made; and public presentations and learning sessions (Mississauga, 2015). This was important for overcoming implementation challenges associated with limited community and Council support for the second unit system.

- Between 2014 and 2015, 67 second units were licensed with 97 licenses in progress. The licensing program allows the City to track the number of second units and ensure that new units meet the required zoning, building, and safety regulations (Mississauga, 2015).

weaknesses

- Second units are not permitted in accessory structures, and thus, there are no policies or regulations to guide these types of units (Mississauga, 2012).

- Costs can be prohibitive in the establishment of new second units and bringing units into compliance (Mississauga, 2015).

- Some view the licensing process as a barrier to the creation of second units, which may impact the number of new second units created or increase the number of illegal, unlicensed units (Mississauga, 2015).

opportunities

- An education program may assist with the tractability of new policies and licensing system. It would allow homeowners to better understanding the new process and requirements and potentially assist with encouraging the construction of new ADUs.

- A licensing system ensuring compliance with zoning, building and other safety regulations would be beneficial to track legal ADUs and prevent the construction of unsafe or illegal ADUs.

threats

- There may be a limited demand for detached ADUs given the smaller lots that dominate some Burlington neighbourhoods, such as LaSalle (Mississauga, 2012).

- A licensing system may be a challenge in the encouragement of new ADUs, particularly with respect to additional time and financial costs associated with obtaining permissions for new units. The requirement of a renewal licensing fee may not be the most effective in encouraging the creation of new ADUs. Financial incentives may be beneficial in overcoming this barrier and achieving tractability of a licensing program.

2.3 best practice review

2.3.2 town of newmarket - accessory dwelling units

The Town of Newmarket permits one self-contained apartment or ADU in detached and semi-detached dwellings, subject to zoning and building regulations. ADUs may be basement apartments, in-law suites, second suites, etc (Newmarket, 2018a). Each ADU must contain a private entrance, a kitchen, living quarters, sleeping facilities, and bathroom facilities. All ADUs must be registered with the Town for safety and regulation purposes (Newmarket, 2018a).

In 2013, the Town of Newmarket passed amended By-law 2013-13 ("A By-law for the Registration of Accessory Dwelling Units") requiring all ADUs to be registered through a one-time application process (Newmarket, 2018a). New units must first be constructed under the Building Permit process, then an application for registration may be submitted after work is complete. Property owners must submit a completed application form, a sketch of the parking area with dimensions, and a registration fee of $250 (Newmarket, 2018b). For all existing, unregistered ADUs, the Town requires an application form and application fee of $250 to be submitted, in addition to a third party report to confirm compliance, a letter from the Electrical Safety Authority (the "ESA") indicating compliance with safety requirements, and a letter from Central York Fire Services indicating Fire code compliance. Similarly, for units previously registered under the old registration by-law, a new registration application is required along with the $250 registration fee, a letter from the ESA indicating compliance with safety requirements, and a letter from Central York Fire Services indicated Fire Code compliance (Newmarket, 2018b).

When an ADU is registered, the Town will provide a small "N" plate (N for Newmarket) to be placed on the front of the primary dwelling indicating that the residence has an ADU. Additionally, the ADU unit itself will be required to display the letter "B" indicating it is a separate residence (see image below). Houses with an "N" plate are entitled to put out more garbage and recycling items on their collection weeks (Newmarket, 2018a).

Planning Tools Used:

Registration By-law + Official Plan Policies + Zoning Regulations

Source (Newmarket, 2018a)

2.0 project background research

2.3 best practice review

2.3.2 town of newmarket - accessory dwelling units

strengths

- The registration process allows the City to track legal ADUs and ensure the safety requirements are being met. The registration process also addresses existing unregistered units to ensure all ADUs are being accounted for.
- The use of a marker indicating a primary dwelling with an ADU and a marker indicating an ADU is a separate unit is very useful for ensuring health and safety of all accessory units. In the case of an emergency, the "N" plate and letter "B" will assist emergency responders to identify that there is more than one dwelling unit in the home. Ultimately, this saves time and improves the ability to save lives (Newmarket, 2018a).

weaknesses

- The registration process takes place after construction of the ADU is complete; thus, the Building Permit and registration process occur separately. Ultimately, this increases the amount of time required for the property owner for the creation of a new unit. Furthermore, although the unit must go through the Building Permit process first, there is a slight disconnect between the requirements at the Building Permit stage and the registration stage.
- Although the registration program addressed unregistered ADUs, it is not clear how illegal ADUs are addressed. There is no process outlining how these units will be brought into conformity prior to being registered.

opportunities

- The City of Burlington could consider using markers to indicate the presence of an ADU for improved health and safety associated with the implementation of such units.

threats

- The Town of Newmarket is currently considering implementing changes to residential zone standards and Official Plan policies, as well as urban design guidelines to better address intensification associated with ADUs (Newmarket, 2012). The City of Burlington will need to consider additional policies and regulations in order to ensure appropriate infill development.
- The registration program is helpful for tracking or monitoring ADUs; however, a licensing or permit system is more useful for ensuring health and safety issues are addressed.

2.3 best practice review

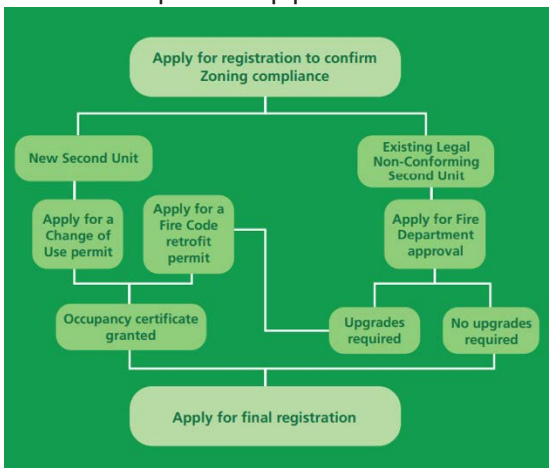
2.3.3 city of brampton - second units

In 2015, Brampton City Council approved policies permitting second units within detached, semi-detached and town-house dwellings across the City, subject to zoning requirements (Brampton, 2017b). Second units may include basement apartments, granny flats, accessory apartments, and in-law suites located within a house (Brampton, n.d.). The following zoning requirements must be maintained:

- Only one (1) second unit is permitted per house;
- The GFA of the second unit must not exceed the GFA of the principal dwelling unit;
- One (1) on-site parking space in addition to the required parking for the primary unit must be provided for the second unit. Tandem parking spaces are permitted; and
- The entrance to the second unit may be in the side or rear yard, provided there is a 1.2 metre unobstructed path of travel to the entrance.

The City of Brampton requires all legal second units to be registered with the City to ensure the unit meets all Building Code or Fire Code and Zoning By-law requirements (Brampton, n.d.). The registration process requires applicants to complete an application of registration and submit a non-refundable application deposit of $200 along with a legal survey, site plan, and floor plans. The propose second unit will then be reviewed to ensure compliance with the Zoning By-law, Building Code or Fire Code, and ESA requirements. Final registration of the second unit will be granted with an Occupancy Permit (or Fire Code compliance report for legal non-conforming units) for both units, ESA Inspection report for both units, verification of homeowners insurance for a two-unit dwelling, and payment of the final registration fee (Brampton, n.d.). Registration fees are as follows:

- $500, if the owner lives in the house;
- $1,000, if the owner does not live in the house;
- $300 if the unit is legal non-conforming.



Source (Brampton, n.d.)

Planning Tools Used:

Official Plan Policies + Zoning Regulations + Registration System + Low-Income Grant Program

2.3.3 city of brampton - second units

strengths

- The size of a second unit is not restricted by the housing type of the principal dwelling, but rather by the size of the principal dwelling. This provides more flexibility in size for the second unit to meet the specific needs of the property/owner.

- As of November 2017, 1,272 second unit registration applications have been received by the City and 284 second units have been fully registered (Brampton, 2017a). The registration program ensures that second units are legal, safe and suitable for residents, as well as provides a way for the City to identify where second units are located. In case of an emergency, response services can then be aware of the second unit prior to arrival (Brampton, n.d.).

- The City has partnered with the Region of Peel to administer a program (Peel Renovates) that provides low-income families with a grant to assist with the construction of a new second unit or renovation of an existing unit (Brampton, 2017a). This helps address housing affordability in two ways: by aiding low-income families to create an opportunity for increased income through rent from the second unit, and by encouraging the creation of new affordable rental units in the form of second units.

weaknesses

- Second units with legal non-conforming status must still be registered with the City, but are held to a different standard under the registration process. LNC units need not comply with the zoning provisions for two-dwelling units and only require Fire Code compliance rather than a new Occupancy Permit (Brampton, n.d.). However, it is not clear how the City shall determine legal non-conforming status for units that existed prior to the registration process. It will be difficult to identify all previously existing units and determine the legality of each in comparison with the existing illegal units.

- There do not appear to be any policies which address second units that are detached from the primary dwelling (i.e. laneway homes, carriage houses, tiny homes, etc.).

- Compliance and right-of-entry restrictions are an ongoing challenge in regulating the presence of illegal second units (Brampton, 2017a).

2.3.3 city of brampton - second units

opportunities

- A registration program whereby an ADU registration application and Building Permit application is submitted and reviewed simultaneously would be an important implementation tool for the City of Burlington. Such a program would allow the City to ensure the legality and appropriateness of all new ADUs and track the location of all existing and proposed ADUs. A simultaneous review process with the Building Permit Application process would create efficiencies, reduce processing times and ensure that accurate and complete information is submitted (Brampton, 2017b).

- Based on the objectives and future direction of Halton Region Housing in terms of affordable housing, there may be an opportunity for the City of Burlington to partner with the Region to create a program similar to the Peel Renovates program to financially assist low-income families with the development of ADUs.

threats

- There may be challenges associated with regulating detached ADUs in addition to attached and integrated ADUs in the City of Burlington. Brampton only permits and regulates ADUs located within a house and as such, there is one set of policies and regulations that require review for compliance. Detached ADUs would require additional policies and regulations which may complicate the program for property owners and increase the complexity of the review process for City staff.

- The City of Burlington will need a comprehensive implementation strategy that also addresses illegal ADUs. A plan for identifying and dealing with illegal units will be required in order to ensure safety and affordability is controlled and maintained for a successful program.

2.3.4 prince edward county - secondary suites

As part of the Official Plan Review undertaken in 2015, Prince Edward County conducted a study for the implementation of secondary suites as a tool for addressing housing needs. As part of the review, the County found the following common elements used by other jurisdictions:

- Permitting secondary suites in a range of housing forms;
- Secondary suites are intended to be ancillary to the principal dwelling;
- Unit size restrictions are used to reinforce the ancillary nature;
- Servicing as a primary requirement;
- Limits on modifications to exterior facades for front yards and some second storey exterior entryways;
- Licensing fees, which are usually nominal;
- Registration is used by some jurisdictions to track/monitor secondary suites;
- Licensing and permit requirements are preferred to ensure health and safety; and
- Incentives are not typically provided in Ontario, but where they are, they tend to be linked to promoting the permit and inspection process (SHS Consulting & Refact Consulting, 2015).

As part of this review, Prince Edward County also considered the best implementation tools to support the secondary suites policies:

- Zoning provisions - to implement the policy objectives and appropriate provisions to allow secondary suites. This includes setting clear standards for setbacks, entrances, parking, servicing, etc.
- Community education - to generate awareness and interest among potential homeowners to promote secondary suites. This would help encourage engagement in the planning and implementation process. This could include specific resources for residents and landlords (i.e. 'how-to', pamphlets, tips and resources), as well as broader focus groups to promote greater understanding of the issues in areas where resident concerns are more prominent.
- Monitoring - to have meaningful feedback to measure impacts of secondary suites on rental housing supply and community infrastructure, for both public education and planning purposes. This could be done as part of a broader annual monitoring report on development and housing activity. Follow-up interviews with applicants could be used to gauge how 'user-friendly' the resources and approvals process are.
- Assistance Program - to further stimulate activity where the creation of secondary suites is not meeting expectations. One-time incentives to homeowners to create secondary suites could promote housing additions and enable the attachment of conditions to support tenant affordability. A similar program could encourage landlords to legalize existing units to ensure they meet the health and safety requirements (SHS Consulting & Refact Consulting, 2015).

2.3.4 prince edward county - secondary suites

strengths

- Prince Edward County considers best practices employed by other Ontario municipalities to guide the development of an implementation framework for secondary suites. This helps to identify some of the best options for ADUs that were successfully used by other jurisdictions.
- The County considers secondary suites in relation to housing affordability which is important for application to the Burlington context.

weaknesses

- This is only a study. Application of this potential implementation framework has not been employed or reviewed. As such, there is no indication of success or failure on any of the recommendations.
- The study does not indicate the types of secondary units under review. It is not clear whether the recommendations are to be applied to interior, attached or detached units which may impact the applicability of each recommendation.

opportunities

- A monitoring program would be beneficial to the City of Burlington in order to identify both positive and negative impacts and ensure the ultimate success of the program. If significant negative impacts are identified, there will then be an opportunity to adjust the policies and/or regulations to improve the system and achieve success.
- An assistance program to provide incentive for property owners to legalize existing ADUs would be an important tool for the City of Burlington to ensure that all illegal ADUs are brought into conformity and ensure health and safety requirements are addressed.

threats

- A monitoring program would require additional resources to be successfully undertaken. The City will also need additional resources to address any issues with the implemented program.
- Likewise, an assistance program would likely require financial resources to undertake. This may require support from a higher level of government, such as Halton Region or the Province.

2.3.5 regional district of nanaimo - secondary suite program

The Regional District of Nanaimo permits secondary suites as a form of housing in most rural and residential zones in participating Electoral Areas. A secondary suite can be located within a dwelling unit (such as a basement apartment) or detached as a standalone building (such as a garden suite or granny flat) or as part of an accessory structure (such as a carriage home). Secondary suites are accessory to the primary use and must be maintained within the same legal title as the principal dwelling (Nanaimo, n.d.).

The following zoning regulations are applicable to Secondary suites:

- Secondary suites are only permitted in certain zones;
- One (1) secondary suite per dwelling unit to a maximum of two (2) per lot are permitted, provided there is only one (1) detached suite;
- Secondary suites located within or attached to a principal dwelling are permitted on any appropriately zoned property regardless of lot size. For detached suites, the following minimum site area requirements apply:
    - 800 sq. m. for lots serviced with community water and sewer; and
    - 8,000 sq. m. for all other lots;
- A suite may not exceed 40% of the habitable floor space of the primary dwelling or 90 sq. m. of total floor space, whichever is lesser;
- At least two (2) off-street parking spaces are required;
- Suites may not have more than two (2) bedrooms and one (1) cooking facility;
- Suites are not permitted in a duplex, manufactured home or multiple dwelling unit development;
- Secondary suites may not be used for short-term (<1 month) rentals; and
- Home-based businesses are permitted on a property containing a suite, with the exception of bed and breakfast establishments (Nanaimo, 2017).

Planning Tools Used:

- Secondary Suites Board Policy - provides for a consistent and clear approach for how existing and new secondary suites will be treated in relation to enforcement of zoning regulations, life safety requirements and the building inspection process.
- Building Regulation and Fees By-law - establish regulations and fees related to the building permit process.
- Zoning By-laws and Land Use By-laws - specify regulations for secondary suites
- British Columbia Building Code (Nanaimo, n.d.).

2.3.5 regional district of nanaimo - secondary suite program

strengths

- Secondary suites are recognized as an important form of affordable rental housing with benefits to both the landlord and the tenant. This is an important aspect in considering application of these recommendations in the Burlington context.
- The Nanaimo approach recognizes all three types of ADUs (interior, attached and detached). Thus, there are regulations guiding all types.
- There is a system to address suites that existed prior to the approval of secondary suites. Unrecognized suites are encouraged to be recognized by going through the building permit and inspection process to ensure that all suites are safe for occupants. (Nanaimo, n.d.).

weaknesses

- Because this approach is outside Ontario, there are different zoning and building regulations than are applicable in Burlington. Therefore, specific zoning regulations may not be applicable in the Burlington context.
- Nanaimo does not have a registration or permit system in place to track the existence of legal and illegal suites, nor to ensure (continued) compliance with all applicable policies, regulations and standards. Without such a system it is more difficult to keep track of the number of suites in existence and therefore, understand the success of the system.

opportunities

- With the development of appropriate zoning regulations, it is feasible to permit detach ADUs on appropriate properties in addition to interior and attached units. Based on the outcome of the physical feasibility analysis, it may be possible for Burlington to consider permitting detached ADUs where appropriate.

threats

- Permitting detached ADUs will require significant additional resources as there will be a greater number of regulations and standards applicable to such units in order to ensure compatibility with the property characteristics and the surrounding neighbourhood character. This would potentially include restrictions on minimum lot size for lots where detached units are permitted, as well as design guidelines directing the physical appearance of detached units.

3.0 feasibility assessment

In this section...

An in-depth study of the financial and physical feasibility of implementing ADUs in the City of Burlington was examined through market research and retained GIS data. Additionally, the feasibility in terms of the social characteristics of the City of Burlington was also reviewed and the findings are presented in this section.

3.0 feasibility assessment

3.1 financial feasibility

3.1.1 demographic + market analysis

The 2011 median total income for the population (15 years and over) is $34,0379. The median income for Burlington seniors is $28,406 (about 83% of that population) about 11% of the seniors in Halton Region are low-income (Community Development Halton [CDH], 2008). ADUs provide a solution for multigenerational living, accounting for over 25% of Ontario's population expected to reach their senior years by 2041, an increase from 16% today (Ministry of Finance, 2017). The needs of aging populations require accessible housing stock; financially, home care is touted to be the preferred and most cost-effective means of supplying care to senior citizens (CARP, 2008). The ADU market is a method that responds to the demand of housing required for the increased number of seniors allowing for them to age in place while reducing the socio-economic burdens of caring for dependents while remaining nearby.

The proportion of Burlington's seniors that are homeowners is 76%, where seniors under 74 years old have a higher ownership rate of 82% than the total population with one-in-five seniors older than 75 being renters (CDH, 2008). In addition, over 30% of income for seniors is spent on housing, according to the Halton Elderly Service Advisory Committee (ESAC). As many seniors want to age in place and stay within their communities', housing must be coordinated with other sectors that impact affordability and safe housing.

The existing rental market in the Halton Region is assessed in correlation with the incomes of the demographic that live in the city; particularly 1-bedroom apartments which are the most comparable in scale to ADUs or nursing homes for the senior demographic. As shown in Tables 1 and 2, Halton Region's average market rent (AMR) in 2018 is $1,225 for 1-bedroom apartments, whereas in 2017 the average rent was $1,160 showing a 5.6% increase within the duration of a year (MAH, 2018). The findings show that the annual AMR in Halton is $17,000 which is 62% of Burlington seniors median income of $28,406. Furthermore, the AMR over a duration of time can finance an ADU which would generate revenue after the initial financing period of 8-10 years as seen in Table 4.

[Table 1:] 2018 Allowable Rent for 1 Bedroom Apartment in Halton Region (MAH, 2018).

Service Manager Area	Average Market Rent (AMR)	80% of AMR	Modified OW Shelter Allowance	Allowable Average Rent Per Unit
Regional Municipality of Halton	$1,225	$980	$533	$980

[Table 2:] 2017 Average Market Rent for Apartment Units (MAH, 2017)

Service Manager Area	Bachelor	1 Bedroom	2 Bedroom	3+ Bedroom	Total Bedroom
Regional Municipality of Halton	$904	$1,160	$1,324	$1,562	$1,284

3.0 feasibility assessment

3.1 financial feasibility

3.1.2 housing types for seniors

The provision of continuum housing is necessary to ensure a supportive community for all demographics including seniors, and thus the three types of housing to be considered in addition to ADUs are social housing, where the rented accommodations are with financial assistance; supportive housing where seniors direct their own care however this is limited to individuals with special needs and long-term nursing homes; and retirement homes. There are multiple homes within the Region as seen in Table 2, however the regional home in Burlington is Creekway, which in 2008 had a 6 month to 1 year waiting time for varying room types. This will increase as the demand will exceed the supply due to the aging of the senior demographic over time (United way, 2008). The costs in 2018 for each room type in a long-term nursing home is shown in below in Table 3.

[Table 3: Cost Per Nursing Home Room Type]

Accommodation Type	Daily Rate	Monthly Rate
Long-stay Basic[1]	$ 59.82 (a)	$1,819.53 (b)
Long-stay Semi-private[2]	$72.12 (Basic plus a maximum of $12.30)	$2,193.65
Long-stay Private[2]	$85.45 (Basic plus a maximum of $25.63)	$2,599.11
Short-stay	$38.72	N/A

When comparing the findings against the median senior income it shows that:

- At $31,189.32 the cost of a long stay private annual home will not be affordable for the median senior income
- At $26,323.8 the cost of a long stay semi-private annual home will consume 92.66% of the median senior income
- At $21,834.36 the cost of a long stay basic room would consume 78.86% of the median senior income

[Data Retrieved from: https://www.ontario.ca/page/find-long-term-care-home]

Cost Per Time Ratio to Finance an ADU versus Nursing Home

The cost that a senior would pay to live in a long care nursing home could be allocated towards renting or investing to build an ADU, saving the individual or family thousands of dollars in costs after the initial cost period which would equate the cost of implementation to the costs saved after that duration of time as seen in Table 4. The duration of time would vary from 4-8 years at the rate for a nursing home room and would allow the seniors to age in place or in proximity to their families.

[Table 4] The duration of Time to finance an ADU at AMR and Nursing home equivalent

			Duration of annual nursing home costs to finance ADU development equivalent		
Type of ADU	Average Cost	Duration of Halton Annual AMR to finance ADU $17,700	Long Stay Private Annual $31,189.32	Long Stay Semi Private Annual $26,323.80	Long Stay Basic $21,834.36
Attached ADU	$136,500	8 years	4 Years	5 Years	6 Years
Interior/Basement ADU	$165,250	9 years	5 Years	6 Years	8 Years
Detached new construction	$173,684	10 years	6 Years	7 Years	8 Years

3.1.3 cost of developing ADUs

The costs to develop an ADU is shown in Tables 5 and 6, where the three most applicable ADU types for Burlington (attached, detached, interior) will vary in cost due to size. The most affordable ADU type is interior or basement in terms of implementation, whereas detached is the most expensive when calculated at a constant cost between the minimum and maximum allowed size within the City of Burlington. The individual building costs are shown for a 795 square foot detached as an example for the cost of each component required as seen in Table 7.

[Table 5] Cost to Develop Various Types of ADU's (Based off Min and Max lot size in Burlington study areas)

	Constant Cost		Average Cost Per Size		
Type of ADU	Cost Per Minimum lot size (75 m^2)	Cost Per Maximum lot size (110 m^2)	Average Cost	Size of ADU (m^2)	Cost Per Square Meter
Attached ADU	$189,992.38	$278,655.49	$136,500	53.88 m^2	$2,533.23
Garage conversion	$205,867.23	$301,938.60	$140,000	51.00 m^2	$2,744.90
Basement ADU	$186,385.29	$273,365.09	$165,250	66.50 m^2	$2,485.14
Detached new construction	$227,620.11	$333,842.83	$173,684	57.23 m^2	$3,034.93
Detached new construction above a garage	$169,179.75	$248,130.30	$216,333	95.90 m^2	$2,255.73

Constant cost derived from average cost per size to determine min and max values

[Table 6] Costs Per Attached, Detached and Interior ADU's

	Constant Cost		Average Cost Per Size		
Type of ADU	Cost Per Minimum lot size (75 m^2)	Cost Per Maximum lot size (110 m^2)	Average Cost	Size of ADU (m^2)	Cost Per Square Meter
Attached ADU	$189,992.38	$278,655.49	$136,500	53.88 m^2	$2,533.23
Interior/Basement ADU	$186,385.29	$273,365.09	$165,250	66.50 m^2	$2,485.14
Detached new construction	$227,620.11	$333,842.83	$173,684	57.23 m^2	$3,034.93

Constant cost derived from average cost per size to determine min and max values

[Data Retrieved from: http://www.buildinganadu.com/cost-of-building-an-adu/]

[Table 7] Building Cost of Detached ADU

Detached ADU	795 square foot
Requirements	**Cost**
Permits	$10,000
Excavation	$10,000
Footing and Retaining wal	$20,000
Framing and Sheathing	$20,000
Siding	$8,000
Roofing	$10,000
Windows and Doors	$10,000
Concrete Slab	$5,000
Plumbing	$12,000
Electrical	$11,000
Insulation	$9,000
Sheetrock	$8,000
Interior Doors	$1,000
Paint - Exterior	$4,000
Paint - Interior	$7,000
Trimwork	$3,000
Cabinets	$4,500
Countertop	$2,500
Tiles	$6,000
Staircase	$2,500
Flooring	$2,500
Cable Railing	$2,500
Appliances	$4,500
Electrical Fixtures	$1,500
Additional Plumbing	$1,500
Total	$176,000

[Data from: https://www.propelstudio.com/blog/how-much-will-my-adu-cost]

3.0 feasibility assessment

3.1 financial feasibility

3.1.4 recommendations

The financial feasibility of ADU's is sustainable over a long duration of time for income saved by the Individual versus alternative housing types on the existing market. The individual who implements the ADU has the potential to generate an additional income of $17,700 annually at the Halton 2018 AMR. In addition, seniors will be able to afford to reduce their expenditures on housing within a reasonable margin versus the 60-90th percentile to 41% at the allowable average rent per unit rate ($980) seen in table 1, if utilized as a base rate for ADUs. As there is a limited space within Burlington for new greenfield development, infill is the recommended approach. ADUs can be a cost effective means for solving the affordability of housing, specifically the affordability of senior housing.

3.2 physical feasibility

3.2.1 methodology

The purpose of this section was to conduct a physical feasibility analysis in order to determine the possibility of incorporating detached ADUs, of various sizes, in the rear yard of properties in both subject neighbourhoods. Using GIS data provided by the City of Burlington, the following steps were taken to numerically and spatially determine the feasibility of ADUs - specifically, detached ADUs.

step 1

data gathering + extracting

step 2

generating non-development areas

step 3

generating the computed void space

step 4

generating remaining open space

step 5

ADU feasibility assessment

3.0 feasibility assessment

3.2 physical feasibility

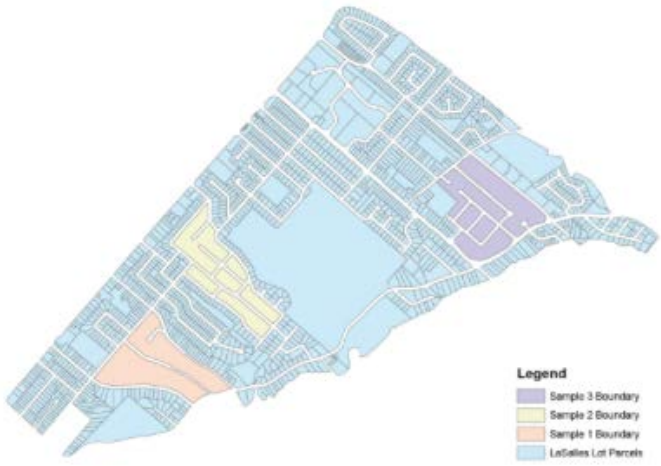
3.2.1 methodology - data gathering + extracting

step 1

GIS data was gathered for both subject neighbourhoods based on open source and non-open source data provided by the City of Burlington. The type of data required for this analysis was parcel shapes, building footprints and road lines. Three sample areas were chosen in each neighbourhood in order to encompass a broad range of parcel sizes, as well as building typologies. The parcels and building footprints were then extracted out of the main source for each of the sample areas selected, which totalled to six sets of data.

appleby

lasalle



3.2.1 methodology - data gathering + extracting

step 1

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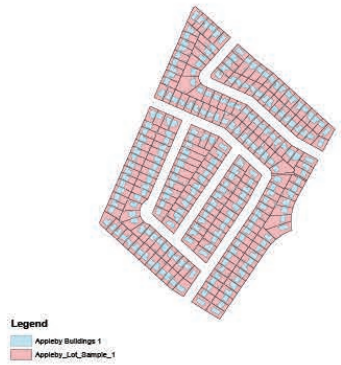
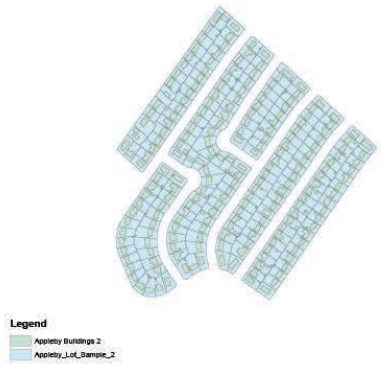
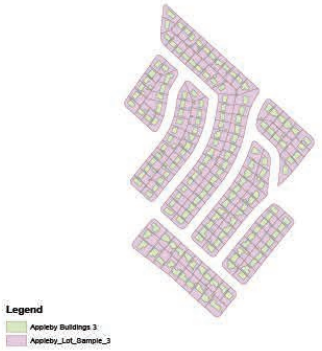
APPLEBY - Sample Boundaries







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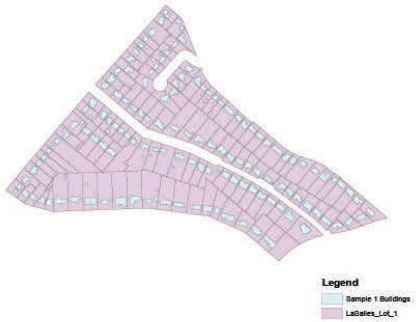
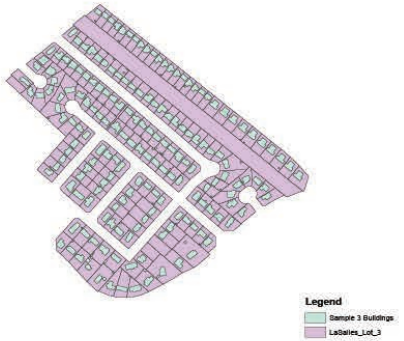
LASALLES - Sample Boundaries





3.0 feasibility assessment

3.2 physical feasibility

3.2.1 methodology - generating non-development area

step 2

In order to determine the space available for the development of an ADU, the areas that cannot be developed on such as buffers and building area must be calculated. Buffers around each parcel were generated based on the different zoning designations for each sample. The zoning for these parcels indicated a 1.5 meter rear and side setback. The buffer area and building were merged together in order to generate an overall area that indicated non-open space. Due to the complexity and difference in zoning, the front yards were not included with the initial buffers.

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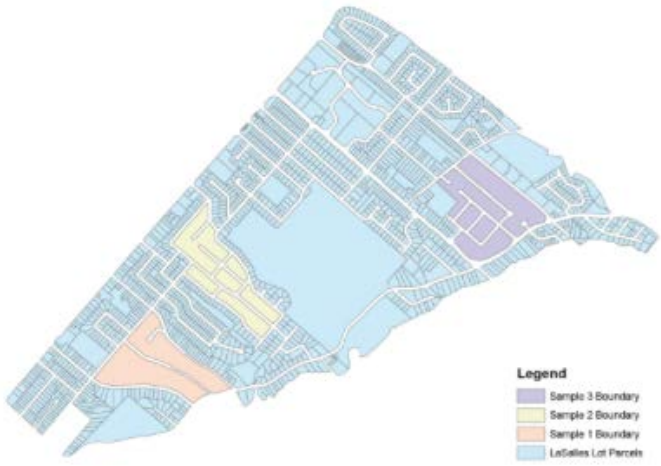

3.2.1 methodology - generating non-development area

step 2

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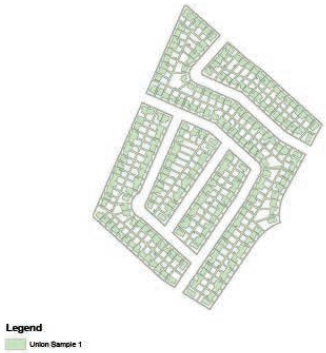
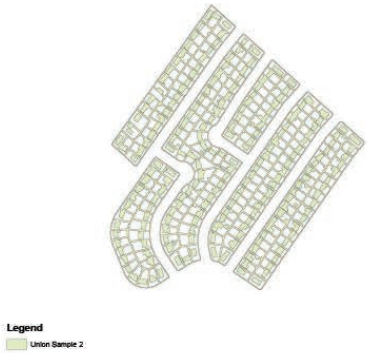
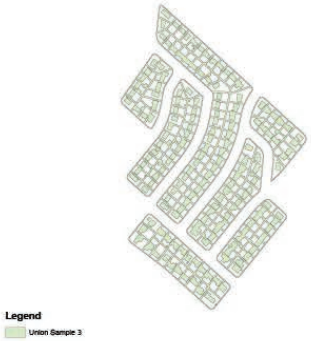
APPLEBY - Merged Buffers and Building Footprints

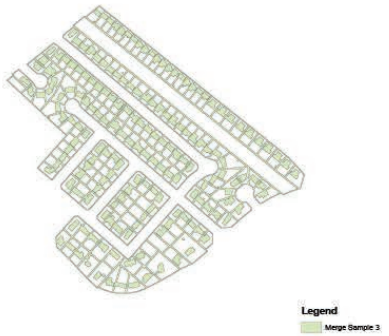






lasalle

LASALLES - Merged Buffers and Building Footprints



3.0 feasibility assessment

3.2 physical feasibility

3.2.1 methodology - generating the computed void space

step 3

The parcels for each sample were merged together to generate one large polygon. The polygons from step two, the merged buffer and building footprints, were then subtracted or erased from the larger polygons. The remaining polygons were known as the computed void space, which consisted of the rear and front yard. An attribute table with the individual polygon data was created and exported into an excel file for each of the samples.

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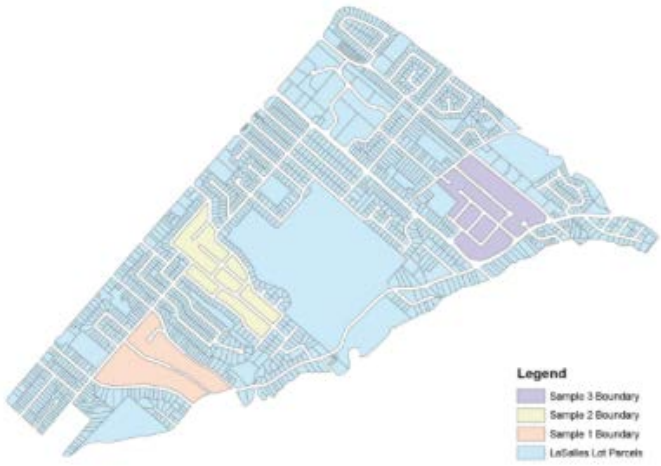

3.2.1 methodology - generating the computed void space

step 3

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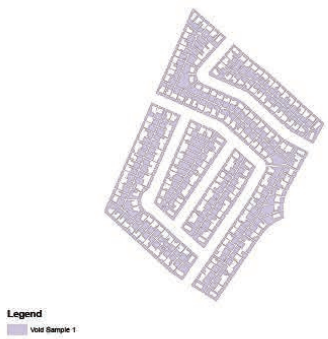
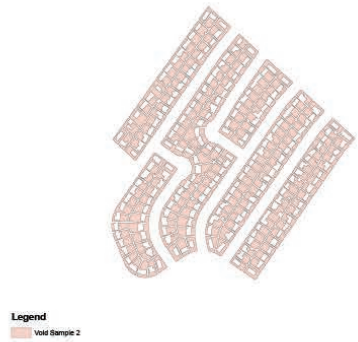
APPLEBY - Voids (Remaining Open Area in Lots)





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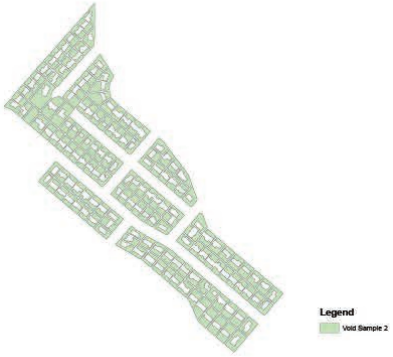
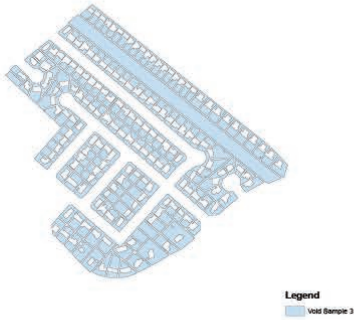
LASALLES - Voids (Remaining Open Area in Lots)





3.0 feasibility assessment

3.2 physical feasibility

3.2.1 methodology - generating remaining open space + assessing feasibility

step 4

The next step was to subtract the front yard area from each parcel. The front yard setback differs based on the zoning; therefore, this was the best option to accurately remove that area from the lots. R3.1 parcels had smaller front yards compared the R2.1 parcels. In the excel file a new column was created for each sample that encompasses the front yard area defined by that sample's zoning. That area was subtracted from the void space and the remaining output was the generated remaining open space for the lots.

step 5

A set different goals or outcomes were determined in order to prepare the spreadsheets for those analyses. Below is a list of factors that were analyzed in order to determine the physical feasibility of ADUs in both subject neighbourhoods.

- The number of lots that can fit detached ADUs of various sizes; a minimum size of 75 m.sq and maximum size of 110 m.sq were used
- Average open space for each of the samples
- Remaining area left after each sized ADU was placed onto the lot
- Ratio of open space to various ADU sizes

3.2.2 feasibility results

appleby

92 – 99% of lots can fit the minimum size detached ADU
80 – 99% of lots can fit the maximum size detached ADU

Appleby Sample 1 – R3.2			Appleby Sample 2 – R2.1		
Remaining Area with Min ADU (m.sq)	**Count**	**Percent**	**Remaining Area with Min ADU (m.sq)**	**Count**	**Percent**
0 - 50	75	30.61%	0 - 50	3	1.36%
50 - 100	106	43.27%	50 - 100	7	3.18%
Greater than 100	64	26.12%	Greater than 100	210	95.45%
Total	245	100%	Total	220	100%

Appleby - Sample 1		Appleby - Sample 2		Appleby - Sample 3	
Average Coverage of ADU to Remaining Space		**Average Coverage of ADU to Remaining Space**		**Average Coverage of ADU to Remaining Space**	
Minimum	58%	Minimum	32%	Minimum	48%
Maximum	85%	Maximum	48%	Maximum	71%

With the minimum sized ADU, the footprint took up to an average of 58% of a lot and low as 32% of the lot as seen in sample 2. The maximum sized ADU had a high average of 85% coverage and a low of 48% coverage.

lasalle

96 – 97% of lots can fit the minimum size detached ADU
89 – 97% of lots can fit the maximum size detached ADU

LaSalles Sample 2 – R2.1			LaSalles Sample 3 – R2.1		
Remaining Area with Min ADU (m.sq)	**Count**	**Percent**	**Remaining Area with Min ADU (m.sq)**	**Count**	**Percent**
0 - 50	6	3.92%	0 - 50	30	16.76%
50 - 100	31	20.26%	50 - 100	34	18.99%
Greater than 100	116	75.82%	Greater than 100	115	64.25%
Total	153	100%	Total	179	100%

LaSalles - Sample 1		LaSalles - Sample 2		LaSalles - Sample 3	
Average Coverage of ADU to Remaining Space		**Average Coverage of ADU to Remaining Space**		**Average Coverage of ADU to Remaining Space**	
Minimum	21%	Minimum	41%	Minimum	43%
Maximum	31%	Maximum	61%	Maximum	63%

In LaSalle, on the other hand, the minimum sized ADU had a high average of 43% of the lot and low of 21% of the lot. The maximum sized ADU had a high average of 63% coverage and a low of 31% coverage. Sample one is a special case since 50% of the lots are natural areas which limits the type and size of developments on them.

3.2 physical feasibility

3.2.3 recommendations

Overall, detached ADUs are possible to implement in both neighbourhoods. However there are a few considerations to take into account:

- Zoning will dictate how much available space there is;
- Natural Areas may limit the development of ADUs in some communities; and
- there should be a standardized ADU floor area in order to ensure there is enough space for the detached ADU, as well as enough open space.

A detailed breakdown on the analysis and results can be found in appendix b. Provided are all the spreadsheets for the six samples and a spreadsheet containing the results from the analysis conducted.

3.3 social feasibility

Social, cultural and demographic characteristics such as age of population, cultural make-up and migration trends, to name a few, all have a significant impact on the success and feasibility of implementing ADUs as a means of addressing affordable housing in the CIty of Burlington. It is important to understand the social and cultural make-up of the neighbourhood and the City of Burlington as a whole to determine the need for ADUs and to understand how best to market the benefits of ADUs.

In the subject area of Appleby, the neighbourhood has a total population of 18,106 persons according to the 2016 census. Of this total population, 4330 are seniors aged 65 years and older accounting for 24% of persons residing in this neighbourhood. The average age of the Appleby population is 45 years, suggesting that in the coming decades this neighbourhood will be home to a significant aging population. In the neighbourhood of LaSalle, the total population is 7731 persons according to the 2016 census. Of this population, 1390 are seniors aged 65 years and older. Thus, 18% of the neighbourhood population is comprised of senior residents (Statistics Canada, 2017). Of the overall population of 183,315 in the City, 35,320 (19%) persons are aged 65 years and over, and 5425 (3%) persons are aged 85 years and over (Statistics Canada, 2017). Accounting for the senior population that is not included in a census family, 1055 are currently living with relatives and 315 are living with non-relatives. Thus, a trend for seniors sharing homes with either family members or others is becoming more common.

Another social characteristic examined was the portion of the City's population in the labour force. With a large portion of seniors, the rate of people leaving the labour force is increasing. Of the City's population, 47, 845 are not in the labour force (Statistics Canada Census, 2017). This accounts for the population that is over the working age of 15 years old and not falling in the labour force category of employed or unemployed; this population accounts for those retired. This puts a stress on the affordability of housing and the need for accessible transit and other services. Many seniors out of the labour force rely on pensions and retirement savings to pay for their living expenses.

Immigration is another factor that affects the patterns of persons living in the City of Burlington. In reviewing the types of immigrant applications, of the immigrant population between 1980 and 2016, 7395 were sponsored by family (29% of sample) (Statistics Canada Census, 2017). This means that around 30% of the immigrants to Burlington are being supported by a family member that is already residing in the area. These immigrants often choose to reside in the same household as their sponsor or in close proximity to their sponsor. This leads to multiple families residing under one roof. According to the 2011 census, the number of persons living in a relatives household is 2600. Additionally, the number of persons living with non-relatives is 3800 (Statistics Canada, 2012).

4.0 implementation in burlington context

In this section...

Using findings from the best practices review and feasibility study, a framework for implementing ADUs was developed for the City of Burlington. The implementation framework identifies recommendations and actions as well as planning tools for implementing ADUs.

4.0 implementation in burlington context

Future growth in Burlington must be accommodated through intensification and redevelopment. Furthermore, the proposed new Official Plan emphasizes in Section 2.3.4 b), that established neighbourhood areas will be subjected to intensification through the development of secondary dwelling units rather than through new development. This is strongly prioritizing gentle residential infill through ADUs in established residential areas. Section 2.4.2(3) b) also gives permission to build ADUs in order to achieve intensification targets in established neighbourhoods. In Section 8.7.2(1), the Official Plan supports the creation of ADUs within all land use designations that permit residential uses as a way of increasing the City's supply of affordable housing. Any development must follow specific Zoning By-Laws and other applicable regulations.

Addressing the supply of affordable units will be an opportunity for Burlington to create more affordable housing stock through ADUs. The use of Community Improvement Plans (CIPs) can pose as an effective tool for Burlington to ensure an available affordable housing supply. Additionally, to address the issue of housing affordability, the provisions of direct or indirect financial assistance for housing will be evaluated. Housing allowance and rental supplements will be considered to assist with rental costs, with rental supplements paid directly to the owner of the unit. In additional financial incentives will also be evaluated for its feasibility for ADUs. Waiving application fees, building permit fees, and other associated fees for affordable housing units will be considered.

Local opposition may be a challenge that is encountered during implementation. It is in the best interest of the City to engage in proactive awareness campaigns and public education initiatives to mitigate this challenge in order to support the implementation of a successful ADU system and its policies.

In order to address the opportunities and challenges associated with implementing ADUs in the Burlington context, the following recommended implementation framework has been developed. The implementation strategy has been divided into three timeframe categories, short-term (0-5 years), medium-term (5-10 years) and long-term (10+ years). Each defined timeframe has a set of goals and action items associated with supporting the successful implementation of ADUs in the City of Burlington.

4.0 implementation in burlington context

4.1 implementation framework

4.1.1 short-term implementation (0-5 years)

In the short term, the main recommended implementation objectives are related to the creation of the regulatory foundation for ADUs. This includes the development of policy, regulations, guidelines and standards in order to appropriately guide the development of legal ADUs. This also includes the development and implementation of a permit systems to comprehensively regulate new and existing units, as well as an education program to communicate the policy/regulation changes and encourage the development of new units.

goal 1: offcial plan policies + zoning regulations in place

action 1.1

Host Design Charrette(s) + Public Consultation Meetings

As there are a number of options with varying degrees of process and resources involved, it is appropriate to hold workshop(s) with Council to provide further detailed information on the identified recommendations. The workshop(s) will assist staff in determining a preferred approach based on Council's desired level of service, budget constraints, public consultation, timeline, and etc. Furthermore, any process that involves defining neighbourhood character either through an Official Plan amendment or guidelines for infill development should include public consultation with those residing in the subject neighbourhoods. Design charrettes with design professionals, along with other public consultation events should be held in order to garner input from the public. These events will introduce ADUs to the residents of Burlington, address housing affordability concerns, encourage registration and permit applications, and communicate by-law requirements to stakeholders. These actions will assist with developing the appropriate policies, regulations and guidelines to regulate ADU development.

action 1.2

Develop Official Plan policies

Additional Official Plan policies will be required in order to ensure the long-term success of ADUs. Currently the proposed new Official Plan generally permits accessory units within, or on the same property as, single-detached, semi-detached and townhouse dwellings in any land use designation that permits residential uses (Section 8.7.2(2)). The current policies also guide the basis for zoning regulations relating to ADUs, generally relating to size, compatibility and other health and safety standards. However, in order to ensure better compatibility and regulation of units, it is important to have policies that identify specifically the types of ADUs permitted, as well as policies requiring the licensing of new and existing ADUs under a municipal permit system (discussed further in Goal S3).

4.0 implementation in burlington context

4.1 implementation framework

4.1.1 short-term implementation (0-5 years)

action 1.3

Develop Zoning Regulations

As noted, the new Official Plan guides the basis for the zoning regulations relating to ADUs. However, there is a need to update the Burlington Zoning By-law to conform with the new Official Plan, once it is in force. Currently, ADUs are permitted in detached dwellings only in the R1, R2 and R3 zones and there are regulations guiding the size, rear yard amenity area, entrances, and parking for ADUs. It is essential to update the zoning regulations to permit ADUs in, or on the same property as, all single-detached, semi-detached and townhouse dwellings in all residential zones. Additionally, the regulations related to the physical development characteristics of ADUs should be updated to ensure appropriate and compatible intensification.

goal 2: design + accessibility standards in place

action 2.1

Develop Urban Design Guidelines

In association with the Official Plan policies and Zoning regulations, it is recommended that Urban Design Guidelines be developed specifically to guide the development of new and compatible ADUs. Design standards for all ADU types should be developed and should guide physical features including, but not limited to, entrances, walkways, parking location, as well as exterior facade changes and location of attached and detached units. This will help to ensure intensification achieved through ADUs will be gentle and compatible with the existing residential character, particularly in established neighbourhoods.

action 2.2

Develop Accessibility Standards

Similar to the development of Urban Design Guidelines, there is a need for Accessibility Standards which guide the development of accessible ADUs. These standards should include the regulation of accessible entrances, particularly for below grade and second floor units, as well as other access and circulation features, washrooms, and amenities. These standards should be developed in accordance with the Halton Region Accessibility Plan and the City of Burlington Accessibility and Design Standards. Ultimately, Accessibility Standards guiding the development of new ADUs will be important in ensuring that new units are fully accessible, particularly for seniors.

4.0 implementation in burlington context

4.1 implementation framework

4.1.1 short-term implementation (0-5 years)

goal 3: ADU permit system in place

action 3.1

Develop Permit System By-law

AIt is recommended that a permit system for new and existing ADUs be developed and implemented in order to track the location of accessory units and ensure that all health and safety standards are met. Potential homeowners shall be required to submit an application for new or existing illegal ADU along with a nominal fee (i.e. $500), a Certificate of Occupancy for Zoning compliance, proof of Building Permit for Building Code compliance, a Letter of Compliance for Fire Code compliance, an Electrical Safety Certificate from the ESA, proof of ownership, and an Insurance Certificate. The application and supporting materials will be reviewed and a permit will be issued by the City upon confirmation of compliance with all required standards and regulations.

It is recommended that the City consider an integrated process whereby the ADU permit application and Building Permit application review are undertaken simultaneously to shorten the approval process and reduce delays in the construction of new ADUs. In this case, the applicant would be required to submit a permit application, permit fee, legal survey, site plan and floor plans in addition to the proof of Fire Code and ESA compliance, proof of ownership and an Insurance Certificate.

action 3.2

Implement a Marker System

Although this may not be essential for the success of the ADU system, it is suggested that a marker system be employed in order to identify the presence of accessory units from the exterior of a dwelling. This should involve a two-part marker system whereby one marker is installed on the exterior of the primary dwelling indicating the presence of an ADU, and a second marker is displayed outside the entrance of the second unit identifying it as an ADU. Such a system would allow for improved health and safety in the event of an emergency as emergency response personnel are easily able to to identify the existence of an additional unit.

4.0 implementation in burlington context

4.1 implementation framework

4.1.1 short-term implementation (0-5 years)

goal 4: public communication + education

action 4.1

Develop Communication and Education Program

In order to ensure successful adoption and traction of new ADU implementation policies, regulations, guidelines and programs, the development of a communication and education program is of high importance. The aim of such a programs should be to provide Burlington residents with information related to the new process for a legal ADU and should be directed towards homeowners, tenants, special interest groups, other stakeholders and the general public. It is recommended that the program consist of communications (i.e. websites, brochures, guides, etc.), campaigns, and public presentations and learning sessions.

4.0 implementation in burlington context

4.1 implementation framework

4.1.2 medium-term implementation (5-10 years)

In the medium term, the main recommended implementation objectives are related to encouraging homeowners to add ADUs to their existing homes. This should involve evaluation of the programs implemented in the short-term timeframe and making the necessary adjustments, the continuation of community education, and the use of incentive and financial assistance programs. Additionally, it is suggested that additional programs to improve the overall success of the ADU system be implemented in this timeframe, such as a program to address existing illegal ADUs and a mapping system to visually track the location of ADUs with permits.

goal 1: creation of new ADUs

action 1.1

Develop a Short-term Monitoring Program

A short-term monitoring program should be developed and implemented to track and evaluate the permit process in order to identify areas of success as well as challenges or complaints. This should include monitoring and evaluation of the application process, the inspection process, as well as stakeholder comments, questions and concerns. Based on the results of this evaluation, improvements should be implemented to improve the system as appropriate in order to continue to encourage new units to be created.

action 1.2

Continue Execution of Communication/Education Program

In order to encourage homeowners to continue to create new ADUs, it is important that communication and community education activities are continued into the medium term timeframe. These education activities should continue to communicate the process requirements, but should also spread the benefits of constructing and living in ADUs and the incentive/assistance options available for potential landlords.

goal 2: incentive programs in place

action 2.1

Develop + Implement Incentives

As the permit process can act as a barrier to the creation of new ADUs, it is recommended that incentive programs are developed and implemented in order to encourage homeowners to create new units. Although incentives are typically not provided in the Ontario context, where they are provided, they are often linked to the permit and inspection processes. Such incentives could include reduced property taxation for properties with a legal accessory dwelling, or waived or reduced Building Permit application fees associated with an application for an ADU permit.

4.1.2 medium-term implementation (5-10 years)

action 2.2

Develop + Implement Assistance Programs

In addition to development incentives, the provision of financial assistance program, particularly for low-income households, to aid in the construction of new ADUs would be beneficial. The provision of one-time incentives or grants to homeowners to assist with the costs associated with permitting and building a new ADU to promote housing additions. Such programs could involve the attachment of conditions for the landlord to support affordability of these new units for tenants. Ultimately, this would help address affordability in two ways: a) by providing new affordable rental units in the form of ADUs, and b) by providing lower-income households with an additional source of income from the rental of a new ADU.

These financial incentives and grants could be offered by the City of Burlington in conjunction with Halton Region. Halton Region is currently considering an evaluation of their recent Second Unit Pilot Program, which provided eligible homeowners with a 15-year forgivable loan to encourage the creation of second units throughout the Region. Therefore, there is significant opportunity for Burlington to work with Region to develop a comprehensive or complementary assistance program to incentivise the creation of affordable ADUs in Burlington.

goal 3: illegal ADUs are being addressed

action 3.1

Develop + Implement a Legalization Program

It is of high importance that there be a system in place to address existing, illegal ADUs that were developed prior to the implementation of the ADU updated policies, regulations and permit system. Existing ADUs that do not meet the required health and safety standards pose a significant risk to both landlords and tenants. As a result, it is recommended that a program be implemented that both requires and encourages landlords to obtain a permit for their existing ADUs and bring them into conformity with health and safety requirements. This will require municipal resources in order to ensure enforcement of consequences for failure to bring an existing ADU into conformity with the updated requirements.

It is important that the system recognize the difference between legal non-conforming units (i.e. ADUs that conformed to applicable policies and regulations prior to the adoption of the new ADU system) and existing, illegal ADUs (i.e. ADUs that existed prior to the adoption of the ADU system but did not conform to the applicable policies and regulations). The consequences associated with failure to register a legal non-conforming unit should not be as strict as those for existing, illegal units.

4.1.2 medium-term implementation (5-10 years)

action 3.2

Develop + Implement Legalization Incentives

In order to assist with encouraging landlords to bring existing ADUs into conformity with the new ADU system, it is recommended that incentives are provided to encourage legalization. These incentives could be similar to those offered to encourage the creation of new units; however, they should be tied directly to the permit application process. It is suggested that the City offer waived permit application fees for those bringing existing ADUs into conformity in order to make the process less costly for existing landlords.

goal 4: mapping system in place

action 4.1

Develop + Implement a GIS Mapping Database

In association with the ADU permit system, it is suggested that a GIS mapping database be developed and implemented in order to visually track the location of legal ADUs with municipal permits. This will help to monitor the state of ADUs throughout the City, as well as identify trends in the location of new ADUs in order to assist with providing the appropriate types of education, assistance and support to continue encouraging the creation of ADUs. Additionally, this would be a useful public resource that would allow Burlington residents, particularly potential tenants, to identify the location of legal ADUs.

4.1.3 long-term implementation (10+ years)

In the long term, the main recommended implementation objectives are largely related to the long-term success of the ADU system. This includes successful occupation of ADUs by seniors and low-income residents, maintaining rental rates for ADUs at an affordable level, and encouraging the incorporation of ADUs in new developments. Monitoring and evaluation shall play a major role in the achievement of the long-term goals.

goal 1: successful occupation of ADUs by seniors + low-income residents

action 1.1

Develop + Implement a Long-term Monitoring Program

It is essential that an effective monitoring system be put in place in order to obtain meaningful feedback related to the success of the overall ADU system. Data from the permit system and associated GIS database should be extracted to aid the City in understanding of established ADUs, as well as the success and challenges of the permit system. It is also suggested that follow-up interviews be conducted with applicants to gauge how "user-friendly" the permit system is, and that the appropriate adjustments be implemented.

Additionally, the impacts that ADUs are having on the rental housing supply and on the local community infrastructure across Burlington should be of a concern. It is of significant importance that ADUs remain affordable for tenants. This information would be helpful for both public education and planning purposes, and could be used to identify any key issues resulting from the ADU system to ensure the program is successful and sustainable over the long term. This information could be incorporated into broader annual monitoring reports related to development and housing activity, particularly affordable housing.

action 1.2

Ensure Funding + Incentives are Appropriate

Strongly related to the GIS mapping system developed in Action Item M4.1, it is recommended that the use and allocation of funding and other financial incentives for ADU construction are appropriate. It is important for the City to understand whether the financial assistance being offered is effective in encouraging the creation of new units, as well as whether it is being used by the appropriate and intended individuals. It is suggested that the data being collected in the GIS database be used to identify where ADUs are being built, who is building them, and how financial incentives are assisting.

4.1.3 long-term implementation (10+ years)

action 1.3

Adjust Regulatory Framework + Programs

Using the information gathered from the monitoring and evaluation activities, it is important to make the appropriate changes to the ADU system as necessary in order to improve the success and long-term sustainability of the program. This may include making adjustments to the ADU policies, regulations, guidelines and standards, as well as any of the many programs associated with the ADU system including the permit system, the incentive programs, the legalization system, the mapping system or even the monitoring system itself.

Furthermore, based on the evaluation of the impacts of the implementation of ADUs on existing community infrastructure, it may also be necessary to make larger scale changes to the City's planning context to ensure that ADU intensification is adequately accommodated. This may include utilities, waste removal, public transit, transportation infrastructure and other public service facilities. It is noted that the objective of using ADUs to address housing affordability and demand is to provide these new housing opportunities through a form of gentle intensification that will not have a major impact on the existing neighbourhoods; however, it is still important to monitor and evaluate the real impacts of ADUs to confirm that existing capacities are not being overwhelmed.

4.0 implementation in burlington context

4.2 summary of recommended planning tools

- Additional Official Plan policies
- Zoning regulations
- Urban Design Guidelines
- Accessibility Standards
- Licensing/Permit By-law
- Community Education Program

4.3 summary of recommendations

The following is the comprehensive list of recommendations for ADU implementation:

- Host design charrette(s) and public consultation meetings to determine an all-inclusive preferred approach to ADU implementation.
- Develop Official Plan policies to ensure better compatibility and regulation of units.
- Develop Zoning regulations to permit ADUs in, or on the same property as, all single-detached, semi-detached and townhouse dwellings in all residential zones.
- Develop Urban Design Guidelines to guide the physical development of new and compatible ADUs; specifically, outline the maximum allowable floorarea for ADUs.
- Develop Accessibility Standards to guide the development of new ADUs to ensure that new units are fully accessible, particularly for seniors.
- Develop Permit System By-law for new and existing ADUs being developed and implemented in order to track the location of accessory units and ensure that all health and safety standards are met.
- Implement a marker system in order to identify the presence of accessory units from the exterior of a dwelling for safety and emergency response.
- Develop a communication and education program in order to ensure successful adoption and traction of new ADU implementation policies, regulations, guidelines and programs.
- Develop a short-term monitoring program to track and evaluate the permit process in order to identify areas of success, as well as challenges or complaints.
- Develop and implement incentives to encourage homeowners to create new units. Such incentives could include reduced property taxation, or waived or reduced Building Permit application fees.
- Develop and implement assistance programs, particularly for low-income households, to aid in the construction of new ADUs.
- Develop and implement a legalization program that both requires and encourages landlords to obtain a permit for their existing ADUs and bring them into conformity with health and safety requirements. Incentives can be tied to the permit process to encourage landlords to bring their ADUs into conformity.
- Establish a GIS mapping database to visually track the location of legal ADUs with municipal permits.
- Develop and implement a long-term monitoring program to obtain meaningful feedback related to the success of the overall ADU system; making adjustments to the framework as neccessary.

5.0 addressing affordable housing

Although it is recommended that ADUs be implemented in the Burlington context in order to provide new affordable housing opportunities for seniors and low-income residents, it is noted that ADUs alone will not completely solve affordable housing. It is recommended that other issues and solutions related to affordable housing be considered to fully address the situation. The following aspects are recommended for further consideration by the City:

1. The provision of new affordable housing stock - through the creation of new ADUs, as well as other innovative models of affordable housing and forms of tenure such as smaller units on smaller lots, “age-friendly” housing models, and generational models.

2. The protection of existing affordable housing stock - primarily through demolition by-law, which regulate the demolition of existing affordable units of all types and require the replacement of such units.

3. The use of financial incentives for the provision of affordable housing - through the application of property tax reductions, and reductions and/or exemptions from development charges or other development fees associated with affordable housing developments.

4. The use of development and regulatory incentives for the provision of affordable housing - this could include the use of density bonus and Section 37 benefits in return for the provision of affordable units, the use of inclusionary zoning requiring the provision of a certain percentage of affordable unis, and the use of affordable housing Community Improvement Plans to facilitate more affordable options across the City.

5. Counter local opposition to affordable developments - through the use of proactive awareness and education campaigns to ensure the long-term success of affordable development projects.

6.0 conclusion + next steps

It is concluded that the City of Burlington should move ahead with the use of ADUs as an innovative form of affordable housing to help address issues related to housing affordability, particularly for the City's senior population. In terms of next steps, the following are recommended:

- Public consultations should be held early to determine the level of community support for and the likelihood of tractability of an ADU system, including a permit system.

- Based on the results of the public consultations, the City should move forward with the development of policies, regulations, guidelines and standards to guide the development of ADUs.

- The level of investment into communication and education programs should be based on the level of community support identified in the public consultation sessions.

- Discussions and coordination with Halton Region, particularly with respect to funding and financial incentive programs, should be undertaken early in the process in order to ensure a comprehensive and coordinated approach is developed.

- Further consideration of other affordable housing solutions should be undertaken to identify other potential actions that may be coordinated with the implementation of the recommended ADU system.

Overall, ADUs will not completely solve affordable housing alone. The City of Burlington is encouraged to undertake a more fulsome consideration of other housing models and tenures in order to satisfy the demand that may not entirely be fulfilled by ADUs.

references

CARP. (2008). Impacts of the Aging of the Canadian Population on Housing and Communities. Canadian Association of Retired Persons. https://www.cmhc-schl.gc.ca/odpub/pdf/65913.pdf

[City of] Brampton. (2017a). Development of a Framework for the City of Brampton's Affordable Housing Strategy: Housing Brampton. Brampton, ON: D. Balasal. Retrieved from http://www.brampton.ca/EN/City-Hall/meetings-agendas/PDD%20Committee%202010/20171120pdc_Agenda.pdf

[City of] Brampton. (2017b). Information Report: Second Units Policy Review. Brampton, ON: C.LaRota. Retrieved from http://www.brampton.ca/EN/City-Hall/meetings-agendas/PDD%20Committee%202010/20170213pdc_Agenda.pdf#page=6

[City of] Brampton. (n.d.). Second Units: A Guide for Homeowners in Brampton. Retrieved from http://www.brampton.ca/EN/residents/Building-Permits/Documents/Two_Unit/Second_Units.pdf

[City of] Burlington. (2017). Zoning By-law 2020: R1, R2, R3 Zone Regulations. Retrieved from https://www.burlington.ca/en/zoning/part_2_4_r1_r2_r3.asp

[City of] Burlington. (2018). City of Burlington Open Data Catalogue. Retrieved from https://navburl-burlington.opendata.arcgis.com/pages/data

CARP. (2008). Home Care is a Patchwork of Funding and Policies. CARP Action. Retrieved from http://www.carp.ca/wp-content/uploads/2012/02/CARPAction_October_resized.pdf

Community Development Halton [CDH]. (2008). Aging Actively in Burlington. Retrieved from http://www.cdhalton.ca/pdf/Aging-Actively-In-Burlington-FINAL.pdf

Halton Region. (2018). Halton Second Unit Pilot Program. Retrieved from http://www.halton.ca/cms/One.aspx?portalId=8310&pageId=146567

Ministry of Finance. (2017). Ontario Population Projections Update, 2016-2041. Ontario: Queen's Printer for Ontario. Retrieved from https://www.fin.gov.on.ca/en/economy/demographics/projections/

Ministry of Municipal Affairs & Ministry of Housing [MAH]. (2017). 2017 Average Market Rent for Apartment Units. Ontario: Queen's Printer for Ontario. Retrieved from http://www.mah.gov.on.ca/Page16420.aspx

references

Ministry of Municipal Affairs & Ministry of Housing [MAH]. (2018). 2018 Allowable Rent for 1 Bedroom Apartment. Ontario: Queen's Printer for Ontario. Retrieved from http://www.mah.gov.on.ca/Page16461.aspx

[City of] Mississauga. (2012). Housing Choices: Second Units Review. Retrieved from https://www.cip-icu.ca/Files/Awards/Planning-Excellence/Housing-Choices-Second-Units.aspx

[City of] Mississauga. (2015). Second Unit Implementation Strategy - Update Report. Mississauga, ON: E.R. Sajecki. Retrieved from http://www7.mississauga.ca/documents/pb/main/2015/Corporat_ReportSecond_UnitsFollowUp.pdf

[Regional District of] Nanaimo. (n.d.). Secondary Suite Program. Retrieved from http://www.rdn.bc.ca/cms/wpattachments/wpID3036atID8601.pdf

[Regional District of] Nanaimo. (2017). Secondary Suites. Retrieved from http://www.rdn.bc.ca/secondary-suites

[Town of] Newmarket. (2012). Intensification in Stable Residential Areas (Report 2012-09). Retrieved from http://shrinkslessorsquare.ca/documents/category/29-infill-development?download=191:intensification-in-stable-residential-areas-march-2012

[Town of] Newmarket. (2018a). Accessory Dwelling Unit. Retrieved from http://www.newmarket.ca/LivingHere/Pages/By-laws/Accessory-Dwelling-Unit.aspx

[Town of] Newmarket. (2018b). Register you Accessory Dwelling Unit. Retrieved from http://www.newmarket.ca/LivingHere/Pages/Building%20and%20Renovating/Accessory%20Dwelling%20Units/Register%20your%20Accessory%20Dwelling%20Unit.aspx

Peterson, K.& Peterson, T. (2017). Calculating the Cost of Building an ADU. Retrieved from http://www.buildinganadu.com/cost-of-building-an-adu/

Propel Studio. (2016). How Much Will My Accessory Dwelling Unit (ADU) Cost? Retrieved from https://www.propelstudio.com/blog/how-much-will-my-adu-cost

SHS Consulting & Refact Consulting. (2015). Prince Edward County Official Plan Review: Housing Policy Implementation Report. Retrieved from https://www.thecounty.ca/media/pe-county/documents/department/planning/official-plan/Housing-Policy-Implementation-Report---May-2015.pdf

references

Statistics Canada. (2012). Burlington, Ontario (Code 3524002) and Halton, Ontario (Code 3524) (table). Census Profile. 2011 Census. Statistics Canada Catalogue no. 98-316-XWE. Ottawa. Released October 24, 2012. http://www12.statcan.gc.ca/census-recensement/2011/dp-pd/prof/index.cfm?Lang=E (accessed March 14, 2018).

Statistics Canada. (2017). Burlington, CY [Census subdivision], Ontario and Ontario [Province] (table). Census Profile. 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E (accessed March 15, 2018).

Statistics Canada. (2018). Census Profile, 2016 Census. Retrieved from http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=3524002&Geo2=CD&Code2=3524&Data=Count&SearchText=burlington&SearchType=Begins&SearchPR=01&B1=All&TABID=1

appendix a

background research + opportunities report

MISSING MIDDLE HOUSING:

ACCESSORY DWELLING UNITS IN BURLINGTON ONTARIO

CITY OF BURLINGTON

BACKGROUND RESEARCH & OPPORTUNITIES FEBRUARY 20, 2018

norac
planning + design

table of contents

executive summary

This Background Research and Opportunities Report has been prepared by Norac Planning + Design in association with the City of Burlington Missing Middle Housing project. The purpose of this report is to confirm the project background and scope, describe and understand the neighbourhoods under review, and outline our preliminary findings with respect to accessory dwelling unit typologies and implementation strategies, as well as other affordable housing solutions.

Ultimately, it was found that both study neighbourhoods had a unique context in terms of physical and demographic makeup which will influence the implementation of accessory dwelling units in each area. The predominant existing building form within the Appleby context and the smaller rear yard sizes in the LaSalle context will impact the types of accessory units that will be feasible and effective in each neighbourhood. Furthermore, the aging population in each community will require unique consideration to ensure that accessory dwelling units can be implemented such that they are both accessible and affordable for the senior populations.

The accessory dwelling typology analysis uncovered a significant number of potential options for implementation in the Burlington context. Based on the specific requirements for each accessory unit type and the unique characteristics of each neighbourhood, careful consideration will be required to arrive the best approach for implementation in terms of both affordability and compatibility with the surrounding neighbourhood. A number of effective strategies and solutions that have been successfully implemented in various municipalities were identified. These provide an important understanding of the opportunities, best practices, and barriers associated with implementing accessory dwelling units in the affordable housing context. These strategies will be further reviewed, particularly in the Burlington context in order to determine the most effective way to implement such a strategy such that the goals and objectives of the City are met.

Finally, a number of additional challenges associated with housing affordability were reviewed along with potential solutions to address such challenges. It was found that there are a number of key areas in which local municipalities can improve affordable housing in their communities. Specifically, these areas consist of the provision of new affordable housing stock, development and regulatory incentives to encourage affordable housing development, efficient use of adequate public infrastructure, financial assistance for housing purposes for those in need, and financial incentives and grants to fund and encourage new affordable housing supply.

Overall, there is a lot of potential for the City of Burlington to address housing affordability and ensure the continued success of its well-planned residential neighbourhoods.

1.0 project background + scope

1.1 housing in the city of burlington

The City of Burlington is located in the Halton Region along the shore of Lake Ontario between Toronto and Niagara Falls. The City has a population of approximately 183,300, per the 2016 Census, and is experiencing population growth at a rate of approximately 10,000-15,000 people per decade. With this growth in population, the proportion of seniors in Burlington is expected to increase as well. An aging population provides a unique opportunity for municipalities to plan for housing that meets the demographic needs, as well as the complementing services and transportation networks.

Furthermore, there is a need to consider the availability of affordable housing opportunities, particularly in the context of seniors, to ensure that all citizens have access to adequate and affordable housing. In recent years, there has been noted growth in the Burlington real estate market. (Goldring, 2013). As a result, the average cost of a home is continuing to climb, placing a lot of pressure on affordable housing options. Despite a 5.9% decrease in the total number of reported property sales from 2016, the total dollar value of sales for 2017 reached $8.972 billion, a new high for the Burlington-Hamilton market. In the 2017 residential market in Burlington alone, the average sale price for freehold properties was up 15.2% from 2016, and the average price for condominium properties was up 17.1% from 2016 (Realtors Association of Hamilton-Burlington [RAHM], 2018). In addition to rising housing costs, the affordable housing challenge in Burlington is further exacerbated by the fact that rental demand has increased more than supply resulting in low rental vacancy rates (Canada Mortgage and Housing Corporation [CMHC], 2017a). The vacancy rate for private rental apartments in the City of Burlington was as low as 1.4% in 2017, which is generally lower than in most other local municipalities within the Hamilton Census Metropolitan Area ("CMA"). Further, the average rent for private apartments of all bedroom types was $1,351 in 2017, which represents the highest rates of all municipalities in the CMA (CMHC, 2017a). Thus, there is a demonstrated need for new affordable housing solutions in the City of Burlington.

1.0 project background + scope

1.2 the need for ADUs

Although it has been demonstrated that there is a significant need for affordable housing options, the City of Burlington faces a unique challenge in that there is no more greenfield land available for development. As a result, the integration of affordable housing opportunities through gentle infill, such as accessory dwelling units ("ADUs"), has become a key priority. As discussed in section 3.0 of this report, ADUs represent a unique opportunity to address the affordable housing objectives of the City while ensuring compatibility and preservation of existing residential character. This is in line with the objectives of the policies set out in Burlington's proposed new Official Plan [February 2018] supporting gentle intensification in established neighbourhoods.

The aging population in Burlington is growing significantly, providing a unique opportunity for creative affordable housing solutions to address the needs of this particular population. Compared to any other local municipality in the Region, Burlington's senior population (defined as those aged 65 years and older) accounts for the largest percentage (43%) of the total senior population in Halton Region (Statistics Canada, 2018). Between 2006 and 2016, the number of seniors residing in Burlington increased by 39%, reaching a total senior population of 35,320 individuals. As of 2016, the senior population represents 19.3% of Burlington's total population as shown in Figure 1.1 (Statistics Canada, 2018). This percentage is 2.6% higher than the percentage of seniors living in the province, which is 16.7% of the entire population. Moreover, older seniors (aged 75 years and older) have a lower rate of homeownership than the rest of the population. Only one in five of older seniors are renters. Therefore, it is crucial to consider senior renters when discussing the topic of housing affordability and the potential for using ADUs as a means for accommodating this demographic.

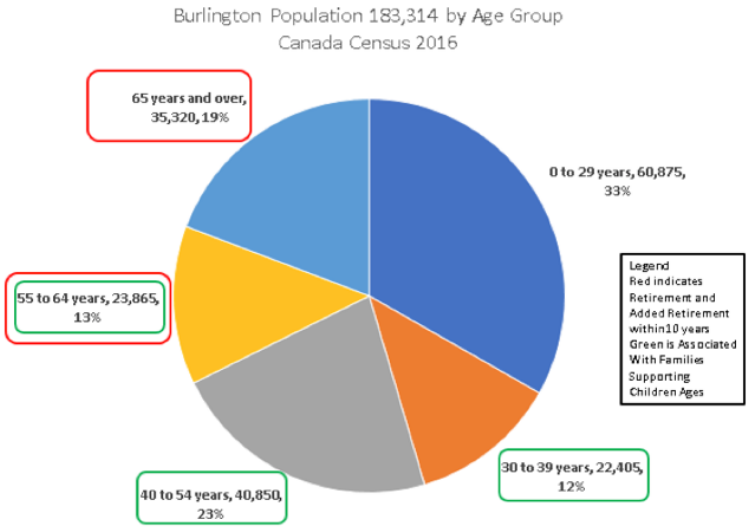


Figure 1.1: Burlington Population 183,314 by Age Group (Source: Skinner, 2017).

1.3 project scope

The purpose of the City of Burlington Missing Middle Housing project is to consider how accessory dwelling units can be implemented in the City's established residential neighbourhoods, particularly for the senior population. This report will identify the unique contexts of the two study neighbourhoods, Appleby and LaSalle. This background research will then be used in future phases of this project to determine the financial and physical feasibility of implementing certain types of ADUs in the Appleby and LaSalle contexts. The feasibility findings can then be applied to the broader Burlington context and used to guide the development of an ADU implementation framework which will include the appropriate planning tools for successful implementation of ADUs citywide.

1.0 project background + scope

1.4 implementation of ADUs

The purpose of this section is to examine how municipalities across southern Ontario have implemented ADUs or secondary units as a method to provide affordable “middle housing” options for residents. Detached Secondary Suites ("DSS") are recognized as a method of addressing a broad spectrum of social issues which include: aging in place, increasing the supply of affordable rental stock, creating “gentle density/infill” and bridging the gap towards implementing compact and complete communities. Municipalities within different regions implement different financial incentives and programs that assist the funding of ADUs. An analysis will asses ADU composition/implementation in Toronto, Vancouver and Edmonton for reference.

Aging in Place

ADUs provide a solution for multi-generational living, accounting for over 25% of Ontario’s population expected to reach their senior years by 2041, an increase from 16% today (Ontario Ministry of Finance, 2016). The needs of aging populations require accessible housing stock; financially, home care is touted to be the preferred and most cost-effective means of supplying care to senior citizens (CARP, 2008). The ADU market is a method that responds to the demand for housing required for the increased number of seniors. It allows for this population to age in place while reducing the socioeconomic burdens of caring for dependents yet still remain nearby.

Increasing Rental Stock

ADUs or DDS are recognized throughout North America as an effective measure towards increasing the supply of rental stock through the expansion of success garnered through the introduction of secondary suites (Carriere, 2017). The impact of implementing secondary suits is shown in Vancouver, where 26,000 secondary units accounted for one fifth of the rental stock in 2014, in addition to Edmonton where ADUs also compose one fifth of the rental stock (CMHC, 2014a). Vancouver has issued 2,500 permits since 2009 for laneway suites which represent almost 10% of their secondary suite supply over the duration of 8 years (Robinson, 2016). In Toronto, secondary suites represent 20% or almost 100,000 units of the rental stock since 2000 (CMHC, 2014b). DSS have the potential to reduce the demand of rental units through increasing supply; thus reducing price, as secondary suites are roughly 10-15% cheaper than regular apartments creating more affordable housing solutions for residents (Second Suites, 2000).

Creating “Gentle Intensification”

DSS are referred to as a form of “gentle intensification” because the scale and location does not significantly alter the look or feel of the community. In addition, municipal by-laws have enacted policies that secondary units cannot exceed the limit of residents allowed in the principle residence. This helps in maintaining appropriate levels of density. For example, in Toronto the limit is one person for every 9 square metres (City of Toronto, 2016).

1.0 project background + scope

1.4 implementation of ADUs

Table 1: Comparative return on investment based on three different secondary suite scenarios and a condo purchase.

Return on investment for Toronto homeowners: comparison of basement secondary suites, DSS & Condos				
House price (Toronto average single family home price)	$1,340,000[1]			
Mortgage principal (based on 20% down payment)	$1,072,000			
Monthly carrying costs				
Mortgage payment (based on 25 year amortization)	$4,850			
Taxes ($9,218.84 /year)[2]	$768			
Maintenance and Utilities (1% of house price) and $250 utilities	$1350			
Total monthly payments for house	$6,968			
Required annual income for mortgage	$200,000			
Investment	**Basement suite conversion**	**DSS 400 ft²**	**DSS 800ft²**	**1 bdrm condo**
Investment cost (incl. servicing, permits, and architect)[3]	$50,000	$100,000	$200,000	$471,000
Mortgage payment	$226	$452	$905	$2131
Tax Maintenance Utilities	$30 $40 $100	$60 $80 $100	$120 $160 $150	$270 $472[4] $50
Total for additional unit	396	692	1335	2923
Total monthly carrying costs (house + unit)	7,364	7,660	8,303	9,891
Rent for additional unit	1,16[5]	1,285[7]	2390[8]	1925[10]
Net monthly carrying costs (total home and rental unit)	6,248	6,375	5,913	7,966
Net monthly financial benefit (rental unit total)	**720**	**593**	**1,055**	**-998**
Value added to property	50,000	100,000	200,000	N/A

(Carriere, 2017).

Individual Financing of Secondary Units / DSS / ADUs

Typically, homeowners must take out a loan or second mortgage to create a secondary suite; however, the rent will generally exceed the cost of repaying the loan. This is achieved by utilizing a secondary suite to lower the monthly carrying cost for the homeowner and by reducing the required qualifying income required for a mortgage annually (CMHC, 2014a). Provincial Policy Statements across Canada support that secondary units are the most affordable rental options; however, results can be distorted when assessing rental and home prices within housing bubbles as seen in table 1 (Carriere, 2017).

1.0 project background + scope

1.4 implementation of ADUs

Financial Incentives Provided by Cities

If a municipality wants to increase its rental unit supply, the allocation of an incentive fund can be an effective measure for engaging homeowners towards investing in secondary suites. The long term financial benefits associated with homeowners developing ADUs consist of a continuous revenue stream through rentals and increased property value over time, albeit the initial investment towards an ADU can be prohibitive (Carriere, 2017). Furthermore, it would be prudent of Federal and Provincial levels of government to allocate funds towards increasing ADU incentives as ADUs address varying issues such as aging, housing, and accessibility which are within their jurisdiction (Carriere, 2017). Financial incentives are shown for various cities:

- Edmonton Cornerstone Grant Program - offers homeowners up to 50% of construction costs or $20,000 towards the development of a secondary suite, generating almost 1,000 secondary suites through the program since 2006. The first phase from 2006-2011 funded 530 units in 5 years, whereas the second phase renewed a $3M commitment and was expected to fund another 450 units ($7,000/unit) between 2011 and 2016 (City of Edmonton, 2016).

- Residential Rehabilitation Assistance Program (RRAP) by the Canadian Mortgage and Housing Corporation - offers financial assistance to low-income seniors and disabled adults allowing them to create a second dwelling unit for rental within their property. If the loan exceeds $25,000, a mortgage will be registered against the property. If the value is below, only a promissory note is required. The assistance provided is within the form of a fully forgivable loan which does not have to be repaid if the owner adheres to the program conditions (Maple Ridge, 2007).

  The maximum loan varies by Geography:

Location	Maximum Loan Amount ($)
(Zone 1): Southern Areas of Canada	$24,000 / Unit
(Zone 2): Northern Areas of Canada	$28,000 / Unit
(Zone 3): Far Northern Areas of Canada	$36,000 / Unit

(Maple Ridge, 2007)

Contribution to Municipal Revenue Streams

The property value increases as DSS are added to properties, which results in municipal property tax revenue increases (Carriere, 2017). Findings based on the Vancouver average of land value gains of $21,250 for properties that include a laneway home show an increased annual property tax payment of $3,700 per year. Multiplied by the 2,000 suites in the city totals $7,400,000 of taxes per year generated by laneway suites in Vancouver (Mountain-Math Analytics, 2016). The Tax gains Toronto would receive through laneway suites in 2003 for 6,150 units at a $1,800 tax rate would result in an increased municipal revenue of $11,070,000 annually without having to implement substantial infrastructure changes (Stinton and Elslander, 2003).

1.4 implementation of ADUs

This section has identified that the implementation of ADUs can be an important tool in providing affordable housing options for residents. ADUs can provide solutions to a range of issues associated with affordable housing, including aging in place for seniors, increasing the amount of residential rental stock, functioning as gentle infill to protect existing character, and contributing to municipal revenue streams through increased property taxes. Furthermore, some of the important financial aspects associated with implementing an ADU were identified. These include the challenges of independently financing secondary units through a loan or second mortgage, as well as the use of financial incentives provided by local municipalities in order to make the addition of an ADU more financially feasible for landowners. Ultimately, it is recognized that ADUs are a powerful tool and an excellent opportunity for the City of Burlington to address "missing middle" housing. The benefits and challenges of ADUs will be taken into consideration in future phases of this study in order to ensure the most effective implementation strategy for Burlington is developed.

2.0 subject neighbourhood review

In order to better understand the existing context of the study area and create a setting in which the feasibility of accessory dwelling units may be tested, a review of the Burlington neighbourhoods of Appleby and LaSalle (the "subject neighbourhoods") has been undertaken. These neighbourhoods are located on opposite sides of the City and boast very different residential contexts. This analysis includes a detailed review of the age, lot patterns, demographics, topography, character, existing building form characteristics, and other relevant community information unique to each subject neighbourhood. The existing and planned policy context has also been reviewed, including relevant policies and regulations from the Halton Region Official Plan, proposed new Burlington Official Plan, Burlington Zoning By-law 2020, and other applicable planning documents.

Following the neighbourhoods review, a review of the current goals, strategies and regulatory policies related to affordable housing will be presented at both the regional and municipal level. This will then be used in further phases of this project to help identify key policy areas which can be advantaged and adapted to promote the implementation of ADUs as affordable housing opportunities, as well as gaps in the policy framework which can be addressed to improve the successfulness of such implementation.

2.0 subject neighbourhood review

2.1 the appleby neighbourhood

The Appleby neighbourhood is located on the southeastern boundary of the City of Burlington and is generally defined by the Centennial Bike-way to the north, Burloak Drive to the east, Lakeshore Road to the south and Appleby Line to the west. This area spans two of Burlington's community areas: the Pinedale community and the Elizabeth Gardens community. These communities both represent well-established neighbourhoods that offer convenient access to the Queen Elizabeth Way ("QEW") and rapid transit options through the nearby Appleby GO station.

Figure 2.1: Predominant Housing Type by Dissemination Area in the Appleby Neighbourhood (Data provider: Statistics Canada)

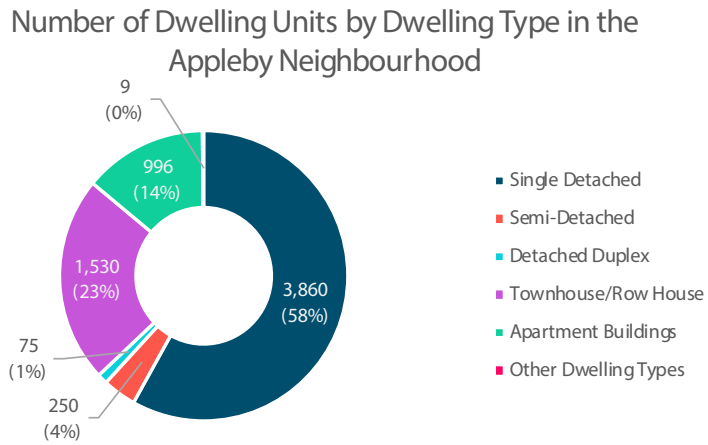


Figure 2.2: Number of Dwelling Units by Dwelling Type in the Appleby Neighbourhood (Source: adapted from Statistics Canada, 2018)

Age, Character & Existing Built Form

The primary land use within this neighbourhood is low-density residential consisting mainly of older homes built between the 1960s and 1970s. As illustrated in Figure 2.1, the most prominent housing form in this neighbourhood is family-oriented single detached dwellings. A significant number of these dwellings take the form of side-split homes, which are split-level homes configured such that the various levels are visible from the street. As such, many dwellings have integrated garages with second-storey residential living space situated above. In addition to these single detached dwellings, there is also a presence of townhouse/row house dwellings in this neighbourhood, as well as pockets of high-rise apartment developments. Figure 2.2 shows that of the 6,645 total dwellings located within the Appleby neighbourhood, single detached dwellings represent 58% with a total of 3,860 units. Additionally, there are 250 semi-detached dwellings (4% of total dwellings), 1,530 townhouse/row house units (23% of total dwellings), 75 detached duplex dwellings (1% of total dwellings), 921 apartment units (14% of total dwellings), and 9 other dwelling unit types (less than 1% of total dwellings) within this neighbourhood. Although the townhouse and apartment developments represent relatively new development in comparison to the existing supply of single detached homes, the Appleby neighbourhood has experienced less change in terms of redevelopment than the other subject neighbourhood, LaSalle.

2.0 subject neighbourhood review

2.1 the appleby neighbourhood

Lot Patterns and Topography

The existing lotting patterns within the Appleby neighbourhood consist of mainly of small to medium lots with relatively narrow widths typically ranging from 12 to 18 metres (Burlington, 2017). As depicted in Figure 2.3, this neighbourhood is mainly comprised of residential lots ranging in area from 400 to 700 square metres. The front and side yard setbacks are generally consistent and allow for adequate front and rear yards. The neighbourhood is characterized by a loose grid-like pattern of interconnected streets. There are no laneways existing within this neighbourhood; thus, driveway access for all dwellings is from the public street, typically in the front and/or side yard. The newer residential development in the neighbourhood in the form of townhouse/row house dwellings are generally situated on more curving streets and tend to have smaller front and rear yard setbacks resulting in decreased front and rear yards.

The Appleby neighbourhood abuts the shore of Lake Ontario and as such, the physical topography of the area generally slopes gently towards the shoreline. The highest point of land in this neighbourhood is at the northeast corner of the neighbourhood boundary with an elevation of 100 metres. The lowest point is at the neighbourhood's southern boundary along the Lake Ontario shoreline with an elevation of 75 metres.

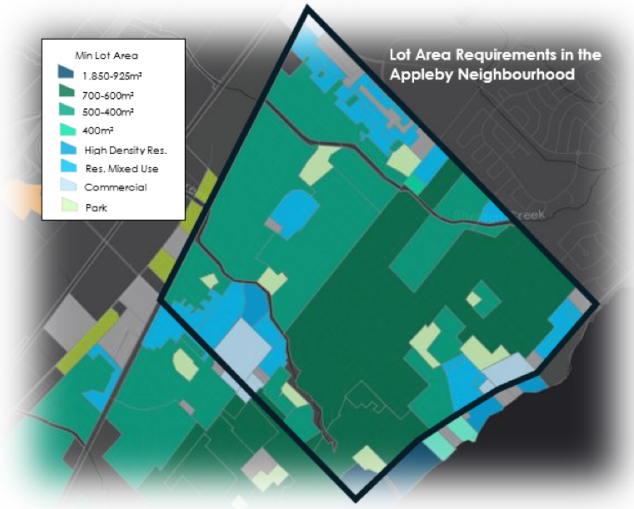


Figure 2.3: Lot Area Requirements in the Appleby Neighbourhood (Source: adapted from Burlington, 2017).

Demographics

Per the 2016 census, the Appleby neighbourhood has a total population of 18,106 persons. Of this total population, 4,330 are seniors aged 65 years and older accounting for 23.9% of persons residing in this neighbourhood. The average age of the Appleby population is 45 years, suggesting that in the coming decades this neighbourhood will be home to a significant aging population. The average household size is 2.5 persons, with two-person households being the most common household size at 2,500 households or 35.4% of total households (Statistics Canada, 2018).

The average single detached housing price in the Appleby area is approximately $684,000. In comparison with the average housing price for the City of Burlington as a whole ($751,000), proving to be more affordable option in terms of ownership housing. Furthermore, as of 2017, the vast majority of private dwellings are owned rather than rented. Only one dissemination area within this neighbourhood has a predominantly rental tenure, while the remaining 23 dissemination areas are strongly ownership dominant. Approximately 6,140 (92.4%) private residential dwellings are under ownership tenure, while the remaining 505 (0.08%) are under rental tenure (Statistics Canada, 2018).

2.0 subject neighbourhood review

2.1 the appleby neighbourhood

Other Community Amenities

The Appleby neighbourhood is a mature community that boasts a range of services and amenities including commercial and retail opportunities, both public and catholic schools, public services, parks and open space, and recreation opportunities. The Appleby Village Mall is located at the corner of Appleby Line and New Street, which is within close proximity and walking distance from many homes in the area. The area is well served by education facilities; there are two public elementary schools, one catholic elementary school and one public high school, as well as eight public parks located within the neighbourhood. This area also provides convenient access to the QEW, the Appleby GO station and Lake Ontario.

The table below briefly summarizes the development activity in the Appleby area:

Location	Development Activity
Appleby Mall – Northwest corner of Appleby Line and New Street	Proposed two residential apartment towers with at-grade commercial uses.
West side of Burloak Drive south of the rail corridor	Proposed large-scale commercial shopping area with 4 retail/commercial buildings and 2 multi-tenant commercial buildings.

Neighbourhood Challenges & Opportunities

The unique context of the Appleby neighbourhood presents some specific challenges and opportunities with respect to the implementation of ADUs as affordable housing options:

- Existing Predominant Dwelling Form: single detached side-split homes with residential living space above the garage. This limits the types of attached and/or integrated ADUs that can be feasibly implemented in this neighbourhood;
- Senior and aging population: the aging characteristics of this community will require consideration of accessibility standards with the implementation of ADUs in order to successfully provide affordable housing opportunities to the senior population.

2.0 subject neighbourhood review

2.2 the lasalle neighbourhood

The neighbourhood of LaSalle is located on the southwestern side of Burlington along the Lake Ontario shore front and within the Aldershot community area. The neighbourhood is generally bounded by the Metrolinx/CN rail corridor to the north, the QEW to the east, North Shore Boulevard East to the south and LaSalle Park Road/Waterdown Road to the west. Better known for its thriving retirement ambiance, LaSalle is home to several assisted living amenities such as the LaSalle Park Retirement Community and Pearl & Pine Retirement.

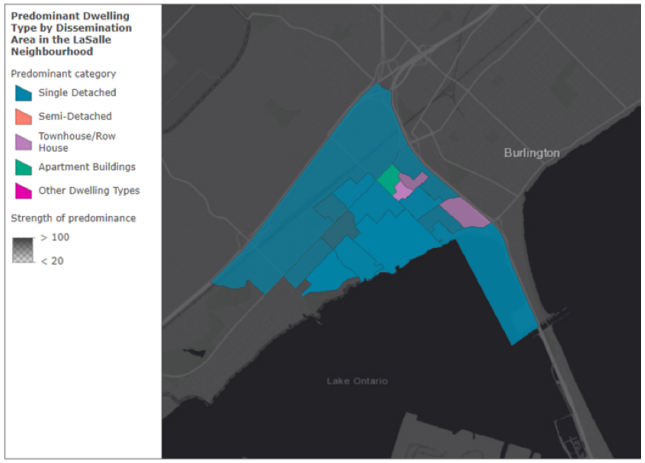


Figure 2.4: Predominant Dwelling Type by Dissemination Area in the LaSalle Neighbourhood (Data provider: Statistics Canada)

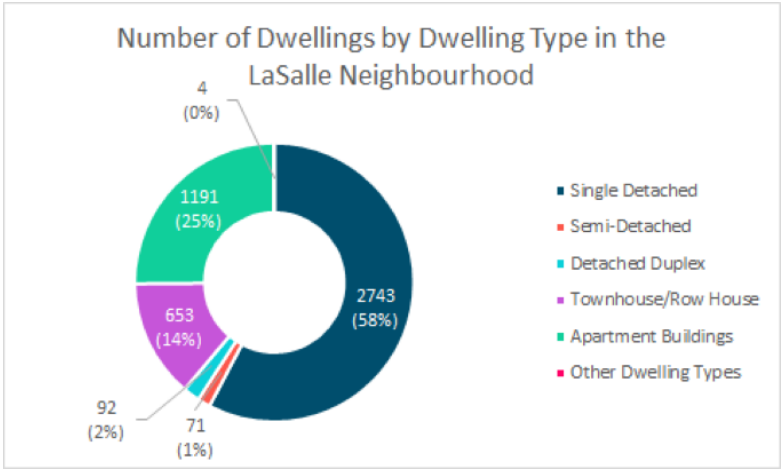


Figure 2.5: Number of Dwellings by Dwelling Type in the LaSalle Neighbourhood (Data provider: Statistics Canada)

Age, Character & Existing Built Form

LaSalle is an older community comprised largely of single detached homes built mainly between the 1940s and 1950s. It includes Plains Road East, a designated Urban Growth Corridor as identified in the Intensification Study and has been recognized for its high-density development, per the Official Plan. As shown in Figure 2.4, single detached dwellings are the most prominent housing type in this neighbourhood, with some pockets dominated by townhouses/row houses and apartment dwellings. These single detached homes generally take the form of single-storey bungalows, except where larger, two-storey new-builds have replaced the original homes. However, what is not clearly depicted by this map is the significant change with respect to new and re-development experienced in LaSalle, which is in contrast with the neighbourhood of Appleby. Figure 2.5 illustrates that single detached dwellings comprise 58% of the total occupied housing stock in the neighbourhood with a total count of 2,743 units. However, apartment dwellings account for a significant portion of the housing stock representing 25% of occupied dwellings with a total count of 1,191 units. The majority (78%) of these apartment buildings are high-rise apartments with 5 or more storeys. The remaining housing stock is comprised of 653 townhouse/row house dwellings (14% of total dwellings), 92 detached duplexes (2% of total dwellings), 71 semi-detached dwellings (1% of total dwellings), and 4 other dwelling types (less than 1% of total dwellings). Overall, significant change in the development form towards higher density can be seen within the LaSalle neighbourhood. This is particularly evident in Figure 2.6, which shows the presence of a higher intensity, mixed-use corridor running through the neighbourhood along Plains Road East.

2.2 the lasalle neighbourhood

Lot Patterns and Topography

The existing lotting patterns within the LaSalle neighbourhood consist of predominantly medium sized lots with relatively narrow widths generally between 16 and 18 metres. Figure 2.6 shows that the majority of the neighbourhood is made up of single detached residential lots generally ranging from 600 to 700 square metres in area (Burlington, 2017). The front and side yard setbacks of these lots are generally consistent, with the possible exception of some of the new-build properties which are now occupied by larger dwellings. The majority of these single detached properties have a relatively small rear yard. As noted above, the predominant dwelling types situated on these lots take the form of single detached, single-storey bungalows. As a result, the majority of dwellings have integrated garages located at the side of the dwelling with driveway access to the public street through the side and front yards. Overall, the low-density portion of the neighbourhood is characterized by a loose grid pattern of interconnected streets. Similar to the Appleby context, there are no laneways within this neighbourhood and the lot patterns of the higher density dwellings differ from the single detached properties with greater restrictions on front and rear yards.

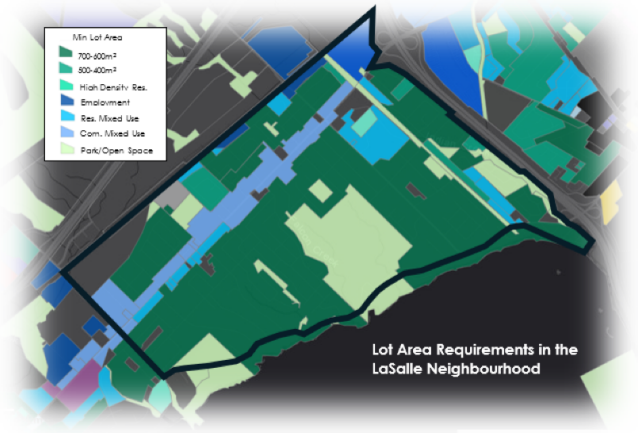


Figure 2.6: Lot Area Requirements in the LaSalle Neighbourhood (Source: adapted from Burlington, 2017)

Rural lands and lands in the Niagara Escarpment areas are features that make Burlington so unique. Like the neighbourhood of Appleby, the LaSalle community is located along the Lake Ontario shoreline meaning that the physical topography of the area has a gentle and gradual slope towards the water. The neighbourhood's highest point is located along the northern boundary of the community at an elevation of 105 metres. The topography then generally slopes gently down towards the waterfront to the lowest point in the neighbourhood at an elevation of 75 metres. The southern portion of the LaSalle neighbourhood also has some interesting topography with some slightly hillier terrain along some inlets from the Lake as well as in and around the Burlington Golf and Country Club golf course.

2.0 subject neighbourhood review

2.2 the lasalle neighbourhood

Demographics

As of the 2016, the neighbourhood of LaSalle has a total population of 7,731 persons, representing 4.2% of Burlington's total population. Of this population, 1,390 are seniors aged 65 years and older. Thus, 18% of the neighbourhood population is comprised of senior residents (Statistics Canada, 2018). The average age of the LaSalle population is 41.7 years of age, which is slightly lower than that of the Appleby neighbourhood. However, this still suggests that there will be an even more significant senior population in this neighbourhood in the coming decades if these trends persist. The average household size is 2.4 persons in the LaSalle community, with two persons being the most common household size at 1,185 households or 37% of total households (Statistics Canada, 2018).

Similar to the Appleby neighbourhood, the majority of dwellings in LaSalle are owned rather than rented. Only four of the 17 dissemination areas are dominated by rental tenure, with the remainder being predominantly ownership tenure. It is interesting to note that three of the four rental-dominated areas correlate with tracts that are dominated by townhouse/row house and apartment dwellings. Approximately 3,258 (68.5%) dwellings are under ownership tenure, while the remaining 1,496 (31.5%) are rented (Statistics Canada, 2018). However, despite the high ownership rates in LaSalle, this neighbourhood has significantly more rental tenures than Appleby.

Other Community Amenities

This changing community offers a wide range of social and recreational opportunities, as well as education facilities, places of worship, commercial/retail opportunities and other community facilities such as the Greenwood Cemetery. Plains Road East is dominated by a mix of residential and commercial uses including commercial and mixed-use developments, as well as vacant parcels available for commercial uses.

The table below briefly summarizes the development activity in the Lasalle Area:

Location	Development Activity
Northwest corner of Plains Road E and Cooke Boulevard	Proposed 8-storey, 72-unit apartment building with at-grade commercial uses.
Northeast corner of Plains Road E and Cooke Boulevard	Proposed two 10- and12-storey apartment buildings with 450 residential units and at-grade commercial uses.
South side of Plains Road E east of Beachwood Avenue	Proposed 4-storey, 24-unit apartment building with at-grade office/commercial uses.
Northeast corner of King Road and Marley Road	Demolition and replacement of 280 rental townhouse units with 1450 new rental units in a mix of townhouses and mid- and high-rise apartments.
South side of Plains Road E west of Atkins Place	Proposed two 8-storey condo apartments with at-grade commercial uses and 117 condo-minium stacked back-to-back townhouse units.
West side of King Road north of the rail corridor	Proposed industrial/office condominium development including office storage and light industrial uses. Awaiting Council recommendation.
West side of King Road between Highway 403 and the rail corridor	Proposed industrial subdivision.

2.0 subject neighbourhood review

2.2 the lasalle neighbourhood

LaSalle is home to six public parks, five education facilities including three public elementary schools and two catholic elementary schools, and a number of recreation facilities including the Burlington Golf and Country Club and the Aldershot Arena. The neighbourhood of Lasalle is in good proximity to transportation. Bordering the Aldershot community, Lasalle is serviced by the Aldershot GO station. Aldershot serves Burlington and Hamilton residents with both GO bus and train services, as well as VIA Rail services. In regards to automobile transportation, Lasalle is conveniently located off of Highway 403 and Waterdown Road, providing access to Hamilton and the Queen Elizabeth Way.

Neighbourhood Challenges & Opportunities
The unique context of the LaSalle neighbourhood presents some specific challenges and opportunities with respect to the implementation of ADUs as affordable housing options:

- Small rear yards: restriction on the types of ADUs that can feasibly be implemented in this area. ADU types in this neighbourhood will have to mainly take the form of attached or integrated units, rather than detached units located in the rear yard.
- Senior and aging population: the aging characteristics of this community will require consideration of accessibility standards with the implementation of ADUs in order to successfully provide affordable housing opportunities to the senior population.
- Existing rates of rental tenure: this suggests that this community is accepting of a shift towards a stronger rental market indicating that the introduction of ADUs as affordable rental housing units may be greatly successful in this area.

2.0 subject neighbourhood review

2.3 policy context: province of ontario

Provincial Policy Statement, 2014

The Province of Ontario has advocated for intensification to be the direction for managing growth in communities. In connection with the Growth Plan for the Greater Golden Horseshoe (the "Growth Plan"), the focus is on re-urbanization in existing built-up areas in order to curtail urban sprawl while supporting transit use and the protection of natural areas. Intensification is to be focused on urban growth centres, intensification corridors, major transit hubs and brownfields. Under section 3 of the *Planning Act*, the Provincial Policy Statement (the "PPS") sets out policy direction for matters that are of provincial interest and sets out foundations for regulating development.

Section 1.1.1 of the PPS details that growth management is sustained through healthy, livable, and safe communities:

a) Promoting efficient development and land use patterns which sustain the financial well-being of the Province and municipalities over the long term;

b) Accommodating an appropriate range and mix of residential (including second units, affordable housing, and housing for older persons)...

As such, planning authorities are encouraged to identify suitable locations for intensification and redevelopment by establishing minimum targets within existing areas (Sections 1.1.3.3 and 1.1.3.5).

Section 1.4.1 of the PPS requires that an appropriate mix of housing types and densities be provided in order to meet the current and future needs of the market. In this vein, decision makers and authorities are recommended to permit all forms of residential intensification and redevelopment, including affordable housing.

Places to Grow: Growth Plan for the Greater Golden Horseshoe, 2017

The Growth Plan sets out guiding principles that relate to land use planning, urban form, housing, and more. Section 1.2.2 speaks to building compact and complete communities, optimizing the use of existing and new infrastructure to support growth, and providing different approaches to managing growth. Section 2.2.2 of the Growth Plan directs growth to settlement areas:

2.2.2.1 Population and employment growth will be accommodated by:

a) Directing a significant portion of new growth to the built-up areas of the community through intensification;

b) Focusing intensification in intensification areas;

c) Reducing dependence on the automobile through development of mixed use, transit supportive, pedestrian-friendly urban environments...

h) Encouraging cities and towns to develop as complete communities with a range and mix of housing types, high quality public and open space, and easy access to local stores and services.

Gentle intensification in established residential areas is considered intensification under the Growth Plan, which is further defined as infill development. In order to achieve minimum intensification targets (to be set out in local Official Plans), the Growth Plan encourages intensification in established areas.

2.0 subject neighbourhood review

2.3 policy context: city of burlington

Proposed New Burlington Official Plan, February 2018
Future growth in the City of Burlington must be accommodated through intensification and redevelopment within the existing urban boundary. To address growth management, the Official Plan encourages the following in section 4.3:

i) The development of a greater diversity of housing types to meet the changing needs of the population;
ii) The development of a more self-contained city by encouraging greater live-work relationships and supporting designation of lands for a wide variety of employment uses;
iii) Focusing more intense land uses into specific mixed use centres and along certain roads;
iv) A move towards a more balanced transportation system; and
v) Greater emphasis on long-term preservation and conservation of significant natural features with greater public access to the waterfront and reasonable and responsible access to other areas.

In addition, section 4.3 of the Official Plan directs population growth to four specific locations in the City of Burlington:

1. Underutilized/vacant parcels within existing communities;
2. Alton community in northeast urban Burlington;
3. Mixed use corridors; and,
4. Downtown and Uptown Burlington.

For the City to address the changing needs of the population, future residential development must be in the form of compact housing.

Furthermore, specifically related to the use of ADUs in the City of Burlington, the proposed new Official Plan emphasizes in section 2.3.4 b), that established neighbourhood areas will be subjected to intensification through the development of secondary dwelling units rather than through new development. This is strongly prioritizing gentle residential infill through ADUs in established residential areas. Section 2.4.2(3) b) also gives permission to build ADUs in order to achieve intensification targets in established neighbourhoods. In Section 8.7.2(1), the Official Plan supports the creation of ADUs within all land use designations that permit residential uses as a way of increasing the City's supply of affordable housing. Any development must follow specific Zoning By-Laws and other applicable regulations.

In accordance with section 8.7.2(2) of the proposed new Official Plan, ADUs are only permitted within, or on the same property as the following principal dwelling forms: single-detached dwelling, semi-detached dwelling, townhouse unit or street townhouse unit within any land use designation that permits residential uses. Section 8.7.2(2) provides guidance on the development of ADUs. Each individual property may only contain one ADU which may be located within or above an accessory building or structure that contains a garage or covered vehicle parking area associated with the principal residence on the property. ADU developments are not limited by the density regulations in the Official Plan or the implementing Zoning By-Law (section 8.7.2(2) d)). An ADU must have flood-free access and is prohibited within hazardous lands. It it further mandated that the private outdoor amenity area of the lot that is to be added in an ADU cannot be sacrificed, and the finished ADU cannot deviate from the neighbourhood's character in terms of massing, height, visual appearance, privacy, open space amenity areas, lot size and lot coverage. Thus, there is a strong emphasis on gentle intensification and infill that is compatible with the existing residential character. Moreover, the municipal infrastructure criteria, on-site parking requirements, and health and safety standards are required to be met.

2.0 subject neighbourhood review

2.3 policy context: city of burlington

Burlington Intensification Study, 2016

The City of Burlington has conducted a number of studies that looked at neighbourhood character. The City is now in the process of amending their Zoning By-law as it relates to setbacks, driveways, landscaping, and lot coverage. As part of this process, the City completed the Burlington Intensification Study in 2016, which forecasted future residential development before 2031 to be accommodated through existing infill sites. Additionally, the intensification study has identified a portion of the LaSalle neighbourhood, specifically Plains Road, as a Growth Corridor. The final report indicates that the direction is for future development to occur in a well-planned intensification area (City of Burlington, 2016).

The Burlington Intensification Study was prepared in response to the Growth Plan (2006), as well as the Sustainable Halton Plan from the Region of Halton. The intensification study forecasts a 60% increase in residential units before the year of 2031 to be accommodated through intensification and redevelopment (City of Burlington, 2016). Section 3.2 further identifies the following components of the intensification strategy in Burlington:

i) Urban Growth (downtown area);
ii) Urban Growth Corridors (e.g. Plains Road, Fairview Street, GO Station areas);
iii) Arterial Cores and Regional Malls;
iv) Low density infill (existing residential ar eas);
v) Accessory Dwelling Units (on lots 15m or wider).

Burlington Zoning By-law 2020

As shown in Table 2.1, ADUs are permitted within all 'R1' and 'R2' zones and in the 'R3.1' and 'R3.2' zones only provided they are located in a detached dwelling only and on lots with a width of at least 15 metres. As an exception, an ADU is permitted in any detached dwelling that existed before the enactment of By-Law 2020 that contained an existing garage with a minimum width of 6 metres, even if its lot width is less than 15 metres. The floor area of an ADU shall not be less than 42 square metres or larger than 100 square metres, and shall not exceed 40% of the total floor area of the residential building including the finished basement. The minimum rear yard amenity area for the main dwelling unit and ADU is 135 square metres. An ADU shall have its own exterior entrance on any elevation of the building that is not facing a street, which may be accommodated through a common vestibule access to the principal and accessory unit.

Table 2.1: The uses permitted in all Residential 'R' Zones

USE	R1 Zone	R2 Zone	R3.1 + R3.2 Zone	R4 Zone	R5 Zone
Detached Dwelling	Yes	Yes	Yes		
Semi-Detached Dwelling				Yes	
Cluster Homes					Yes
One Accessory Dwelling Unit	Yes(a)	Yes(a)	Yes (a)		

2.3 policy context: city of burlington

Burlington Zoning By-law 2020

The width of a driveway on a lot containing an ADU shall be no less than 6 metres and no more than 7.35 metres. Furthermore, no more than 50% of the lot area between a street line and the building can be used for driveway, and the remaining area shall be restricted to landscaped open area. Each ADU request requires a single parking space, which may not be provided through tandem parking with the parking space required for the principal dwelling. The rear yard, defined as the area between the extension of the two lines projected backward from the two side walls of the dwelling, may not be used for a parking space. As an exception, two parking spaces (including tandem parking) will be required for one ADU with the following conditions:

- where a lot containing an accessory dwelling unit fronts on a Major Arterial, Arterial Road or Collector Road (unless lay-by parking exists on the street in front of the lot); or
- where a lot containing an accessory dwelling unit is a parcel of tied land fronting on a common element road; or
- where a lot containing an accessory dwelling unit fronts on any one of the streets listed in Table 2.2.

Table 2.2

Street Name	From	To
Kenwood Avenue	Bromley Road	Spruce Avenue
Spruce Avenue	Melores Drive	Burloak Drive

3.0 accessory dwelling unit typologies

A review of the various known ADU typologies has been conducted for the following ADU types: interior ADUs, attached ADUs and detached ADUs. This review includes, for each ADU type, consideration of the definition, the housing purpose it fulfills, the physical development characteristics, the relationship to affordable housing and seniors housing, and the associated accessibility requirements and standards.

3.0 accessory dwelling unit typologies

interior

interior ADU

- basement apartment
- attic apartment

features

- Egress & exiting
- Fire separation
- Parking space
- Living area
- Kitchen
- Bathroom
- Bedroom
- Separate or shared entrance
- Utilities (electrical, plumbing, water, sewers)
- Bathroom must have ventilation
- Fire alarm, carbon monoxide detector

costs

$10 000 to $150 000
(avg $80 000)

typical residents

- Elderly family member who is no longer able to live on their own
- Young adult son or daughter who may be living at home but still seeking a level of independence
- Single parent families
- Singles

benefits

- Provides added income; first time home buyers can afford the dream home
- Benefit to seniors who want to stay in their own homes as they age but find it expensive on a fixed income
- Legal basement apartments provide an effective form of affordable housing and increase the availability of affordable housing choices while also offering a home owner an opportunity to earn additional income.

additional considerations

- Minimum Basement Apartment floor Area – 42 m^2 (452 ft^2)
- Maximum Basement Apartment floor Area – 30% of the total floor area of the house
- One parking space per basement unit (two parking spaces are required in some instances)
- Must meet National Building Code of Canada requirements
- Accessibility considerations with respect access to entrance (above or below grade)

definition

An interior accessory apartment is a completely self-sufficient and separately contained residential dwelling unit entirely within a single detached dwelling, semi-detached dwelling or townhouse dwelling. Interior accessory apartments are often referred to as basement apartments, second residential units or second suites.

(Basement Apartment)

3.0 accessory dwelling unit typologies

attached

attached ADU

- In-law suites
- Garage apartment

features

- Separat entrance / exit
- Fire separation
- Parking space
- Living area
- Kitchen
- Bathroom
- Bedroom
- Utilities (electrical, plumbing, water, sewers)
- Fire alarm, carbon monoxide detector
- Has the same design characteristic as the existing house and neighbourhood

costs

$3500-$200 000
(avg $52 000)

typical residents

- Multi-generational families
- Renters
- Aging parents

benefits

- Garage design already fits into the neighbourhood design and aesthetics
- Electrical, water and sewer systems could already be in place
- Creates discrete density without changing the neighbourhood character
- availability of affordable housing choices while also offering a home owner an opportunity to earn additional income

additional considerations

- Garage apartment shell of the ADU would already be built saving on cost for foundation, excavation and other construction costs
- Can be built within or above an existing garage
- Must meet National Building Code of Canada requirements

definition

An attached accessory apartment is a completely self-sufficient and contained residential dwelling unit sharing at least one wall of the existing primary dwelling unit. Attached accessory apartments are often added onto the primary house or garage. Often, attached accessory dwellings are referred to as in-law suites or garage apartments.

(Garage Apartment)

3.0 accessory dwelling unit typologies

detached

detached ADU

- Garden suites / Granny flat
- Laneway homes
- Carriage/coach houses

features

- Private entrance
- Parking space
- Living area
- Kitchen
- Bathroom
- Bedroom
- Utilities (electrical, plumbing, water, sewers)
- Fire alarm, carbon monoxide detector

costs

$9000-$300 000
(avg $98 000)

typical residents

- Seniors who can live independently
- People with disabilities
- Family members
- Renters

benefits

- Provide a healthy and supportive environment that may enable occupants to continue to live independently longer
- Allows for intensification without disturbing a neighbourhood's sensitivity to look, feel and character of the streets
- Affordable access to established neighbourhoods
- Allows for more affordable property ownership as it is a form in rental income
- Can support multi-generational households

additional considerations

- Distance from primary house
- How long a temporary unit can stay on a property
- Appearance / design - minimum & maximum size of the secondary dwelling unit
- Must meet National Building Code of Canada requirement
- Loss of green space due to removal of trees and green space for these suites

definition

A detached accessory dwelling unit is a self-sufficient residential dwelling unit located on the rear or side yard of a primary dwelling unit. A detached dwelling unit can be rented, leased or purchased by seniors. dependants, or people with disabilities. A detached accessory dwelling unit has a lesser overall floor area then the primary dwelling unit on the property.

(Garden Suite)

4.0 best practices review

Supplementary to the review of ADU typologies, a municipal best practices review has also been conducted in order to identify projects undertaken by other municipalities in Ontario regarding the implementation of ADUs as affordable housing options. The findings of this review will be used in later phases of this project to guide the development of a successful implementation strategy for the City of Burlington.

4.0 best practices review

Below is a brief description of the tools some municipalities have considered and/or implemented to address and control intensification and infill in order to achieve greater compatibility with established residential neighbourhoods:

city of brampton	CITY OF BRAMPTON - has incorporated Official Plan policies and defined "Older Mature Neighbourhoods" requiring new development to be compatible with the existing neighbourhood in scale, height, massing, architecture, setbacks, orientation, and building separation. To implement the policy, Site Plan Control was imposed on older mature neighbourhoods applicable to all new dwellings or additions greater than 50 square metres in area. The City has also included modifications to the zoning permissions for coverage, height, and setbacks.
town of halton hills	TOWN OF HALTON HILLS - has recently concluded their review of Mature Neighbourhoods, which has resulted in an Official Plan Amendment that discusses Mature Neighbourhood Areas and provides objectives and policies relating to new and replacement housing. Halton Hills has also approved new zoning regulations for specific areas as they relate to height, setbacks, and coverage.
town of oakville	TOWN OF OAKVILLE - has drafted "Design Guidelines for Stable Residential Neighbourhoods" to address compatibility of new development. These policies influenced a new zoning by-law that provided for specific zone standards for the study areas similar to Newmarket's 2013 By-law discussed below. Oakville has also included a standard that scaled the permitted residential floor area based on lot size, meaning that larger lots would have increasingly smaller floor area ratios to discourage excessively large homes from being developed.
city of kitchener	CITY OF KITCHENER- has amended their zoning by-law as it relates to setbacks, heights, garage placements; introduced site plan approval processes for single detached, semi-detached, and duplex dwellings in selected neighbourhoods; updated their Urban Design Manual to provide guidance on infill and new developments; and developed a Citizen's Guide to Intensification as an effort to ensure infill development within identified areas is compatible with the surrounding context.

4.0 best practices review

4.1 newmarket example

Residential trends in the Town of Newmarket are shifting from suburban growth to urban intensification and redevelopment. The majority of the applications being received by the Planning Department at the Town of Newmarket are now searching for vacant lots in older established residential communities with the common intent to sever these lots into smaller lots for new dwellings. Concerns have been raised regarding the compatibility of new homes, particularly in that they are in compliance with the current zoning by-law regulations but are considered to be out of character with the built form of the established neighbourhoods in which they are located.

Intensification in Newmarket

Staff at the Town of Newmarket undertook preliminary research in 2013 with respect to intensification in established residential neighbourhoods. Zoning By-law 2013-30 reduced the maximum permitted height, maximum permitted coverage, and amended front yard setbacks. This bylaw amendment set out limits for maximum heights for one, one and a half, and two storey dwellings and reduced the maximum height of a building on a lot from 10.7m to the mid point of the roof to 10m from the front grade to the highest point of the rood. In addition, the by-law also reduced the maximum lot coverage for a 1.5 storey and 2 storey house from 35% to 25% (Town of Newmarket, 2013b).

Having a uniquely supportive Secondary Suite Policy, By-law 2003-106 allows owners of detached and semi-detached units to have one self-contained apartment within the dwelling unit, provided that the unit meets the Building Code and Fire Code regulations. The Secondary Suite Policy is unique for the reason that most municipalities in southern Ontario do not have such a broadly permissive ('by-right') approach.

Recommendations

The following provides options that were made available for Council's consideration. The options aim to be implemented individually or combined:

1. **Implement changes to Residential Zone standards:** Establishing new standards would be reflective of existing built form. The minimum lot area and frontage, maximum lot coverage, and minimum setbacks would be similar to existing dwellings. Where a proposal cannot meet the minimum requirements, a minor variance would be required to review the merits of the application. The out comes of making changes to Zoning By-law 2010-40 will result in low-density residential zones as it con forms to the recommended changes to the existing By-law, becoming legal non-conforming buildings (Town of Newmarket, 2013a).

2. **Amend Official Plan to establish policies that direct established areas through zoning tools:** The Town of Newmarket's Official Plan currently contains general policies under the Residential section, addressing compatibility and protecting Stable Residential Areas. It details that these areas permit accessory units and infill units through the creation of new lots consistent with size and form of housing as a whole. This option will be complemented with urban design guidelines (Town of Newmarket, 2012).

3. **Create Urban Design Guidelines for infill projects:** Design guidelines will provide a basic framework for massing, streetscape, layout, and etc., within the context of the neighbourhood.

4. **Site Plan Control approval to accept semi-detached and duplex dwellings in identified areas:** To better manage infill, the building permit process would include more housing types in stable residential areas. This would provide the Town with greater assurance to communities that development will occur in respect to existing neighbourhoods (Town of Newmarket, 2012).

4.0 best practices review

The City of Mississauga approved the Second Unit Implementation Strategy ("SUIS") in July, 2013. ADUs or 'second units' are one component of the City of Mississauga's affordable housing strategy and housing plan was developed to help address the challenges associated with affordable housing (Mississauga, 2015). The City's current Official Plan [January, 2018] allows second units within detached dwellings, semi-detached dwellings and townhouse dwellings (Section 11.2.5.8). The SUIS was comprised of three main components: a policy framework to permit second units under the Official Plan, a regulatory framework to permit second units where appropriate under the Zoning By-law, and an implementation program. The implementation program consisted of three separate programs including a licensing program to ensure second units meet applicable codes and standards and to address concerns related to neighbourhood impacts, parking, property standards and noise. There is also an education program which provides information on the new process and partnerships with key stakeholders which has assisted with education and implementation of the SUIS (Mississauga, 2015).

4.1 mississauga example

Regulatory Framework
The City's Zoning By-law (Section 4.1.20) permits one second unit within a detached, semi-detached, townhouse, or linked dwelling. An addition to facilitate a second unit cannot alter the existing use of the dwelling. The minimum gross floor area of a second unit shall be 35 square metres, and no more than 50% of the gross floor area of the dwellings where it is located. A separate new entrance cannot face a street or private road, and a deck located above the first storey to facilitate entrance to a second unit is not permitted. One parking space shall be provided for the second unit, and tandem parking spaces are permitted to accommodate a second unit. A lot with a second unit can only have one driveway.

Second Unit Licensing
Property owners are required to obtain a license in order to secure approval for a legal second unit. In order to obtain a license, the following items are required: Certificate of Occupancy for zoning compliance; Building Permit Card (signed off) for Building Code compliance, Letter of Compliance from Fire Chief for Fire Code compliance, Electrical Safety Certificate from Electrical Safety Authority, Proof of ownership, and Insurance Certificate (Mississauga, 2015).

Limitations
There was limited support for the policy from both the community and City Council. Concerns included the impact on municipal services, safety/ building code issues, and preserving neighbourhood character. These barriers were overcome through community consultations as well as education and awareness initiatives throughout the community and within City Hall. Consultation activities included a Stakeholder Forum, meetings with City staff and service providers, five Public Consultation Workshops, and a Design Workshop. The education campaign included information distributed through the City's Housing Choices web page, mail-outs to residents, news releases and articles, information evenings with City staff, and printed material available in community facilities such as libraries and community centres. As of November 2016, a total of 268 second units have been registered in the City of Mississauga (CMHC, 2017).

5.0 affordable housing challenges + solutions

Housing is considered to be one of the most fundamental human needs and access to safe, affordable and adequate housing is important for the well-being of a community and all its members (Ministry of Municipal Affairs and Housing [MMAH], 2011). In recent decades, there have been serious concerns raised and documented related to the declining affordability of housing across Canada (Canadian Home Builders' Association [CHBA], 2016). Affordable housing is generally defined as housing that costs 30% or less of before-tax household income (Canada Mortgage and Housing Corporation [CMHC], 2014; Falvo, 2007; Moos, Vinodrai, Revington & Seasons, 2018). This literature review will consider the various challenges that have been identified with respect to housing affordability, as well as potential solutions that can be employed to address such challenges and achieve improved housing affordability.

5.1 supply + demand issues

One of the most commonly cited factors impacting housing affordability in Canada is the imbalance between supply and demand for certain forms of housing. The Canadian Home Builders' Association (CHBA, 2016) argues that there is an under-supply of family-friendly, ground-oriented housing options in the Greater Toronto Area ("GTA"), resulting in ongoing price escalation in this area of the housing market. There is a general trend in GTA cities towards more intensive residential development in the form of mid- and high-rise multi-unit buildings while there remains high levels of demand for ground-oriented, family-friendly homes. Also contributing to demand, the CHBA (2016) suggests that the economic success of the GTA plays a role by attracting new residents who are seeking housing mostly in the form of ground-oriented, family-friendly homes. Thus, prices for these in-demand housing forms are skyrocketed creating significant concerns for affordable homeownership. Likewise, Falvo (2007) holds that there is an inadequate supply of newly-built housing for low-income households in large urban areas, such as the GTA and others across Canada. The private housing market is ineffective at delivering this type of housing as it is often not profitable for private developers to build immediately affordable units (Falvo, 2007).

5.0 affordable housing challenges + solutions

5.1 supply + demand issues

Provision of New Affordable Housing Stock

Falvo (2007) identifies that the "filtering" of housing stock, whereby municipalities let housing units lose value over time and eventually become more affordable, as a method of achieving affordable housing is not a viable or appropriate solution. Often the quality of these units are unattractive, unsuitable for living and are often inappropriate in terms of size or nature for the households occupying them. Thus, many sources suggest that building new affordable housing options is key in ensuring housing affordability (Clayton & Schwartz, 2015; Falvo, 2007).

Falvo (2007) suggests the building of new non-profit and/or co-op housing. Non-profit housing, or "social housing," consists of 2/3 modest-income tenants, 1/3 low-income tenants and are not owned collectively by the tenants but by a non-profit organization. Co-op housing is similar in that it consists of 2/3 modest-income tenants and 1/3 low-income tenants; however, the tenants have collective ownership of the development. Although the provision of such housing stock is the obvious solution to addressing under-supply of affordable housing, there are certain challenges associated with providing these types of affordable housing. Falvo (2007) recognizes that these types of developments require financial assistance for capital costs (likely from the federal government) and subsidies for operating costs (likely from the province). In order for this to be a feasible solution, the City of Burlington must take advantage of federal and provincial funding initiatives, which has be outlined as a housing affordability policy objective in the proposed new Official Plan [February 2018].

The MMAH (2011) suggests that increases in density through reductions in lot and/or unit sizes provide opportunities for more housing options that make more effective use of existing and planned infrastructure. Typically, smaller lots and smaller units can allow reduced housing costs while maintaining compatibility with the existing residential character. Similarly, Clayton & Schwartz (2015) identify secondary or accessory dwelling units and garden suites as an inexpensive way of increasing affordable rental housing stock without compromising established neighbourhood character. The use of accessory dwelling units is supported by the Ministry of Municipal Affairs & Ministry of Housing (2011; 2017; 2018), who suggest that this form of housing can provide opportunities that help create mixed-income communities and that meet the specific needs of modest and low-income households, as well as an aging population. By advancing policies that promote the creation of secondary units, such as what the City of Burlington has done with their proposed new Official Plan policies, municipalities could increase the supply of affordable units to be rented below market value. Accessory dwelling units are the main concept under review in this study and are discussed in further detail in section 3.0 of this report.

5.0 affordable housing challenges + solutions

5.1 supply + demand issues

Provision of New Affordable Housing Stock

The MMAH (2017; 2018) further suggests that the inverse of providing new affordable housing supply - the protection of existing housing stock - can be an important tool in addressing housing affordability. The MMAH (2011) notes that affordable rental units can be lost through demolition, property renovations and the conversion of existing units from rental to ownership. Under Section 33 of the Ontario Planning Act, municipalities can establish demolition control areas in which developers must obtain a demolition permit prior to demolishing all or part of a residential property within the designated area (MMAH, 2011; 2017; Wood Bull LLP, n.d.). Further, within these areas municipalities can refuse to issue a demolition permit unless a building permit has been issued for a new building on the site; thus, this tool can assist in the maintenance of a suitable supply of viable housing stock, including affordable housing (MMAH, 2011; 2017). Likewise, under Section 99.1 of the Municipal Act 2001, municipalities can enact by-laws to prohibit and regulate the demolition of multi-unit residential properties and the conversion of such rental properties to other non-rental uses (MMAH, 2011; Wood Bull LLP, n.d.). Wood Bull LLP (n.d.) further indicate that such by-laws may also require that the replacement building include adequate rental units in replacement of the demolished residential units or require a contribution to a municipal fund for the development of new affordable housing projects. Thus, regulation of the demolition and conversion of residential rental properties can help ensure that affordable rental housing stock is preserved or replaced in communities where such housing supply is decreasing.

In direct relation to protecting existing affordable housing stock, the MMAH (2018) suggests that municipalities can aid low-income households, particularly low-income seniors and persons with disabilities, to improve their existing housing conditions. Specifically, this is related assisting with accessibility modifications to existing housing units which allows low-income individuals to continue living independently in their own homes. Ultimately, the MMAH (2018) suggests that this type of support can also increase the municipal supply of affordable housing, as it aids and encourages individuals to remain in their existing homes rather than moving to new and more accessible affordable accommodations.

Development and Regulatory Incentives

Moos et al. (2018) suggest that land use planning tools, including density bonusing and inclusionary zoning, can be employed by local municipalities to encourage the development of new affordable housing options. Density bonusing can be used by municipalities to create incentive for developers to provide affordable housing (or other community amenities) in exchange for additional development rights and increases in heights and densities (Clayton & Schwartz, 2015; MMAH, 2018; Moore, 2013; Moos et al., 2018). Density bonusing is a tool permitted by Section 37 of the Ontario Planning Act used commonly by municipalities to secure a range of community amenities, such as public art, transit improvements, parks and public spaces, natural and cultural heritage protections, and other community benefits (MMAH, 2011; 2017). However, it has been found that Ontario municipalities rarely use this tool to negotiate the provision of affordable housing (Clayton & Schwartz, 2015; Moore, 2013; Moos et al., 2018). Clayton & Schwartz (2015) suggest that density bonusing through Section 37 can be an effective tool for addressing under-supply of affordable units; however, only if affordable housing is prioritized by the municipality. The City of Burlington's proposed new Official Plan [February 2018] identifies affordable housing as the first potential community benefit to be secured through Section 37; however, in practice, there may be opportunity for further prioritization of affordable housing in application of this tool. For example, the implementation of new policies directly prioritizing affordable housing options can be effective. Clayton & Schwartz (2015) note that the City of Toronto has implemented a Large Sites Policy, whereby the first priority in Section 37 negotiations shall be the provision of 20% of the additional units as affordable housing (either in the form of physical units, land, or cash-in-lieu) for all Zoning By-law Amendments for sites larger than 5 hectares in size.

5.0 affordable housing challenges + solutions

5.1 supply + demand issues

Development and Regulatory Incentives

Similarly, if implemented (and approved provincially under the Ontario Planning Act), inclusionary zoning would require private developers to provide a certain percentage of below-market-rate units in new residential developments with affordability targets for different income levels (Clayton & Schwartz, 2015; MMAH, 2018; Moos et al., 2018). Inclusionary zoning is used largely in the United States to address the provision of affordable housing units and socioeconomic integration (Clayton & Schwartz, 2015). Clayton & Schwartz (2015) argue that inclusionary zoning is not required in the Ontario context as the density bonusing provisions in Section 37 of the Planning Act provide the same function as inclusionary zoning, provided affordable housing is prioritized in such negotiations. However, despite this, inclusionary zoning can function as a unique tool to encourage the development of new affordable housing stock in the form of residential infill and redevelopment projects.

In addition to inclusionary zoning and Section 37 benefits, the MMAH (2011; 2017; 2018) also suggests that permitting reductions in parkland dedications and cash-in-lieu requirements in strategic areas can be used to reduce the costs of affordable housing and encourage more of this type of development. Similarly, municipalities can provide reductions or exemptions from parking requirements to incentivize the development of affordable and rental housing (MMAH, 2017; 2018). Parking can add significantly to the overall costs of a development and reducing parking requirements can assist in lowering development costs, lowering overall housing costs and making the provision of affordable housing more financially feasible for both non- and for-profit developers.

Related to development and regulatory incentives, the MMAH (2011; 2017; 2018) suggests that municipalities can adopt affordable housing Community Improvement Plans ("CIPs") to facilitate more affordable housing options in their communities under Section 28 of the Ontario Planning Act. CIPs can assist in encouraging private sector developers to invest and rehabilitate defined areas within the community by offering incentives that minimize the financial barriers associated with affordable housing projects (Cambridge, 2016; MMAH, 2018). Where there are Official Plan policies in effect with respect to CIPs, a municipality may designate an area as a community improvement area and develop a CIP which may contain provisions for affordable housing, including housing for seniors (MMAH, 2017; 2018). The City of Peterborough was the first municipality in Ontario to create an Affordable Housing CIP. The Plan offers financial incentives, including relief from planning application fees and reimbursements of municipal property tax (both of which are discussed later in this review), to encourage residential developers to produce more affordable units (MMAH, 2018; Peterborough, 2011). Developers interested in producing affordable housing developments through new development, redevelopment or conversion from a non-residential use can apply for these CIP programs provided their development is located with the defined CIP area. Proponents may also be eligible for further financial incentives if they enter into a Municipal Housing Facilities Agreement with the municipality which may define the length of time the project must remain affordable, the rental rates being charged, the process for screening new tenants and municipal contributions (MMAH, 2018; Peterborough, 2011). Ultimately, CIPs are an important tool that can be used to regulate and incentivize affordable housing developments to ensure that quality stock is available for those in need.

5.0 affordable housing challenges + solutions

5.1 supply + demand issues

Countering Local Opposition

The CHBA (2016) and the MMAH (2018) recognize that new developments and new housing forms that support affordability, particularly mixed-form and mixed-income developments, are often challenged by local 'Not-in-My-Backyard' ("NIMBY") opposition. As a result, important forms of development are delayed or obstructed entirely contributing to the lack of supply of affordable housing options. Falvo (2007) also adds that affordable housing forms such as non-profit and co-op housing, as well as the lower-income tenants seeking affordable units are stigmatized, making it hard for these types of units to be made available.

It is suggested that proactive awareness campaigns and public education initiatives be undertaken in order to convey the importance and benefits of affordable housing developments and encourage acceptance of new developments geared towards first-time homeowners and rental developments (CHBA, 2016; MMAH, 2018). The CHBA (2016) recommendation for such public education programs was directed towards the federal government; however, this could be an important strategy for local municipal governments, such as the City of Burlington, as well. Further, the MMAH (2018) recommends that municipalities can address affordable housing myths and emphasize the positive effects of affordable housing in communities to de-stigmatize such developments and encourage acceptance.

Challenges of Supplying Affordable Units

Overall, it is noted that a key solution to addressing affordable housing issues is the provision of more affordable housing stock; however, there are a number of challenges associated with the provision of affordable units in new developments. Clayton & Schwartz (2015) indicate that there are issues associated with whether affordable housing units should remain under private ownership or be transferred to public or non-profit ownership; the length of time private rental units remain affordable; and monitoring to ensure units remain occupied by tenants requiring financial assistance. Additionally, Falvo (2007) notes that the construction of new affordable housing developments takes a significant amount of time to complete (on average three (3) years in 2007, likely longer today). As noted previously however, the MMAH (2018) notes that the use of affordable housing Community Improvement Plans can be an effective tool for the municipality to address these noted challenges. These issues should be considered by the City of Burlington, potentially through the implementation of an affordable housing CIP, to ensure affordable housing stock remains affordable and available to those who require it.

5.0 affordable housing challenges + solutions

5.2 infrastructure gap

It has been noted that for years investment in infrastructure has been inadequate to support the renewal and expansion of basic infrastructure and to develop effective transit systems in most Canadian cities (CHBA, 2016). Ultimately, the CHBA (2016) argues that this infrastructure gap is widely impacting the affordability of housing in Canada's fastest growing urban regions, including the GTA. Lagging or lacking infrastructure and the need to improve it is increasing municipal reliance on development taxes; delaying new development, including affordable and rental housing, which escalates land costs; and contributing to poor transportation, congestion and lost productivity. These factors are working together in substantially increasing the cost of housing, particularly in the urban core where there is quality development and transportation systems already in place (CHBA, 2016).

The CHBA (2016) calls for strategic investment in infrastructure from the federal government to reduce reliance on development taxes for funding infrastructure renewal and expansion, as well as to support housing affordability by opening new areas for fully-serviced development. Overall, this can reduce pressures on raising development taxes for new developments and in turn lower housing costs (CHBA, 2016). In addition to the need for federal funding and to ensure that the full benefits of such funding are realized, local authorities must have the strategic policies, plans and regulations in place. Infrastructure should be planned such that maximum efficiency is achieved. This includes planning for the appropriate forms of infrastructure and in the appropriate locations. Furthermore, these implementing tools should support the principles of 'transit-oriented development' to effect increased densities along transit corridors and at transit nodes to ensure infrastructure investments are fully utilized (CHBA, 2016). Ultimately, more effective use of existing and planned infrastructure can increase the amount of housing options that are accessible and conveniently located, particularly for those without access to a private automobile.

5.0 affordable housing challenges + solutions

5.3 local regulations + approvals process impacts

Another challenge identified in the achievement of housing affordability directly related to the infrastructure gap is the delays resulting from the excessive regulation and slow approvals process. The CHBA (2016) recognizes that although it is important to develop well-planned and forward-thinking communities, the "delays in moving designated lands into development adds costs to homes and constrains much needed supply" (p.11). Further, as previously discussed, many infill and other affordable developments are often delayed or obstructed by local NIMBY opposition (CHBA, 2016; MMAH, 2018).

Moos et al. (2018) provide an important example of where local regulations have a significant restrictive impact on housing affordability: mixed-use zoning. The MMAH (2011) suggests that mixed-use developments can help facilitate affordability by creating new housing options in areas where they may not have existed previously. In theory, mixed-use is a powerful planning tool that can help achieve intensified land use, improved walkability, increased transit use, and social mix and diversity by mixing a range of everyday activities including living, working and shopping. Having a mix of land uses can also reduce housing costs by increasing the supply and diversity of housing types, particularly smaller, lower-priced units (Moos et al., 2018). Furthermore, mixed-use developments can promote diversity in the housing market as well as social inclusion (MMAH, 2011). These positive outcomes are things that are generally associated with achieving housing affordability; however, Moos et al. (2018) argue that residential units that are highly accessible and developed in proximity to transit and other amenities, such as in the mixed-use area context, are often more expensive. Thus, the provision of mixed-use developments in attractive and well-connected neighbourhoods, particularly in the urban core, can actually result in decreased housing affordability in these areas.

Moos et al. (2018) suggest that municipalities need policies that explicitly address housing affordability as a component of mixed-use zoning. Such policies may include inclusionary zoning, density bonusing and/or affordable housing trusts. Inclusionary zoning and density bonusing were discussed earlier as potential solutions to address the under-supply of affordable housing units, and affordable housing trusts are discussed later in association with the provision of financial assistance for affordable housing developments (Moos et al., 2018). Ultimately, mixed-use zoning can be a potential tool to aid in achieving housing affordability; however, it is important that this tool is supplemented with the appropriate affordable housing policies and regulations in order to battle its ability to actually increase housing costs in certain circumstances.

5.0 affordable housing challenges + solutions

5.4 financial challenges + incentive issues

Another well-documented challenge affecting housing affordability, particularly in the GTA, is the level of government taxation on new homes and rental construction. The CHBA (2016) argues that local taxes, such as development charges, lot levies, amenity fees and cash-in-lieu, are ultimately reflected in the sale price of a new home, ultimately having a significant impact on affordability. Furthermore, anomalies related to the taxation of rental housing investments play a role in limiting or obstructing the provision of new rental units. This is related to the way in which GST is calculated for accessory dwelling units favouring those with familial ties to the owner of the main unit, and determination of new rental property values upon which GST is to be based which discriminates against "purpose-built" rental developments by valuing them as if they were standard condominiums (CHBA, 2016).

Provision of Financial Assistance for Housing

One financially-oriented solution proposed to address housing affordability is to provide direct or indirect financial assistance for housing purposes to those who have demonstrated need. Falvo (2007) and the MMAH (2018) suggest the provision of housing allowances and rent supplements to assist in covering rent costs for those requiring assistance. A housing allowance is financial assistance that is paid directly to the tenant to help cover rent costs, while rent supplements are funds paid directly to the landlord based on a tri-party agreement between the landlord, the tenant and the provincial agency administering the financial assistance. These forms of assistance make existing rental housing more affordable to low-income households, help to reduce the pressures on the provision of new affordable housing projects and help to achieve income mix in the community (Falvo, 2007; MMAH, 2018). Falvo (2007) recognizes that there are a number of drawbacks associated with this form of assistance, including difficulties in providing community development programs (i.e. community kitchens, meal programs, etc.) as a result of the separation of households and the challenges faced by tenants who may find it difficult to fit in in a "normal" rental building. Furthermore, these allowances and supplements are often not enough to achieve affordability for welfare recipients and actually have the ability to cause inflation in rent costs for non-recipient families (Falvo, 2007). Ultimately, the financial assistance solution for housing affordability is more appropriate in circumstances where a jurisdiction is experiencing high vacancy rates for rental properties, rather than where there is a shortage in affordable housing supply.

The MMAH (2018) notes that municipalities have the power to establish funds for various affordable housing purposes, such as a reserve fund for maintaining housing facilities and a fund for affordable housing lending. In certain circumstances, municipalities may use these affordable housing funds to lend to non-profit developers to assist with repairing their existing affordable housing stock. Further, municipalities may consider establishing a loan fund so that they may offer loans to developers for new affordable housing developments (MMAH, 2018). As Falvo (2007) and the MMAH (2018) note, affordable housing funding is likely not the sole solution to the housing affordability challenge; however, such funds can help municipalities to encourage and advance other affordable housing solutions and their affordable housing objectives.

Similarly, the CHBA (2016) suggests that anomalies in the current tax system negatively impact the cost of new homes which ultimately decreases affordability. Currently, the application of GST on the selling price of a new home is essentially taxing the development taxes that are already incorporated into the cost of the home. It is suggested that the "tax on tax" that is currently applied to new homes from this application of GST should be corrected to lower the selling price of homes and making it more affordable to purchase a home (CHBA, 2016).

5.4 financial challenges + incentive issues

Income-Security Approach

A similar financial solution related to directly aiding those in need of financial assistance would be to enhance the monthly incomes of financially disadvantaged households. Falvo (2007) suggests that this would need to be done in a no-strings-attached manner in terms of how this income would be spent. Furthermore, Falvo (2007) suggests that changes to the federal tax system whereby low-income, working-age adults are eligible to receive a basic non-refundable tax credit and supplements to the working income of low-income wage earners would aid in providing more income security for those currently in need of assistance. Ultimately, this would enhance the ability of lower-income households to afford housing. However, this solution does not address issues related to lack of supply of suitable housing for these households (Falvo, 2007).

Financial Incentives for the Provision of Affordable Housing

Another financially-oriented solution to addressing housing affordability is the implementation of financial incentives for developers to provide new affordable housing developments. This solution would help to address affordability by addressing the under-supply of affordable housing opportunities as previously discussed. Falvo (2007) suggests that implementing a US-style tax credit system (i.e. the US Low Income Housing Tax Credit ("LIHTC")) for affordable rental housing projects would encourage developers to provide more of this type of housing. This would consist of non-refundable tax credits being allocated by the Canada Revenue Agency ("CRA") to the provincial housing ministry, who would then administer the credits to non- and for-profit developers who made a proposal that met various affordability criteria. Recipients would benefit by receiving the credit after filing taxes and would use the credits to reduce their tax payable (Falvo, 2007). Although this solution would help provide incentive for private developers to contribute to the supply of affordable housing units, there are also a number of drawbacks associated with this option. Firstly, federal tax credits alone will not make housing units affordable; additional layers of subsidy would be required likely in the form of provincial tax credits. Furthermore, these types of tax credits are generally inefficient, at least in the US context, in that for every dollar of federal tax credit granted, only between $0.60 and $0.85 goes into affordable housing development (Falvo, 2007). However, despite these challenges, the benefit of this method is that it engages private developers in the provision of affordable housing which has significant advantages over a purely non-profit housing supply. This is discussed later in further detail.

Clayton & Schwartz (2015) also suggest that reductions in property tax could create incentive for the development of more affordable rental housing projects. It is suggested that municipalities could create a new property class for multi-residential rental properties that has a tax rate comparable to that of ownership properties which are generally lower (Clayton & Schwartz, 2015; MMAH, 2017; 2018). Similarly, the CHBA (2016) suggests that 'purpose-built' rental developments should have their own property tax class. This would allow lower rental rates for new rental housing as the operating costs would be decreased. Furthermore, Clayton & Schwartz (2015) identify that municipalities could exempt affordable rental housing projects from property taxes entirely provided that rents are at or below average market rental rates as determined by the CMHC. The CHBA (2016) suggests this could also include accessory dwelling units. This would allow rental housing projects to be more financially feasible for private and non-profit developers and encourage more of these types of developments.

5.4 financial challenges + incentive issues

Financial Incentives for the Provision of Affordable Housing

Similarly, the MMAH (2011; 2017; 2018) proposes that the reduction or waiving of application processing fees for affordable housing projects can reduce the overall costs associated with development and ensure that affordable housing projects are more financially feasible for developers. Section 69 of Ontario Planning Act permits municipalities to reduce or waive fees associated with application processing "where they are satisfied that it would be unreasonable to require payment in accordance with the established tariff of fees" (MMAH, 2011, p.22). A number of municipalities in the GTA and across southern Ontario have already implemented development application fee and building permit fee exemptions for affordable housing developments, including the City of Kitchener, City of Hamilton, and the City of Toronto. The City of Kitchener has developed a policy whereby non-profit corporations may seek exemption from applicable development application and building permit fees for affordable rental housing developments located within 450 metres of an existing or planned transit corridor where a minimum of 30% of residential units are affordable rental units. This policy applies to the application and permit fees associated with pre-submission consultation requests, Committee of Adjustment applications, Official Plan and Zoning By-law Amendment applications, Site Plan Approval applications, Plans of Subdivision and Plans of Condominium applications, Demolition Control applications, and Building Permits (Kitchener, 2017). Additionally, there is the potential for municipalities to exempt certain forms of development, such as affordable housing developments, from the required development charges as prescribed in the municipality's Development Charges By-law (MMAH, 2018). However, the challenge with this is that funds may still be required for necessary growth-related infrastructure and this generally cannot be accommodated by increasing the development charges for other types of development (MMAH, 2018). However, these are financial incentives the City of Burlington could consider implementing to encourage the development of more affordable housing units in new residential infill and redevelopment projects.

Overall, there are a number of benefits associated with engaging private developers in the building of affordable housing units through the provision of financial incentives in comparison with a strictly non-profit approach. Falvo (2007) indicates that support from the private sector can help to ensure that affordable housing programs are more sustainable in terms of financial capabilities. Additionally, such financial incentives give the illusion of being more fiscally responsible than a pure cash grant program and allow the province more flexibility in terms of financial resources. Finally, the provision of tax-based incentives increases the likelihood of compliance with the rules (i.e. the provision of an adequate amount of truly affordable units) given that these incentives would be governed by the CRA who is more likely to invoke its power and take tax credits away from those who fail to meet the rules and criteria in comparison with the CMHC (Falvo, 2007).

5.0 affordable housing challenges + solutions

5.5 conclusions

This section has identified a number of common challenges associated with the provision of adequate affordable housing programs in Canada, particularly in the GTA, as well as a number of potential solutions to address such challenges. The primary solution suggested was the provision of new affordable housing developments, either by non- or for-profit developers. In order to encourage such development, increased government (mainly provincial and federal) funding is generally required. Although such funding is out of the general scope for the City of Burlington, it was found that there are a number of options available to local municipalities to incentivize private developers to provide more affordable housing units in new residential developments and to provide a diversity of new housing options in general. These can be regulatory or financial incentives and can be tailored to suit the particular needs and circumstances of the local municipality. Additionally, such incentives may be used in conjunction with the implementation of accessory dwelling units to achieve improved housing affordability while maintaining the character of established residential neighbourhoods. The findings in this report will be considered further in the Burlington context, particularly in the Appleby and LaSalle neighbourhoods context, in order to identify the most feasible and appropriate housing affordability solutions for the City. These findings and recommendations will be provided in a future report.

6.0 opportunities + next steps

The subject neighbourhoods review has identified that each of the Appleby and LaSalle communities have a unique physical and demographic context that present both opportunities and constraints for implementing ADUs. Both neighbourhoods are largely dominated by low-density residential uses in the form of single detached dwellings. As a result, there is significant opportunity to implement accessory dwellings as a form of affordable rental housing. Additionally, the aging population in each of these subject neighbourhoods presents a unique challenge to ensure that the implementation of ADUs considers the unique needs of a senior population, including accessibility standards and features. However, the differences in lot patterns between the two neighbourhoods will require that careful consideration be given to the types of ADUs implemented in each, particularly in terms of detached and integrated/attached ADU types. Furthermore, the market contexts of each neighbourhood will impact how ADUs are implemented, particularly in terms of financial incentives, to ensure successful implementation and affordability.

This report has identified a number of accessory dwelling typologies and successful strategies and incentives for their implementation. Next steps in this project will involve selecting the most appropriate ADU types for each neighbourhood and testing the financial and physical feasibility of each. This will include consideration of the most appropriate forms of financial assistance and incentives required for successful implementation and affordability, as well as the physical opportunities and constraints that must be considered to ensure compatibility with the existing residential character. In conjunction with this feasibility analysis, a second phase of the best practices review will be undertaken to better understand the most appropriate implementation tools and how these may effectively be employed in the Burlington context. This information will then be used to develop a Burlington-specific implementation framework for accessory dwelling units, including the recommended planning tools required for successful implementation.

references

CARP. (2008). Impacts of the Aging of the Canadian Population on Housing and Communities. Canadian Association of Retired Persons. https://www.cmhc-schl.gc.ca/odpub/pdf/65913.pdf

[City of] Burlington. (2016). Official Plan Review: Urban Structure and Intensification Policy Directions Report. Planning and Building Department.

[City of] Burlington. (2017). Zoning By-law 2020: R1, R2, R3 Zone Regulations. Retrieved from https://www.burlington.ca/en/zoning/part_2_4_r1_r2_r3.asp

[City of] Cambridge. (2016). Affordable Housing Community Improvement Plan FAQ's. Retrieved from https://www.cambridge.ca/en/learn-about/resources/Affordable-Housing-CIP---FAQ-Sheet-Jan-2017.pdf

Canada Mortgage and Housing Corporation. (2017a). Rental Market Report: Hamilton CMA. Retrieved from https://www.cmhc-schl.gc.ca/odpub/esub/64391/64391_2017_A01.pdf?-fr=1518982509105

Canada Mortgage and Housing Corporation. (2017b). Secondary Suites – Municipal Case Study: CITY OF MISSISSAUGA. Retrieved from https://www.cmhc-schl.gc.ca/en/inpr/bude/adho/secondary-suites/upload/secondary-suites-case-study-mississauga.pdf

Canada Mortgage and Housing Corporation. (2014). Housing in Canada Online: Definition of Variables. Retrieved from https://cmhc.beyond2020.com/HiCODefinitions_EN.html#_Affordable_dwellings_1

Canadian Home Builders' Association. (2016). Housing Markets and Affordability: Strategic Considerations. Retrieved from https://www.chba.ca/CHBADocs/CHBA/HousingCanada/Government-Role/2016-09-CHBA-Housing-Markets-and-Affordability.pdf

Carriere, K. (2017). Backyards: Way Forward Assessing the potential for detached secondary suites in Toronto. Department of Geography & Planning. University of Toronto.

Clayton, F.A. & Schwartz, G. (2015). Is Inclusionary Zoning a Needed Tool for Providing Affordable Housing in the Greater Golden Horseshoe? Toronto, ON: Centre for Urban Research and Land Development. Retrieved from https://www.ryerson.ca/content/dam/cur/images/projects/CUR%20RR%235_Inclusionary%20Zoning%20Report_Updated_Oct%2020%2C%202015(LG).pdf

references

CMHC (2014a). Permitting Secondary Suites: How the strategy works. https://www.cmhc-schl.gc.ca/en/inpr/afhoce/afhoce/afhostcast/afhoid/pore/pesesu/pesesu_001.cfm

CHMC (2014b). Rental Market Report, GTA. https://www.cmhcschl.gc.ca/odpub/esub/64459/64459_2014_A01. pdf

[City of] Edmonton (2016). Secondary, Garage, and Garden Suite Grants https://www.edmonton.ca/programs_services/funding_grants/cornerstones-grant-secondary-suite.aspx

Falvo, N. (2007). Addressing Canada's lack of affordable housing. Halifax, NS: Canadian Economics Association Annual Meetings. Retrieved from http://homelesshub.ca/sites/default/files/Falvo_CEA2007_1.pdf

Goldring, R. (2013). Our Shortage of Affordable Housing. Retrieved from http://www.burlingtonmayor.com/affordable-housing/

Halton Region. (2015). Halton Region Official Plan [2009]. Retrieved from file:///C:/Users/Owner/Downloads/Halton%20ROP%20-%20September%2028,%202015%20Interim%20Office%20Consolidation%20-%20Text.pdf

[City of] Kitchener. (2017). Development Incentives for Affordable Housing Implementation (Report No. CSD-17-034). Retrieved from https://www.kitchener.ca/en/resourcesGeneral/Documents/CSD_PLAN_Development-Incentives-for-Affordable-Housing-Implementation.pdf

Maple Ridge (2007). DETACHED GARDEN SUITES: ISSUES AND OPTIONS November 30, 2007

Ministry of Municipal Affairs and Housing. (2011). Municipal Tools for Affordable Housing. Toronto, ON: Queen's Printer for Ontario. Retrieved from http://www.mah.gov.on.ca/AssetFactory.aspx%3Fdid%3D9270

Ministry of Municipal Affairs & Ministry of Housing. (2017). Laying the Groundwork for Long Term Affordable Housing in Your Community: A Tool Box [PowerPoint]. Retrieved from http://www.fonom.org/sites/default/files/Long%20Term%20Affordable%20Housing%20Update%20-%20%20Municipal%20Role%20and%20Tools%20for%20Affordable%20Housing.pdf

references

Ministry of Municipal Affairs & Ministry of Housing. (2018). Municipal Guide for Facilitating Affordable Housing. Toronto, ON: Queen's Printer for Ontario. Retrieved from http://www.mah.gov.on.ca/Page16567.aspx

[City of] Mississauga. (2012). Housing Choices: Second Units Review. Retrieved from https://www.cip-icu.ca/Files/Awards/Planning-Excellence/Housing-Choices-Second-Units.aspx

[City of] Mississauga. (2015). Second Unit Implementation Strategy - Update Report. Retrieved from http://www7.mississauga.ca/documents/pb/main/2015/Corporat_ReportSecond_UnitsFollowUp.pdf

Moore, A.A. (2013). Trading density for benefits: Toronto and Vancouver Compared. IMFG Papers on Municipal Finance and Governance, 13. Retrieved from https://munkschool.utoronto.ca/imfg/uploads/220/imfg_no_13_moorer3_online_final.pdf

Moos, M., Vinodrai, T., Revington, N., & Seasons, M. (2018). Planning for mixed use: Affordable for whom? Journal of the American Planning Association, 84(1), 7-20.

MountainMath Analytics (2016). Secondary Suites and Taxes. http://doodles.mountainmath.ca/blog/2016/10/04/secondary-suites-and-taxes/

[Town of] Newmarket. (2012). Intensification in Stable Residential Areas (Report 2012-09).

[Town of] Newmarket. (2013a) By-law No. 2010-40: A By-law to implement the policies of the Town of Newmarket Official Plan.

[Town of] Newmarket. (2013). By-law No. 2013-30: A By-law for the registration of Accessory Dwelling Units.

[Town of] Newmarket. (2014). Town of Newmarket Official Plan 2006-2026. Retrieved from http://www.newmarket.ca/LivingHere/Documents/Planning%20Department/Official%20Plan/2006%20Official%20Plan%20-%20December%202016%20Consolidation%20FINAL.pdf

Ontario Ministry of Finance (2016). Ontario Population Projections update, 2015-2041. http://www.fn.gov.on.ca/en/economy/demographics/projections/

references

[City of] Peterborough. (2011). Adoption of the Affordable Housing Community Improvement Plan and the Central Area Community Improvement Plan (Report PLPD11-062). Retrieved from http://www.peterborough.ca/Assets/City+Assets/Planning/Documents/Community+Improvement+Plans-Staff+Report.pdf

Realtors Association of Hamilton-Burlington. (2018). Market Turnaround in 2017: Year End Stats. Retrieved from http://www.rahb.ca/2018/01/market-turnaround-2017/

Robinson, M. (2016). Vancouver approves 2,500th laneway home permit. Vancouver Sun. December 29, 2016. http://vancouversun.com/news/local-news/vancouver-approves-2500th-laneway-home-permit

Second Suites (2000). Second Suites: An Information guide for Homeowners. http://www.second-suites.info/ Homeowners_Guide.pdf

Skinner, J. (2017). Impact of Demographics on the City of Burlington Urban Planning. Burlington Gazette. Retrieved from http://www.burlingtongazette.ca/skinner-impact-of-demographics-on-the-city-of-burlington-urban-planning/

Stinson, J. & Van Elsander, T. (2003). A Study of Laneway Housing in Toronto. Architects in Association. https://www.cagbctoronto.org/fles/9.%20LanewayPresentation%20pt1.pdf

Statistics Canada. (2018). Census Profile, 2016 Census. Retrieved from http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=3524002&Geo2=CD&Code2=3524&Data=Count&SearchText=burlington&SearchType=Begins&SearchPR=01&B1=All&TABID=1

[City of] Toronto. (2016). By-law enforcement occupancy standards. http://www.toronto.ca/311/knowledgebase/35/101000038235.html

Wood Bull LLP. (n.d.). Residential Demolition / Rental Replacement. Retrieved from http://www.woodbull.ca/practice-areas/details/planning-and-development/residential-demolition-rental-replacement

references

1.4 Table; Notes and data sources:
Carriere, Kelsey. (2017)

1. Tencer, Daniel (2017). Toronto's Average House Price Jumps $40,000 In A Month Amid Supply 'Crisis'. The Huffngton Post,
March 3, 2017. http://www.huffngtonpost.ca/2017/02/03/toronto-house-prices-treb_n_14594144.html
2. Calculated using City of Toronto Tax Finder: http://wx.toronto.ca/inter/fn/tax.nsf/tax?OpenForm&Seq=1
3. Based on $250 sq ft industry standard for construction costs including permits, architectural drawings, servicing, foundation, plumbing, electrical, and
fnishing.
4. Based on typical Toronto condo fees
5. Hungerford, Michael, (2013). Vancouver's laneway numbers don't add up. Huffngton Post, November 19, 2013.
http://www.huffngtonpost.ca/michael-hungerford/laneway-housing-vancouver_b_4298984.html
6. Based on an analysis of Toronto basement apartment prices in proximity of Ward 18, Craigslist, March 19, 2017.
7. Projected rent for 400 sq ft DADU based on average 800 sq ft Vancouver laneway house rent5
adjusted for Toronto prices9
, and multiplied by the
percentage difference of prices between average 400 and 800 sq ft apartments in Toronto (based on craigslist posting analysis, March 19, 2017)
8. Based on average 800 sq ft Vancouver laneway house rent adjusted for Toronto rents which average 11% more9
9. Toronto rents average 11% higher than Vancouver. Tencer, Daniel (2015). Toronto vs. Vancouver: Which one is more expensive?
Huffngton Post. August 15, 2015. http://www.huffngtonpost.ca/2015/08/15/toronto-vancouver-price-comparison_n_7989480.html
10. Based on an analysis of Toronto 1 bdrm condominiums rental prices in proximity of Ward 18, Craigslist, March 19, 2017.

references

Image Sources

Garage Apartment
Decorapatio. (2017). Modern Garage Apartment Design [Photograph]. Retrieved from https://decorapatio.com/2017/06/13/35-modern-garage-apartment-designs-ideas/modern-garage-apartment-designs-ideas-3/#main

Garden Suite/ Granny Suite
Sqftstudios. (2018). Custom ADU Services [Photograph]. Retrieved from https://www.sqftstudios.com/

Basement Apartment
Homesthetics. (2015). Old Basement to New Area Renovation [Photograph]. Retrieved from https://cdn.homesthetics.net/wp-content/uploads/2015/11/21-Interesting-And-Versatile-Ways-To-Transform-An-Old-Basement-Into-A-Stylish-Useful-Area-9.jpg

appendix b

physical feasibility assessment

Burlington: Appleby - Analysis of Space Available for Detached ADUs

Appleby - Sample 1

Zoning	Lot Width	Front Yard
R3.2	15	6

Total Lot Count	245
Average Remaining Rear Area (m.sq)*	137.41

ADU Sizes (m.sq)		
Minimum	75	
Maximum	110	

Breakdown of Lots		
Less than Minimum	19	7.76%
Between Minimum and Maximum	29	11.84%
Larger than Maximum	197	80.41%
Total	245	100%

Average Remaining Area with ADU (m.sq)	
With Minimum ADU	87.76
With Maximum ADU	52.76

Lots That Can fit Minimum ADU	226	92.24%
Lots that Can fit Maximum ADU	197	80.41%
Total Lots	245	100%

Remaining Area with Min ADU (m.sq)	**Count**	**Percent**
0 - 50	75	30.61%
50 - 100	106	43.27%
Greater than 100	64	26.12%
Total	245	100%

Average Coverage of ADU to Remaining Space	
Minimum	58%
Maximum	85%

Appleby - Sample 2

Zoning	Lot Width	Front Yard
R2.3	18	7.5

Total Lot Count	220
Average Remaining Rear Area (m.sq)*	238.02

ADU Sizes (m.sq)		
Minimum	75	
Maximum	110	

Breakdown of Lots		
Less than Minimum	1	0.45%
Between Minimum and Maximum	0	0.00%
Larger than Maximum	219	99.55%
Total	220	100%

Average Remaining Area with ADU (m.sq)	
With Minimum ADU	171.74
With Maximum ADU	136.74

Lots That Can fit Minimum ADU	219	99.55%
Lots that Can fit Maximum ADU	219	99.55%
Total Lots	220	100%

Remaining Area with Min ADU (m.sq)	**Count**	**Percent**
0 - 50	3	1.36%
50 - 100	7	3.18%
Greater than 100	210	95.45%
Total	220	100%

Average Coverage of ADU to Remaining Space	
Minimum	32%
Maximum	48%

Appleby - Sample 3

Zoning	Lot Width	Front Yard
R2.3	18	7.5

Total Lot Count	170
Average Remaining Rear Area (m.sq)*	196.09

ADU Sizes (m.sq)		
Minimum	75	
Maximum	110	

Breakdown of Lots		
Less than Minimum	7	4.12%
Between Minimum and Maximum	3	1.76%
Larger than Maximum	160	94.12%
Total	170	100%

Average Remaining Area with ADU (m.sq)	
With Minimum ADU	121.09
With Maximum ADU	86.09

Lots That Can fit Minimum ADU	163	95.88%
Lots that Can fit Maximum ADU	160	94.12%
Total Lots	170	100%

Remaining Area with Min ADU (m.sq)	**Count**	**Percent**
0 - 50	10	5.88%
50 - 100	61	35.88%
Greater than 100	99	58.24%
Total	170	100%

Average Coverage of ADU to Remaining Space	
Minimum	48%
Maximum	71%

*Full lot area minusing the building footprint and setback buffers

Burlington: LaSalles - Analysis of Space Available for Detached ADUs

LaSalles - Sample 1		
Zoning	Lot Width	Front Yard
R2.1	18	11
Total Lot Count	153	
Average Remaining Rear Area (m.sq)*	622.15	
ADU Sizes (m.sq)		
Minimum	75	
Maximum	110	
Breakdown of Lots		
Less than Minimum	1	0.77%
Between Minimum and Maximum	0	0.00%
Larger than Maximum	129	99.23%
Total	130	100%
Average Remaining Area with ADU (m.sq)		
With Minimum ADU	547.15	
With Maximum ADU	512.15	
Lots That Can fit Minimum ADU	129	99.23%
Lots that Can fit Maximum ADU	129	99.23%
Total Lots	130	100%
Remaining Area with Min ADU (m.sq)		
0 - 50	2	1.54%
50 - 100	8	6.15%
Greater than 100	120	92.31%
Total	130	100%
Average Coverage of ADU to Remaining Space		
Minimum	21%	
Maximum	31%	

LaSalles - Sample 2		
Zoning	Lot Width	Front Yard
R2.1	18	11
Total Lot Count	153	
Average Remaining Rear Area (m.sq)*	245.59	
ADU Sizes (m.sq)		
Minimum	75	
Maximum	110	
Breakdown of Lots		
Less than Minimum	4	2.61%
Between Minimum and Maximum	1	0.65%
Larger than Maximum	148	96.73%
Total	153	100%
Average Remaining Area with ADU (m.sq)		
With Minimum ADU	170.59	
With Maximum ADU	135.59	
Lots That Can fit Minimum ADU	149	97.39%
Lots that Can fit Maximum ADU	148	96.73%
Total Lots	153	100%
	Sample 2	
Remaining Area with Min ADU (m.sq)	**Count**	**Percent**
0 - 50	6	3.92%
50 - 100	31	20.26%
Greater than 100	116	75.82%
Total	153	100%
Average Coverage of ADU to Remaining Space		
Minimum	41%	
Maximum	61%	

LaSalles - Sample 3		
Zoning	Lot Width	Front Yard
R2.1	18	11
Total Lot Count	153	
Average Remaining Rear Area (m.sq)*	268.30	
ADU Sizes (m.sq)		
Minimum	75	
Maximum	110	
Breakdown of Lots		
Less than Minimum	6	3.35%
Between Minimum and Maximum	14	7.82%
Larger than Maximum	159	88.83%
Total	179	100%
Average Remaining Area with ADU (m.sq)		
With Minimum ADU	193.30	
With Maximum ADU	158.30	
Lots That Can fit Minimum ADU	173	96.65%
Lots that Can fit Maximum ADU	159	88.83%
Total Lots	179	100%
	Sample 3	
Remaining Area with Min ADU (m.sq)	**Count**	**Percent**
0 - 50	30	16.76%
50 - 100	34	18.99%
Greater than 100	115	64.25%
Total	179	100%
Average Coverage of ADU to Remaining Space		
Minimum	43%	
Maximum	63%	

*Full lot area minusing the building footprint and setback buffers
Note: Special Area due to green space in rear yard

FID	Area_Ft	Area_Meter	Front Yard Setback	Remaining Space	Remaing with Minimum ADU	Remaining with Maximum ADU	% Coverage of Min ADU to Remaining Space	% Coverage of Maz ADU to Remaining Space
11	1175.977166	109.2518537	90	19.25185368	-55.74814632	-90.74814632	390%	571%
134	1292.457949	120.0732725	90	30.07327252	-44.92672748	-79.92672748	249%	366%
45	1345.784337	125.0274561	90	35.0274561	-39.9725439	-74.9725439	214%	314%
148	1387.822236	128.9329047	90	38.93290473	-36.06709527	-71.06709527	193%	283%
15	1453.635455	135.0471529	90	45.04715286	-29.95284714	-64.95284714	166%	244%
200	1492.16285	138.6264649	90	48.62646491	-26.37353509	-61.37353509	154%	226%
107	1534.722627	142.5803976	90	52.58039762	-22.41960239	-57.41960239	143%	209%
57	1567.151235	145.5931139	90	55.59311387	-19.40688613	-54.40688613	135%	198%
183	1576.449416	146.4569432	90	56.45694315	-18.54305685	-53.54305685	133%	195%
166	1580.905706	146.870946	90	56.87094601	-18.129054	-53.129054	132%	193%
147	1616.744453	150.2004746	90	60.20047457	-14.79952543	-49.79952543	125%	183%
2	1626.106778	151.070263	90	61.07026301	-13.92973699	-48.92973699	123%	180%
31	1644.392594	152.7690709	90	62.76907091	-12.23092909	-47.23092909	119%	175%
138	1673.387617	155.4627967	90	65.4627967	-9.5372033	-44.5372033	115%	168%
177	1676.430512	155.7454909	90	65.7454909	-9.254509101	-44.2545091	114%	167%
106	1681.264835	156.1946142	90	66.1946142	-8.805385801	-43.8053858	113%	166%
122	1733.980595	161.0920686	90	71.09206861	-3.907931386	-38.90793139	105%	155%
139	1747.921652	162.3872352	90	72.38723518	-2.612764824	-37.61276482	104%	152%
194	1748.90493	162.4785847	90	72.47858467	-2.521415329	-37.52141533	103%	152%
7	1795.542159	166.811325	90	76.81132498	1.811324979	-33.18867502	98%	143%
159	1808.959098	168.0577994	90	78.05779945	3.057799449	-31.94220055	96%	141%
279	1885.490749	175.1678225	90	85.16782246	10.16782246	-24.83217754	88%	129%
77	1887.350278	175.3405784	90	85.34057841	10.34057841	-24.65942159	88%	129%
99	1902.802607	176.7761467	90	86.77614666	11.77614666	-23.22385334	86%	127%
82	1938.65307	180.1067637	90	90.10676373	15.10676373	-19.89323627	83%	122%
32	1955.65568	181.6863579	90	91.68635787	16.68635787	-18.31364213	82%	120%
272	1967.322723	182.7702616	90	92.77026158	17.77026158	-17.22973842	81%	119%
63	1978.526766	183.8111512	90	93.81115124	18.81115124	-16.18884876	80%	117%
265	1988.423236	184.7305634	90	94.7305634	19.7305634	-15.2694366	79%	116%
47	1997.280362	185.5534174	90	95.55341738	20.55341738	-14.44658262	78%	115%
132	2003.889264	186.1674044	90	96.16740445	21.16740445	-13.83259555	78%	114%
221	2033.825282	188.9485515	90	98.9485515	23.9485515	-11.0514485	76%	111%
257	2036.572483	189.2037748	90	99.20377485	24.20377485	-10.79622516	76%	111%
4	2042.899027	189.79153	90	99.79153004	24.79153004	-10.20846996	75%	110%
114	2055.612458	190.9726464	90	100.9726464	25.97264638	-9.02735362	74%	109%
24	2066.804109	192.0123848	90	102.0123848	27.01238478	-7.987615221	74%	108%
62	2070.271593	192.3345247	90	102.3345247	27.33452465	-7.665475349	73%	107%
44	2077.58217	193.0136994	90	103.0136994	28.01369943	-6.986300574	73%	107%
261	2084.086614	193.6179821	90	103.6179821	28.61798206	-6.382017943	72%	106%
276	2087.640919	193.9481878	90	103.9481878	28.94818778	-6.05181222	72%	106%
119	2090.916667	194.2525148	90	104.2525148	29.25251477	-5.747485227	72%	106%
251	2093.613375	194.5030471	90	104.5030471	29.5030471	-5.496952905	72%	105%
169	2094.494178	194.5848764	90	104.5848764	29.58487641	-5.415123589	72%	105%
270	2123.550483	197.2842955	90	107.2842955	32.28429546	-2.715704539	70%	103%
252	2125.623065	197.4768446	90	107.4768446	32.47684464	-2.523155359	70%	102%
197	2139.880995	198.8014497	90	108.8014497	33.8014497	-1.198550303	69%	101%
215	2141.000226	198.9054297	90	108.9054297	33.90542968	-1.094570325	69%	101%
204	2148.897892	199.6391468	90	109.6391468	34.63914685	-0.360853152	68%	100%
174	2157.905565	200.475987	90	110.475987	35.47598702	0.475987021	68%	100%
217	2161.199606	200.7820134	90	110.7820134	35.78201344	0.782013438	68%	99%
235	2161.366227	200.7974931	90	110.7974931	35.79749307	0.797493074	68%	99%
155	2166.134988	201.2405254	90	111.2405254	36.24052539	1.240525389	67%	99%
246	2178.53565	202.3925846	90	112.3925846	37.39258462	2.39258462	67%	98%
193	2184.49446	202.9461762	90	112.9461762	37.94617616	2.946176155	66%	97%
227	2185.171465	203.009072	90	113.009072	38.00907203	3.009072032	66%	97%
103	2190.638223	203.5169504	90	113.5169504	38.51695045	3.516950449	66%	97%

Appleby - Sample 1

Zoning	Lot Width	Front Yard
R3.2	15	6

Total Lot Count	245
Average Remaining Rear Area (m.sq)*	137.41

*Full lot area minusing the building footprint and setback buffers

ADU Sizes (m.sq)

Minimum	75
Maximum	110

Breakdown of Lots

Less than Minimum	19	7.76%
Between Minimum and Maximum	29	11.84%
Larger than Maximum	197	80.41%
Total	245	100%

Average Remaining Area with ADU (m.sq)

With Minimum ADU	87.76
With Maximum ADU	52.76

Lots That Can fit Minimum ADU	226	92.24%
Lots that Can fit Maximum ADU	197	80.41%
Total Lots	245	100%

Remaining Area with Min ADU (m.sq)

0 - 50	75	30.61%
50 - 100	106	43.27%
Greater than 100	64	26.12%
Total	245	100%

Average Coverage of ADU to Remaining Space

Minimum	58%
Maximum	85%

278	2190.688413	203.5216132	90	113.5216132	38.52161324	3.521613238	66%	97%
94	2193.547308	203.7872133	90	113.7872133	38.78721332	3.787213319	66%	97%
280	2203.176279	204.681774	90	114.681774	39.68177399	4.681773989	65%	96%
209	2214.121161	205.6985868	90	115.6985868	40.69858678	5.698586782	65%	95%
250	2216.115465	205.8838637	90	115.8838637	40.8838637	5.883863696	65%	95%
258	2238.937243	208.0040763	90	118.0040763	43.00407625	8.004076251	64%	93%
229	2241.707629	208.2614535	90	118.2614535	43.26145353	8.26145353	63%	93%
158	2255.590236	209.5511899	90	119.5511899	44.55118987	9.551189873	63%	92%
30	2259.420978	209.9070775	90	119.9070775	44.90707748	9.907077478	63%	92%
96	2260.044057	209.9649634	90	119.9649634	44.9649634	9.964963395	63%	92%
64	2261.655903	210.1147088	90	120.1147088	45.11470878	10.11470878	62%	92%
190	2269.645968	210.8570102	90	120.8570102	45.85701016	10.85701016	62%	91%
239	2281.327462	211.9422564	90	121.9422564	46.94225643	11.94225643	62%	90%
67	2284.35916	212.2239104	90	122.2239104	47.22391039	12.22391039	61%	90%
41	2290.319424	212.7776371	90	122.7776371	47.7776371	12.7776371	61%	90%
93	2297.971236	213.4885137	90	123.4885137	48.48851368	13.48851368	61%	89%
83	2305.906085	214.2256853	90	124.2256853	49.22568528	14.22568528	60%	89%
240	2311.407978	214.7368279	90	124.7368279	49.73682788	14.73682788	60%	88%
211	2314.137461	214.9904051	90	124.9904051	49.99040511	14.99040511	60%	88%
182	2321.578978	215.6817446	90	125.6817446	50.68174465	15.68174465	60%	88%
69	2325.669243	216.0617427	90	126.0617427	51.06174272	16.06174272	59%	87%
38	2334.016086	216.8371898	90	126.8371898	51.83718982	16.83718982	59%	87%
8	2339.515923	217.3481413	90	127.3481413	52.34814133	17.34814133	59%	86%
126	2365.636082	219.7747836	90	129.7747836	54.77478357	19.77478357	58%	85%
167	2367.868179	219.9821522	90	129.9821522	54.98215218	19.98215218	58%	85%
10	2370.729358	220.2479644	90	130.2479644	55.24796437	20.24796437	58%	84%
36	2381.050317	221.2068129	90	131.2068129	56.20681287	21.20681287	57%	84%
28	2386.425683	221.7062007	90	131.7062007	56.70620068	21.70620068	57%	84%
232	2402.138205	223.1659417	90	133.1659417	58.16594171	23.16594171	56%	83%
89	2408.428916	223.7503679	90	133.7503679	58.75036789	23.75036789	56%	82%
225	2416.718649	224.5205093	90	134.5205093	59.52050935	24.52050935	56%	82%
121	2420.437962	224.8660448	90	134.8660448	59.86604482	24.86604482	56%	82%
90	2424.376104	225.2319102	90	135.2319102	60.2319102	25.2319102	55%	81%
56	2429.502955	225.7082102	90	135.7082102	60.70821023	25.70821023	55%	81%
117	2431.434701	225.8876753	90	135.8876753	60.88767532	25.88767532	55%	81%
228	2437.795085	226.4785743	90	136.4785743	61.47857427	26.47857427	55%	81%
237	2440.949559	226.7716345	90	136.7716345	61.77163449	26.77163449	55%	80%
129	2441.926535	226.8623985	90	136.8623985	61.86239853	26.86239853	55%	80%
230	2442.244978	226.8919829	90	136.8919829	61.89198292	26.89198292	55%	80%
206	2451.855536	227.784833	90	137.784833	62.78483297	27.78483297	54%	80%
19	2462.461977	228.7702035	90	138.7702035	63.77020354	28.77020354	54%	79%
213	2464.581354	228.9671001	90	138.9671001	63.96710009	28.96710009	54%	79%
58	2486.48669	231.0021724	90	141.0021724	66.00217244	31.00217244	53%	78%
201	2489.921581	231.3212842	90	141.3212842	66.32128423	31.32128423	53%	78%
16	2490.369586	231.3629053	90	141.3629053	66.36290525	31.36290525	53%	78%
242	2491.232986	231.4431177	90	141.4431177	66.44311774	31.44311774	53%	78%
61	2494.895941	231.7834174	90	141.7834174	66.78341741	31.78341741	53%	78%
173	2495.05938	231.7986014	90	141.7986014	66.79860135	31.79860135	53%	78%
116	2495.485427	231.8381824	90	141.8381824	66.83818242	31.83818242	53%	78%
226	2504.97618	232.7199023	90	142.7199023	67.71990228	32.71990228	53%	77%
17	2510.702579	233.2519021	90	143.2519021	68.2519021	33.2519021	52%	77%
223	2523.670345	234.456647	90	144.456647	69.45664704	34.45664704	52%	76%
208	2529.89777	235.0351938	90	145.0351938	70.03519376	35.03519376	52%	76%
220	2533.8372	235.4011787	90	145.4011787	70.40117875	35.40117875	52%	76%
74	2541.306964	236.0951426	90	146.0951426	71.09514256	36.09514256	51%	75%
196	2541.445564	236.1080189	90	146.1080189	71.10801894	36.10801894	51%	75%
20	2543.308176	236.2810612	90	146.2810612	71.28106123	36.28106123	51%	75%
108	2543.89847	236.3359013	90	146.3359013	71.33590131	36.33590131	51%	75%
97	2545.65044	236.4986647	90	146.4986647	71.49866465	36.49866465	51%	75%
205	2555.41046	237.4054002	90	147.4054002	72.40540021	37.40540021	51%	75%

102	2557.15525	237.5674965	90	147.5674965	72.56749648	37.56749648	51%	75%
191	2559.738075	237.8074488	90	147.8074488	72.80744878	37.80744878	51%	74%
85	2562.301902	238.045636	90	148.045636	73.04563605	38.04563605	51%	74%
109	2564.051946	238.2082205	90	148.2082205	73.20822046	38.20822046	51%	74%
236	2564.634684	238.2623587	90	148.2623587	73.26235866	38.26235866	51%	74%
222	2570.785906	238.8338258	90	148.8338258	73.83382583	38.83382583	50%	74%
185	2573.226506	239.0605651	90	149.0605651	74.06056505	39.06056505	50%	74%
143	2580.729674	239.7576321	90	149.7576321	74.75763212	39.75763212	50%	73%
210	2586.329792	240.2779001	90	150.2779001	75.2779001	40.2779001	50%	73%
260	2596.882205	241.2582513	90	151.2582513	76.25825133	41.25825133	50%	73%
100	2596.923043	241.2620454	90	151.2620454	76.26204538	41.26204538	50%	73%
49	2606.144657	242.1187614	90	152.1187614	77.11876136	42.11876136	49%	72%
253	2613.274259	242.781123	90	152.781123	77.78112303	42.78112303	49%	72%
88	2618.836728	243.2978933	90	153.2978933	78.29789329	43.29789329	49%	72%
164	2619.842663	243.3913477	90	153.3913477	78.39134768	43.39134768	49%	72%
21	2627.149972	244.070219	90	154.070219	79.07021898	44.07021898	49%	71%
142	2627.548119	244.107208	90	154.107208	79.10720802	44.10720802	49%	71%
202	2631.654206	244.488676	90	154.488676	79.48867597	44.48867597	49%	71%
104	2631.706489	244.4935332	90	154.4935332	79.49353325	44.49353325	49%	71%
110	2632.536994	244.5706896	90	154.5706896	79.57068962	44.57068962	49%	71%
249	2638.485087	245.1232856	90	155.1232856	80.12328556	45.12328556	48%	71%
111	2642.20467	245.4688462	90	155.4688462	80.46884617	45.46884617	48%	71%
120	2645.670317	245.7908153	90	155.7908153	80.79081528	45.79081528	48%	71%
192	2645.903402	245.8124696	90	155.8124696	80.8124696	45.8124696	48%	71%
130	2648.993341	246.0995343	90	156.0995343	81.09953432	46.09953432	48%	70%
266	2655.082618	246.6652467	90	156.6652467	81.66524668	46.66524668	48%	70%
13	2655.382613	246.6931171	90	156.6931171	81.69311713	46.69311713	48%	70%
42	2656.957289	246.8394093	90	156.8394093	81.83940932	46.83940932	48%	70%
245	2657.479563	246.8879301	90	156.8879301	81.88793012	46.88793012	48%	70%
141	2659.537104	247.079082	90	157.079082	82.07908198	47.07908198	48%	70%
244	2660.559214	247.1740391	90	157.1740391	82.17403906	47.17403906	48%	70%
271	2660.812458	247.1975662	90	157.1975662	82.19756618	47.19756618	48%	70%
76	2663.606806	247.4571697	90	157.4571697	82.45716967	47.45716967	48%	70%
27	2670.158063	248.0658013	90	158.0658013	83.06580133	48.06580133	47%	70%
187	2670.616842	248.1084233	90	158.1084233	83.10842328	48.10842328	47%	70%
52	2674.869355	248.5034947	90	158.5034947	83.50349465	48.50349465	47%	69%
5	2675.183452	248.5326753	90	158.5326753	83.53267526	48.53267526	47%	69%
14	2682.083391	249.1737006	90	159.1737006	84.17370058	49.17370058	47%	69%
53	2685.413614	249.4830884	90	159.4830884	84.48308838	49.48308838	47%	69%
219	2685.708301	249.5104657	90	159.5104657	84.51046569	49.51046569	47%	69%
178	2689.006063	249.8168378	90	159.8168378	84.81683783	49.81683783	47%	69%
35	2694.813675	250.3563827	90	160.3563827	85.35638267	50.35638267	47%	69%
179	2702.808618	251.0991371	90	161.0991371	86.09913712	51.09913712	47%	68%
275	2711.876326	251.9415548	90	161.9415548	86.94155481	51.94155481	46%	68%
23	2736.608171	254.2392184	90	164.2392184	89.23921835	54.23921835	46%	67%
34	2739.110941	254.4717333	90	164.4717333	89.4717333	54.4717333	46%	67%
46	2740.133493	254.5667315	90	164.5667315	89.56673155	54.56673155	46%	67%
238	2744.939665	255.0132395	90	165.0132395	90.01323954	55.01323954	45%	67%
234	2747.459754	255.2473634	90	165.2473634	90.24736339	55.24736339	45%	67%
233	2749.957265	255.4793898	90	165.4793898	90.47938979	55.47938979	45%	66%
33	2750.013018	255.4845695	90	165.4845695	90.48456946	55.48456946	45%	66%
247	2752.313735	255.698313	90	165.698313	90.69831299	55.69831299	45%	66%
218	2753.953	255.8506057	90	165.8506057	90.85060572	55.85060572	45%	66%
150	2754.005174	255.8554528	90	165.8554528	90.85545283	55.85545283	45%	66%
43	2755.129777	255.9599319	90	165.9599319	90.95993189	55.95993189	45%	66%
189	2758.639877	256.2860308	90	166.2860308	91.28603081	56.28603081	45%	66%
216	2759.715423	256.3859523	90	166.3859523	91.38595235	56.38595235	45%	66%
277	2762.601257	256.6540551	90	166.6540551	91.65405512	56.65405512	45%	66%
198	2774.269819	257.7380999	90	167.7380999	92.73809993	57.73809993	45%	66%
91	2782.831451	258.5335016	90	168.5335016	93.5335016	58.5335016	45%	65%

60	2788.983353	259.105032	90	169.105032	94.10503199	59.10503199	44%	65%
195	2790.804139	259.2741886	90	169.2741886	94.27418859	59.27418859	44%	65%
50	2797.281106	259.8759185	90	169.8759185	94.87591846	59.87591846	44%	65%
137	2802.944698	260.4020834	90	170.4020834	95.40208336	60.40208336	44%	65%
98	2803.00938	260.4080926	90	170.4080926	95.40809257	60.40809257	44%	65%
78	2857.88341	265.5060567	90	175.5060567	100.5060567	65.50605674	43%	63%
101	2879.637124	267.5270429	90	177.5270429	102.5270429	67.52704289	42%	62%
231	2881.021189	267.6556268	90	177.6556268	102.6556268	67.65562678	42%	62%
269	2884.355741	267.9654168	90	177.9654168	102.9654168	67.96541681	42%	62%
214	2901.608746	269.5682734	90	179.5682734	104.5682734	69.56827341	42%	61%
127	2920.276382	271.3025536	90	181.3025536	106.3025536	71.30255357	41%	61%
70	2954.430005	274.4755289	90	184.4755289	109.4755289	74.47552891	41%	60%
224	2964.613382	275.4215956	90	185.4215956	110.4215956	75.42159558	40%	59%
243	2988.990429	277.6862974	90	187.6862974	112.6862974	77.68629741	40%	59%
175	2991.109965	277.8832087	90	187.8832087	112.8832087	77.88320869	40%	59%
133	2994.884776	278.2339002	90	188.2339002	113.2339002	78.23390016	40%	58%
207	3000.415332	278.7477056	90	188.7477056	113.7477056	78.74770564	40%	58%
156	3004.61532	279.1378973	90	189.1378973	114.1378973	79.13789727	40%	58%
160	3021.130865	280.6722416	90	190.6722416	115.6722416	80.67224159	39%	58%
152	3136.434619	291.3843109	90	201.3843109	126.3843109	91.38431087	37%	55%
273	3147.058099	292.3712645	90	202.3712645	127.3712645	92.37126447	37%	54%
171	3156.002759	293.2022505	90	203.2022505	128.2022505	93.20225051	37%	54%
113	3157.833858	293.3723653	90	203.3723653	128.3723653	93.37236525	37%	54%
268	3199.835061	297.2744047	90	207.2744047	132.2744047	97.27440469	36%	53%
186	3213.018306	298.4991682	90	208.4991682	133.4991682	98.49916819	36%	53%
255	3215.456534	298.725687	90	208.725687	133.725687	98.725687	36%	53%
65	3223.855561	299.5059821	90	209.5059821	134.5059821	99.50598213	36%	53%
87	3283.082475	305.0083425	90	215.0083425	140.0083425	105.0083425	35%	51%
59	3283.920889	305.0862337	90	215.0862337	140.0862337	105.0862337	35%	51%
199	3300.991153	306.6721131	90	216.6721131	141.6721131	106.6721131	35%	51%
123	3319.735365	308.4135074	90	218.4135074	143.4135074	108.4135074	34%	50%
212	3365.660722	312.6801126	90	222.6801126	147.6801126	112.6801126	34%	49%
259	3366.224786	312.732516	90	222.732516	147.732516	112.732516	34%	49%
135	3413.361183	317.1116305	90	227.1116305	152.1116305	117.1116305	33%	48%
274	3414.907654	317.2553024	90	227.2553024	152.2553024	117.2553024	33%	48%
181	3461.660894	321.5988205	90	231.5988205	156.5988205	121.5988205	32%	47%
153	3470.871875	322.4545486	90	232.4545486	157.4545486	122.4545486	32%	47%
281	3473.040003	322.6559743	90	232.6559743	157.6559743	122.6559743	32%	47%
84	3489.199097	324.1572032	90	234.1572032	159.1572032	124.1572032	32%	47%
55	3492.005799	324.4179545	90	234.4179545	159.4179545	124.4179545	32%	47%
1	3555.763133	330.3412046	90	240.3412046	165.3412046	130.3412046	31%	46%
144	3556.046255	330.3675075	90	240.3675075	165.3675075	130.3675075	31%	46%
18	3573.304518	331.9708526	90	241.9708526	166.9708526	131.9708526	31%	45%
92	3600.376137	334.4858883	90	244.4858883	169.4858883	134.4858883	31%	45%
165	3675.758171	341.4891084	90	251.4891084	176.4891084	141.4891084	30%	44%
163	3704.668567	344.1749721	90	254.1749721	179.1749721	144.1749721	30%	43%
51	3717.885948	345.402907	90	255.402907	180.402907	145.402907	29%	43%
254	3770.69794	350.3093016	90	260.3093016	185.3093016	150.3093016	29%	42%
73	3801.271585	353.1496861	90	263.1496861	188.1496861	153.1496861	29%	42%
3	3946.515064	366.6432469	90	276.6432469	201.6432469	166.6432469	27%	40%
256	3976.395182	369.4192007	90	279.4192007	204.4192007	169.4192007	27%	39%
161	3996.553234	371.2919449	90	281.2919449	206.2919449	171.2919449	27%	39%
180	4063.732737	377.533125	90	287.533125	212.533125	177.533125	26%	38%
40	4073.89319	378.477062	90	288.477062	213.477062	178.477062	26%	38%
80	4082.830579	379.3073726	90	289.3073726	214.3073726	179.3073726	26%	38%
145	4107.715684	381.6192745	90	291.6192745	216.6192745	181.6192745	26%	38%
79	4152.969216	385.8234652	90	295.8234652	220.8234652	185.8234652	25%	37%
71	4193.564019	389.5948458	90	299.5948458	224.5948458	189.5948458	25%	37%
262	4235.315248	393.4736619	90	303.4736619	228.4736619	193.4736619	25%	36%
263	4247.492672	394.6049816	90	304.6049816	229.6049816	194.6049816	25%	36%

86	4459.779455	414.3270691	90	324.3270691	249.3270691	214.3270691	23%	34%
176	4658.49968	432.7887821	90	342.7887821	267.7887821	232.7887821	22%	32%
12	4662.645915	433.17398	90	343.17398	268.17398	233.17398	22%	32%
128	5005.607021	465.0361093	90	375.0361093	300.0361093	265.0361093	20%	29%
241	5123.95461	476.0309601	90	386.0309601	311.0309601	276.0309601	19%	28%
66	6448.015495	599.0402415	90	509.0402415	434.0402415	399.0402415	15%	22%
149	6631.489511	616.0855353	90	526.0855353	451.0855353	416.0855353	14%	21%
75	7766.148589	721.498813	90	631.498813	556.498813	521.498813	12%	17%
248	9904.094627	920.1204993	90	830.1204993	755.1204993	720.1204993	9%	13%

FID	Area_Ft	Area_Meter	Front Yard Setback	Remaining Space	Remaing with Minimum ADU	Remaining with Maximum ADU	% Coverage of Min ADU to Remaining Space	% Coverage of Maz ADU to Remaining Space
138	1938.68237	180.1094855	135	45.1094855	-29.8905145	-64.8905145	166%	244%
122	2656.34624	246.7826411	135	111.7826411	36.78264112	1.782641123	67%	98%
226	2675.9706	248.6058033	135	113.6058033	38.60580327	3.605803265	66%	97%
148	2884.99411	268.0247229	135	133.0247229	58.02472288	23.02472288	56%	83%
140	2899.33091	269.3566552	135	134.3566552	59.35665517	24.35665517	56%	82%
173	3019.86332	280.5544827	135	145.5544827	70.55448274	35.55448274	52%	76%
54	3276.86982	304.431168	135	169.431168	94.43116804	59.43116804	44%	65%
90	3311.41164	307.6402078	135	172.6402078	97.64020783	62.64020783	43%	64%
22	3314.25886	307.9047232	135	172.9047232	97.90472322	62.90472322	43%	64%
103	3324.73552	308.8780374	135	173.8780374	98.87803745	63.87803745	43%	63%
168	3337.02483	310.0197511	135	175.0197511	100.0197511	65.01975105	43%	63%
136	3347.41442	310.984976	135	175.984976	100.984976	65.98497599	43%	63%
13	3363.37612	312.4678659	135	177.4678659	102.4678659	67.46786591	42%	62%
191	3395.97319	315.4962333	135	180.4962333	105.4962333	70.49623335	42%	61%
170	3433.94291	319.023736	135	184.023736	109.023736	74.02373597	41%	60%
162	3437.48909	319.3531868	135	184.3531868	109.3531868	74.35318679	41%	60%
194	3448.01812	320.3313653	135	185.3313653	110.3313653	75.33136532	40%	59%
40	3457.06722	321.1720538	135	186.1720538	111.1720538	76.17205383	40%	59%
104	3464.55981	321.8681382	135	186.8681382	111.8681382	76.86813821	40%	59%
202	3467.7465	322.1641921	135	187.1641921	112.1641921	77.16419213	40%	59%
89	3477.87391	323.1050587	135	188.1050587	113.1050587	78.10505866	40%	58%
85	3516.62023	326.7047098	135	191.7047098	116.7047098	81.70470976	39%	57%
81	3523.89804	327.3808406	135	192.3808406	117.3808406	82.38084055	39%	57%
169	3542.81732	329.1384989	135	194.1384989	119.1384989	84.13849895	39%	57%
214	3554.63166	330.2360877	135	195.2360877	120.2360877	85.23608772	38%	56%
144	3559.74173	330.7108281	135	195.7108281	120.7108281	85.71082811	38%	56%
92	3575.05023	332.1330343	135	197.1330343	122.1330343	87.13303434	38%	56%
45	3588.87828	333.4177024	135	198.4177024	123.4177024	88.41770243	38%	55%
8	3602.85469	334.716153	135	199.716153	124.716153	89.71615296	38%	55%
142	3619.72802	336.2837375	135	201.2837375	126.2837375	91.28373747	37%	55%
66	3624.85514	336.7600619	135	201.7600619	126.7600619	91.76006187	37%	55%
84	3632.35274	337.4566115	135	202.4566115	127.4566115	92.45661147	37%	54%
87	3633.66968	337.5789599	135	202.5789599	127.5789599	92.57895989	37%	54%
180	3644.76134	338.6094088	135	203.6094088	128.6094088	93.60940876	37%	54%
60	3646.78152	338.797089	135	203.797089	128.797089	93.79708901	37%	54%
100	3649.3062	339.0316396	135	204.0316396	129.0316396	94.03163961	37%	54%
134	3651.83373	339.2664549	135	204.2664549	129.2664549	94.26645494	37%	54%
196	3658.58614	339.8937746	135	204.8937746	129.8937746	94.89377461	37%	54%
75	3660.57114	340.0781869	135	205.0781869	130.0781869	95.07818688	37%	54%
132	3674.47166	341.369588	135	206.369588	131.369588	96.36958797	36%	53%
102	3684.78236	342.3274825	135	207.3274825	132.3274825	97.32748254	36%	53%
65	3684.89121	342.3375957	135	207.3375957	132.3375957	97.33759573	36%	53%
98	3685.82295	342.4241567	135	207.4241567	132.4241567	97.42415671	36%	53%
48	3690.18151	342.8290802	135	207.8290802	132.8290802	97.82908019	36%	53%
117	3690.60917	342.868811	135	207.868811	132.868811	97.86881098	36%	53%
198	3706.25752	344.3225904	135	209.3225904	134.3225904	99.32259042	36%	53%
183	3716.01921	345.2294815	135	210.2294815	135.2294815	100.2294815	36%	52%
166	3722.05614	345.7903301	135	210.7903301	135.7903301	100.7903301	36%	52%
97	3723.11928	345.8890997	135	210.8890997	135.8890997	100.8890997	36%	52%
193	3724.39868	346.0079598	135	211.0079598	136.0079598	101.0079598	36%	52%
68	3725.00388	346.0641842	135	211.0641842	136.0641842	101.0641842	36%	52%
37	3730.73234	346.5963759	135	211.5963759	136.5963759	101.5963759	35%	52%
179	3734.73949	346.9686523	135	211.9686523	136.9686523	101.9686523	35%	52%
204	3735.11298	347.0033505	135	212.0033505	137.0033505	102.0033505	35%	52%
145	3746.91986	348.1002453	135	213.1002453	138.1002453	103.1002453	35%	52%
79	3754.2785	348.7838852	135	213.7838852	138.7838852	103.7838852	35%	51%
185	3754.80016	348.8323493	135	213.8323493	138.8323493	103.8323493	35%	51%
135	3755.71762	348.9175846	135	213.9175846	138.9175846	103.9175846	35%	51%

Appleby - Sample 2

Zoning	Lot Width	Front Yard
R2.3	18	7.5

Total Lot Count	220
Average Remaining Rear Area (m.sq)*	238.01848

*Full lot area minusing the building footprint and setback buffers

ADU Sizes (m.sq)

Minimum	75
Maximum	110

Breakdown of Lots

Less than Minimum	1	0.45%
Between Minimum and Maximum	0	0.00%
Larger than Maximum	219	99.55%
Total	220	100%

Average Remaining Area with ADU (m.sq)

With Minimum ADU	171.74
With Maximum ADU	136.74

Lots That Can fit Minimum ADU	219	99.55%
Lots that Can fit Maximum ADU	219	99.55%
Total Lots	220	100%

Remaining Area with Min ADU (m.sq)

0 - 50	3	1.36%
50 - 100	7	3.18%
Greater than 100	210	95.45%
Total	220	100%

Average Coverage of ADU to Remaining Space

Minimum	32%
Maximum	48%

112	3762.50049	349.5477334	135	214.5477334	139.5477334	104.5477334	35%	51%
94	3771.77511	350.4093736	135	215.4093736	140.4093736	105.4093736	35%	51%
4	3772.36942	350.4645875	135	215.4645875	140.4645875	105.4645875	35%	51%
21	3784.41971	351.5840953	135	216.5840953	141.5840953	106.5840953	35%	51%
44	3785.16188	351.6530459	135	216.6530459	141.6530459	106.6530459	35%	51%
150	3787.57797	351.8775079	135	216.8775079	141.8775079	106.8775079	35%	51%
199	3795.17137	352.5829579	135	217.5829579	142.5829579	107.5829579	34%	51%
155	3834.93577	356.277191	135	221.277191	146.277191	111.277191	34%	50%
181	3842.97374	357.0239431	135	222.0239431	147.0239431	112.0239431	34%	50%
99	3846.58087	357.3590564	135	222.3590564	147.3590564	112.3590564	34%	49%
163	3850.04562	357.6809425	135	222.6809425	147.6809425	112.6809425	34%	49%
59	3853.80891	358.0305635	135	223.0305635	148.0305635	113.0305635	34%	49%
41	3856.13194	358.2463799	135	223.2463799	148.2463799	113.2463799	34%	49%
47	3859.96913	358.602866	135	223.602866	148.602866	113.602866	34%	49%
189	3860.6043	358.6618755	135	223.6618755	148.6618755	113.6618755	34%	49%
153	3869.41705	359.4806069	135	224.4806069	149.4806069	114.4806069	33%	49%
143	3869.55391	359.4933218	135	224.4933218	149.4933218	114.4933218	33%	49%
187	3870.00579	359.535303	135	224.535303	149.535303	114.535303	33%	49%
56	3874.41258	359.944707	135	224.944707	149.944707	114.944707	33%	49%
74	3892.03762	361.5821268	135	226.5821268	151.5821268	116.5821268	33%	49%
9	3893.90124	361.7552628	135	226.7552628	151.7552628	116.7552628	33%	49%
216	3894.42893	361.8042869	135	226.8042869	151.8042869	116.8042869	33%	48%
10	3895.14039	361.8703831	135	226.8703831	151.8703831	116.8703831	33%	48%
195	3898.78427	362.2089112	135	227.2089112	152.2089112	117.2089112	33%	48%
215	3899.38265	362.2645021	135	227.2645021	152.2645021	117.2645021	33%	48%
126	3924.42694	364.591193	135	229.591193	154.591193	119.591193	33%	48%
188	3926.92308	364.8230916	135	229.8230916	154.8230916	119.8230916	33%	48%
124	3930.30702	365.1374701	135	230.1374701	155.1374701	120.1374701	33%	48%
172	3937.83613	365.8369471	135	230.8369471	155.8369471	120.8369471	32%	48%
159	3950.6551	367.0278689	135	232.0278689	157.0278689	122.0278689	32%	47%
63	3950.67978	367.0301613	135	232.0301613	157.0301613	122.0301613	32%	47%
205	3951.13182	367.0721573	135	232.0721573	157.0721573	122.0721573	32%	47%
23	3952.39066	367.1891074	135	232.1891074	157.1891074	122.1891074	32%	47%
25	3954.19196	367.356454	135	232.356454	157.356454	122.356454	32%	47%
115	3959.13863	367.8160145	135	232.8160145	157.8160145	122.8160145	32%	47%
119	3961.42483	368.0284099	135	233.0284099	158.0284099	123.0284099	32%	47%
72	3962.27683	368.107563	135	233.107563	158.107563	123.107563	32%	47%
109	3965.89657	368.4438479	135	233.4438479	158.4438479	123.4438479	32%	47%
71	3983.37053	370.0672321	135	235.0672321	160.0672321	125.0672321	32%	47%
88	4009.26047	372.4724863	135	237.4724863	162.4724863	127.4724863	32%	46%
33	4016.01328	373.0998422	135	238.0998422	163.0998422	128.0998422	31%	46%
131	4018.22166	373.3050075	135	238.3050075	163.3050075	128.3050075	31%	46%
55	4020.49785	373.5164728	135	238.5164728	163.5164728	128.5164728	31%	46%
139	4022.95194	373.7444649	135	238.7444649	163.7444649	128.7444649	31%	46%
177	4023.96849	373.838906	135	238.838906	163.838906	128.838906	31%	46%
69	4026.12599	374.039344	135	239.039344	164.039344	129.039344	31%	46%
147	4029.61281	374.3632798	135	239.3632798	164.3632798	129.3632798	31%	46%
125	4039.38939	375.2715544	135	240.2715544	165.2715544	130.2715544	31%	46%
165	4051.62926	376.4086751	135	241.4086751	166.4086751	131.4086751	31%	46%
123	4052.21196	376.4628102	135	241.4628102	166.4628102	131.4628102	31%	46%
107	4057.97613	376.998319	135	241.998319	166.998319	131.998319	31%	45%
80	4058.91287	377.0853445	135	242.0853445	167.0853445	132.0853445	31%	45%
116	4059.67652	377.15629	135	242.15629	167.15629	132.15629	31%	45%
11	4064.48574	377.603081	135	242.603081	167.603081	132.603081	31%	45%
207	4071.15622	378.2227888	135	243.2227888	168.2227888	133.2227888	31%	45%
51	4080.17994	379.0611202	135	244.0611202	169.0611202	134.0611202	31%	45%
70	4083.4187	379.3620108	135	244.3620108	169.3620108	134.3620108	31%	45%
82	4087.01098	379.6957445	135	244.6957445	169.6957445	134.6957445	31%	45%
111	4088.55102	379.8388193	135	244.8388193	169.8388193	134.8388193	31%	45%
192	4090.09298	379.9820719	135	244.9820719	169.9820719	134.9820719	31%	45%
149	4090.14876	379.9872535	135	244.9872535	169.9872535	134.9872535	31%	45%

26	4093.99155	380.3442603	135	245.3442603	170.3442603	135.3442603	31%	45%
34	4094.67568	380.4078185	135	245.4078185	170.4078185	135.4078185	31%	45%
42	4097.67094	380.6860872	135	245.6860872	170.6860872	135.6860872	31%	45%
186	4098.47886	380.7611456	135	245.7611456	170.7611456	135.7611456	31%	45%
210	4099.14382	380.8229219	135	245.8229219	170.8229219	135.8229219	31%	45%
182	4101.30619	381.0238127	135	246.0238127	171.0238127	136.0238127	30%	45%
101	4102.58256	381.1423913	135	246.1423913	171.1423913	136.1423913	30%	45%
212	4107.81454	381.6284584	135	246.6284584	171.6284584	136.6284584	30%	45%
50	4107.94541	381.6406172	135	246.6406172	171.6406172	136.6406172	30%	45%
208	4117.99647	382.5743906	135	247.5743906	172.5743906	137.5743906	30%	44%
176	4118.88605	382.6570351	135	247.6570351	172.6570351	137.6570351	30%	44%
113	4125.18589	383.2423101	135	248.2423101	173.2423101	138.2423101	30%	44%
57	4132.28402	383.9017478	135	248.9017478	173.9017478	138.9017478	30%	44%
225	4138.06829	384.4391237	135	249.4391237	174.4391237	139.4391237	30%	44%
78	4138.12556	384.4444446	135	249.4444446	174.4444446	139.4444446	30%	44%
93	4138.86823	384.5134409	135	249.5134409	174.5134409	139.5134409	30%	44%
73	4144.23289	385.0118339	135	250.0118339	175.0118339	140.0118339	30%	44%
174	4144.672	385.0526291	135	250.0526291	175.0526291	140.0526291	30%	44%
146	4149.27972	385.4806994	135	250.4806994	175.4806994	140.4806994	30%	44%
156	4149.34058	385.4863543	135	250.4863543	175.4863543	140.4863543	30%	44%
209	4149.44083	385.4956674	135	250.4956674	175.4956674	140.4956674	30%	44%
77	4161.4817	386.6143005	135	251.6143005	176.6143005	141.6143005	30%	44%
36	4162.60082	386.7182706	135	251.7182706	176.7182706	141.7182706	30%	44%
120	4170.56075	387.4577718	135	252.4577718	177.4577718	142.4577718	30%	44%
130	4171.40761	387.5364481	135	252.5364481	177.5364481	142.5364481	30%	44%
171	4177.1077	388.0660038	135	253.0660038	178.0660038	143.0660038	30%	43%
154	4180.26122	388.3589752	135	253.3589752	178.3589752	143.3589752	30%	43%
184	4181.34351	388.4595235	135	253.4595235	178.4595235	143.4595235	30%	43%
19	4193.9164	389.6275828	135	254.6275828	179.6275828	144.6275828	29%	43%
190	4199.86364	390.1800998	135	255.1800998	180.1800998	145.1800998	29%	43%
106	4200.35675	390.2259113	135	255.2259113	180.2259113	145.2259113	29%	43%
46	4201.49273	390.331447	135	255.331447	180.331447	145.331447	29%	43%
76	4205.17108	390.6731773	135	255.6731773	180.6731773	145.6731773	29%	43%
67	4205.69358	390.7217187	135	255.7217187	180.7217187	145.7217187	29%	43%
157	4208.72306	391.0031672	135	256.0031672	181.0031672	146.0031672	29%	43%
91	4210.96338	391.2112997	135	256.2112997	181.2112997	146.2112997	29%	43%
211	4213.68817	391.4644402	135	256.4644402	181.4644402	146.4644402	29%	43%
86	4228.06678	392.8002571	135	257.8002571	182.8002571	147.8002571	29%	43%
108	4229.78728	392.960097	135	257.960097	182.960097	147.960097	29%	43%
175	4231.36478	393.1066517	135	258.1066517	183.1066517	148.1066517	29%	43%
62	4231.40336	393.1102353	135	258.1102353	183.1102353	148.1102353	29%	43%
2	4234.87412	393.4326795	135	258.4326795	183.4326795	148.4326795	29%	43%
110	4238.96229	393.8124828	135	258.8124828	183.8124828	148.8124828	29%	43%
3	4241.38418	394.0374846	135	259.0374846	184.0374846	149.0374846	29%	42%
14	4246.96056	394.5555465	135	259.5555465	184.5555465	149.5555465	29%	42%
83	4247.27916	394.5851455	135	259.5851455	184.5851455	149.5851455	29%	42%
129	4250.54537	394.8885865	135	259.8885865	184.8885865	149.8885865	29%	42%
96	4258.2438	395.6037938	135	260.6037938	185.6037938	150.6037938	29%	42%
64	4260.84185	395.8451604	135	260.8451604	185.8451604	150.8451604	29%	42%
35	4261.51222	395.9074406	135	260.9074406	185.9074406	150.9074406	29%	42%
219	4275.85171	397.2396224	135	262.2396224	187.2396224	152.2396224	29%	42%
200	4276.80203	397.3279102	135	262.3279102	187.3279102	152.3279102	29%	42%
160	4277.62434	397.404305	135	262.404305	187.404305	152.404305	29%	42%
7	4280.62542	397.6831149	135	262.6831149	187.6831149	152.6831149	29%	42%
5	4286.80287	398.2570189	135	263.2570189	188.2570189	153.2570189	28%	42%
31	4299.35414	399.4230699	135	264.4230699	189.4230699	154.4230699	28%	42%
6	4301.48029	399.6205951	135	264.6205951	189.6205951	154.6205951	28%	42%
222	4304.72732	399.9222543	135	264.9222543	189.9222543	154.9222543	28%	42%
158	4305.25732	399.9714932	135	264.9714932	189.9714932	154.9714932	28%	42%
29	4308.94238	400.3138461	135	265.3138461	190.3138461	155.3138461	28%	41%
206	4316.97106	401.0597346	135	266.0597346	191.0597346	156.0597346	28%	41%

27	4347.46214	403.8924492	135	268.8924492	193.8924492	158.8924492	28%	41%
58	4357.78544	404.8515153	135	269.8515153	194.8515153	159.8515153	28%	41%
201	4411.10002	409.8046012	135	274.8046012	199.8046012	164.8046012	27%	40%
167	4414.14647	410.0876257	135	275.0876257	200.0876257	165.0876257	27%	40%
218	4445.45158	412.9959655	135	277.9959655	202.9959655	167.9959655	27%	40%
18	4464.56903	414.7720352	135	279.7720352	204.7720352	169.7720352	27%	39%
152	4470.55927	415.3285464	135	280.3285464	205.3285464	170.3285464	27%	39%
61	4499.47283	418.0147046	135	283.0147046	208.0147046	173.0147046	27%	39%
1	4531.46079	420.9864828	135	285.9864828	210.9864828	175.9864828	26%	38%
16	4573.02885	424.8482819	135	289.8482819	214.8482819	179.8482819	26%	38%
221	4624.87537	429.6649816	135	294.6649816	219.6649816	184.6649816	25%	37%
121	4629.94548	430.1360102	135	295.1360102	220.1360102	185.1360102	25%	37%
203	4676.09368	434.4233178	135	299.4233178	224.4233178	189.4233178	25%	37%
220	4684.99747	435.2505074	135	300.2505074	225.2505074	190.2505074	25%	37%
0	4704.3118	437.0448672	135	302.0448672	227.0448672	192.0448672	25%	36%
224	4721.8943	438.6783348	135	303.6783348	228.6783348	193.6783348	25%	36%
217	4729.16902	439.3541785	135	304.3541785	229.3541785	194.3541785	25%	36%
133	4733.39797	439.7470608	135	304.7470608	229.7470608	194.7470608	25%	36%
15	4807.64913	446.6452191	135	311.6452191	236.6452191	201.6452191	24%	35%
213	4828.85867	448.6156499	135	313.6156499	238.6156499	203.6156499	24%	35%
12	4870.06577	452.4439148	135	317.4439148	242.4439148	207.4439148	24%	35%
223	4951.26358	459.9874382	135	324.9874382	249.9874382	214.9874382	23%	34%
127	4962.06566	460.9909848	135	325.9909848	250.9909848	215.9909848	23%	34%
20	4991.36289	463.7127867	135	328.7127867	253.7127867	218.7127867	23%	33%
52	4992.02372	463.7741793	135	328.7741793	253.7741793	218.7741793	23%	33%
53	5070.61941	471.0759579	135	336.0759579	261.0759579	226.0759579	22%	33%
161	5089.71134	472.8496563	135	337.8496563	262.8496563	227.8496563	22%	33%
49	5232.45642	486.1111085	135	351.1111085	276.1111085	241.1111085	21%	31%
151	5431.87155	504.6373801	135	369.6373801	294.6373801	259.6373801	20%	30%
30	5443.86183	505.7513133	135	370.7513133	295.7513133	260.7513133	20%	30%
17	5479.15128	509.0298103	135	374.0298103	299.0298103	264.0298103	20%	29%
24	5642.90999	524.2434928	135	389.2434928	314.2434928	279.2434928	19%	28%
141	5724.85475	531.8564096	135	396.8564096	321.8564096	286.8564096	19%	28%
28	5770.05904	536.0560261	135	401.0560261	326.0560261	291.0560261	19%	27%
95	5925.87559	550.5318565	135	415.5318565	340.5318565	305.5318565	18%	26%
39	6171.40754	573.3425214	135	438.3425214	363.3425214	328.3425214	17%	25%
43	6194.15336	575.4556772	135	440.4556772	365.4556772	330.4556772	17%	25%
105	6434.6483	597.7983884	135	462.7983884	387.7983884	352.7983884	16%	24%
32	6568.11028	610.1974122	135	475.1974122	400.1974122	365.1974122	16%	23%
164	8361.82892	776.8393271	135	641.8393271	566.8393271	531.8393271	12%	17%

FID	Area_Ft	Area_Meter	Front Yard Setback	Remaining Space	Remaing with Minimum ADU	Remaining with Maximum ADU	% Coverage of Min ADU to Remaining Space	% Coverage of Max ADU to Remaining Space
36	1627.413132	151.1916273	135	16.19162729	-58.80837271	-93.80837271	463%	679%
79	1714.611747	159.2926437	135	24.29264372	-50.70735628	-85.70735628	309%	453%
49	1783.431082	165.6861691	135	30.68616915	-44.31383086	-79.31383086	244%	358%
143	1892.061318	175.7782483	135	40.77824828	-34.22175172	-69.22175172	184%	270%
44	2024.104118	188.0454258	135	53.0454258	-21.9545742	-56.9545742	141%	207%
32	2027.785827	188.3874678	135	53.3874678	-21.6125322	-56.6125322	140%	206%
178	2254.480544	209.4480961	135	74.44809612	-0.551903885	-35.55190389	101%	148%
180	2286.642851	212.4360723	135	77.43607226	2.436072256	-32.56392774	97%	142%
59	2539.30583	235.9092311	135	100.9092311	25.90923108	-9.090768923	74%	109%
167	2569.349545	238.7003836	135	103.7003836	28.70038358	-6.299616425	72%	106%
13	2842.705001	264.0959364	135	129.0959364	54.09593638	19.09593638	58%	85%
130	2861.635803	265.8546655	135	130.8546655	55.85466546	20.85466546	57%	84%
169	2894.642272	268.9210668	135	133.9210668	58.92106676	23.92106676	56%	82%
75	2898.731892	269.3010049	135	134.3010049	59.30100494	24.30100494	56%	82%
27	2926.294444	271.8616498	135	136.8616498	61.86164976	26.86164976	55%	80%
106	2928.35827	272.0533855	135	137.0533855	62.05338548	27.05338548	55%	80%
47	2930.008023	272.2066525	135	137.2066525	62.20665253	27.20665253	55%	80%
58	2959.01082	274.9011006	135	139.9011006	64.90110056	29.90110056	54%	79%
22	2960.354283	275.0259124	135	140.0259124	65.0259124	30.0259124	54%	79%
120	2961.212047	275.1056012	135	140.1056012	65.10560124	30.10560124	54%	79%
67	2962.213081	275.1986003	135	140.1986003	65.19860034	30.19860034	53%	78%
92	2975.202294	276.4053378	135	141.4053378	66.40533776	31.40533776	53%	78%
31	2990.179339	277.7967507	135	142.7967507	67.79675075	32.79675075	53%	77%
159	2990.562389	277.8323372	135	142.8323372	67.83233725	32.83233725	53%	77%
34	3004.078379	279.0880138	135	144.0880138	69.08801379	34.08801379	52%	76%
118	3007.700396	279.4245102	135	144.4245102	69.42451018	34.42451018	52%	76%
26	3019.283212	280.500589	135	145.500589	70.50058899	35.50058899	52%	76%
25	3037.139283	282.1594723	135	147.1594723	72.15947227	37.15947227	51%	75%
17	3040.512953	282.4728965	135	147.4728965	72.47289653	37.47289653	51%	75%
126	3043.819725	282.7801057	135	147.7801057	72.78010569	37.78010569	51%	74%
51	3058.620536	284.155146	135	149.155146	74.15514597	39.15514597	50%	74%
45	3062.132647	284.4814318	135	149.4814318	74.48143181	39.48143181	50%	74%
18	3066.591851	284.8957054	135	149.8957054	74.89570536	39.89570536	50%	73%
48	3075.22008	285.6972941	135	150.6972941	75.69729413	40.69729413	50%	73%
135	3086.887804	286.7812611	135	151.7812611	76.78126113	41.78126113	49%	72%
60	3091.238174	287.1854238	135	152.1854238	77.18542377	42.18542377	49%	72%
50	3102.765374	288.2563357	135	153.2563357	78.25633566	43.25633566	49%	72%
8	3110.833503	289.0058894	135	154.0058894	79.00588935	44.00588935	49%	71%
164	3122.391165	290.0796313	135	155.0796313	80.07963127	45.07963127	48%	71%
64	3138.967906	291.619661	135	156.619661	81.61966095	46.61966095	48%	70%
63	3138.999973	291.62264	135	156.62264	81.62264002	46.62264002	48%	70%
69	3139.895097	291.7057998	135	156.7057998	81.70579978	46.70579978	48%	70%
74	3140.584541	291.7698512	135	156.7698512	81.7698512	46.7698512	48%	70%
88	3143.873091	292.0753675	135	157.0753675	82.07536754	47.07536754	48%	70%
124	3154.888779	293.0987584	135	158.0987584	83.09875841	48.09875841	47%	70%
57	3161.82427	293.7430867	135	158.7430867	83.74308666	48.74308666	47%	69%
52	3168.897253	294.4001882	135	159.4001882	84.40018821	49.40018821	47%	69%
43	3181.24991	295.5477877	135	160.5477877	85.54778767	50.54778767	47%	69%
39	3187.40491	296.1196059	135	161.1196059	86.11960587	51.11960587	47%	68%
55	3187.876509	296.1634188	135	161.1634188	86.16341883	51.16341883	47%	68%
28	3192.359321	296.5798857	135	161.5798857	86.57988571	51.57988571	46%	68%
101	3196.681166	296.9813982	135	161.9813982	86.98139823	51.98139823	46%	68%
85	3200.69124	297.3539463	135	162.3539463	87.35394626	52.35394626	46%	68%
80	3205.321784	297.7841379	135	162.7841379	87.78413792	52.78413792	46%	68%
1	3208.198533	298.0513967	135	163.0513967	88.05139667	53.05139667	46%	67%
72	3208.955656	298.1217357	135	163.1217357	88.12173568	53.12173568	46%	67%
41	3210.742047	298.2876968	135	163.2876968	88.28769679	53.28769679	46%	67%

Appleby - Sample 3

Zoning	Lot Width	Front Yard
R2.3	18	7.5

Total Lot Count	170
Average Remaining Rear Area (m.sq)*	196.09

*Full lot area minusing the building footprint and setback buffers

ADU Sizes (m.sq)

Minimum	75	
Maximum	110	

Breakdown of Lots

Less than Minimum	7	4.12%
Between Minimum and Maximum	3	1.76%
Larger than Maximum	160	94.12%
Total	170	100%

Average Remaining Area with ADU (m.sq)

With Minimum ADU	121.09
With Maximum ADU	86.09

Lots That Can fit Minimum ADU	163	95.88%
Lots that Can fit Maximum ADU	160	94.12%
Total Lots	170	100%

Remaining Area with Min ADU (m.sq)

0 - 50	10	5.88%
50 - 100	61	35.88%
Greater than 100	99	58.24%
Total	170	100%

Average Coverage of ADU to Remaining Space

Minimum	48%
Maximum	71%

81	3212.487339	298.4498398	135	163.4498398	88.44983978	53.44983978	46%	67%
183	3222.602306	299.3895509	135	164.3895509	89.3895509	54.3895509	46%	67%
65	3232.56663	300.3152669	135	165.3152669	90.3152669	55.3152669	45%	67%
33	3243.724207	301.3518398	135	166.3518398	91.35183977	56.35183977	45%	66%
35	3246.379549	301.5985291	135	166.5985291	91.5985291	56.5985291	45%	66%
102	3261.949494	303.0450243	135	168.0450243	93.04502428	58.04502428	45%	65%
177	3270.668585	303.8550544	135	168.8550544	93.8550544	58.8550544	44%	65%
138	3284.110656	305.1038637	135	170.1038637	95.10386365	60.10386365	44%	65%
82	3286.733898	305.3475708	135	170.3475708	95.3475708	60.3475708	44%	65%
131	3287.941483	305.4597591	135	170.4597591	95.4597591	60.4597591	44%	65%
123	3292.946291	305.924721	135	170.924721	95.92472097	60.92472097	44%	64%
98	3304.305649	306.9800399	135	171.9800399	96.98003992	61.98003992	44%	64%
23	3323.998406	308.8095569	135	173.8095569	98.80955686	63.80955686	43%	63%
11	3327.892729	309.1713513	135	174.1713513	99.17135135	64.17135135	43%	63%
90	3337.22574	310.0384164	135	175.0384164	100.0384164	65.03841643	43%	63%
15	3358.936716	312.0554321	135	177.0554321	102.0554321	67.0554321	42%	62%
54	3363.321599	312.462801	135	177.462801	102.462801	67.46280101	42%	62%
14	3365.408829	312.656711	135	177.656711	102.656711	67.65671105	42%	62%
108	3366.714119	312.7779764	135	177.7779764	102.7779764	67.77797643	42%	62%
61	3372.291673	313.2961482	135	178.2961482	103.2961482	68.29614817	42%	62%
103	3377.011927	313.7346741	135	178.7346741	103.7346741	68.7346741	42%	62%
68	3387.51611	314.7105447	135	179.7105447	104.7105447	69.71054466	42%	61%
21	3388.023534	314.7576859	135	179.7576859	104.7576859	69.75768588	42%	61%
94	3395.884349	315.4879795	135	180.4879795	105.4879795	70.48797947	42%	61%
182	3397.857131	315.671257	135	180.671257	105.671257	70.67125699	42%	61%
189	3407.492643	316.5664253	135	181.5664253	106.5664253	71.56642532	41%	61%
137	3409.430739	316.7464803	135	181.7464803	106.7464803	71.74648035	41%	61%
141	3420.531867	317.7778089	135	182.7778089	107.7778089	72.77780886	41%	60%
140	3427.34208	318.4104984	135	183.4104984	108.4104984	73.41049838	41%	60%
6	3431.668418	318.8124283	135	183.8124283	108.8124283	73.81242828	41%	60%
7	3433.158487	318.9508603	135	183.9508603	108.9508603	73.95086027	41%	60%
83	3436.982387	319.3061122	135	184.3061122	109.3061122	74.30611217	41%	60%
87	3437.609581	319.3643804	135	184.3643804	109.3643804	74.36438042	41%	60%
97	3456.453119	321.1150024	135	186.1150024	111.1150024	76.11500237	40%	59%
116	3456.501849	321.1195296	135	186.1195296	111.1195296	76.11952955	40%	59%
56	3457.551079	321.2170062	135	186.2170062	111.2170062	76.2170062	40%	59%
139	3467.54229	322.14522	135	187.14522	112.14522	77.14522005	40%	59%
73	3468.395947	322.2245274	135	187.2245274	112.2245274	77.22452738	40%	59%
174	3468.508634	322.2349964	135	187.2349964	112.2349964	77.23499639	40%	59%
100	3472.255699	322.5831101	135	187.5831101	112.5831101	77.58311011	40%	59%
185	3473.450066	322.6940704	135	187.6940704	112.6940704	77.69407042	40%	59%
146	3476.845223	323.0094908	135	188.0094908	113.0094908	78.00949083	40%	59%
168	3485.036827	323.7705158	135	188.7705158	113.7705158	78.77051575	40%	58%
62	3485.843493	323.8454575	135	188.8454575	113.8454575	78.84545745	40%	58%
19	3490.821081	324.3078905	135	189.3078905	114.3078905	79.30789052	40%	58%
173	3493.364491	324.544181	135	189.544181	114.544181	79.544181	40%	58%
5	3495.681873	324.7594728	135	189.7594728	114.7594728	79.75947284	40%	58%
172	3501.760338	325.3241808	135	190.3241808	115.3241808	80.32418078	39%	58%
129	3508.009775	325.9047725	135	190.9047725	115.9047725	80.90477245	39%	58%
179	3508.282772	325.9301347	135	190.9301347	115.9301347	80.93013474	39%	58%
184	3515.486774	326.5994084	135	191.5994084	116.5994084	81.59940841	39%	57%
186	3519.289212	326.9526664	135	191.9526664	116.9526664	81.95266643	39%	57%
187	3526.484607	327.6211405	135	192.6211405	117.6211405	82.62114047	39%	57%
86	3527.363923	327.7028316	135	192.7028316	117.7028316	82.70283163	39%	57%
181	3536.429978	328.5450957	135	193.5450957	118.5450957	83.54509569	39%	57%
166	3549.43894	329.7536678	135	194.7536678	119.7536678	84.7536678	39%	56%
188	3574.092468	332.0440555	135	197.0440555	122.0440555	87.04405554	38%	56%
114	3600.285348	334.4774537	135	199.4774537	124.4774537	89.47745373	38%	55%
71	3610.802545	335.4545333	135	200.4545333	125.4545333	90.45453327	37%	55%
24	3614.613427	335.8085758	135	200.8085758	125.8085758	90.80857582	37%	55%

134	3615.809607	335.9197046	135	200.9197046	125.9197046	90.91970457	37%	55%
76	3635.744581	337.7717243	135	202.7717243	127.7717243	92.77172428	37%	54%
66	3657.061931	339.7521708	135	204.7521708	129.7521708	94.75217083	37%	54%
155	3665.097164	340.4986684	135	205.4986684	130.4986684	95.4986684	36%	54%
121	3667.246032	340.6983048	135	205.6983048	130.6983048	95.69830479	36%	53%
12	3676.629305	341.5700394	135	206.5700394	131.5700394	96.5700394	36%	53%
125	3708.159205	344.4992629	135	209.4992629	134.4992629	99.49926292	36%	53%
96	3713.519518	344.9972523	135	209.9972523	134.9972523	99.99725231	36%	52%
144	3721.233079	345.7138656	135	210.7138656	135.7138656	100.7138656	36%	52%
93	3733.16989	346.8228316	135	211.8228316	136.8228316	101.8228316	35%	52%
77	3738.03437	347.2747566	135	212.2747566	137.2747566	102.2747566	35%	52%
117	3745.068204	347.9282212	135	212.9282212	137.9282212	102.9282212	35%	52%
110	3815.769351	354.4965726	135	219.4965726	144.4965726	109.4965726	34%	50%
157	3816.685585	354.5816936	135	219.5816936	144.5816936	109.5816936	34%	50%
9	3825.665049	355.4159131	135	220.4159131	145.4159131	110.4159131	34%	50%
78	3850.648022	357.7369072	135	222.7369072	147.7369072	112.7369072	34%	49%
133	3856.942079	358.3216443	135	223.3216443	148.3216443	113.3216443	34%	49%
148	3857.798373	358.4011966	135	223.4011966	148.4011966	113.4011966	34%	49%
128	3865.523805	359.1189127	135	224.1189127	149.1189127	114.1189127	33%	49%
3	3879.97179	360.4611744	135	225.4611744	150.4611744	115.4611744	33%	49%
176	3917.419022	363.9401361	135	228.9401361	153.9401361	118.9401361	33%	48%
16	3930.605924	365.1652393	135	230.1652393	155.1652393	120.1652393	33%	48%
149	3957.595261	367.6726308	135	232.6726308	157.6726308	122.6726308	32%	47%
142	4015.280398	373.0317554	135	238.0317554	163.0317554	128.0317554	32%	46%
154	4016.907345	373.1829038	135	238.1829038	163.1829038	128.1829038	31%	46%
2	4033.325131	374.708166	135	239.708166	164.708166	129.708166	31%	46%
113	4040.524726	375.3770303	135	240.3770303	165.3770303	130.3770303	31%	46%
163	4137.748477	384.4094123	135	249.4094123	174.4094123	139.4094123	30%	44%
150	4152.330361	385.7641136	135	250.7641136	175.7641136	140.7641136	30%	44%
160	4152.982793	385.8247265	135	250.8247265	175.8247265	140.8247265	30%	44%
89	4158.6082	386.3473439	135	251.3473439	176.3473439	141.3473439	30%	44%
112	4165.965179	387.0308297	135	252.0308297	177.0308297	142.0308297	30%	44%
122	4182.951353	388.6088969	135	253.6088969	178.6088969	143.6088969	30%	43%
132	4233.235828	393.2804775	135	258.2804775	183.2804775	148.2804775	29%	43%
152	4296.941308	399.1989102	135	264.1989102	189.1989102	154.1989102	28%	42%
70	4347.568082	403.9022915	135	268.9022915	193.9022915	158.9022915	28%	41%
99	4475.87012	415.8219408	135	280.8219408	205.8219408	170.8219408	27%	39%
190	4541.374249	421.9074735	135	286.9074735	211.9074735	176.9074735	26%	38%
4	4582.483747	425.7266708	135	290.7266708	215.7266708	180.7266708	26%	38%
20	4601.238062	427.4690038	135	292.4690038	217.4690038	182.4690038	26%	38%
170	4617.516374	428.9813084	135	293.9813084	218.9813084	183.9813084	26%	37%
91	4963.727788	461.1454012	135	326.1454012	251.1454012	216.1454012	23%	34%
38	5201.334166	483.2197561	135	348.2197561	273.2197561	238.2197561	22%	32%
145	5207.935503	483.8330403	135	348.8330403	273.8330403	238.8330403	22%	32%
119	5447.8636	506.1230899	135	371.1230899	296.1230899	261.1230899	20%	30%
147	5471.971751	508.3628105	135	373.3628105	298.3628105	263.3628105	20%	29%
158	5582.51312	518.6324397	135	383.6324397	308.6324397	273.6324397	20%	29%
46	5963.819044	554.0569192	135	419.0569192	344.0569192	309.0569192	18%	26%
156	6263.432158	581.8918883	135	446.8918883	371.8918883	336.8918883	17%	25%
109	6266.031204	582.1333476	135	447.1333476	372.1333476	337.1333476	17%	25%
30	6632.371244	616.167451	135	481.167451	406.167451	371.167451	16%	23%
0	7080.559026	657.8054584	135	522.8054584	447.8054584	412.8054584	14%	21%
153	8214.925324	763.191536	135	628.191536	553.191536	518.191536	12%	18%

FID	Area_Ft	Area_Meter	Front Yard Setback	Remaining Space	Remaing with Minimum ADU	Remaining with Maximum ADU	% Coverage of Min ADU to Remaining Space	% Coverage of Maz ADU to Remaining Space
118	2448.926349	227.5127025	198	29.51270252	-45.48729748	-80.48729748	254%	373%
23	3432.963976	318.9327896	198	120.9327896	45.93278958	10.93278958	62%	91%
26	3500.586137	325.2150939	198	127.2150939	52.21509389	17.21509389	59%	86%
28	3615.823918	335.9210341	198	137.9210341	62.92103409	27.92103409	54%	80%
56	3699.150305	343.6623088	198	145.6623088	70.66230877	35.66230877	51%	76%
2	3849.933562	357.6705317	198	159.6705317	84.67053174	49.67053174	47%	69%
123	3913.888572	363.6121466	198	165.6121466	90.61214655	55.61214655	45%	66%
88	3918.509028	364.041401	198	166.041401	91.04140099	56.04140099	45%	66%
24	3950.160698	366.9819374	198	168.9819374	93.98193737	58.98193737	44%	65%
135	3986.754274	370.3815918	198	172.3815918	97.38159175	62.38159175	44%	64%
129	4141.327427	384.7419076	198	186.7419076	111.7419076	76.74190764	40%	59%
119	4158.225757	386.3118138	198	188.3118138	113.3118138	78.31181385	40%	58%
80	4163.437778	386.7960264	198	188.7960264	113.7960264	78.79602645	40%	58%
109	4182.19861	388.5389647	198	190.5389647	115.5389647	80.53896471	39%	58%
96	4217.215825	391.7921705	198	193.7921705	118.7921705	83.79217046	39%	57%
136	4273.066555	396.980873	198	198.980873	123.980873	88.98087304	38%	55%
114	4303.353219	399.7945962	198	201.7945962	126.7945962	91.79459621	37%	55%
47	4364.202985	405.4477245	198	207.4477245	132.4477245	97.44772447	36%	53%
132	4478.495069	416.0658065	198	218.0658065	143.0658065	108.0658065	34%	50%
126	4483.395112	416.5210354	198	218.5210354	143.5210354	108.5210354	34%	50%
89	4507.876301	418.7954123	198	220.7954123	145.7954123	110.7954123	34%	50%
95	4560.52377	423.6865222	198	225.6865222	150.6865222	115.6865222	33%	49%
124	4589.160201	426.3469337	198	228.3469337	153.3469337	118.3469337	33%	48%
20	4599.970115	427.3512076	198	229.3512076	154.3512076	119.3512076	33%	48%
84	4604.157865	427.7402623	198	229.7402623	154.7402623	119.7402623	33%	48%
131	4644.132076	431.453988	198	233.453988	158.453988	123.453988	32%	47%
54	4652.61993	432.2425355	198	234.2425355	159.2425355	124.2425355	32%	47%
128	4673.9945	434.228298	198	236.228298	161.228298	126.228298	32%	47%
113	4676.034596	434.4178291	198	236.4178291	161.4178291	126.4178291	32%	47%
59	4763.553625	442.548613	198	244.548613	169.548613	134.548613	31%	45%
35	4788.181417	444.8366097	198	246.8366097	171.8366097	136.8366097	30%	45%
61	4926.148004	457.6541251	198	259.6541251	184.6541251	149.6541251	29%	42%
8	5066.973784	470.7372681	198	272.7372681	197.7372681	162.7372681	27%	40%
104	5075.094476	471.4917051	198	273.4917051	198.4917051	163.4917051	27%	40%
122	5077.535169	471.7184529	198	273.7184529	198.7184529	163.7184529	27%	40%
116	5122.454614	475.8916059	198	277.8916059	202.8916059	167.8916059	27%	40%
125	5234.519984	486.3028195	198	288.3028195	213.3028195	178.3028195	26%	38%
108	5351.507588	497.1713235	198	299.1713235	224.1713235	189.1713235	25%	37%
103	5391.863141	500.9204771	198	302.9204771	227.9204771	192.9204771	25%	36%
32	5410.422938	502.6447386	198	304.6447386	229.6447386	194.6447386	25%	36%
86	5549.895109	515.6021273	198	317.6021273	242.6021273	207.6021273	24%	35%
112	5595.320518	519.8222859	198	321.8222859	246.8222859	211.8222859	23%	34%
121	5830.957189	541.7136489	198	343.7136489	268.7136489	233.7136489	22%	32%
15	5875.093556	545.8140516	198	347.8140516	272.8140516	237.8140516	22%	32%
90	5940.772799	551.915853	198	353.915853	278.915853	243.915853	21%	31%
13	5957.817184	553.4993282	198	355.4993282	280.4993282	245.4993282	21%	31%
65	6003.365303	557.7308869	198	359.7308869	284.7308869	249.7308869	21%	31%
115	6160.788675	572.3559967	198	374.3559967	299.3559967	264.3559967	20%	29%
58	6209.29909	576.8627617	198	378.8627617	303.8627617	268.8627617	20%	29%
69	6238.413818	579.5676085	198	381.5676085	306.5676085	271.5676085	20%	29%
100	6377.097744	592.4517668	198	394.4517668	319.4517668	284.4517668	19%	28%
17	6549.207736	608.4413083	198	410.4413083	335.4413083	300.4413083	18%	27%
130	6555.165465	608.9947994	198	410.9947994	335.9947994	300.9947994	18%	27%

LaSalles - Sample 1

Zoning	Lot Width	Front Yard
R2.1	18	11

Total Lot Count	153
Average Remaining Rear Area (m.sq)*	622.1532

*Full lot area minusing the building footprint and setback buffers

ADU Sizes (m.sq)

Minimum	75
Maximum	110

Breakdown of Lots

Less than Minimum	1	0.77%
Between Minimum and Maximum	0	0.00%
Larger than Maximum	129	99.23%
Total	130	100%

Average Remaining Area with ADU (m.sq)

With Minimum ADU	547.15
With Maximum ADU	512.15

Lots That Can fit Minimum ADU	129	99.23%
Lots that Can fit Maximum ADU	129	99.23%
Total Lots	130	100%

Remaining Area with Min ADU (m.sq)

0 - 50	2	1.54%
50 - 100	8	6.15%
Greater than 100	120	92.31%
Total	130	100%

Note: Special Area due to green space in rear yard

Average Coverage of ADU to Remaining Space

Minimum	21%
Maximum	31%

25	6687.652262	621.3032256	198	423.3032256	348.3032256	313.3032256	18%	26%
11	6710.123528	623.3908745	198	425.3908745	350.3908745	315.3908745	18%	26%
6	6771.978491	629.1373886	198	431.1373886	356.1373886	321.1373886	17%	26%
40	6786.648445	630.5002719	198	432.5002719	357.5002719	322.5002719	17%	25%
74	6819.186645	633.5231696	198	435.5231696	360.5231696	325.5231696	17%	25%
127	6895.22481	640.5873464	198	442.5873464	367.5873464	332.5873464	17%	25%
48	6907.66464	641.7430444	198	443.7430444	368.7430444	333.7430444	17%	25%
85	7179.975209	667.041524	198	469.041524	394.041524	359.041524	16%	23%
134	7191.090232	668.0741434	198	470.0741434	395.0741434	360.0741434	16%	23%
55	7292.663208	677.5105817	198	479.5105817	404.5105817	369.5105817	16%	23%
75	7426.170217	689.9137887	198	491.9137887	416.9137887	381.9137887	15%	22%
82	7426.370811	689.9324245	198	491.9324245	416.9324245	381.9324245	15%	22%
10	7428.040738	690.0875658	198	492.0875658	417.0875658	382.0875658	15%	22%
63	7461.040133	693.1533099	198	495.1533099	420.1533099	385.1533099	15%	22%
37	7488.704283	695.7233936	198	497.7233936	422.7233936	387.7233936	15%	22%
16	7563.474768	702.6697989	198	504.6697989	429.6697989	394.6697989	15%	22%
79	7611.200797	707.1036921	198	509.1036921	434.1036921	399.1036921	15%	22%
34	7611.532416	707.1345005	198	509.1345005	434.1345005	399.1345005	15%	22%
46	7613.241443	707.2932743	198	509.2932743	434.2932743	399.2932743	15%	22%
12	7774.511368	722.2757406	198	524.2757406	449.2757406	414.2757406	14%	21%
120	7987.05648	742.0218276	198	544.0218276	469.0218276	434.0218276	14%	20%
102	8403.158857	780.6790034	198	582.6790034	507.6790034	472.6790034	13%	19%
49	8415.855945	781.8586015	198	583.8586015	508.8586015	473.8586015	13%	19%
60	8488.33613	788.592231	198	590.592231	515.592231	480.592231	13%	19%
27	8594.146567	798.4223423	198	600.4223423	525.4223423	490.4223423	12%	18%
110	8656.556912	804.220453	198	606.220453	531.220453	496.220453	12%	18%
107	8715.830478	809.7271475	198	611.7271475	536.7271475	501.7271475	12%	18%
111	8752.323958	813.1175028	198	615.1175028	540.1175028	505.1175028	12%	18%
83	8786.783851	816.3189316	198	618.3189316	543.3189316	508.3189316	12%	18%
98	8815.833706	819.0177515	198	621.0177515	546.0177515	511.0177515	12%	18%
7	8980.407477	834.307155	198	636.307155	561.307155	526.307155	12%	17%
21	9088.542738	844.3532495	198	646.3532495	571.3532495	536.3532495	12%	17%
105	9112.981699	846.6237033	198	648.6237033	573.6237033	538.6237033	12%	17%
19	9134.178199	848.5929225	198	650.5929225	575.5929225	540.5929225	12%	17%
18	9165.078719	851.4636748	198	653.4636748	578.4636748	543.4636748	11%	17%
53	9485.416737	881.2240505	198	683.2240505	608.2240505	573.2240505	11%	16%
93	9552.242958	887.4324096	198	689.4324096	614.4324096	579.4324096	11%	16%
51	9826.804311	912.9399939	198	714.9399939	639.9399939	604.9399939	10%	15%
67	9869.67513	916.9228234	198	718.9228234	643.9228234	608.9228234	10%	15%
117	9986.389864	927.765977	198	729.765977	654.765977	619.765977	10%	15%
9	9991.739982	928.2630192	198	730.2630192	655.2630192	620.2630192	10%	15%
33	10145.72559	942.5687499	198	744.5687499	669.5687499	634.5687499	10%	15%
94	10309.12415	957.7489729	198	759.7489729	684.7489729	649.7489729	10%	14%
76	10389.57815	965.2233945	198	767.2233945	692.2233945	657.2233945	10%	14%
71	10422.80385	968.3101633	198	770.3101633	695.3101633	660.3101633	10%	14%
91	10557.05551	980.7825504	198	782.7825504	707.7825504	672.7825504	10%	14%
81	10603.69069	985.1151006	198	787.1151006	712.1151006	677.1151006	10%	14%
97	11386.78011	1057.866488	198	859.8664884	784.8664884	749.8664884	9%	13%
70	11663.28617	1083.554742	198	885.554742	810.554742	775.554742	8%	12%
133	11711.5965	1088.042918	198	890.0429183	815.0429183	780.0429183	8%	12%
1	11713.91153	1088.257991	198	890.2579911	815.2579911	780.2579911	8%	12%
68	11988.98355	1113.813019	198	915.8130188	840.8130188	805.8130188	8%	12%
31	12058.66339	1120.286487	198	922.286487	847.286487	812.286487	8%	12%
52	12327.92293	1145.301517	198	947.3015171	872.3015171	837.3015171	8%	12%
4	12542.57853	1165.243674	198	967.2436744	892.2436744	857.2436744	8%	11%
14	12951.26757	1203.212129	198	1005.212129	930.2121287	895.2121287	7%	11%
22	14365.3671	1334.586275	198	1136.586275	1061.586275	1026.586275	7%	10%

87	14812.52205	1376.128328	198	1178.128328	1103.128328	1068.128328	6%	9%
64	15112.63108	1404.00937	198	1206.00937	1131.00937	1096.00937	6%	9%
57	15235.01326	1415.379046	198	1217.379046	1142.379046	1107.379046	6%	9%
0	15951.20522	1481.915457	198	1283.915457	1208.915457	1173.915457	6%	9%
30	15981.99413	1484.77584	198	1286.77584	1211.77584	1176.77584	6%	9%
66	15996.37326	1486.111705	198	1288.111705	1213.111705	1178.111705	6%	9%
92	16766.41425	1557.650854	198	1359.650854	1284.650854	1249.650854	6%	8%
73	17059.65739	1584.894033	198	1386.894033	1311.894033	1276.894033	5%	8%
36	17238.50434	1601.509458	198	1403.509458	1328.509458	1293.509458	5%	8%
3	17733.54873	1647.500587	198	1449.500587	1374.500587	1339.500587	5%	8%
43	18430.51117	1712.250516	198	1514.250516	1439.250516	1404.250516	5%	7%
38	18862.58338	1752.391338	198	1554.391338	1479.391338	1444.391338	5%	7%
41	19132.71258	1777.487162	198	1579.487162	1504.487162	1469.487162	5%	7%
99	19324.36671	1795.292414	198	1597.292414	1522.292414	1487.292414	5%	7%
44	19547.2612	1815.999989	198	1617.999989	1542.999989	1507.999989	5%	7%
39	20250.79752	1881.360652	198	1683.360652	1608.360652	1573.360652	4%	7%
78	20256.38997	1881.880208	198	1683.880208	1608.880208	1573.880208	4%	7%
42	20684.75707	1921.676813	198	1723.676813	1648.676813	1613.676813	4%	6%
45	23935.53264	2223.683746	198	2025.683746	1950.683746	1915.683746	4%	5%
77	30098.70783	2796.261458	198	2598.261458	2523.261458	2488.261458	3%	4%

FID	Area_Ft	Area_Meter	Front Yard Setback	Remaining Space	Remaing with Minimum ADU	Remaining with Maximum ADU	% Coverage of Min ADU to Remaining Space	% Coverage of Maz ADU to Remaining Space
141	2368.4399	220.035268	198	22.035268	-52.96473219	-87.96473219	340%	499%
113	2388.1386	221.86534	198	23.86534	-51.13466006	-86.13466006	314%	461%
65	2429.7576	225.731867	198	27.731867	-47.26813251	-82.26813251	270%	397%
32	2430.2238	225.775176	198	27.775176	-47.22482377	-82.22482377	270%	396%
150	3151.6369	292.796648	198	94.796648	19.79664779	-15.20335221	79%	116%
82	3362.8083	312.415111	198	114.41511	39.41511054	4.415110543	66%	96%
86	3526.673	327.638641	198	129.63864	54.63864058	19.63864058	58%	85%
70	3543.7708	329.227081	198	131.22708	56.22708051	21.22708051	57%	84%
33	3634.1838	337.626723	198	139.62672	64.62672317	29.62672317	54%	79%
127	3677.0637	341.6104	198	143.6104	68.61039999	33.61039999	52%	77%
79	3677.482	341.649257	198	143.64926	68.64925696	33.64925696	52%	77%
59	3708.3508	344.517064	198	146.51706	71.51706371	36.51706371	51%	75%
77	3745.0268	347.924376	198	149.92438	74.92437631	39.92437631	50%	73%
28	3804.0268	353.405651	198	155.40565	80.40565063	45.40565063	48%	71%
37	3807.6189	353.739369	198	155.73937	80.73936924	45.73936924	48%	71%
91	3814.5524	354.383515	198	156.38351	81.38351463	46.38351463	48%	70%
60	3842.8986	357.016966	198	159.01697	84.01696636	49.01696636	47%	69%
155	3868.7729	359.42076	198	161.42076	86.42075962	51.42075962	46%	68%
30	3879.4445	360.41219	198	162.41219	87.41218996	52.41218996	46%	68%
64	3888.3681	361.241217	198	163.24122	88.24121673	53.24121673	46%	67%
58	3894.0032	361.764736	198	163.76474	88.76473582	53.76473582	46%	67%
87	3927.4505	364.872094	198	166.87209	91.87209393	56.87209393	45%	66%
75	3940.5305	366.087262	198	168.08726	93.08726235	58.08726235	45%	65%
156	3944.6727	366.472084	198	168.47208	93.47208408	58.47208408	45%	65%
112	3948.943	366.868812	198	168.86881	93.86881234	58.86881234	44%	65%
35	3949.0722	366.880811	198	168.88081	93.88081122	58.88081122	44%	65%
68	3953.1632	367.260883	198	169.26088	94.26088297	59.26088297	44%	65%
25	3958.1344	367.722715	198	169.72271	94.72271477	59.72271477	44%	65%
63	3968.2339	368.660991	198	170.66099	95.66099097	60.66099097	44%	64%
90	3968.4521	368.681267	198	170.68127	95.68126683	60.68126683	44%	64%
151	3975.5434	369.340069	198	171.34007	96.34006904	61.34006904	44%	64%
85	3979.6366	369.720336	198	171.72034	96.72033585	61.72033585	44%	64%
45	3983.4949	370.07879	198	172.07879	97.07879032	62.07879032	44%	64%
40	3988.6203	370.554949	198	172.55495	97.55494934	62.55494934	43%	64%
157	4000.6357	371.671221	198	173.67122	98.67122121	63.67122121	43%	63%
139	4003.2411	371.913273	198	173.91327	98.91327254	63.91327254	43%	63%
16	4003.9355	371.977781	198	173.97778	98.97778141	63.97778141	43%	63%
62	4016.7648	373.169665	198	175.16966	100.1696649	65.16966492	43%	63%
20	4019.3175	373.406815	198	175.40682	100.4068152	65.40681517	43%	63%
55	4027.0634	374.126435	198	176.12644	101.126435	66.12643504	43%	62%
47	4043.2699	375.632062	198	177.63206	102.6320625	67.63206246	42%	62%
93	4050.057	376.262611	198	178.26261	103.262611	68.26261095	42%	62%
104	4051.5991	376.405869	198	178.40587	103.4058689	68.40586889	42%	62%
53	4060.3865	377.222247	198	179.22225	104.2222465	69.22224653	42%	61%
80	4064.3008	377.585897	198	179.5859	104.585897	69.58589696	42%	61%
24	4071.2293	378.22958	198	180.22958	105.2295797	70.22957973	42%	61%
135	4089.4416	379.921561	198	181.92156	106.9215606	71.92156057	41%	60%
132	4102.3248	381.118441	198	183.11844	108.1184413	73.11844131	41%	60%
149	4117.6142	382.538874	198	184.53887	109.5388741	74.53887407	41%	60%
125	4132.1509	383.889383	198	185.88938	110.8893831	75.88938307	40%	59%
84	4136.1462	384.260553	198	186.26055	111.2605534	76.26055344	40%	59%
154	4137.3102	384.368699	198	186.3687	111.3686994	76.36869936	40%	59%

LaSalles - Sample 2

Zoning	Lot Width	Front Yard
R2.1	18	11

Total Lot Count	153
Average Remaining Rear Area (m.sq)*	245.58867

*Full lot area minusing the building footprint and setback buffers

ADU Sizes (m.sq)

Minimum	75
Maximum	110

Breakdown of Lots

Less than Minimum	4	2.61%
Between Minimum and Maximum	1	0.65%
Larger than Maximum	148	96.73%
Total	153	100%

Average Remaining Area with ADU (m.sq)

With Minimum ADU	170.59
With Maximum ADU	135.59

Lots That Can fit Minimum ADU	149	97.39%
Lots that Can fit Maximum ADU	148	96.73%
Total Lots	153	100%

Remaining Area with Min ADU (m.sq)

0 - 50	6	3.92%
50 - 100	31	20.26%
Greater than 100	116	75.82%
Total	153	100%

Average Coverage of ADU to Remaining Space

Minimum	41%
Maximum	61%

144	4142.9601	384.893584	198	186.89358	111.8935839	76.8935839	40%	59%
83	4155.4483	386.053779	198	188.05378	113.0537793	78.05377925	40%	58%
41	4157.0996	386.207194	198	188.20719	113.2071938	78.20719382	40%	58%
143	4157.2782	386.223781	198	188.22378	113.2237815	78.22378149	40%	58%
23	4158.6178	386.34824	198	188.34824	113.3482398	78.34823981	40%	58%
161	4193.1546	389.556808	198	191.55681	116.5568082	81.55680818	39%	57%
14	4210.6073	391.178223	198	193.17822	118.178223	83.17822298	39%	57%
160	4211.5105	391.262133	198	193.26213	118.2621325	83.26213252	39%	57%
19	4262.8193	396.028875	198	198.02887	123.0288747	88.02887473	38%	56%
43	4264.3282	396.169051	198	198.16905	123.1690507	88.16905067	38%	56%
54	4267.7803	396.489763	198	198.48976	123.4897635	88.48976349	38%	55%
128	4268.9936	396.60248	198	198.60248	123.6024799	88.60247985	38%	55%
116	4282.9728	397.901195	198	199.90119	124.9011948	89.90119475	38%	55%
92	4297.2725	399.229678	198	201.22968	126.2296781	91.22967806	37%	55%
152	4305.9267	400.033678	198	202.03368	127.0336784	92.03367837	37%	54%
124	4305.9798	400.038618	198	202.03862	127.038618	92.03861798	37%	54%
136	4310.9218	400.497743	198	202.49774	127.4977433	92.49774329	37%	54%
108	4327.2042	402.010427	198	204.01043	129.0104266	94.01042662	37%	54%
67	4344.556	403.622456	198	205.62246	130.6224557	95.62245572	36%	53%
94	4357.0256	404.780923	198	206.78092	131.7809235	96.78092347	36%	53%
147	4357.9121	404.863279	198	206.86328	131.8632791	96.86327914	36%	53%
106	4369.3544	405.926307	198	207.92631	132.9263069	97.92630691	36%	53%
109	4380.4109	406.953487	198	208.95349	133.9534867	98.95348671	36%	53%
158	4380.8722	406.996345	198	208.99635	133.9963455	98.99634548	36%	53%
121	4387.1708	407.581507	198	209.58151	134.5815068	99.58150678	36%	52%
101	4404.4389	409.185766	198	211.18577	136.185766	101.185766	36%	52%
140	4427.2662	411.306484	198	213.30648	138.3064843	103.3064843	35%	52%
96	4449.7781	413.397915	198	215.39791	140.3979149	105.3979149	35%	51%
61	4476.7814	415.906605	198	217.90661	142.906605	107.906605	34%	50%
99	4487.4996	416.902351	198	218.90235	143.9023509	108.9023509	34%	50%
15	4487.5206	416.904306	198	218.90431	143.9043057	108.9043057	34%	50%
66	4496.7102	417.758048	198	219.75805	144.7580483	109.7580483	34%	50%
97	4510.5345	419.042366	198	221.04237	146.042366	111.042366	34%	50%
153	4515.761	419.527928	198	221.52793	146.5279279	111.5279279	34%	50%
49	4522.83	420.184652	198	222.18465	147.1846518	112.1846518	34%	50%
89	4544.5711	422.20447	198	224.20447	149.2044698	114.2044698	33%	49%
162	4567.1681	424.303804	198	226.3038	151.3038037	116.3038037	33%	49%
103	4584.7583	425.937986	198	227.93799	152.9379856	117.9379856	33%	48%
102	4589.398	426.369026	198	228.36903	153.3690259	118.3690259	33%	48%
100	4595.4706	426.933191	198	228.93319	153.9331909	118.9331909	33%	48%
148	4598.3486	427.200568	198	229.20057	154.2005682	119.2005682	33%	48%
57	4598.91	427.252722	198	229.25272	154.2527219	119.2527219	33%	48%
76	4600.9991	427.4468	198	229.4468	154.4468003	119.4468003	33%	48%
118	4610.4596	428.325715	198	230.32572	155.3257151	120.3257151	33%	48%
78	4654.9594	432.459881	198	234.45988	159.459881	124.459881	32%	47%
38	4656.7119	432.622691	198	234.62269	159.6226906	124.6226906	32%	47%
95	4658.8576	432.822037	198	234.82204	159.8220373	124.8220373	32%	47%
130	4671.9849	434.041604	198	236.0416	161.0416042	126.0416042	32%	47%
111	4684.5142	435.20561	198	237.20561	162.20561	127.20561	32%	46%
81	4709.7435	437.549487	198	239.54949	164.5494872	129.5494872	31%	46%
48	4721.9203	438.680748	198	240.68075	165.6807483	130.6807483	31%	46%
56	4727.227	439.173758	198	241.17376	166.173758	131.173758	31%	46%
107	4730.624	439.489347	198	241.48935	166.4893474	131.4893474	31%	46%
51	4736.5059	440.0358	198	242.0358	167.0358002	132.0358002	31%	45%
71	4764.7135	442.656366	198	244.65637	169.6563657	134.6563657	31%	45%
98	4850.7318	450.64773	198	252.64773	177.64773	142.64773	30%	44%

122	4900.6621	455.286409	198	257.28641	182.2864093	147.2864093	29%	43%
88	4921.9336	457.262593	198	259.26259	184.2625932	149.2625932	29%	42%
114	4925.1532	457.561709	198	259.56171	184.5617086	149.5617086	29%	42%
17	4933.0239	458.292915	198	260.29292	185.2929154	150.2929154	29%	42%
115	4953.8989	460.232264	198	262.23226	187.232264	152.232264	29%	42%
29	5011.2478	465.560154	198	267.56015	192.5601536	157.5601536	28%	41%
34	5058.684	469.967121	198	271.96712	196.9671209	161.9671209	28%	40%
46	5062.1296	470.287228	198	272.28723	197.2872279	162.2872279	28%	40%
119	5071.9709	471.201517	198	273.20152	198.201517	163.201517	27%	40%
22	5075.7557	471.553137	198	273.55314	198.5531371	163.5531371	27%	40%
10	5080.5292	471.996612	198	273.99661	198.9966115	163.9966115	27%	40%
7	5136.0211	477.151971	198	279.15197	204.1519714	169.1519714	27%	39%
105	5212.0879	484.218809	198	286.21881	211.2188095	176.2188095	26%	38%
110	5256.799	488.37261	198	290.37261	215.37261	180.37261	26%	38%
44	5398.3271	501.520999	198	303.521	228.5209991	193.5209991	25%	36%
18	5427.4995	504.2312	198	306.2312	231.2311998	196.2311998	24%	36%
31	5541.8801	514.857508	198	316.85751	241.8575077	206.8575077	24%	35%
13	5578.9442	518.300874	198	320.30087	245.3008745	210.3008745	23%	34%
42	5584.3961	518.807373	198	320.80737	245.8073727	210.8073727	23%	34%
11	5617.4255	521.875906	198	323.87591	248.8759059	213.8759059	23%	34%
36	5694.6684	529.052003	198	331.052	256.0520034	221.0520034	23%	33%
21	5745.1362	533.740621	198	335.74062	260.7406214	225.7406214	22%	33%
159	5760.6727	535.184007	198	337.18401	262.1840066	227.1840066	22%	33%
12	5900.0321	548.130917	198	350.13092	275.1309172	240.1309172	21%	31%
50	5933.7594	551.264282	198	353.26428	278.2642825	243.2642825	21%	31%
6	5937.3214	551.595211	198	353.59521	278.595211	243.595211	21%	31%
129	5975.5514	555.146892	198	357.14689	282.1468923	247.1468923	21%	31%
26	6052.4244	562.288625	198	364.28863	289.2886255	254.2886255	21%	30%
9	6079.118	564.768543	198	366.76854	291.7685434	256.7685434	20%	30%
134	6274.0436	582.877721	198	384.87772	309.877721	274.877721	19%	29%
137	6316.8855	586.857868	198	388.85787	313.8578683	278.8578683	19%	28%
4	6541.9958	607.771295	198	409.7713	334.7712954	299.7712954	18%	27%
120	6620.4651	615.061332	198	417.06133	342.0613318	307.0613318	18%	26%
73	6825.5385	634.113276	198	436.11328	361.113276	326.113276	17%	25%
123	6832.8697	634.79437	198	436.79437	361.79437	326.79437	17%	25%
2	6895.728	640.634093	198	442.63409	367.6340934	332.6340934	17%	25%
52	7322.6528	680.296707	198	482.29671	407.2967067	372.2967067	16%	23%
8	7909.0423	734.774076	198	536.77408	461.7740757	426.7740757	14%	20%
5	8363.2043	776.967102	198	578.9671	503.9671024	468.9671024	13%	19%
3	8468.6014	786.75881	198	588.75881	513.75881	478.75881	13%	19%
1	8577.5581	796.881222	198	598.88122	523.8812221	488.8812221	13%	18%
133	8785.2547	816.176865	198	618.17687	543.1768653	508.1768653	12%	18%
0	9291.0637	863.168061	198	665.16806	590.1680613	555.1680613	11%	17%
131	10418.915	967.948849	198	769.94885	694.9488488	659.9488488	10%	14%
126	11713.822	1088.24968	198	890.24968	815.2496762	780.2496762	8%	12%

FID	Area_Ft	Area_Meter	Front Yard Setback	Remaining Space	Remaing with Minimum ADU	Remaining with Maximum ADU	% Coverage of Min ADU to Remaining Space	% Coverage of Maz ADU to Remaining Space
1	2297.844913	213.4767779	198	15.4767779	-59.52322212	-94.52322212	485%	711%
172	2632.308474	244.5494594	198	46.5494594	-28.45054059	-63.45054059	161%	236%
163	2777.994313	258.0841168	198	60.0841168	-14.91588321	-49.91588321	125%	183%
144	2808.051631	260.876533	198	62.876533	-12.12346705	-47.12346705	119%	175%
175	2853.273717	265.0778023	198	67.0778023	-7.922197718	-42.92219772	112%	164%
169	2909.813714	270.3305399	198	72.3305399	-2.669460123	-37.66946012	104%	152%
179	2972.986308	276.1994659	198	78.1994659	3.199465857	-31.80053414	96%	141%
182	2993.327992	278.0892702	198	80.0892702	5.089270206	-29.91072979	94%	137%
155	3039.802012	282.4068479	198	84.4068479	9.406847902	-25.5931521	89%	130%
167	3073.891888	285.5739011	198	87.5739011	12.57390107	-22.42609893	86%	126%
170	3129.574716	290.747005	198	92.747005	17.74700498	-17.25299502	81%	119%
183	3131.263341	290.9038835	198	92.9038835	17.90388346	-17.09611654	81%	118%
129	3139.267452	291.6474896	198	93.6474896	18.64748963	-16.35251037	80%	117%
177	3146.370734	292.3074061	198	94.3074061	19.30740613	-15.69259387	80%	117%
126	3192.566306	296.5991152	198	98.5991152	23.59911522	-11.40088478	76%	112%
173	3207.762916	298.0109265	198	100.010927	25.01092651	-9.989073486	75%	110%
168	3213.6716	298.5598612	198	100.559861	25.55986117	-9.440138833	75%	109%
133	3267.529714	303.5634437	198	105.563444	30.56344368	-4.436556317	71%	104%
145	3273.420331	304.1106999	198	106.1107	31.11069992	-3.889300076	71%	104%
165	3302.584173	306.8201095	198	108.82011	33.82010953	-1.179890473	69%	101%
142	3342.858411	310.5617087	198	112.561709	37.56170869	2.561708691	67%	98%
176	3360.594831	312.209476	198	114.209476	39.20947598	4.209475984	66%	96%
91	3364.768009	312.5971769	198	114.597177	39.59717692	4.597176916	65%	96%
160	3373.645597	313.4219318	198	115.421932	40.42193182	5.421931823	65%	95%
157	3374.738214	313.5234392	198	115.523439	40.52343924	5.523439243	65%	95%
149	3377.741872	313.8024882	198	115.802488	40.80248822	5.802488224	65%	95%
84	3379.103365	313.9289751	198	115.928975	40.92897506	5.928975058	65%	95%
159	3416.433334	317.3970427	198	119.397043	44.39704266	9.397042657	63%	92%
51	3441.86194	319.7594375	198	121.759437	46.75943746	11.75943746	62%	90%
174	3449.198921	320.4410653	198	122.441065	47.44106531	12.44106531	61%	90%
136	3490.253896	324.2551973	198	126.255197	51.25519727	16.25519727	59%	87%
130	3500.49993	325.207085	198	127.207085	52.20708497	17.20708497	59%	86%
162	3519.01399	326.9270974	198	128.927097	53.92709745	18.92709745	58%	85%
119	3523.448769	327.3391019	198	129.339102	54.33910192	19.33910192	58%	85%
166	3543.325663	329.1857258	198	131.185726	56.18572578	21.18572578	57%	84%
185	3556.872354	330.4442546	198	132.444255	57.44425459	22.44425459	57%	83%
131	3558.587239	330.6035726	198	132.603573	57.60357256	22.60357256	57%	83%
186	3563.572362	331.0667057	198	133.066706	58.06670573	23.06670573	56%	83%
180	3578.21775	332.4273067	198	134.427307	59.42730673	24.42730673	56%	82%
125	3613.218259	335.6789605	198	137.67896	62.67896048	27.67896048	54%	80%
178	3618.70472	336.1886693	198	138.188669	63.18866933	28.18866933	54%	80%
154	3644.342461	338.5704935	198	140.570493	65.57049346	30.57049346	53%	78%
158	3662.539085	340.2610151	198	142.261015	67.2610151	32.2610151	53%	77%
151	3673.143079	341.2461584	198	143.246158	68.24615836	33.24615836	52%	77%
171	3681.672488	342.0385664	198	144.038566	69.03856643	34.03856643	52%	76%
116	3719.855753	345.5859078	198	147.585908	72.58590781	37.58590781	51%	75%
138	3734.019058	346.9017219	198	148.901722	73.90172187	38.90172187	50%	74%
115	3741.7166	347.616847	198	149.616847	74.61684699	39.61684699	50%	74%
153	3744.933631	347.9157189	198	149.915719	74.91571893	39.91571893	50%	73%
135	3760.299587	349.343263	198	151.343263	76.34326299	41.34326299	50%	73%
65	3766.687225	349.9366939	198	151.936694	76.93669389	41.93669389	49%	72%
140	3776.364089	350.835704	198	152.835704	77.83570403	42.83570403	49%	72%
124	3777.844194	350.9732102	198	152.97321	77.97321023	42.97321023	49%	72%
107	3857.776287	358.3991447	198	160.399145	85.39914474	50.39914474	47%	69%

LaSalles - Sample 3

Zoning	Lot Width	Front Yard
R2.1	18	11

Total Lot Count	153
Average Remaining Rear Area (m.sq)*	268.3039

*Full lot area minusing the building footprint and setback buffers

ADU Sizes (m.sq)

Minimum	75
Maximum	110

Breakdown of Lots

Less than Minimum	6	3.35%
Between Minimum and Maximum	14	7.82%
Larger than Maximum	159	88.83%
Total	179	100%

Average Remaining Area with ADU (m.sq)

With Minimum ADU	193.30
With Maximum ADU	158.30

Lots That Can fit Minimum ADU	173	96.65%
Lots that Can fit Maximum ADU	159	88.83%
Total Lots	179	100%

Remaining Area with Min ADU (m.sq)

0 - 50	30	16.76%
50 - 100	34	18.99%
Greater than 100	115	64.25%
Total	179	100%

Average Coverage of ADU to Remaining Space

Minimum	43%
Maximum	63%

139	3883.610846	360.7992537	198	162.799254	87.79925373	52.79925373	46%	68%
102	3892.809782	361.6538629	198	163.653863	88.65386286	53.65386286	46%	67%
117	3897.068775	362.0495363	198	164.049536	89.04953632	54.04953632	46%	67%
109	3905.082058	362.7939947	198	164.793995	89.79399465	54.79399465	46%	67%
164	3906.906853	362.9635237	198	164.963524	89.96352365	54.96352365	45%	67%
95	3917.889386	363.9838343	198	165.983834	90.98383432	55.98383432	45%	66%
94	3918.437008	364.03471	198	166.03471	91.03471005	56.03471005	45%	66%
147	3926.146304	364.7509271	198	166.750927	91.75092713	56.75092713	45%	66%
31	3957.76735	367.6886185	198	169.688618	94.68861846	59.68861846	44%	65%
181	3975.627718	369.3479009	198	171.347901	96.34790088	61.34790088	44%	64%
49	4015.547624	373.0565816	198	175.056582	100.0565816	65.05658156	43%	63%
0	4041.168759	375.4368628	198	177.436863	102.4368628	67.43686284	42%	62%
56	4045.531291	375.8421553	198	177.842155	102.8421553	67.84215532	42%	62%
105	4051.392223	376.3866538	198	178.386654	103.3866538	68.38665378	42%	62%
72	4067.329228	377.8672499	198	179.86725	104.8672499	69.86724993	42%	61%
67	4072.9437	378.3888514	198	180.388851	105.3888514	70.38885144	42%	61%
128	4086.630653	379.6604111	198	181.660411	106.6604111	71.66041106	41%	61%
87	4090.122733	379.9848359	198	181.984836	106.9848359	71.98483591	41%	60%
100	4095.70607	380.5035449	198	182.503545	107.5035449	72.50354489	41%	60%
110	4099.953731	380.8981655	198	182.898165	107.8981655	72.89816545	41%	60%
33	4112.21622	382.037388	198	184.037388	109.037388	74.03738799	41%	60%
111	4124.930708	383.2186025	198	185.218603	110.2186025	75.21860255	40%	59%
118	4126.095565	383.3268213	198	185.326821	110.3268213	75.32682129	40%	59%
120	4135.778969	384.226439	198	186.226439	111.226439	76.22643899	40%	59%
86	4149.014046	385.4560179	198	187.456018	112.4560179	77.45601791	40%	59%
99	4168.518927	387.2680806	198	189.268081	114.2680806	79.2680806	40%	58%
101	4171.665552	387.5604116	198	189.560412	114.5604116	79.5604116	40%	58%
62	4184.088918	388.7145802	198	190.71458	115.7145802	80.71458016	39%	58%
75	4185.540021	388.849392	198	190.849392	115.849392	80.84939202	39%	58%
89	4233.11448	393.2692039	198	195.269204	120.2692039	85.26920387	38%	56%
38	4233.205965	393.2777031	198	195.277703	120.2777031	85.27770307	38%	56%
58	4235.922183	393.530048	198	195.530048	120.530048	85.53004798	38%	56%
81	4249.645244	394.8049621	198	196.804962	121.8049621	86.80496213	38%	56%
78	4250.32607	394.8682129	198	196.868213	121.8682129	86.86821293	38%	56%
35	4258.144806	395.5945972	198	197.594597	122.5945972	87.59459721	38%	56%
74	4268.825826	396.5868965	198	198.586896	123.5868965	88.5868965	38%	55%
43	4274.928833	397.1538844	198	199.153884	124.1538844	89.15388436	38%	55%
23	4279.61432	397.5891803	198	199.58918	124.5891803	89.58918032	38%	55%
68	4313.290277	400.7177791	198	202.717779	127.7177791	92.71777909	37%	54%
63	4381.208947	407.0276301	198	209.02763	134.0276301	99.02763008	36%	53%
97	4404.272706	409.1703234	198	211.170323	136.1703234	101.1703234	36%	52%
32	4410.019653	409.7042322	198	211.704232	136.7042322	101.7042322	35%	52%
34	4414.846702	410.1526798	198	212.15268	137.1526798	102.1526798	35%	52%
66	4420.05267	410.63633	198	212.63633	137.63633	102.63633	35%	52%
73	4475.557194	415.792869	198	217.792869	142.792869	107.792869	34%	51%
25	4485.33201	416.7009792	198	218.700979	143.7009792	108.7009792	34%	50%
18	4491.516065	417.2754966	198	219.275497	144.2754966	109.2754966	34%	50%
82	4543.195868	422.0767075	198	224.076707	149.0767075	114.0767075	33%	49%
9	4551.635115	422.8607392	198	224.860739	149.8607392	114.8607392	33%	49%
26	4577.040491	425.2209759	198	227.220976	152.2209759	117.2209759	33%	48%
61	4620.568548	429.2648646	198	231.264865	156.2648646	121.2648646	32%	48%
80	4626.649512	429.8298046	198	231.829805	156.8298046	121.8298046	32%	47%
156	4661.051247	433.0258304	198	235.02583	160.0258304	125.0258304	32%	47%
143	4691.01951	435.8099732	198	237.809973	162.8099732	127.8099732	32%	46%
44	4710.533318	437.6228653	198	239.622865	164.6228653	129.6228653	31%	46%
70	4715.081501	438.0454053	198	240.045405	165.0454053	130.0454053	31%	46%
59	4764.248229	442.6131438	198	244.613144	169.6131438	134.6131438	31%	45%
98	4772.063632	443.3392185	198	245.339218	170.3392185	135.3392185	31%	45%

104	4772.855082	443.4127466	198	245.412747	170.4127466	135.4127466	31%	45%
106	4791.198922	445.1169451	198	247.116945	172.1169451	137.1169451	30%	45%
21	4819.891734	447.7825945	198	249.782595	174.7825945	139.7825945	30%	44%
50	4821.522525	447.9341	198	249.9341	174.9341	139.9341	30%	44%
46	4883.161672	453.6605642	198	255.660564	180.6605642	145.6605642	29%	43%
93	4884.656498	453.799438	198	255.799438	180.799438	145.799438	29%	43%
55	4894.750611	454.7372118	198	256.737212	181.7372118	146.7372118	29%	43%
57	4970.105597	461.7379191	198	263.737919	188.7379191	153.7379191	28%	42%
88	4978.913937	462.5562407	198	264.556241	189.5562407	154.5562407	28%	42%
52	4992.706119	463.8375762	198	265.837576	190.8375762	155.8375762	28%	41%
187	5020.164726	466.3885644	198	268.388564	193.3885644	158.3885644	28%	41%
92	5047.504601	468.9285218	198	270.928522	195.9285218	160.9285218	28%	41%
71	5068.521104	470.8810189	198	272.881019	197.8810189	162.8810189	27%	40%
148	5108.227244	474.56984	198	276.56984	201.56984	166.56984	27%	40%
77	5176.244296	480.8888309	198	282.888831	207.8888309	172.8888309	27%	39%
85	5185.030374	481.7050843	198	283.705084	208.7050843	173.7050843	26%	39%
45	5384.942059	500.2774876	198	302.277488	227.2774876	192.2774876	25%	36%
137	5407.990832	502.4187886	198	304.418789	229.4187886	194.4187886	25%	36%
40	5448.790203	506.2091742	198	308.209174	233.2091742	198.2091742	24%	36%
20	5471.617831	508.3299302	198	310.32993	235.3299302	200.3299302	24%	35%
60	5512.90718	512.1658362	198	314.165836	239.1658362	204.1658362	24%	35%
76	5726.736619	532.0312412	198	334.031241	259.0312412	224.0312412	22%	33%
121	5773.952803	536.4177683	198	338.417768	263.4177683	228.4177683	22%	33%
103	5783.163183	537.2734405	198	339.273441	264.2734405	229.2734405	22%	32%
113	5883.554982	546.6001438	198	348.600144	273.6001438	238.6001438	22%	32%
90	5950.829422	552.8501439	198	354.850144	279.8501439	244.8501439	21%	31%
127	6000.393536	557.4548007	198	359.454801	284.4548007	249.4548007	21%	31%
114	6003.687334	557.7608046	198	359.760805	284.7608046	249.7608046	21%	31%
96	6004.311509	557.8187923	198	359.818792	284.8187923	249.8187923	21%	31%
108	6025.516999	559.7888468	198	361.788847	286.7888468	251.7888468	21%	30%
83	6096.124762	566.3485226	198	368.348523	293.3485226	258.3485226	20%	30%
29	6193.290138	575.3754814	198	377.375481	302.3754814	267.3754814	20%	29%
48	6295.327731	584.855084	198	386.855084	311.855084	276.855084	19%	28%
150	6296.107058	584.9274858	198	386.927486	311.9274858	276.9274858	19%	28%
15	6315.672792	586.745202	198	388.745202	313.745202	278.745202	19%	28%
112	6415.20089	595.9916649	198	397.991665	322.9916649	287.9916649	19%	28%
37	6550.498926	608.5612638	198	410.561264	335.5612638	300.5612638	18%	27%
134	6581.272154	611.4201902	198	413.42019	338.4201902	303.4201902	18%	27%
13	6643.442206	617.195977	198	419.195977	344.195977	309.195977	18%	26%
19	6651.610686	617.9548537	198	419.954854	344.9548537	309.9548537	18%	26%
12	6677.975336	620.4042098	198	422.40421	347.4042098	312.4042098	18%	26%
28	6745.065896	626.6371267	198	428.637127	353.6371267	318.6371267	17%	26%
24	6760.171477	628.0404811	198	430.040481	355.0404811	320.0404811	17%	26%
64	6868.865929	638.1385261	198	440.138526	365.1385261	330.1385261	17%	25%
47	6870.328193	638.274375	198	440.274375	365.274375	330.274375	17%	25%
41	6908.069833	641.780688	198	443.780688	368.780688	333.780688	17%	25%
22	6954.48692	646.0929765	198	448.092976	373.0929765	338.0929765	17%	25%
27	7125.17378	661.9503047	198	463.950305	388.9503047	353.9503047	16%	24%
6	7243.794533	672.9705333	198	474.970533	399.9705333	364.9705333	16%	23%
53	7334.541785	681.4012288	198	483.401229	408.4012288	373.4012288	16%	23%
10	7642.377435	710.0000966	198	512.000097	437.0000966	402.0000966	15%	21%
69	8038.792361	746.8282483	198	548.828248	473.8282483	438.8282483	14%	20%
4	8067.26382	749.4733333	198	551.473333	476.4733333	441.4733333	14%	20%
42	8101.543858	752.6580531	198	554.658053	479.6580531	444.6580531	14%	20%
30	8138.718137	756.1116566	198	558.111657	483.1116566	448.1116566	13%	20%
123	8293.275671	770.4705214	198	572.470521	497.4705214	462.4705214	13%	19%
36	8371.35559	777.7243833	198	579.724383	504.7243833	469.7243833	13%	19%
11	8748.455107	812.7580748	198	614.758075	539.7580748	504.7580748	12%	18%

16	8807.289889	818.2240049	198	620.224005	545.2240049	510.2240049	12%	18%
14	9009.423559	837.0028373	198	639.002837	564.0028373	529.0028373	12%	17%
3	9190.964735	853.8685644	198	655.868564	580.8685644	545.8685644	11%	17%
2	9483.819703	881.0756812	198	683.075681	608.0756812	573.0756812	11%	16%
79	10023.6394	931.2265723	198	733.226572	658.2265723	623.2265723	10%	15%
7	10131.8701	941.281533	198	743.281533	668.281533	633.281533	10%	15%
5	12381.01534	1150.233964	198	952.233964	877.2339635	842.2339635	8%	12%
8	19844.61484	1843.625046	198	1645.62505	1570.625046	1535.625046	5%	7%
17	22481.51486	2088.601075	198	1890.60107	1815.601075	1780.601075	4%	6%