

Data and Analysis

The following attachment outlines the data collection and analysis conducted to understand current conditions of secondary suites, provides information on water flow, hydrant spacing, potential parking impacts and Alberta Building Code implications. The attachment also includes information requested at the April 17, 2018, Urban Planning Committee meeting related to amenity area and density.

Existing Conditions

In order to gauge the potential impacts of increasing opportunities for secondary suites, Administration analyzed the 2016 Municipal Census results for existing single detached, semi-detached, duplex and row housing, and building permit data for all existing secondary suites that have been permitted since 2008. An analysis was then done to project the possible number of new suites that may be added as a result of increased opportunities.

Secondary Suites in Single Detached Housing

As of August 2017, 3,453 secondary suites had been issued a building permit in Edmonton. This means that in the past decade, about 1.7 percent of Edmonton's 201,463 single detached houses have developed a permitted secondary suite. See Figure 1 for a map of single detached house distribution in Edmonton.

In order to understand geographic location trends, Administration looked at the number of permitted secondary suites per neighbourhood compared to the overall number of single detached houses. While some neighbourhoods had higher absolute numbers of suites, none were over seven percent of the total number of single detached homes. Please see Table 1 and Figure 2 for details.

Table 1 - Top Ten Neighbourhoods by Numbers of Permitted Secondary Suites

Neighbourhood Name	Neighbourhood Classification	Number of Secondary Suites	Number of Single Detached Houses	Percentage of Single Detached Houses with a Secondary Suite
Alberta Avenue	Mature	97	2,592	4%
Chappelle Area	Developing	67	1,216	6%
Oxford	Developing	67	996	7%
Allendale	Mature	62	1,029	6%
Laurel	Developing	62	1,280	5%
McKernan	Mature	61	998	6%
Ritchie	Mature	59	1,258	5%
Walker	Developing	59	1,544	4%
King Edward Park	Mature	58	1,423	4%
Hazeldean	Mature	55	1,142	5%

Figure 1

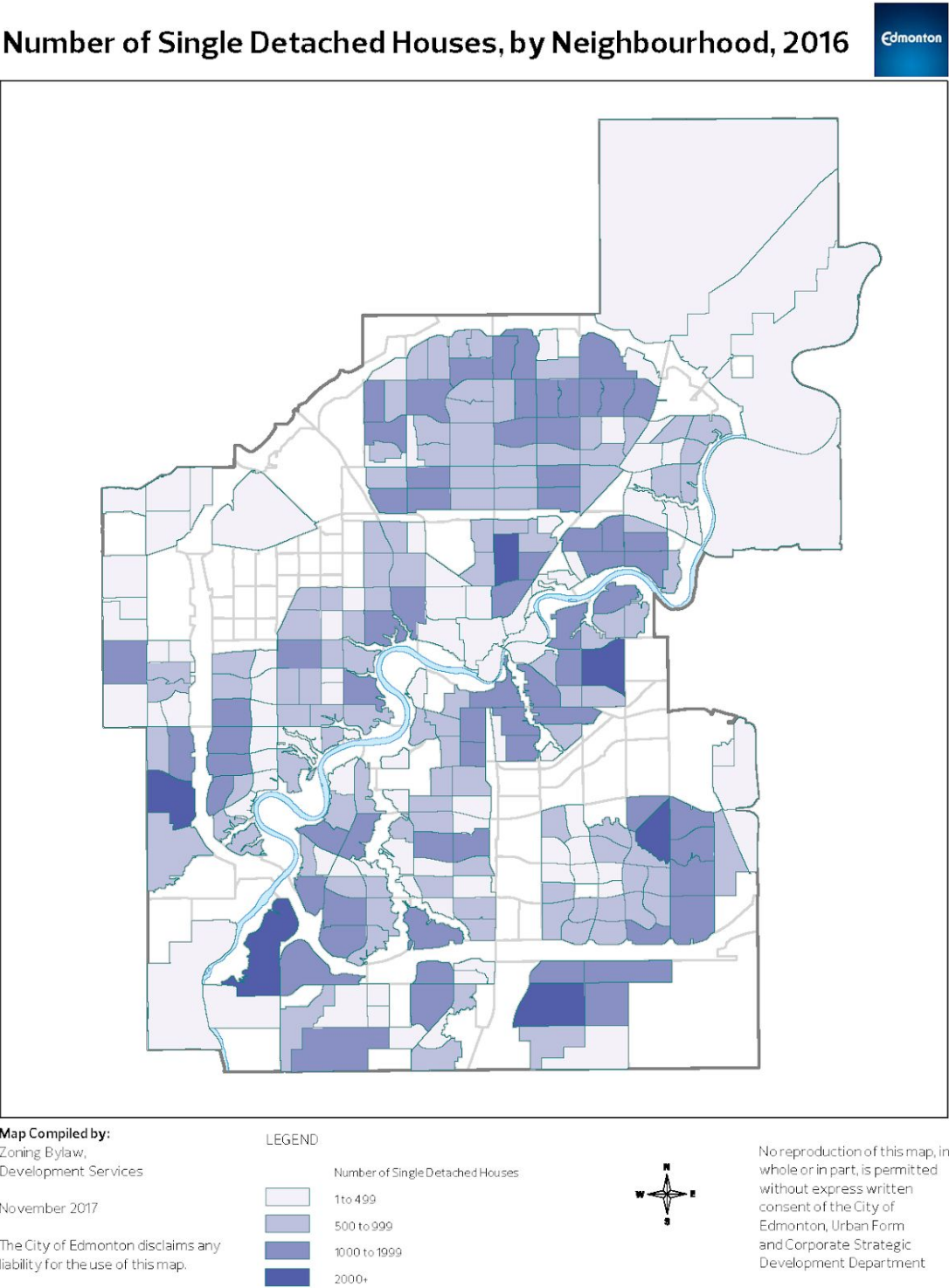
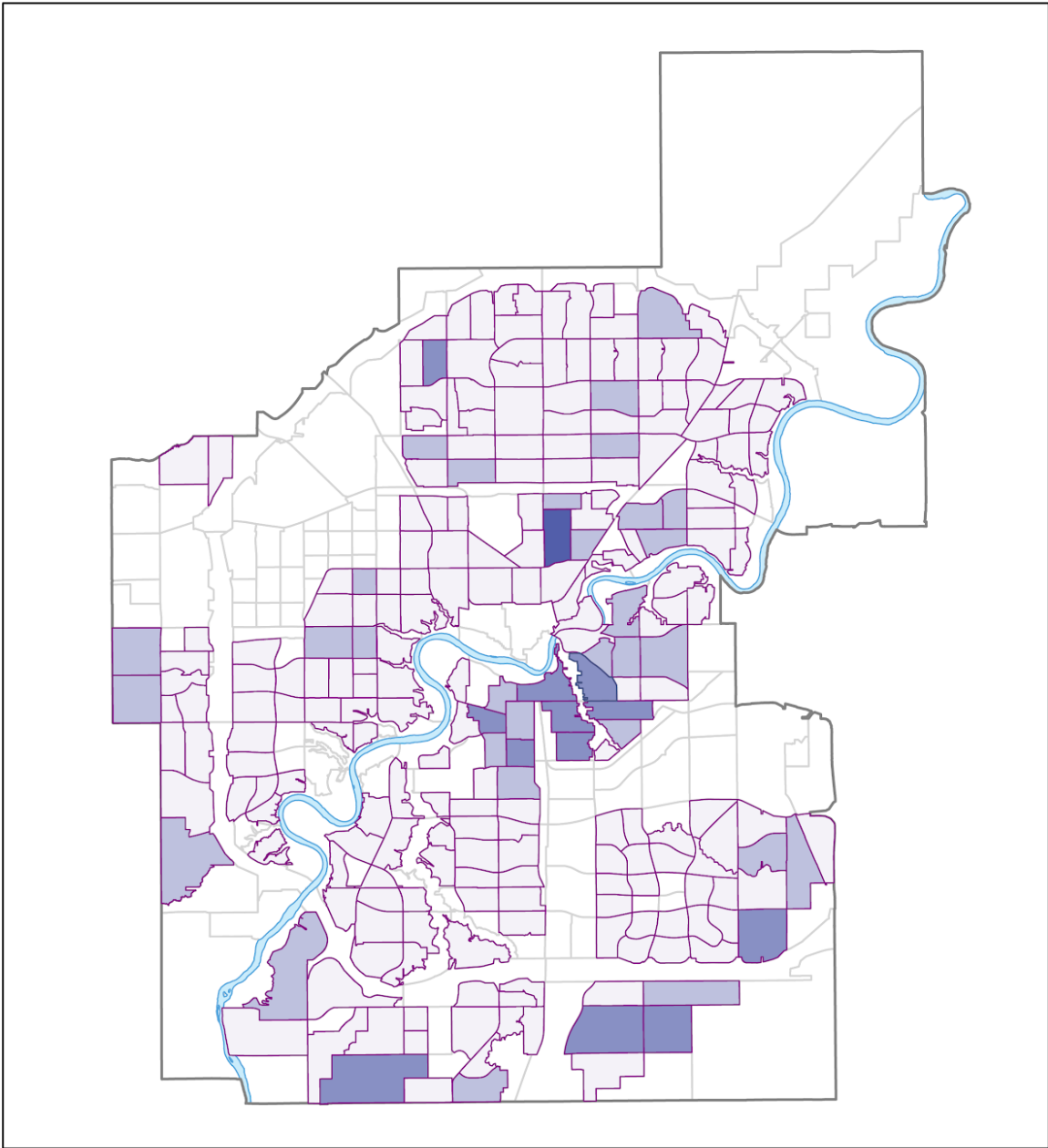


Figure 2

Total Number of Secondary Suite Permits Issued, 2008 – 2017



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Development Services

October 2017

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LEGEND

Number of Permits Issued	
1 to 24	
25 to 49	
50 to 74	
75+	



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Semi-detached and Duplex Housing

According to the 2016 Municipal Census, there are 28,817 semi-detached and duplex dwellings in Edmonton. Administration looked at the geographic distribution of these housing types. The ten neighbourhoods with the highest number of semi-detached and duplex dwellings are shown in Table 2, followed by Figure 3, which shows where these dwellings are located. Please note that these numbers may be inflated as the Edmonton Municipal Census includes “fourplex” in the same category as semi-detached and duplex dwellings. As Table 2 shows, semi-detached and duplex housing makes up a small proportion of residential dwellings in most neighbourhoods.

Table 2 - Neighbourhoods with the Highest Numbers of Semi-detached, Duplex and Fourplex Housing Dwellings

Neighbourhood Name	Neighbourhood Classification	Semi-detached, Duplex, and Fourplex Dwellings	Total Dwellings in Neighbourhood	% Total Dwellings that are Semi-detached, Duplex, and Fourplexes
Rutherford	Developing	885	4,291	21%
The Hamptons	Developing	638	4,435	14%
Walker	Developing	604	2,968	20%
Windermere	Developing	524	3,650	14%
Canora	Mature	508	1,702	30%
Calder	Mature	471	2,063	23%
Bonnie Doon	Mature	461	2,567	18%
Summerside	Developing	453	5,000	9%
Killarney	Mature	434	1,911	23%
Laurel	Developing	409	2,610	16%

Figure 3

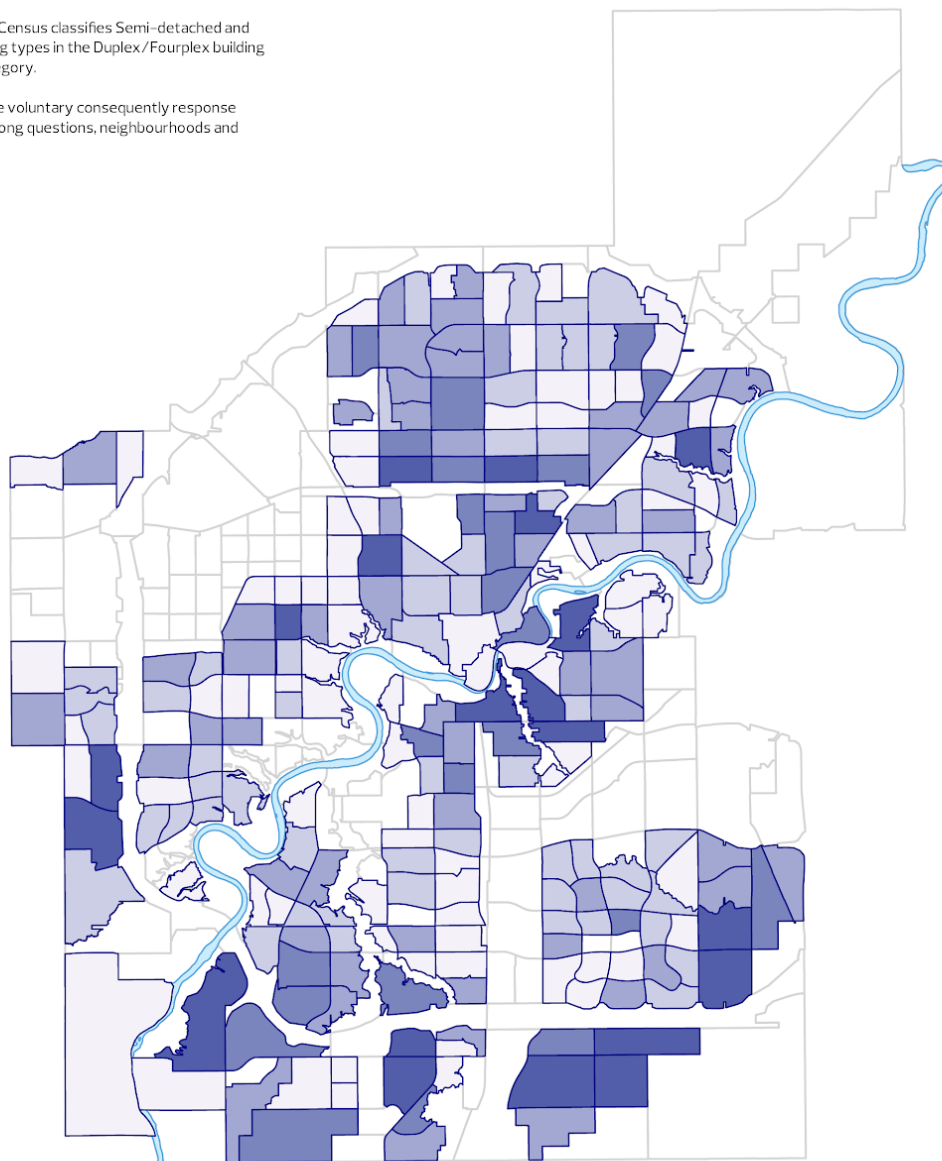
Number of Duplex/Fourplex Units, by Neighbourhood, 2016

Edmonton

Source: Edmonton 2016 Municipal Census

The Municipal Census classifies Semi-detached and Duplex housing types in the Duplex/Fourplex building structure category.

Responses are voluntary consequently response rates vary among questions, neighbourhoods and wards.



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LEGEND

Number of Housing Units	
	1 to 49
	50 to 99
	100 to 199
	200 to 299
	300+



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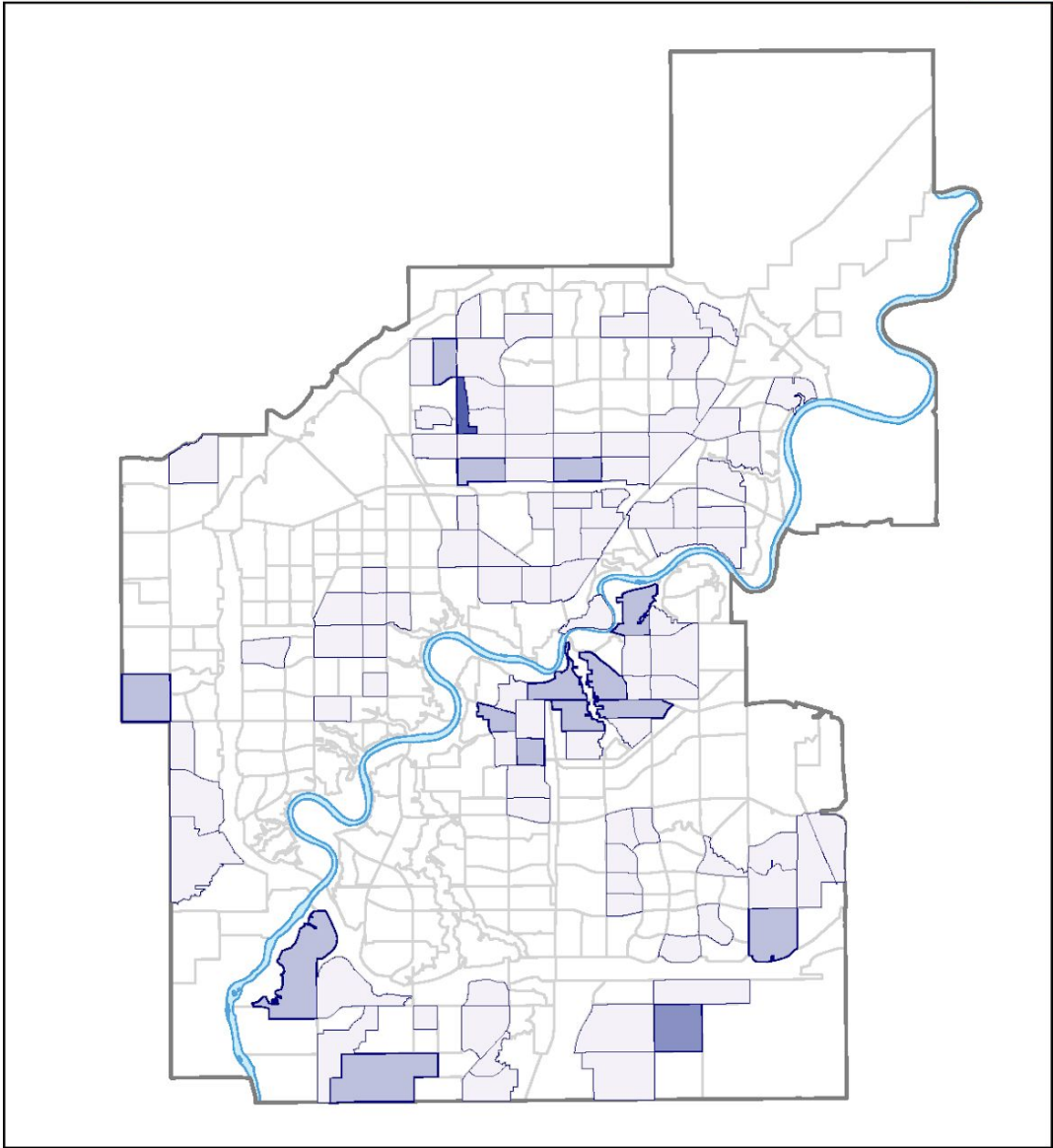
As the analysis of the location of existing secondary suites shows, different neighbourhoods have different levels of secondary suite development in single detached houses. If the same percentage of single detached homes with suites is applied to semi-detached and duplex housing in Edmonton, there would be approximately 493 new suites across the whole city.

Actual uptake may be higher or lower than this extrapolated number as it will depend on market interest, affordability of housing stock, vacancy rates, and homeowner finances. This number also does not account for existing secondary suites that do not have permits. Compliance initiatives are discussed further in Attachment 6 - Safety, Compliance, and Education Initiatives.

Figure 4 outlines the potential future number of secondary suites in semi-detached and duplex units if the same rate of uptake of secondary suites in single detached houses is applied to semi-detached and duplex units.

Figure 4

Projected Number of Secondary Suites in Semi-Detached and Duplex Housing







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December 2017

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LEGEND

Projected Number of Suites	
	1 to 9
	10 to 19
	20 to 29
	30+



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As Figure 4 shows, Administration expects the total number of secondary suites in semi-detached or duplex housing to be relatively small, both across the city as a whole and in each individual neighbourhood.

Row Housing

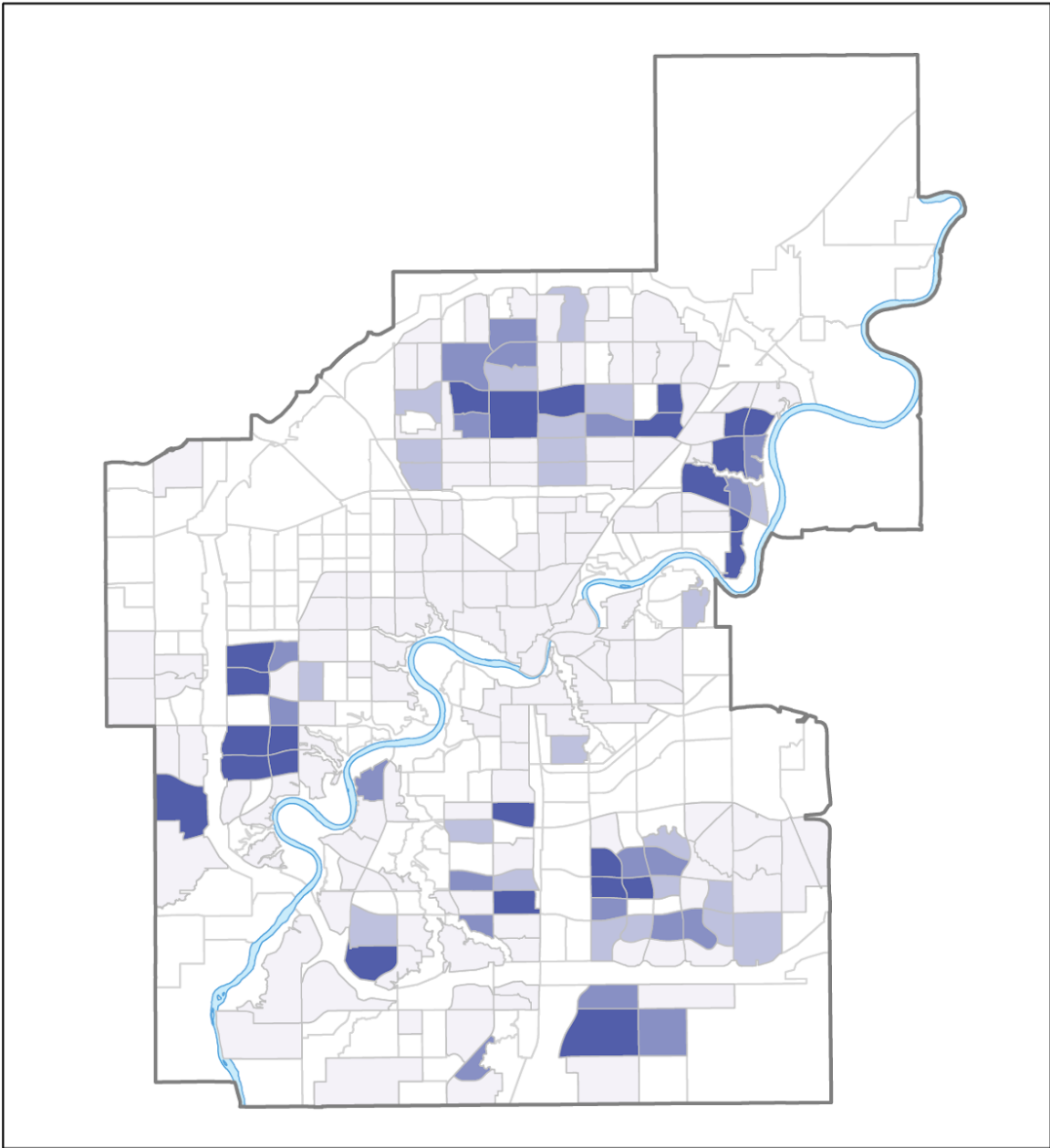
According to the 2016 Municipal Census, there are 36,214 dwellings of row housing in Edmonton. Table 3 shows the ten neighbourhoods with the highest numbers of row housing dwellings. Figure 5 shows where these dwellings are located.

Table 3 - Neighbourhoods with the Highest Numbers of Row Housing Dwellings

Neighbourhood Name	Neighbourhood Classification	Number of Row Housing Dwellings	Total Dwellings in neighbourhood	% of Total Dwellings that are Row Housing
Ormsby Place	Established	728	1,956	37%
Casselman	Established	719	1,508	48%
Belmead	Established	680	1,738	39%
South Terwillegar	Developing	610	3,861	16%
Belmont	Established	570	2,051	28%
Homesteader	Established	552	1,426	39%
Lymburn	Established	546	2,204	25%
Richfield	Established	524	1,188	44%
Hairsine	Established	523	1,011	52%
Callingwood South	Established	515	3,029	17%

Figure 5

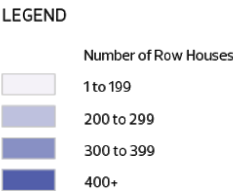
Number of Row Housing Units, by Neighbourhood, 2016



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November 2017

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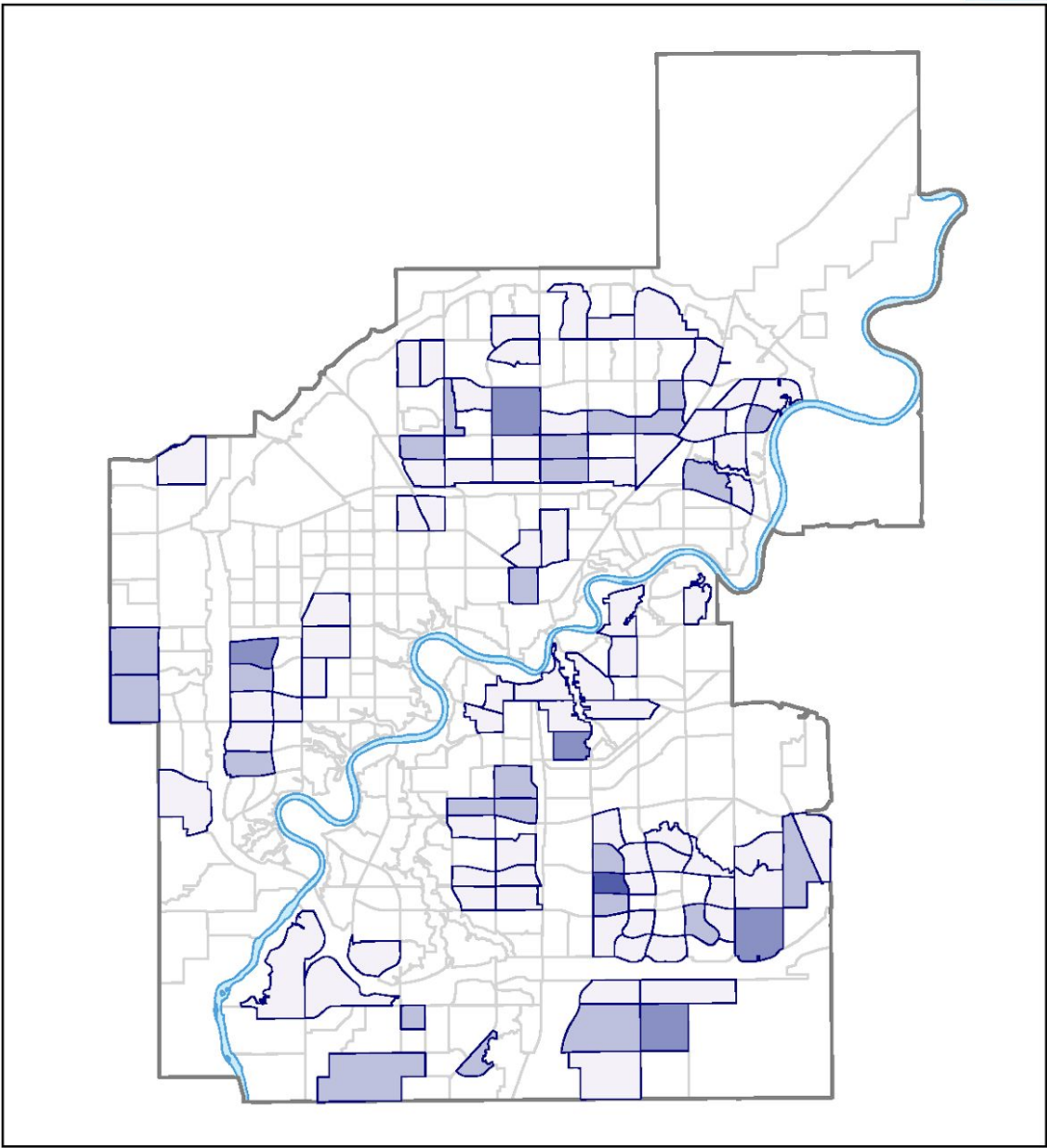
As with semi-detached and duplex housing, the amount of row housing in most neighbourhoods is significantly lower than for single detached housing. If the same percentage of single detached homes with suites is applied to the number of row housing units, it is expected that there would be an additional 619 new secondary suites developed across the city.

Figure 6 outlines the total expected number of secondary suites in row housing units if it is assumed that each neighbourhood will have the same rate of uptake on secondary suites in row housing as has occurred in single detached houses.

As noted above, actual uptake may be higher or lower based on a number of factors. It should be noted that Building Code requirements for secondary suites in row housing will likely constrain retrofits of existing units, resulting in a significantly lower uptake than outlined in Figure 6. Further information is provided in the Alberta Building Code section below.

Figure 6

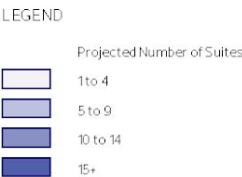
Projected Number of Secondary Suites in Rowhousing



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January 2018

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Parking

One of the most frequent concerns related to secondary suites that was shared with Administration is the potential for impacts to parking. Currently, Zoning Bylaw 12800 requires all secondary suites to have one off-street parking space provided on the property. This parking requirement does not apply to areas with access to high frequency transit, including 600m from LRT or transit centres, and 150m from transit avenues. These parking requirements will also apply to secondary suites in semi-detached, duplex, and row housing.

Administration turned to a range of resources to understand parking patterns associated with secondary suites. Administration conducted a survey through the Insight Community in April, 2016, to obtain information about citizens' parking habits. Twelve of these respondents noted that they lived in secondary suites. While a very small sample size, the survey showed that:

- two (17 percent) stated that they park on-street
- seven (58 percent) parked in off-street parking stalls
- three (25 percent) did not own vehicles

Similar results have been found through other Edmonton studies. Between October 2016 to January 2017, a survey was distributed to 112 garden suite residents as part of a student's academic work. Seventy two surveys were completed, with 43 responding to a question regarding vehicle ownership. The results showed that respondents owned an average of 1.05 vehicles, compared with an average of 1.87 vehicles per dwelling in Alberta. The results showed that 72 percent owned one vehicle and nine percent owned zero vehicles. Of the respondents with vehicles, 79 percent stated that they parked in off-street parking spaces¹.

These local Edmonton findings are similar to studies conducted in other cities. A survey in Portland, Oregon, with over 200 responses revealed that suites are associated with an average of 0.93 vehicles per dwelling, and an average of 0.46 vehicles parked on the street (State of Oregon Department of Environmental Quality, 2014). If we take this number and apply it to Edmonton, this would mean that the existing permitted secondary suites are associated with a total of 1,588 vehicles parked on the street across the entire city.

Administration's research suggests that an increase in the number of secondary suites is unlikely to noticeably increase the number of vehicles parked on the street beyond typical variations in parking patterns resulting from larger families or increased car ownership as per household preferences. The monitoring of

¹ Ashley A. Salvador, "Much "ADU" About A Lot: How Social Relations Influence the Affordability of Accessory Dwelling Units in Edmonton, Alberta, Canada" (bachelor's thesis, Dalhousie University, 2017), 70.

on-street parking availability is undertaken on an ongoing basis by Transportation Operations. In cases where on-street parking becomes constrained, there are a number of on-street parking management tools that can be applied. This includes time-restricted parking stalls, or the implementation of the ePark system, both of which serve to increase the availability of on-street parking for a variety of users.

Alberta Building Code

As outlined in the June 21, 2016, Sustainable Development report CR_3538, the Alberta Building Code currently allows for the development of secondary suites in semi-detached, duplex and row housing. However there is a difference in Code requirements for secondary suites in row housing as compared to semi-detached or duplex housing. For a semi-detached house, a party wall constructed between the two principal dwellings and their associated secondary suites is sufficient to meet code requirements. However, a row house requires a firewall separating every two principal dwellings in a row housing building that contains a secondary suite.

The main implication of this finding relates to cost. Installing firewalls between every second dwelling in an existing row house development may prove to be cost prohibitive, however when incorporated as part of the original design and construction, costs are not as significant. Zoning Bylaw 12800 is not able to regulate the firewall requirement as this is addressed in the Alberta Building Code. In order to encourage row housing that can be adapted over time, Administration will share information with property owners and developers to flag the opportunity to build in flexibility for secondary suites by installing a firewall between every second principal dwelling at the time of original construction. Any row house owner applying for a secondary suite in an existing row house will need to meet all Code requirements to receive a permit.

It is also noted that changes for secondary suite construction requirements are anticipated in relation to building codes in Fall 2018. Since the inception of secondary suites in the Alberta Building Code, suites constructed prior to 2007 have been permitted to satisfy the safe, though slightly less stringent, Fire Code requirements for heating and ventilation systems, doors, and furnace room enclosure. It is expected that with the introduction of the updated 2018 Codes, all suites will be required to meet the same Building Code requirements regardless of when they were constructed. This impending change may provide additional incentive for homeowners with currently unpermitted suites to come forward in order to be assessed under the current Fire Code regulation.

Water Flows and Fire Hydrant Spacing

Required water flows for neighbourhoods and fire hydrant spacing are determined by the City of Edmonton's Design and Construction Standards: Volume 4, Water. It was initially believed that adding the opportunity for

secondary suites would result in significant increases to fire hydrant spacing and fire flow requirements.

Since April 2018, Development & Zoning Services, Fire Rescue Services, and EPCOR have met to discuss an approach to address the question of fire safety as it relates to secondary suites. This has resulted in:

- Minor wording changes to the proposed amendments to ensure secondary suite entrances can meet Fire Rescue Service access standards
- Direction on the interim interpretation of Volume 4 Design Standards that will maintain current practice of assessing by zone rather than built form
- A draft project charter for the update of the Volume 4 Design Standards

The review of the Volume 4 Standards is timely with the anticipated release of the new Fire Underwriters' Survey this year. The intent is to maintain the same risk ratings while exploring opportunities to employ new approaches that recognize risks and opportunities based on infrastructure configurations, knowledge of the use of the system, and other mitigation factors. In addition to supporting the addition of secondary suites, this work will also contribute to other City initiatives including Evolving Infill, the Missing Middle Zoning Bylaw review, the Zoning Bylaw Renewal project, and the City Plan.

Row Housing Amenity Area

Concerns were raised at the April 17, 2018, Urban Planning Committee regarding the provision of amenity area for row housing with secondary suites. Under current regulations, secondary suites in single detached homes are not required to have any dedicated outdoor amenity area. The opportunity to access yardspace is determined between the two households with no involvement from the City. This was found to be the case in most other cities reviewed by Administration.

To understand the availability of overall amenity area in row house developments to be shared, Administration revisited analysis that had been undertaken as part of a review of amenity area provision for row housing in 2017 as part of the February 26, 2018 Urban Form and Corporate Strategic Development report CR_5502. This analysis was focused on the (RF5) Row Housing Zone as the majority of row housing development permits are issued in this zone.

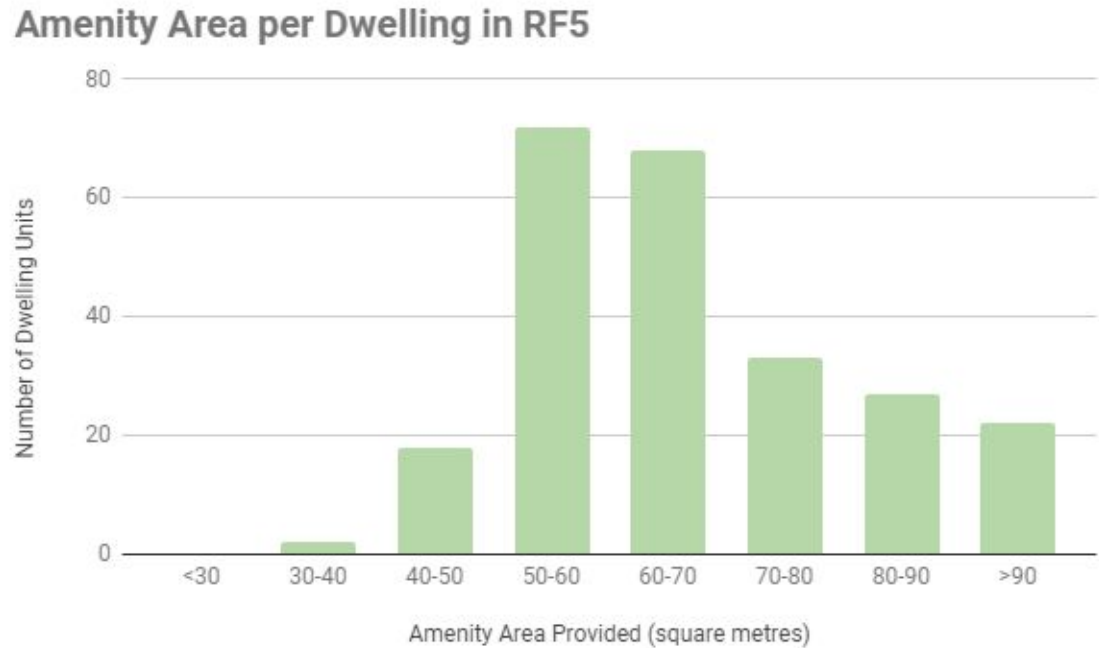
Findings - Analysis of Row Housing developments that are not part of a Multi-unit Project Development in the (RF5) Row Housing Zone

In 2015 and 2016, 131 development permits were issued for developments in the (RF5) Row Housing Zone, representing 58 percent of the total Row Housing development permits in this time frame. Of those, 118 (90 percent) were for developments that are not part of a multi-unit project development.

The current required amount of amenity area in the (RF5) Row Housing Zones is 15 square metres per dwelling of row housing. The requirements was 30 square metres per dwelling prior to the passing of amendments to Zoning Bylaw 12800 on February 26, 2018. Administration’s analysis revealed that the amenity area on site is typically provided well in excess of both the current and previous minimum requirements for development in the (RF5) Row Housing Zone when the row house dwelling was not developed as part of a multi-unit project development. This is a result of minimum lot sizes and required setbacks. It was additionally found that lots are typically subdivided larger than the required minimum site area, again resulting in provision of amenity area above minimum requirements.

Administration further analyzed the amount of amenity area provided for each individual dwelling unit approved in 2016 for developments that are not part of a multi-unit project development, and the results are displayed below in Figure 7. The 70 development permits issued in 2016 resulted in 242 individual row housing units. Of the 242 units approved, only two provided less than 40 square metres of amenity area. Seventy four percent of units provided more than 55 square metres of amenity area, well in excess of the 30 square metre minimum that was in place at the time.

Figure 7



These findings suggest that there will typically be significant amenity space provided for both households in row housing with a secondary suite in the (RF5)

Row Housing Zone, depending on how these households choose to share the space.

Findings - Analysis of Multi-unit Project Developments in the (RF5) Row Housing Zone

Administration also analyzed development permits issued in 2015 and 2016 for six multi-unit project developments in the (RF5) Row Housing Zone. Multi-unit project developments have three or more dwellings on a single site that are not individually subdivided and can include both rental and condominium properties. The analysis found that four of the six developments provided at least 30 square metres per dwelling and one provided 43.45 square metres per dwelling or more. One development had a variance granted to allow only 25.8 square metres of amenity area for some dwellings.

In 2018, minimum amenity area requirements in Zoning Bylaw 12800 were changed from 30 square metres to 15 square metres for all row housing, regardless of the zone. As highlighted by the analysis above, amenity area was generally provided in excess of the minimum requirements. In cases where projects are developed to meet the minimum amenity area requirement, this would result in at least 7.5m² per household in a row house with a secondary suite that wished to share their amenity space. This amount is consistent with amenity area requirements for stacked row housing and apartment housing.

Row Housing Density

Concerns were raised at the April 17, 2018, Urban Planning Committee regarding the potential for increased density for row housing with secondary suites.

The current regulations for secondary suites state that “Secondary Suites shall not be included in the calculation of densities in this Bylaw.” This provision only has relevance to the RF5, RA7, RA8, and RA9 zones which stipulate a maximum site-specific density. This regulation does not have any impact on how overall neighbourhood density is measured and calculated by the City’s Growth Analysis Unit.

Including secondary suites in site-specific density calculations has the potential to create an unfair situation for homeowners in multi-unit project developments, where multiple units are individually owned through condo subdivision. For example, a single homeowner could add a secondary suite to their property that would lead to the entire site being at the density maximum. This would preclude any future homeowners on that site from adding a secondary suite.

EPCOR conducted an analysis that compared average water consumption of single detached homes with single detached homes known to have permits for

secondary suites. The findings showed that water consumption was roughly one third higher for single detached homes with secondary suites compared to average water consumption of single detached homes. This suggests that the overall population of individual properties or homes is not significantly changed as a result of adding a secondary suite. As such, capturing these units in a density calculation may not accurately reflect their impacts.

Density in New Row Housing Development

Administration looked at a sample of 10 row housing developments approved in the (RF5) Row Housing Zone that were not part of a multi-unit project development to understand densities in typical developments. This analysis revealed an average density of 39 dwellings per hectare. This was compared to a sample of 10 semi-detached developments in the (RF4) Semi-detached Residential Zone that had an average density of 36 dwellings per hectare. This indicates that a large proportion of new row housing developed is only slightly more dense than new semi-detached housing. This suggests that the addition of secondary suites in row housing will not have a significantly different impact than adding the opportunity in semi-detached housing.

It is also noted that secondary suites are not permitted to be separated from the principal dwelling through condominium conversion or subdivision. As such, a developer or builder is not be able to double the number of saleable units on a site by virtue of adding secondary suites. The change could potentially increase the sale price of a new row house with a secondary suite compared to one without, though this would also come with additional construction costs to meet building code requirements. Survey responses and permit analysis suggest not all Edmontonians wish to have a secondary suites in their unit which may make it unlikely that all new row housing units in a development have secondary suites. In instances where secondary suites were added in every unit of a development, all required parking and amenity area would continue to be required on site.

Industry stakeholders have commented that developing new row housing with secondary suites could be challenging as it may be difficult to meet Alberta Building Code requirements, and provide a liveable space in a more constrained area. Stakeholders also commented that in the case of multi-unit project developments, it would be difficult to accomodate the parking required for secondary suites without reducing the number of saleable row housing units due to site size constraints. These stakeholders stated that it would be more feasible to build apartment housing in many of these situations.

Existing Multi-unit Project Developments

As noted above, Alberta Building Code regulations require costly retrofits of existing row housing to accommodate suites. As such, retrofitting all row houses within a complexes with secondary suites would likely be cost prohibitive. The

alternative would be to redevelop existing sites wholesale to include secondary suites. In order to assess the likelihood of a redevelopment scenario, Administration reviewed typical situations and spoke to current property owners of multi-unit sites.

One scenario is an existing row housing complex that is owned individually through strata or condominium subdivision. In this instance, a majority of homeowners would need to agree to demolish and rebuild the site simply to gain an additional rental unit for each homeowner. Analysis of community surveys and development permit data suggests that not all homeowners wish to have a secondary suite accommodated on their property. This may make it unlikely for the required number of homeowners to agree to the redevelopment of the site. Additional factors such as the temporary loss of their home during redevelopment and the overall project costs and risks compared to the gain in rental income or resale value of their homes may make it further unlikely for such a scenario to take place.

Another scenario is where a single landowner owns an entire row housing complex and most often rents out these units. Administration's assessment of this scenario is that it is unlikely due to the opportunity cost of lost rental revenue during redevelopment, and as reconstruction costs may not be outweighed by the additional rental income. Instead, it is more likely that row housing sites that have reached the end of their lifecycle would be redeveloped as mid-rise apartment buildings to maximize the use and value of the site.

These factors suggest that the addition of secondary suites to row housing would be unlikely to result in widespread redevelopment of existing row housing sites to accommodate secondary suites. In instances where this were to occur, all amenity area and parking requirements would need to be met, and additional housing options would be provided to Edmontonians.