

# Calgary Planning Commission Member Comments



For CPC2024-0213 / LOC2024-0017  
heard at Calgary Planning Commission  
Meeting 2024 March 7



Member	Reasons for Decision or Comments
<b>Commissioner Weber</b>	<p>Reasons for Approval</p> <ul style="list-style-type: none"> <li>The Calgary Planning Commission engaged in a comprehensive review of the proposed citywide land use bylaw amendments. They examined the amendments, posing numerous questions to Administration, with discussions addressing various technical aspects. Ultimately, the Commission concluded that there were no discernible technical flaws in the drafting of the proposed bylaw amendment.</li> </ul> <p>However, the broader question of the potential impacts of these amendments, particularly in achieving the overarching goal of enhancing the supply of homes in Calgary, is complex and nuanced. One of the pivotal factors in determining housing affordability is the market supply of available homes. While the removal or reduction of barriers to new home construction is anticipated to have a positive effect on supply, the magnitude of this impact remains uncertain.</p> <p>Numerous macroeconomic variables come into play when assessing the cost of new homes. Factors such as the availability and cost of labour and materials, prevailing interest rates, construction timelines, sustainability considerations, and a changing climate all contribute to the overall cost dynamics of housing construction. Moreover, these variables are often influenced by factors beyond the local context.</p> <p>For instance, the imposition of softwood lumber tariffs by the US government can significantly affect the production, supply, and pricing of Canadian lumber used in home construction. Similarly, disruptions caused by the COVID-19 pandemic, such as factory closures and supply chain disruptions, have led to constrained supply and increased costs across various sectors, including construction.</p> <p>Beyond economic factors, demographic trends and migration patterns also play a crucial role in shaping housing demand. Calgary has witnessed a surge in demand due to its attractiveness to migrants, with the city leading in net in-migration within Canada. The Federal Government's decision to significantly increase immigration levels has further fueled demand for housing in major urban centers, including Calgary.</p> <p>Moreover, demographic shifts, such as the rise in Millennial household formation and delayed baby boomer downsizing, contribute to the</p>

	<p>evolving housing landscape. Despite efforts to promote alternative housing forms and densification, the aspiration for single-family homeownership remains predominant among Canadians across generations.</p> <p>Calgary, in this context, emerges as a beacon for the single-family home dream, offering relative affordability compared to other major Canadian cities like Vancouver and Toronto. Many individuals and families are drawn to Calgary by the prospect of owning a single-family home within a shorter commuting distance to work, thereby enhancing their quality of life.</p> <p>However, the present exceptional demand for housing in Calgary, particularly for single-family homes, underscores the need for proactive measures to address supply constraints. While the proposed citywide rezoning aims to facilitate inner-city redevelopment and densification, there are concerns about its potential impact on the availability of single-family homes, which are highly sought after in the city.</p> <p>This raises critical questions about the delicate balance between promoting housing affordability and preserving the unique character of Calgary's neighborhoods. While increasing housing density may alleviate supply pressures in the short term, there is a risk that it could lead to the gradual disappearance of inner-city single-family homes, thereby altering the city's housing landscape irreversibly.</p> <p>Moreover, there is a looming possibility that the diminishing supply of single-family homes could drive up prices to a point where Calgary's relative affordability compared to other major Canadian markets diminishes. This could potentially dampen the city's appeal to migrants seeking affordable homeownership opportunities, thereby affecting its long-term growth prospects.</p> <p>In conclusion, while the proposed citywide land use bylaw amendments offer potential benefits in terms of enhancing housing supply, their long-term implications for affordability and neighborhood character warrant careful consideration. Finding a delicate balance between promoting housing affordability and preserving Calgary's unique identity is essential for ensuring the city's continued prosperity and livability. I support this land use amendment as I believe it could have a positive impact on improving housing supply. Accordingly, I encourage Council to maintain townhomes as a discretionary use in the established area to ensure compatibility and consultation are integrated into new multi-unit developments within the inner city.</p>
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<b>Commissioner Hawryluk</b>	<p>Reasons for Approval</p> <ul style="list-style-type: none"> <li>I was happy to move this recommendation for the following reasons:</li> </ul>
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## Technical Review

This Land Use Amendment would consolidate 8 low-density residential Land Use Districts into 2 low-density residential Land Use Districts, Residential – Grade-Oriented Infill (R-CG) District and Residential – Low Density Mixed Housing (R-G) District, and apply those Districts throughout the city. Using the Municipal Development Plan's (MDP) Balanced Growth Boundary, the R-CG District would be applied in the developed areas and the R-G District would be applied in the developing areas.

This would allow the next increment of residential development throughout most of Calgary. Direct Control Districts, the Residential – Low Density Multiple Dwelling (R-2M) District and the Residential – Manufactured Home (R-MH) District would need to be updated through another Land Use Amendment in the future.

Comparison of Key Low-Density Residential Districts (See Attachment 1, page 7 for more detail)				
	R-C1/R-C2	R-CG	R-1	R-G
Height	8.6-10m	8.6-11m	11-12m	12m
Lot Coverage	45%	45-60%	45%	60-70%

The R-C1 and R-C2 Districts have contextual height rules that let people build up to 8.6m. If the two closest buildings on the block are already 8.6m tall, then a new building between them can go up to 10m. At most, the R-CG District would allow an increase of 1-2.4m of height and 15% lot coverage.

R-CG has specific rules for height and setbacks along property lines that are shared with other low-density residential districts (LUB, 541). Council has approved these rules to make the R-CG District appropriate in low-density settings and respect adjacent residents.

In the developing areas, R-G would allow another 0-1m of height and up to 15-25% lot coverage beyond what is currently allowed. Given that these areas have been built in the last 40 years, redevelopment is unlikely in these areas for a few decades. Since the creation of the R-G and R-Gm Districts (R-Gm requires attached dwellings like semi-detached and rowhouses) in 2016, new outline plans have applied these Districts as a base for low-density residential development.

### R-CG and R-G forms:

R-CG and R-G would allow a variety of housing like detached houses, secondary suites, and backyard suites, and missing middle housing (semi-detached, duplexes, townhouses, cottage housing clusters, and rowhouses).

**Detached houses:** Proposed Amendment 1(h) would make contextual single detached dwellings a permitted use in the R-CG District. Single detached dwellings will remain a permitted use in the R-G District.

In the R-CG District, density (in units/hectare) determines the lot coverage. By my math, new detached houses will be able to cover up to 45% of the lot like they can under the current R-C1 District (LUB, 534(2)). The current R-C1 District requires 2-3 trees/unit (LUB 346.1(3-4)). The R-CG District requires at least 1 tree and 3 shrubs for each 110.0 square meters of parcel area (LUB 542.2(2)). If my math is correct, someone building a new detached house on a 50'x120' lot would need to plant 5 trees and 15 shrubs. Residents may find that this gives the R-CG District better rules for detached houses than the current R-C1 District.

**Secondary suites and backyard suites:** Proposed Amendments 1(f) would allow secondary (basement) suites and backyard suites on a single lot in the R-CG and R-G Districts. The shadows from a detached house with a backyard suite are the same with or without a secondary suite. This is the gentlest of gentle density. Proposed Amendment 1(n) would allow backyard suites to be built without parking. There would need to be 0.5 parking stalls for each unit and secondary suite.

If Councillors are worried about rowhouses having secondary suites and basement suites, they could add an amendment: "Developments consisting of 3 or more Dwelling Units may only provide one backyard or secondary suite per Dwelling unit."

**Semi-detached houses:** These are 2 houses in a side-by-side form with a shared wall between them. Contextual semi-detached dwellings and semi-detached dwellings will remain a permitted use in the R-CG and R-G Districts, respectively.

In the R-CG District, density (in units/hectare) determines the lot coverage. By my math, new semi-detached houses will be able to cover up to 45% of the lot like they can under the current R-C2 District (LUB, 534(2)). The current R-C2 District requires 2 trees/unit (LUB 346.1(2)). The R-CG District requires at least 1 tree and 3 shrubs for each 110.0 square meters of parcel area (LUB 542.2(2)). If my math is correct, someone building new semi-detached houses on a 50'x120' lot would need to plant 5 trees and 15 shrubs. Residents may find that this gives the R-CG District better rules for semi-detached houses than the current R-C2 District.

**Duplexes:** These are 2 houses that are stacked on top of each other. Duplexes will remain a discretionary use in the R-CG District and a permitted use in the R-G District.

As with detached and semi-detached houses, in the R-CG District, new duplexes will be able to cover up to 45% of the lot like they can under the current R-C2 District (LUB, 534(2)) and will have tree and shrub requirements.

**Townhouses:** These are 3 or more houses that share common walls and are not rowhouses. A typical example would be 4 units in a 2-by-2 grid.

Depending on their density, townhouses in the R-CG District will be able to cover up to 60% of the lot.

Townhouses will remain a discretionary use in the R-CG District. They will remain excluded from the R-G District.

**Cottage Housing Clusters:** These are a group of 4-12 small homes around an open space. They will remain a discretionary use in the R-CG and R-G Districts.

**Rowhouses:** These are 3 or more homes in a side-by-side form with shared walls between them. Council has allowed these them to be built in mid-block locations with a courtyard between a building on the front portion of the lot and a building on the rear portion of the lot.

Depending on their density, rowhouses in the R-CG District will continue to be able to cover up to 60% of the lot. In the R-G district, rowhouses will continue to be able to cover 60% of laneless lots and 70% of laned lots.

Rowhouses will remain a permitted use in the R-G District.

Currently, the R-CG District allows rowhouses as a permitted use if they follow the rules in section 347.3 of the Land Use Bylaw or a discretionary use if they do not follow those rules. The Proposed Amendments would make all rowhouses in the R-CG District discretionary. Administration argues that “This change allows for additional review and community involvement at the development permit stage” (Cover Report, page 3). They consider their recommendation the higher threshold than keeping the both permitted and discretionary use options. In theory, that would be true if Administration used its discretion to approve more than would be allowed as a permitted use; in practice, the Subdivision and Appeal Board might refuse those approvals, so I’m skeptical about Administration’s assertion.

The strongest argument that I can see for making all rowhouses discretionary is to apply additional review in areas with heritage concentrations (like in the North Hill Communities Heritage Guideline Implementation Guide).

I find the arguments are stronger for keeping rowhouses as a permitted use:

- In general, permitted uses’ clear rules create a faster and more certain approval process.[1] All things being equal, this encourages people to follow those rules.
- In 2023, 32% of rowhouse development permit applications in the R-CG District qualified as a permitted use (Attachment 2, page 13). Under this proposal, in 2025, 0% of rowhouse development permit will qualify as a permitted use. That seems like quite the cost to impose for additional review and community involvement. If R-CG’s permitted use rules were acceptable in 2023, they ought to be acceptable in 2025.
- Residents can appeal development permits that are permitted with relaxations or as discretionary uses. If more residents appeal rowhouses,

Council may need to recruit more people to serve on the Subdivision and Appeal Board.

In my perfect world, there would be two sets of permitted use rules: one for heritage areas that allow the same number of homes as elsewhere in the city but have rules about the design of those buildings, and another for the rest of the city. Administration tells me that such an approach is not possible.

Given the number of additional homes that we need in Calgary (which I'll outline below), I favour adding homes over additional review and community involvement. I proposed that Administration Recommendation be amended to include a new Recommendation 3, as follows:

3. That following first reading, Council amend the proposed bylaw by deleting subsections 1(d), 1(i), 1(k) and 1(l) and renumber the subsections accordingly.

This would keep rowhouses as both a permitted and discretionary use in the R-CG District. Commission did not support the amendment, but Council might consider this approach.

#### **H-GO:**

In areas with approved Local Areas Plans (the North Hill, Westbrook, and Heritage communities), parcels within “an area that supports the development form in an approved Local Area Plan as part of the Neighbourhood Connector or Neighbourhood Flex Urban Form Categories” would change to the Housing – Grade-Oriented (H-GO) District (LUB, 1386(d)(1)). H-GO forms “may be attached or stacked within a shared building or cluster of buildings in a form and at a scale that is consistent with low density residential districts” (LUB, 1386(a)). This District uses a Floor Area Ratio of 1.5 to regulate the size of the building, a maximum height of 12m, and the same lot coverage rules as R-CG (basing lot coverage on density).

H-GO is a form of upper missing middle housing. Dan Parolek, who coined the term “missing middle housing,” notes that these forms “should be treated as a separate category from Missing Middle. Compared to the Core Missing Middle types, the Upper Missing Middle types are:

- Taller: Mostly three to four stories, typically still walk-up, but sometimes up to five stories.
- Deeper: These types often go from front setback to close-to-rear property line with little or no rear setback.
- Wider: These types are often wider than a house but not dramatically wider than the core Missing Middle types, often still equal to or less than 75 ft [22.8m] wide.
- Appropriate in different locations: These types often provide an appropriate transition from corridor, main street, higher-intensity lots into single-family or lower-intensity neighbourhoods, or are appropriate in residential areas that may currently have smaller buildings or single-family homes where policy and plans have a defined degree of change, evolution, or transformation for these areas.”[2]

Based on the maps, it appears that Administration has been cautious in applying this only to areas where the Local Area Plans (LAPs) allow three to four storeys. There may still be H-GO applications where Neighbourhood Connector or Neighbourhood Flex Urban Form Categories have been applied but LAPs support greater height or where Administration has been cautious about applying the H-GO District to deeper lots. Council has already approved the form and height in the Local Area Plans; amending the Land Use District on 3,302 lots in a second vote seems reasonable, especially compared with voting on each lot individually.

These Districts are good. They have been tested and refined. The forms have good urban design, can add a variety of homes, and can be built by small-scale builders. These Districts produce family-sized forms for a variety of families, which is important because “living alone, with roommates, or with extended family members have grown in popularity” out of necessity, preference, or both.[3] As Dr. Lindsay Tedds from the University of Calgary observes, “We have to stop interpreting constrained optimization as free choice.”[4] Allowing more housing forms is the first step to people having more housing choices in more places. These Districts’ adaptable buildings are ideal for an uncertain future. If people somehow end up building more homes than we need or our population falls, it would be easy to remove a wall between homes and turn a semi-detached home into a detached home or rowhouses into semi-detached homes. These Districts are ready for wide application, but they could be improved.

Better versions of these districts would consolidate the R-CG and R-G Districts. Council could relax backyard suite regulations to allow apartment-sized homes and homes that have the same floor area as starter houses did a few decades ago. Allowing stacked units within the R-CG and R-G District could make those buildings more accessible. Letting people reconfigure existing homes with units and suites would have lower construction costs than building a new building from scratch, encourage adaptive reuse of current buildings, and reduce a barrier to adding housing.[5]

The best version of these districts would take the above suggestions and add greater commercial options. Dan Parolek defines missing middle housing as “a range of multiunit or clustered housing types, compatible in scale with single-family homes, that help meet the demand for walkable urban living, respond to shifting household demographics, and meet the need for more housing choice at different price points.”[6] Elsewhere, Parolek writes that “Demand for housing in walkable communities near public transit is so out of balance with supply that having such a place to live is unaffordable for many.”[7] Though I try to avoid the word “walkable” because it is ableist, Parolek’s assertion may be helpful. If more people want to live in parts of Calgary with high walk scores, Council could allow more homes to be built in those areas. If there are not enough places to meet that demand, Council can allow more of the city to have local-serving commercial so more places can meet local demand. Allowing more home-occupation uses would let local residents add the kind of commercial that they think are needed. A garage could become a coffee shop or a taco stand. If there isn’t demand for that business, the building can still function as a home.

This application aligns with many Council-approved policies and objectives (see Attachment 1, pages 11-12).

In my time on the Planning Commission, I don't remember an R-CG application that even had a risk section. That is not surprising. Individually, these applications are small bets with little risk for the City of Calgary. Collectively, according to Administration, there are more risks to the Corporation of the City of Calgary from refusing this application than approving it (Cover Report, pages 6-7).

### ***Housing Crisis***

Administration and Councillors have referred to a housing crisis in Calgary. While there is much truth to this assertion, more specific language and more specific information may help us respond to our current situation and get to a system that can produce solutions.

There are multiple housing crises in North America. One housing crisis occurs in superstar cities have housing shortages because they create jobs faster than they build homes. Another housing crisis occurs in cities where jobs don't pay enough to maintain existing homes or build new homes. Some housing crises are more specific: the overrepresentation of Indigenous people in Calgary's unhoused population is a crisis (3% of people in Calgary are Indigenous; about 30% of unhoused people in Calgary are Indigenous).[8] Because so much of Canada's economy is connected to real estate, if home prices fell closer to local incomes, banks might have their own housing crisis.

Let me provide an alternative description and explanation than a housing crisis:

For decades, Council, Commission, and Administration have treated the city as a complicated mechanism that is predictable and controllable. Since the 1934 Zoning Bylaw, the City has frozen some areas in regulatory carbonite that allow only detached or semi-detached homes. Detached homes are great, but rules that prevent the next increment of development ignore that cities are complex, adaptive systems: many people and forces interact, experience feedback, adapt based on their experience, and are influenced by their environment.

These rules as unnatural as an ecosystem without ecological succession. Pioneer species play an essential role in ecosystems. For example, lichens break down rocks to produce soil and Lodgepole Pine cones open and release seeds after forest fires. These pioneer species allow grasses, shrubs, and trees to follow. Learning about ecosystems can help us understand complex, adaptive systems and better shape cities to produce a responsive order that can produce solutions.

Detached homes act like pioneer species. Yet for decades our regulations tried to prevent all succession, even changes that are as small as secondary suites. Those rules may distort succession, but they don't reduce demand for homes. They simply push homes to other places where people can fight them less successfully. Michael Manville and Paavo Monkkonen note, "when everyone fights a project, those with the least power usually lose." [9] This produces areas with no changes or with all kinds of changes—like a trickle or a fire hose—but nothing in between. These rules also distort land values.



The situation might be more accurately described as the inevitable failure of a system that was built with long feedback loops and was not designed to respond to quick changes. Like playing chicken with a brick wall, one wonders when the situation became a crisis: when one started driving towards the wall or a second before colliding with it.

However, housing is more than just Land Use regulations. It is a wicked problem.[10] Many factors interact and contribute to our housing situation: municipal planning, finance, economics, population growth and demographics, labour, provincial regulations, federal regulations, other jurisdictions' policies (domestic and international).

One particular difficulty is the broad North Americans cultural and political consensus that housing should be both affordable (remain linked to local incomes) and an investment (increasing in value faster than inflation). Because of this paradox, we're caught in a trap.

Rather than use the vague term "housing crisis," **it is more accurate so say that we cannot build enough homes at prices that people can afford and at a rate that meets or exceeds population growth.**

Let's evaluate this application in terms of supply, price, and timing, which have collectively produced a crisis-level housing shortage.

***Supply – We need at least 120,000 to accommodate population growth, Affordable Housing, and suppressed household formation by 2026 or 2027.***

**Population Growth:** In spring 2023, Administration estimated that Calgary's population would increase by 110,900 between 2022 and 2027, or 62 people/day.[11] During Commission's meeting, Administration said they estimate Calgary's average household size at 2.7. This estimate would mean another 41,444 households arriving by 2027.

Administration estimates that Calgary's population increased by 42,000 people (115 people/day or 15,555 households) in 2023 (Cover Report, page 2). That is almost twice the rate that the City predicted a year ago. If our population increase at that same rate until 2027, that would be 210,000 people or 77,778 households.

However, other estimates suggest that Calgary's population is growing faster than the City's estimate. The Province says that Alberta's population has increased by 202,324 people in 2023.[12] Historically, one-third of new arrivals to Alberta moved to the City of Calgary. If that continues to be true, that's another 67,441 people (185 people/ day) and 24,978 households in Calgary. If our population increase at that same rate until 2027, that would be 337,205 people or 124,891 households.

The Conference Board of Canada estimated Calgary's population grew by more than 71,000 people (195 people/day or 26,296 households) and Alberta Central estimated 84,000 people (230 people/day or 31,111 households).[13] That's about the population of Airdrie. If our population increase at those rates until 2027, that would be 355,000 people or 131,482 households, or 420,000 people or 155,556 people, respectively.

Perhaps Calgary's population growth will slow in the next few years and still increase by only 110,900 people or 41,444 households by 2027. Perhaps growth will remain steady and increase by 210,000-420,000 people or 77,778-155,556 households. Perhaps the rate of growth will increase. I'm not pro-growth for growth's sake, but if people are here, they should probably be able to have a place to live.

**Affordable Housing:** The 2023 Housing Needs Assessment Report estimated that Calgary had 20,910 non-market homes in 2021 while 84,600 households were in housing need in 2021 and that 99,774 households would be in housing need by 2026.[14] Subtraction tells us that we needed another 63,690 non-market homes in 2021 and that need will likely increase to 78,864 by 2026. UBC's Housing Assessment Resource Tools, using a different definition of housing need, estimates 49,865 families in Calgary are in core housing need.[15]

**Suppressed Household Formation:** There are also people who already live in Calgary and wish they could change their housing situation. A lack of houses can suppress the formation of new households, which keeps people from moving out of their parents' basements, starting a family, or leaving a bad relationship. In 2022, Jens von Bergmann and Nathan Lauster estimated suppressed household formation. Using the 2016 federal census, they estimated that the lack of housing in Calgary kept 30,000-50,000 households from forming.[16] Using the 2021 federal census, that number rose to 85,000-90,000 suppressed households.[17]

	Minimum homes	Low estimate between min and max	High estimate between min and max	Maximum homes
Population Growth (by 2027)	40,740	77,778	124,891	155,556
Housing Needs Assessment (by 2026)	49,865	63,690	63,690	78,864
Suppressed Household Formation	30,000	50,000	85,000	90,000
Total	120,605	191,468	273,581	324,420

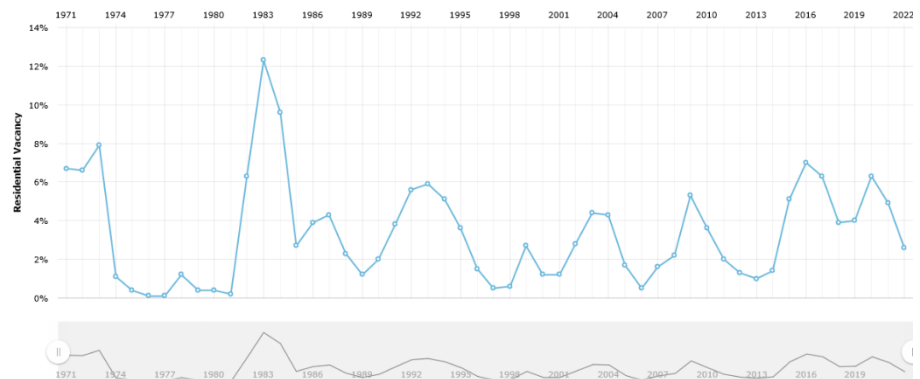
Please note, these numbers do not explicitly include the post-secondary institutions intended enrollment increases in this time period. Nor do they consider that average household sizes may be less than 2.7 people/household, which would support building more homes than the numbers above. Conversely, these numbers overestimate the number of homes (units and suites) that Calgarians need. There is probably some overlap and interaction between those groups. Someone moving from a non-market home to a market-rate home would open up a non-market home for someone in housing need without building a non-market home. Yogi Berra was right, "It's tough to make predictions, especially about the future."

I'm an optimist, but I doubt we'll build that many homes by 2026 or 2027. For context, our 2019 municipal census reported that there were 521,257

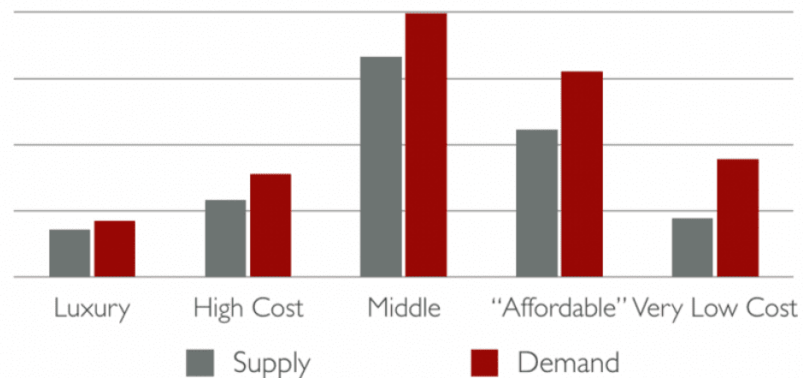
dwellings. Calgary added about 120,000 dwellings between 2006 and 2019, and 324,000 dwellings between 1978 and 2019.

Administration notes that, “In Calgary, 67% (246,025 parcels) of residential parcels are zoned to only allow one unit and only 13% allow for more than three units” (Attachment 2, page 5). The diagram also shows that 20% of residential parcels allow one or two units. In other words, 67% of residential parcels cannot add one more unit and 20% of residential parcels may be able to add one more unit (except where a semi-detached or duplex is already built). Unless parcels with apartment buildings have Land Use Districts that allow bigger apartments to be built, which I don’t remember seeing, most of the 13% of parcels that allow for more than three units may have already added as many homes as they are allowed. In other words, Calgary has little elasticity of supply. In Calgary, every additional home requires a negotiation, whether someone wants to tear down a historic building downtown or, until 2018, add a basement suite. Land use regulations that make housing supply more elastic increase the vacancy rate and lower rents.[18] This Land Use Amendment would increase the elasticity of supply and allow a more responsive planning system.

Calgary’s long-term vacancy rate suggests that our housing stock is not in balance with the number of people who want to be here. In 9 years of the last 53 years, Calgary’s vacancy rate was above 6%. Except during recessions, Calgary’s vacancy rate has been below the natural vacancy rate of 6-7%.[19]



Cities have many housing submarkets.[20] Ideally, there would be enough elasticity of supply in each submarket and support to build Affordable Housing and supportive housing that housing systems could respond to signals like low vacancy rates and high rents. This Land Use Amendment is one of many policies that will be required to produce that kind of a responsive housing system.



\* Totally made up data

Given the number of homes that we need, incrementally adding more low-density homes throughout the city is unlikely to put large home building companies out of business or end development on the edge of town. This should reassure some people.

Calgary will still need development along nodes and corridors, and Transit Oriented Development (TOD), but we should also be realistic about their limitations. A TOD area with 10,000-11,000 people would only be 2-3 months of growth if our population increases by 42,000-67,000 people/year. Decisionmakers may want to consider the health effects of putting the largest buildings along the biggest roads and building TOD areas along LRT lines that run along roads with lots of vehicles. A large population-based cohort study of Ontario residents between 2001 and 2012 found that "living close to heavy traffic was associated with a higher incidence of dementia." [21] Allowing more people to live in low-density residential areas will not put an end to development along nodes and corridors or TOD areas, but it would let more people live away from heavy traffic.

### **Price and Affordability**

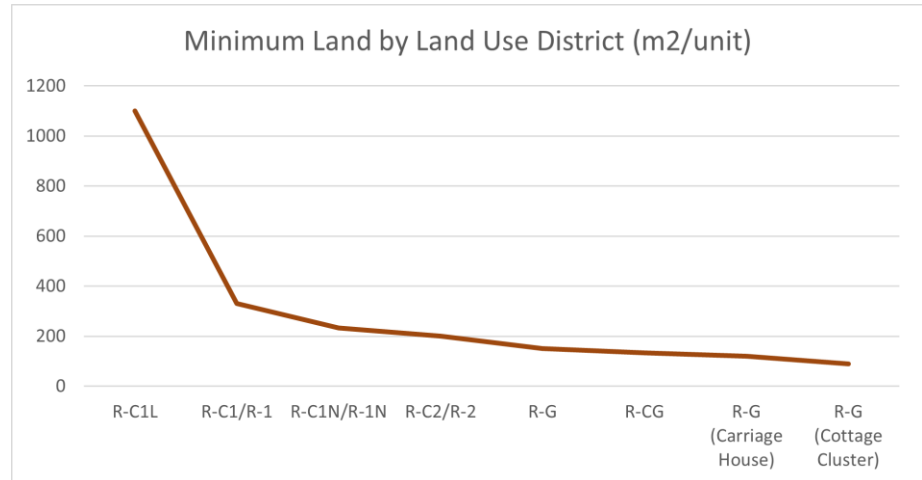
The average person is right that new homes are too expensive. If we that cannot build enough homes at prices that people can afford at a rate that meets or exceeds population growth, then we need to know how to lower the cost of new construction.

Generally, the price of new homes follows this formula:

$$\text{Price} = (\text{Land area} \times \text{price of land}) + (\text{floor area} \times \text{cost of construction})$$

Let's break down each of those components:

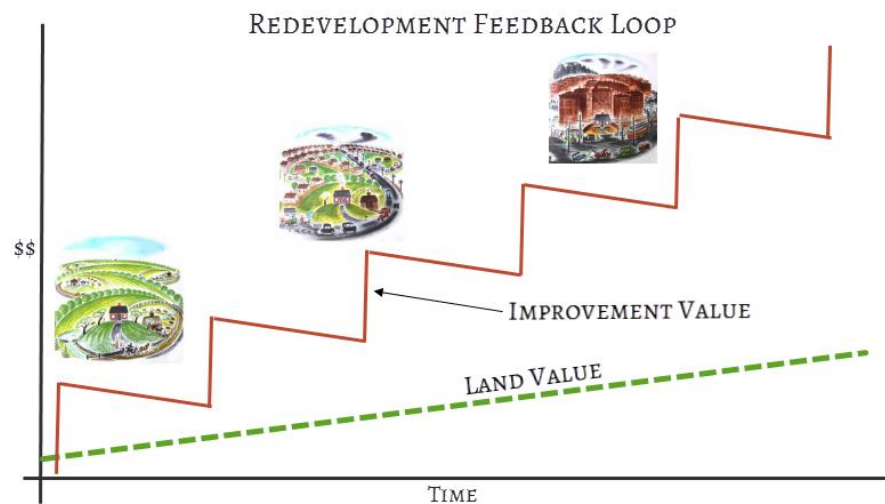
**Land area:** Administration is correct that, "Land use rules that restrict housing supply in the face of growing demand are one of the barriers to addressing the crisis" (Cover Report, Page 2). Minimum lot sizes and maximum densities are land use rules that keep people from reducing or sharing the land area on which they live. Currently, Council requires people afford at least the following land area per unit:



This Land Use Amendment would let people reduce their land costs by living on less land.

**Price of land:** The price of a piece of land is largely determined by what is around it. Land prices go up when people create jobs and when Cities invest in amenities.

There is a ratio between the price of land and the improvement that sits on that land. Most people won't spend \$5 on a piece of land and build a granite building or spend \$1 million on land and put up a tent. Eventually when the land is worth considerably more than the building on it, someone will replace the building.

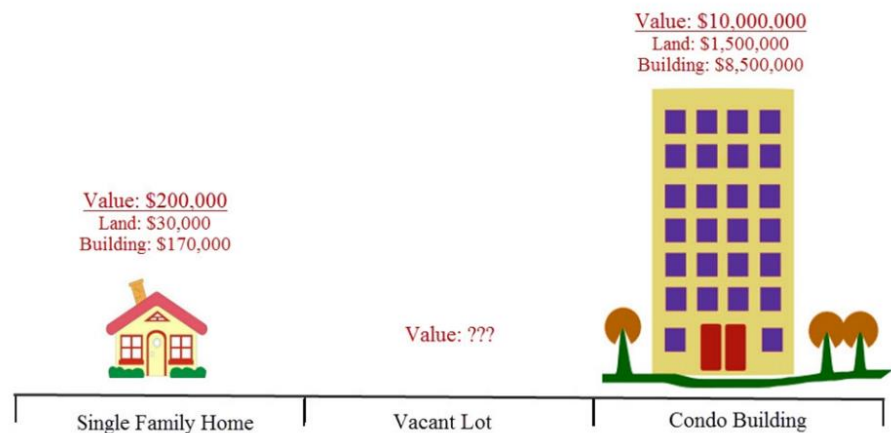


Allowing only detached houses ensures that new detached houses will be more expensive, and likely more luxurious, than what they replaced. Allowing more homes to be built as land values increase moderates this trend by producing more affordable homes. "Zoning ... lets us decide if we want rising land values to manifest as more housing units (development), or more concentrated housing wealth (the same number of units, but each one getting more expensive)."[22] The longer any change is delayed as land

prices rise, the more likely redevelopment will be pushed to a higher, more disruptive, increment.

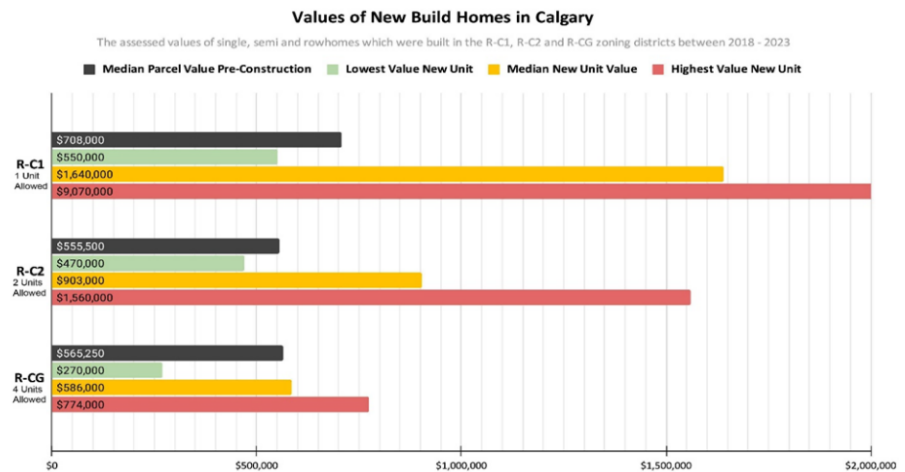
City policies may also distort land prices. For example, some people might conclude from the Municipal Development Plan's goal of 50:50 growth on both sides of the Balanced Growth Boundary and Key Direction 3 "Direct land use change within a framework of nodes and corridors" that all of the growth in older areas would be at Activity Centres and along Main Streets (MDP, 2.2). However, 13% of the land are in the developed area outside of the Greater Downtown is in Activity Centres (7% – Major Activity Centres and Community Activity Centres) and Main Streets (6% – Urban Main Streets and Neighbourhood Main Streets). Putting 50% of all growth in 13% of the developed area's land is likely to increase the value of that land as builders compete for that land. Similarly, suggesting that no change will happen in the other 37% is likely to increase the value of that land as people who want to be close to work and amenities while avoiding change compete for that land.

Stark transitions, like those implied in the Municipal Development Plan's Map 1, distort land prices. Consider the value of a vacant lot between a detached house and an apartment building like could happen within a block along a Main Street (below). The seller of the lot probably hopes that a buyer will price it for an apartment; the neighbours likely hope the buyer will price it for a detached house; the buyer may want to price the land for a detached house but build an apartment. Broader transitions reduce those distortions.

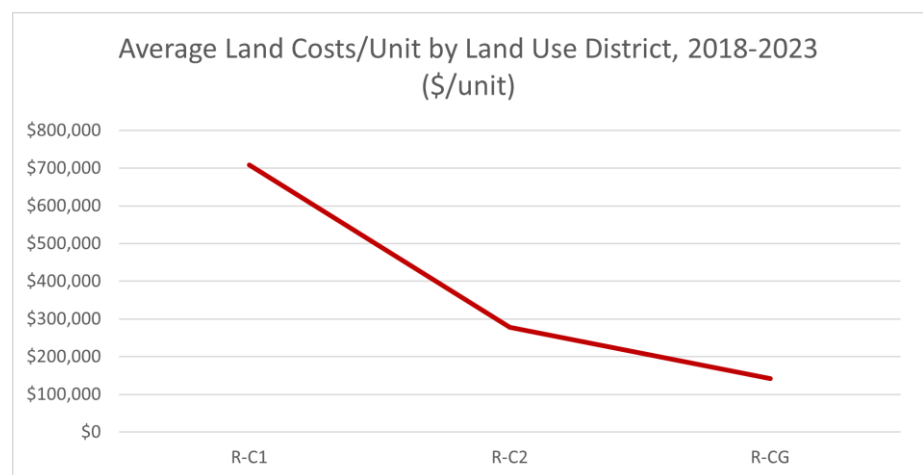


An early study from Minneapolis after it allowed triplexes throughout the city found that land values went up by 3-5%, likely because owners could do more with their land, and that "plan-related price increases [were] larger in inexpensive neighbourhoods and for properties that [were] small relative to their immediate neighbors." [23] This may sound disconcerting, but it should not be surprising. Expensive neighbourhoods already have expensive land and triplexes (a difficult form to construct) may not be financially viable in those locations. Small homes on a lot that is large enough to hold more homes have lower demolition costs than big homes on the same lot. With triplexes, three households could reduce their land costs by sharing the cost of the total lot.

Land costs per unit matter more for affordability than total land cost. In June 2023, the City released the following chart: [24]



Dividing the median parcel value pre-construction by the number of units shows that letting people live on less land reduces land costs/unit.



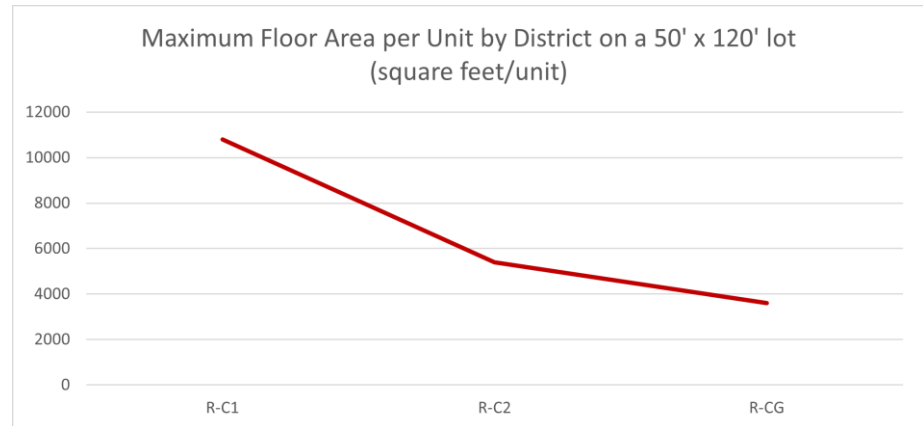
Rules that allow only detached houses on large lots keep home and land values in a Goldilocks spot: high enough per unit that only the wealthiest can afford them but low enough that builders can't justify buying them to add more homes.

This Land Use Amendment avoids distorting land values from stark transitions by allowing more options everywhere. Because there are many places to work in Calgary beyond the downtown core and the inner city, this Amendment would also help people live closer to work.

**Floor area:** Council can allow people to spend less on homes by letting people live in smaller homes.

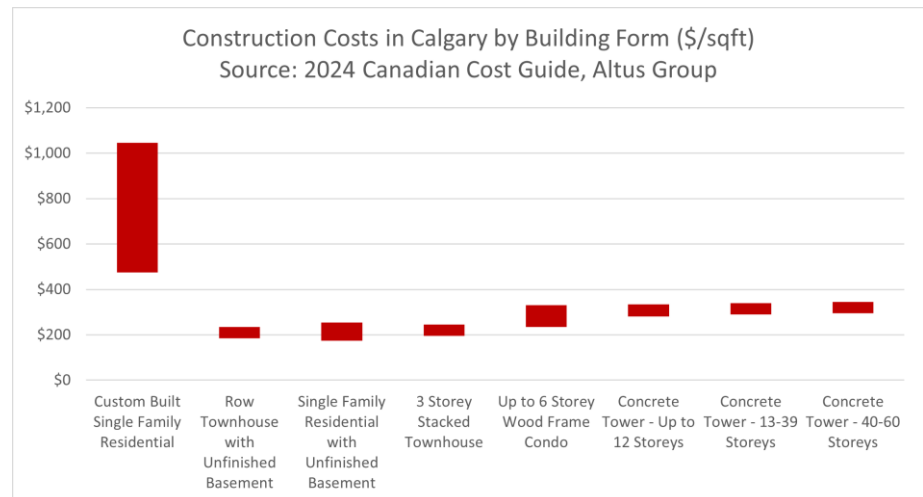
Consider the maximum size of the low-density residential Districts on a 50' x 120' lot in the developed area. To make the math easy, let's assume that people use their entire lot coverage on their homes (no garages): multiply the 6000 square foot area by the lot coverage (45% or 60%) and the number of

floors (let's go with the maximum of 4 because someone could build 3 storeys and a basement), and divide it by the number of units possible on each lot:



In any District, people can reduce their floor area per unit by building a smaller building or by building suites.

**Cost of construction:** AltusGroup's 2024 Construction Cost Guide reports the following construction cost ranges for different building types in Calgary:[25]



The lowest construction costs/square foot in Calgary are for low-density and missing middle forms like rowhouses with unfinished basements, detached homes with unfinished basements, and stacked townhouses. Construction costs increase in steps for 6 storey wood frame condos, concrete towers, and custom-built detached houses. Buildings with high construction costs per square foot can still produce broadly affordable homes in parts of the city with high land costs to the extent that people are allowed to share those land costs.

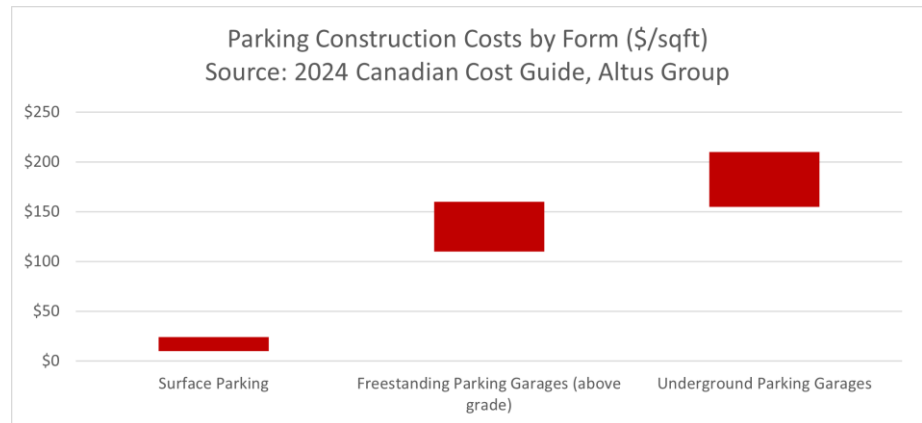
This Land Use Amendment would allow homes that have the lowest construction costs/square foot. The R-CG and R-G Districts would allow rowhouses (\$185-235/sqft) and detached houses (\$175-255/sqft). The H-GO



District allows stacked townhouses (\$195-245/sqft). People can choose to spend more on home in any of those forms, like they do on custom-built detached homes (\$475-1,045/sqft), but that hardly seems like a reason for Council to keep people from building housing forms with the lowest construction costs in Calgary.

Currently, due to lower construction costs and more flexible forms, rowhouses and other missing middle housing forms are more effective at producing larger three- and four-bedroom homes than taller buildings.

AltusGroup also reports the construction costs for different parking types:

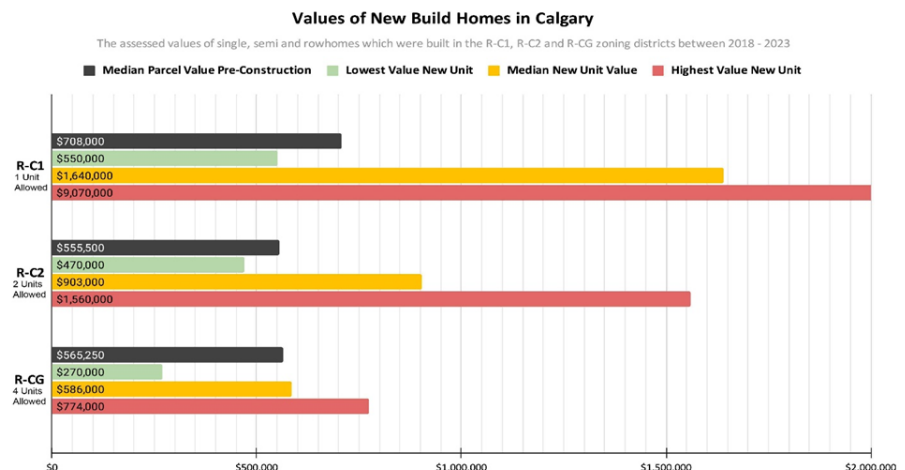


A single parking stall for a detached house, rowhouse, or stacked townhouse probably costs about \$15,000; under an apartment, it is probably \$50,000 or more.

This Land Use Amendment's forms have the lowest parking construction costs.

Having gone through each of the formula for price individually, let's look at it in action:

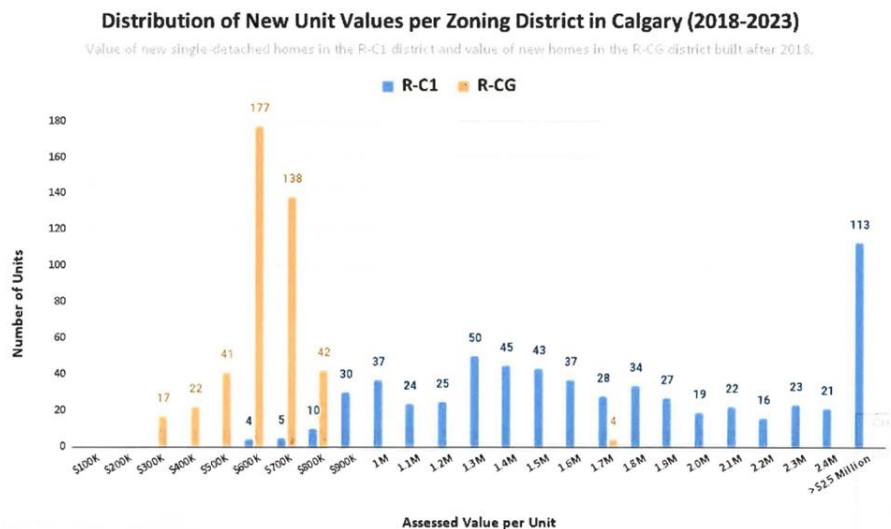
$$\text{Price} = (\text{Land area} \times \text{price of land}) + (\text{floor area} \times \text{cost of construction})$$



In Calgary, the Land Use Districts that let people live on less land with the lowest land costs/unit and in smaller homes with the lowest construction costs produced the least expensive homes in the last five years.

Yes, the \$586,000 median rowhouse is expensive. It may be expensive because of how little land is available for rowhouses or because the owners opted for more expensive construction or finishes. It is also worth noting that someone built a rowhouse in the last 5 years that is valued at \$270,000, which is probably affordable to a first-time buyer with a median household income of \$70,000.[26] Those are not the only people who need homes in Calgary, but adding more homes in that submarket would help keep people who earn \$70,000 from outbidding people who earn \$60,000.

Administration also provided this distribution of new unit values in the R-C1 and R-CG Districts.[27] Yes, 4 rowhouses that were built between 2018 and 2023 are valued at \$1.7 million. So are 28 detached houses. The trend is clear: the R-CG District produces less expensive homes than the R-C1 District. If new houses are too expensive, then a reasonable policy response is to allow more homes that cost less.



This Land Use Amendment also removes other costs:  
Consulting fees for Land Use Amendments, which anecdotally are around \$10,000 per application.  
Carrying costs during the Land Use Amendment process, which averages 119 days for R-CG (Attachment 2, page 5).

These are smaller than land costs and construction costs, but they still matter. The fact that they are relatively marginal costs should reassure people who are afraid that this will produce so many homes that their existing homes will decrease in value.

### Counterarguments about Price and Affordability

Some arguments add nuance to housing affordability discussions and suggest that affordability is about more than simply increasing supply. I'm

sensitive to those arguments, but will admit that I am less skeptical of supply-side arguments since the City estimated that Calgary's population would increase by 110,000 people by 2027 and more recent estimates suggest that 40-75% of those people arrived in 2023. Places with growing populations need more homes.

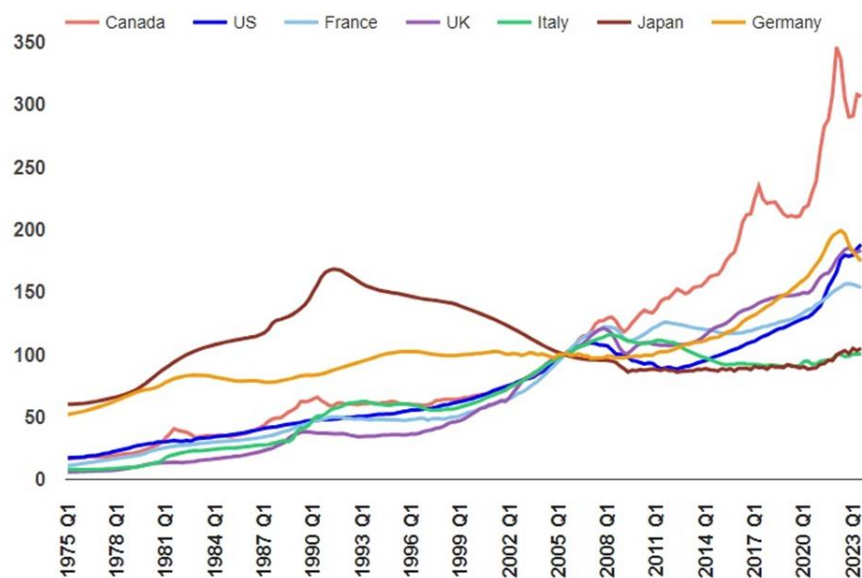
Let's look at some of those arguments:

**Financialization of Housing:** The United Nations High Commissioner for Human Rights states that “the financialization of housing ... occurs when housing is treated as a commodity—a vehicle for wealth and investment—rather than a social good.”[28] According to Martine August, Assistant Professor in the School of Planning at the University of Waterloo, “The financialization of housing refers to the growing dominance of financial actors in the housing sector, which is transforming the primary function of housing from a place to live into a financial asset and tool for investor profits.”[29] I disagree with definitions that define an action based on the actor. Both homeowners and financial actors can treat housing as “a vehicle for wealth and investment.” In my opinion, federal policies encourage this behaviour.

Policies that keep house prices from falling to levels that local incomes can afford also encourage people to continue to treat houses as investments that can only increase in value. The most obvious example is the US government buying troubled assets to keep banks afloat after the subprime mortgage crisis in the fall of 2008. This helped reduce the damage of the financial crisis that was caused by the US housing bubble. It also signalled to investors that there is a floor on how much house prices can fall and people could continue to treat houses as a commodity. As Alan Durning quipped, “The problem with US housing policy is that it's not about housing: it's about real estate.”[30]

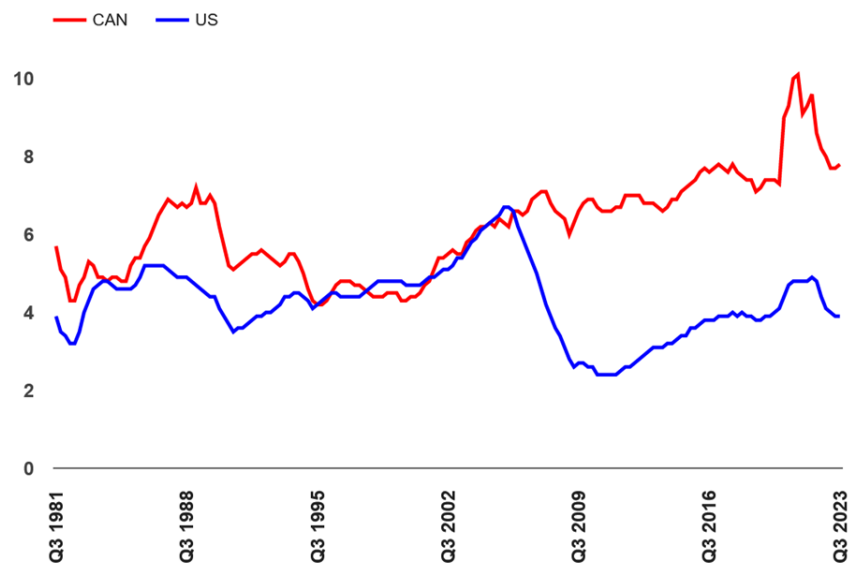
However, the US housing bubble appears to be a blip compared with Canada's current situation:[31]

*The Dallas Fed indexed home prices for G7 countries.*



Canadian federal policies have encouraged people to treat homes as an investment. Between 2008 and 2010, the Bank of Canada provided \$41 billion in liquidity support to Canadian banks and the Canada Housing and Mortgage Corporation bought \$69 billion worth of mortgage-backed securities.[32] In 2023, the federal government announced it would begin “consolidating Canada Mortgage Bonds into the regular Government of Canada borrowing program” by “purchasing up to an annual maximum of \$30 billion of Canada Mortgage Bonds.”[33] Up to 75% of Canada’s federal deficit will be spent buying Canada Mortgage Bonds.[34] In other words, the federal government is taking on public debt to buy private debt (mortgage bonds), which ensures housing prices don’t fall, encourages (or forces) people to take on more private debt, and subsidizes current homeowners’ profits at the expense of future, possibly unborn, debt payers. Policies like this may partly explain why Canadian household debt exceeds our gross domestic product.[35] According to the Bank of Canada, “Canada has seen no productivity growth in recent years.”[36] Today, the Canadian economy is more reliant on residential investment than the US was during its housing bubble twenty years ago.[37] It appears that Canadians cannot afford to keep this current approach, yet the federal government cannot afford to unwind it because so many people have made their homes their largest investment.

*Residential investment as a percent of GDP in Canada and the US.*



*Source: Statistics Canada; Better Dwelling.*

Federal and Provincial policies have also encouraged homeowners to treat their homes as investments by eroding the social safety net. Yet without homes that cost less than their current homes, house-rich cash-poor people cannot sell their homes and afford to retire.

I’m sympathetic to these arguments and find they support treating housing like a wicked problem, but I don’t find them compelling reasons to refuse this Land Use Amendment. Cities can and should allow people to build the most affordable homes possible. The federal government should remove incentives and subsidies that encourage people to treat homes as

investments, reinvest in social welfare, and create better savings and investment options so that everyone (regardless of their form of tenure) can invest for the future. If the federal government could solve the problems tomorrow, a growing city would still need more homes.

**Institutional investors (Real Estate Investment Trusts, pension funds, asset management companies):** Low interest rates, high liquidity, and policies that prevent house prices from falling to meet local incomes encourage larger players to enter the housing market. Real Estate Investment Trusts, pension funds, and asset management companies will be drawn to housing as an investment because it appears to give a stable annual return and increases in value. Adding to the interconnected nature of housing, I've seen applications where the Canada Pension Plan is the owner, which means that everyone who contributes to or draws from the CPP is part of the financialization of housing. That is not a defence of institutional investors. They may be a problem if they do not have skin in the game in terms of Calgary's stability or prosperity, but they are a product of the system, not the cause of the situation.

It is unlikely that institutional investors will be interested in incremental infill low-density residential development, especially if many other people can also add homes incrementally. In fact, Invitation Homes, which was owned by Blackstone Inc. and is reported to be the largest owner of single-family rental homes in the United States, explicitly states in its financial statements that, "We operate in markets with strong demand drivers, high barriers to entry, and high rent growth potential."<sup>[38]</sup> If institutional investors want to use Invitation Homes' model, Calgary might be an appealing place because it needs new homes and the status quo hinders building them.

Distributed housing production and ownership are important for a competitive housing market. A planning system with limited competition and only a few producers or sellers encourages oligopolies. Directing all growth exclusively to nodes and corridors at large scales likely support institutional investors. This Land Use Amendment would help let Calgarians contribute to Calgary's housing supply and keep some of our home production out of the hands of institutional investors.

If Councillors are worried that institutional investors are taking over Calgary's housing market, they ask for better data so they can make better decisions. The City has registries for secondary suites and licences for short-term rentals, but nothing for long-term rentals. We do not know how much of Calgary's rental homes are owned by institutional investors.

**International investors:** Countries with stable governments, legal systems, and banking systems (all of which are good) tend to attract investment. Canada Housing and Mortgage Corporation estimated that international investors made about 2% of Canada's real estate purchases in 2021.<sup>[39]</sup> Most purchasers, and presumably most people who want the value of their property to increase, are people living in Canada. Walt Kelly's Pogo was right, "We have met the enemy and he is us."

**Vacant homes:** There is an argument that perhaps Calgary has enough homes, but they're sitting empty. I can see that argument, especially if landlords can use cheap credit to wait for a tenant who can afford higher prices. According to the 2019 municipal census, 3.8% (19,892) of the

dwellings in Calgary were vacant (suitable and available for occupancy). Because we haven't had a municipal census in five years, we don't know how much that has changed. However, even if all of those homes were available today, that is less than half of the 40,000 homes that would be needed if 110,000 people arrive by 2027 and none of the non-market homes that are needed today. We would still need more homes.

**Short-term Rentals:** Similarly, some people argue that short-term rentals are a major contributor to our affordability problems. Gillian Petit and Lindsay Tedds from the University of Calgary report that there were 5,698 short-term rentals in Calgary in July 2023, 1,580 of which were permanent listings or listed by a multi-listing host that are most likely to return to the long-term housing market if short-term rentals were banned.[40] If Council banned short-term rentals, it would still need to find the other 95-99% of the 120,000 homes that we likely need by 2026 or 2027.

**We can simply build on the edge of town:** As noted above, I doubt this Land Use Amendment will stop edge growth. There will probably still be a place for new communities. However, Council should be aware that increasing the City's area and infrastructure also increases the City's operating, maintenance, and replacement costs. Without enough private investment to cover those public liabilities, the City's infrastructure gap will increase. What seemed to support housing affordability may eventually leave residents accepting lower quality infrastructure and services or higher taxes to cover those costs. As the city spreads out, residents may wish to reduce their transportation costs and live closer to work, which would likely support a Land Use Amendment like this in the future.

### **Timing/Speed**

If we need to build at least another 120,000 homes by 2026 or 2027, then timing counts.

Simple math suggests that 120,000 homes could be built as 400 300-unit apartments, 30,000 semi-detached homes with suites, or 15,000 fourplex rowhouses with suites. A combination of apartments and missing middle housing approaches would probably be more effective, but let's say those two choices were mutually exclusive. Which would be faster and more likely to build more homes in three years?

It is likely that most of those 400 parcels would need a Land Use Amendment, which might take 4 months in the developing areas and 6-10 months in the developed areas before going to Council. If the Development Permit takes 6 months and the Building Permit takes 2 months, then it would take 12 months in the developing areas and 14-18 months in the developed areas. Then the builder can work on site preparation, excavation, and setting up cranes. Those 300-units, whether spread over a lot of land or stacked in a tower, will have elevators, which can have supply-chain problems because there are a limited number of manufacturers.

This Land Use Amendment would remove the 119-day Land Use Amendment application process from rowhouse applications. Development Permit applications tend to take 125 days (Attachment 2, page 5). Building Permits likely take a month or so. The site can be ready in about a week. Framing can be done with a zoom boom, which is ready to work as soon as it

is on site, instead of a crane. The building may have elevators, but doesn't require them. Construction takes about a year. The whole process would take less than 18 months.

If speed is of the essence, then incremental rowhouses have an advantage over apartments. That is not a call for underbuilding. There will still be places where land values are high and amenities are abundant, where Administration and Council should support greater height than they have in the past.

"Incremental" does not mean slow or gradual. While homes can be built faster on single lots than larger buildings, the overall production of adding missing middle homes can be at any pace. Between 1901 and 1911, Calgary's population grew from 4,000 to 40,000 people, largely through missing middle housing on many individual lots. Similarly, Montreal's stacked apartments, Boston's triple decker homes, and Chicago's two- and three-flats helped house people when each cities' populations more than tripled between 1861 and 1901, 1870 and 1920, and 1870 and 1890, respectively. Many people shaped the city around them and built more homes.

Reconfiguring existing homes could be even faster than building new homes, but a city with a growing population likely needs an increase in floor area. Allowing middle housing is the first step, but may not be enough. Some of Calgary's many capable builders with skills in building detached homes in developed areas or missing middle homes in developing areas can transfer those skills to incremental infill in the developed areas. The City may need to support the ecosystem of incremental builders so local builders can respond quickly to local needs. Groups like the Incremental Development Alliance and Small Housing BC may offer some models to emulate.[41]

Similarly, the urgency of our situation may suggest that market-rate providers cannot help with broad housing affordability or Affordable Housing. There is some truth to that statement, which is why the Housing Affordability Task Force made other recommendations including building more Affordable, that is subsidized, Housing. It is also true that older products tend to be worth less than newer products. This idea, commonly known as downward filtering, "can only work when the supply of new housing (net of demolitions or conversions of older housing) is sufficient to meet new demand caused by new net in-migration or new household formation." [42] Because downward filtering cannot work when there is a housing shortage, it may take time to see downward filtering in Calgary. This may make people more skeptical about supply. Fortunately, researchers in the last few years have shown that when someone moves into a new home (which tend to be more expensive than older homes), they move from a less expensive home, into which another person can move (typically from a home that is less expensive than that home. The chain of individual moves continues. In the United States, by the 6th round of moves, 40% of those moves are in below-median income neighbourhoods.[43] In Finland, by round 4, 50% of movers (not just neighbourhoods) "are ranked in the bottom half of the national level household income distribution." [44] Building more new market-rate homes quickly benefits people with lower incomes, beginning with those who rent because rent is more responsive to market forces than home prices. Building more subsidized homes would support this.

## Public Policy

There are public policy reasons to support this Land Use Amendment.

Low-density residential Land Use Amendments are not an effective use of Administration's or Council's time. In 2023, about 40% of Land Use Amendments were for low-density residential Districts. And a vast majority of them are approved. It is likely that over the next 100-150 years, every lot in Calgary will have some kind of redevelopment. This Amendment would redesignate 311,570 parcels. If every parcel had a 5 minute public hearing (long enough for Administration to introduce it and for Council to vote), it would take 2 years, 11 months, and 2 weeks. If Council took 6 hours a day to do anything other than have public hearings, that would basically fill a full 4-year term. Whether those public hearings are spread over 4, 100, or 150 years, Council has more important decisions to make than whether to approve low-density residential forms on every low-density lot in town and upper missing middle housing forms where Council-approved Local Area Plans say that upper missing middle housing forms are appropriate.

Gentle density is good for taxes. Because population has fallen in parts of town, we know that we have infrastructure that is not being used as much as it was in the past. Using existing infrastructure is less expensive than building new infrastructure, which means that we can strengthen our tax base so we can afford to replace our existing infrastructure at the end of its lifecycle.

Markets respond to signals. If some of Calgary's current housing affordability is caused by speculative flow, then Council could use this Land Use Amendment to send a clear signal: builders are needed and should start building soon. Land speculators might need to change their business model. That signal would have more weight if other policies reduced barrier to entry so many people could add homes. The Housing Affordability Task Force's recommendations of financial support for secondary suites helps. Reducing or removing parking minimums, which can be used as pretext for negotiations between the City and builders, would also help reduce barriers to entry.

## Conclusion:

Compared to some planning decisions, this Land Use Amendment is a small change. It is a partial return to pre-1934 planning, which produced some well-loved places.

At most, the R-CG District would allow an increase of 1-2.4m of height and 15% lot coverage; R-G, 0-1m of height and up to 15-25% lot coverage. The H-GO District portion of the amendment would align Land Use Districts with approved Local Area Plans where Neighbourhood Connector or Neighbourhood Flex Urban Form Categories and the height modifier supports them.

While this is a small change, it is significant. It can produce a variety of family-sized homes for a variety of families. It recognizes that our crisis-level housing shortage needs a response that includes supply, price, and speed. It signals to markets that we need builders. It is built on the recognition that broad affordability may be fleeting. Comments about Calgary being relatively affordable compared to other major Canadian cities suggest that affordability



is like outrunning a bear by being faster than the slowest person. Trying to make housing affordable and a good investment makes broad affordability less about comparisons with other cities and more about absolute values like rent-to-income and price-to-income. Unaffordable housing may be more like a wildfire: it can burn everyone.

Fundamentally, this Land Use Amendment is about people. Cities need housing for teachers, medical workers, and firefighters, so our population can learn, age, and be safe. It may seem like adding housing benefits younger people, but one of the strongest institutional proponents of missing middle housing in North America is AARP (formerly the American Association of Retired Persons), which has created a model act and guide for statewide legalization of middle housing recommending stacked flat plexes, townhouses, attached courtyard housing, and detached courtyard housing in urbanized areas with public water and sewer service.[45] This Land Use Amendment follows most of those suggestions and could be closer if the R-CG and R-G Districts included stacked housing forms, which are more accessible than rowhouses.

Onward.

#### Endnotes

- [1] Michael Manville, Paavo Monkkonen, Nolan Gray and Shane Phillips, "Does Discretion Delay Development? The Impact of Approval Pathways on Multifamily Housing's Time to Permit," *Journal of the American Planning Association* 89, no. 3 (2023): 336-347. <https://doi.org/10.1080/01944363.2022.2106291>.
- [2] Daniel Parolek with Arthur C. Nelson, *Missing Middle Housing: Thinking Big and Building Small to Respond to Today's Housing Crisis*, (Washington, DC: Island Press, 2020), 173.
- [3] "Home alone: More persons living solo than ever before, but roomies the fastest growing household type," *The Daily*, Statistics Canada, released 13 July 2022, <https://www150.statcan.gc.ca/n1/en/daily-quotidien/220713/dq220713a-eng.htm>.
- [4] Mike Moffatt, "Ontario's Housing Crisis: We Need to Stop Interpreting Constrained Optimization as Free Choice," 31 October 2022, <https://mikepmoffatt.medium.com/ontarios-housing-crisis-we-need-to-stop-interpreting-constrained-optimization-as-free-choice-403c896b627c>.
- [5] Christie Page offers a local proposal. Christie Page, "Here's how a typical 1980s Calgary home could be more than what it is today," *LiveWire Calgary*, 8 March 2024, <https://livewirecalgary.com/2024/03/08/heres-how-a-typical-1980s-calgary-home-could-be-more-than-what-it-is-today/>.
- [6] Daniel Parolek with Arthur C. Nelson, *Missing Middle Housing: Thinking Big and Building Small to Respond to Today's Housing Crisis*, (Washington, DC: Island Press, 2020), 7-8.

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|  | <p>[7] Mike Bierke, "Daniel Parolek on Delivering Walkable, Affordable Missing Middle Homes," Pro Builder, March 2017, <a href="https://www.probuilder.com/daniel-parolek-delivering-walkable-and-affordable-missing-middle-homes">https://www.probuilder.com/daniel-parolek-delivering-walkable-and-affordable-missing-middle-homes</a>.</p> <p>[8] City of Calgary, "Data about Calgary's population." <a href="https://www.calgary.ca/research/population-profile.html">https://www.calgary.ca/research/population-profile.html</a>; Calgary Homeless Foundation, Calgary Point-in-Time Count Report 2022 (Calgary: Calgary Homeless Foundation, 2023). <a href="https://www.calgaryhomeless.com/wp-content/uploads/2023/01/CHF-PiT-Count-Report2022.pdf">https://www.calgaryhomeless.com/wp-content/uploads/2023/01/CHF-PiT-Count-Report2022.pdf</a>.</p> <p>[9] Michael Manville and Paavo Monkkonen, "Unwanted Housing: Localism and Politics of Housing Development," Journal of Planning Education and Research 0, no. 0 (2021):3. <a href="https://doi.org/10.1177/0739456X21997903">https://doi.org/10.1177/0739456X21997903</a>.</p> <p>[10] Horst W.J. Rittel and Melvin M. Webber, "Dilemmas in a General Theory of Planning," Policy Sciences 4, no. 2 (1973): 155–169. <a href="https://doi.org/10.1007/BF01405730">https://doi.org/10.1007/BF01405730</a>.</p> <p>[11] Bryan Labby, "Calgary's population surge: New arrivals struggle while 110,000 more expected by 2027," CBC Calgary, 24 April 2023, <a href="https://www.cbc.ca/news/canada/calgary/calgary-newcomers-programs-demand-population-projection-1.6816845">https://www.cbc.ca/news/canada/calgary/calgary-newcomers-programs-demand-population-projection-1.6816845</a>; City of Calgary, "Spring 2023 Forecast Tables Populations," <a href="https://www.calgary.ca/content/dam/www/cfod/finance/documents/corporate-economics/calgary-and-region-economic-outlook/Spring2023-Forecast-Tables-Population.xlsx">https://www.calgary.ca/content/dam/www/cfod/finance/documents/corporate-economics/calgary-and-region-economic-outlook/Spring2023-Forecast-Tables-Population.xlsx</a>.</p> <p>[12] Robson Fletcher, "Alberta's population surged by record-setting 202,000 people. Here's where they all came from," CBC Calgary, 27 March 2024, <a href="https://www.cbc.ca/news/canada/calgary/alberta-population-records-2023-to-2024-data-1.7157110">https://www.cbc.ca/news/canada/calgary/alberta-population-records-2023-to-2024-data-1.7157110</a>.</p> <p>[13] Mike Scace, "Calgary lost more than 20,000 health-care, social assistance workers in 2023, says StatCan data," Calgary Herald, 8 February 2024, update 13 February 2024, <a href="https://calgaryherald.com/business/local-business/calgary-lost-20000-health-care-social-assistance-workers-2023">https://calgaryherald.com/business/local-business/calgary-lost-20000-health-care-social-assistance-workers-2023</a>.</p> <p>[14] City of Calgary, Housing Needs Assessment 2023, (2023), 27, <a href="https://www.calgary.ca/content/dam/www/csps/cns/documents/affordable-housing/housing-needs-assessment-2023.pdf">https://www.calgary.ca/content/dam/www/csps/cns/documents/affordable-housing/housing-needs-assessment-2023.pdf</a>.</p> <p>[15] University of British Columbia, "Housing Assessment Research Tools (HART)", (2022), <a href="https://hart.ubc.ca/housing-needs-assessment-tool/">https://hart.ubc.ca/housing-needs-assessment-tool/</a>.</p> <p>[16] Jens von Bergmann and Nathan Lauster, "Estimating Suppressed Household Formation," Mountain Doodles, 6 May 2022, <a href="https://doodles.mountainmath.ca/blog/2022/05/06/estimating-suppressed-household-formation/">https://doodles.mountainmath.ca/blog/2022/05/06/estimating-suppressed-household-formation/</a>.</p> |
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