



THE “MISSING MIDDLE” INFILL DESIGN COMPETITION

Envisioning medium-density infill housing

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ABSTRACT

The City of Edmonton launched the *Missing Middle* competition on December 19, 2018 to support translating its vision of densifying mature communities through infill housing (City of Edmonton, 2019b). The competition was developed after extensive investments in updating planning policies, public engagement, and other earlier experiments. The results of this competition echoed nationally, granting Edmonton a recognition for this initiative. While the City of Winnipeg has similar aspirations of leaning on infill housing to accommodate residential growth in mature communities, additional capacity and resources will be required for Winnipeg to successfully realize this vision.

INTRODUCTION

Many cities around the world have turned their attention to infill development to help realize the multifold benefits of increasing residential density within established neighbourhoods (De Sousa, 2017). Building residential developments within an urbanized context helps curb urban sprawl and limit the expansion of cities on the boundaries (Aly & Attwa, 2013). Infill housing creates an opportunity to revitalize decaying cores and increase the efficiency of the established infrastructure, transit networks, and also contributes to preserving farmland and natural areas (Kim, 2016; Lehmann, 2016).

The cities of Edmonton and Winnipeg (Canada) are both very recently engaged in efforts to increase the residential density within the boundaries of the established communities and organize their approaches to infill housing design. The term “missing middle” is becoming more commonly used in infill discussions.

“[It] refers to multi-unit housing that falls between single detached homes and tall apartment buildings [and] are considered “missing” because there has been a decline in their development in recent decades in many cities, and they were never widely developed in Edmonton.”

— City of Edmonton, 2019b, p. 2

While the City of Winnipeg currently deploys some dedicated resources toward infill housing, the City of Edmonton's more fully resourced effort has created a standard that is admired by the Canadian planning community – especially for its recent *Missing Middle* competition. See Figure 1. Edmonton's *Missing Middle* achievement is the result of a multi-year planning effort that involved building consensus between developers and the community. The *Missing Middle* competition is a model that could inspire several Canadian cities planning to densify their urban cores, including Winnipeg.

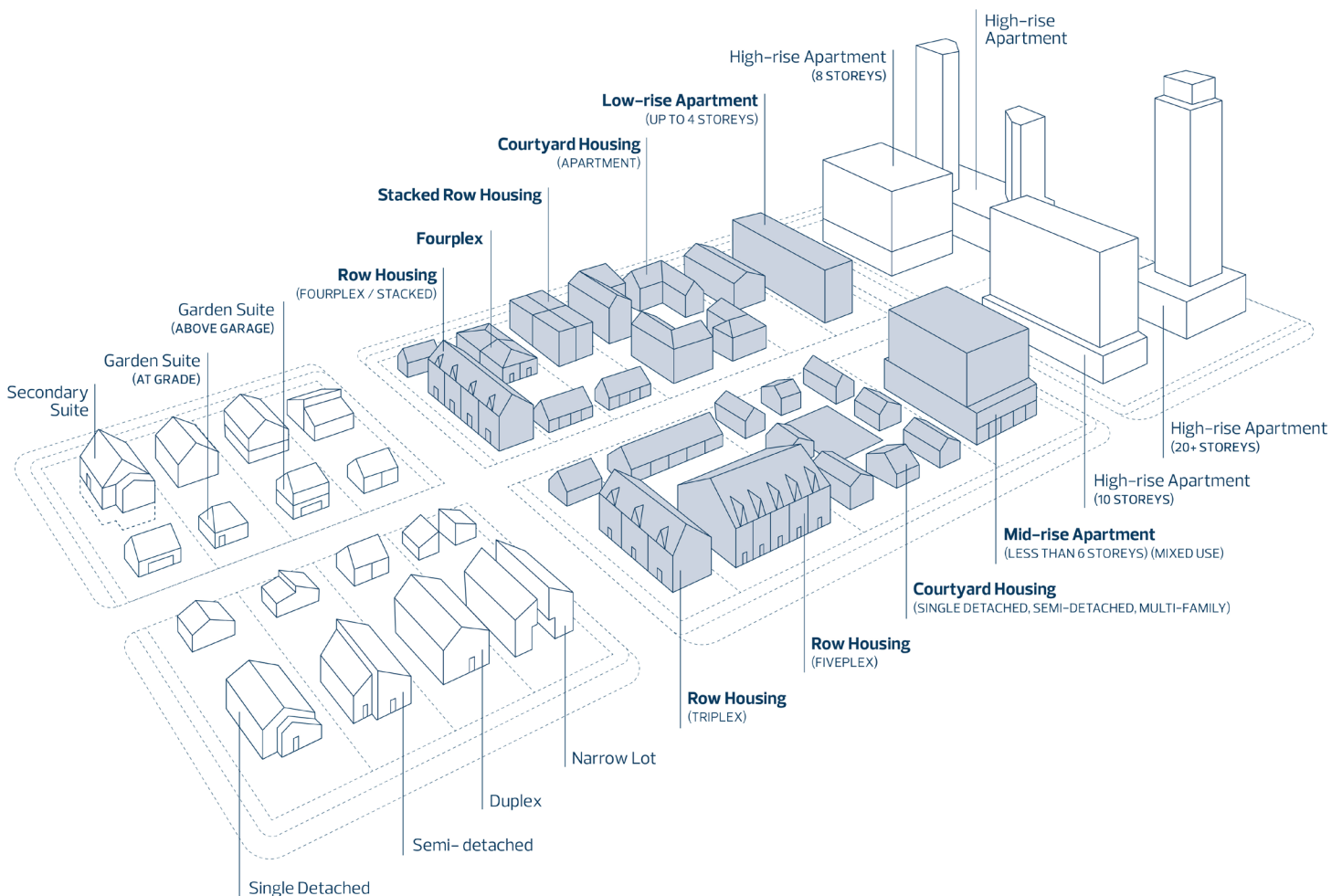


FIGURE 1 | “Missing Middle” infill housing diagram

2.0 BACKGROUND

The City of Edmonton plans to double its population within the current city boundaries from one million to two million people by 2065 (City of Edmonton, 2020, n.d. -b). Edmonton aims to become a “Rebuildable City” (City of Edmonton, 2020, p. 12). Accordingly, 600,000 new residents will live within the redeveloping areas and established communities, and it is hoped that half of them will live in infill housing (City of Edmonton, 2020).

The City of Edmonton launched an *Evolving Infill* initiative in 2013, which resulted in a work plan consisting of 23 actions to set the stage for infill developments in mature communities in proximity to transit and established services and infrastructure (City of Edmonton, 2019b, n.d. -d). In 2018, the City created the *Infill Roadmap*, adding 25 actions focusing on building medium-density housing, such as low-rise buildings and row housing (City of Edmonton, 2019b, n.d. -d).

Through these actions, the City aims to encourage infill housing developments that support densifying its established communities (City of Edmonton, 2018). This includes creating housing options that respond to context, character, meet people’s emerging needs, support social inclusion, accommodate affordable units, and involve engaging the public throughout the process. The *Roadmap* also includes tailored actions to prioritize infill at strategic locations, reassess housing regulations, support innovative housing, and specify zones designated for medium density. Other measures indirectly support infill housing developments by easing parking requirements and improving permitting process timelines.

The City of Edmonton also states that creating economically feasible and well-designed medium-density developments can help promote social interaction in mature communities and attract people of diverse social backgrounds, income levels, and age groups to reside in complete communities by offering various housing choices meeting people’s needs (City of Edmonton, 2019b).

After conducting a hypothetical low-density infill housing competition in 2016, Edmonton launched a new contest for a medium-density development on a City-owned site (City of Edmonton, n.d. -d). A team of three planners, who has been developing infill strategies, planned and organized the competition, including finding shared interests of other stakeholders to collaborate toward a common goal (J. Syvixay, personal communication, April 12, 2021).

3.0 THE COMPETITION

The competition asked architects and developers to design a medium density development on a 0.69 acres area City-owned site, consisting of five lots located in the Spruce Avenue neighbourhood (City of Edmonton, 2019b). This inner-city neighbourhood is characterized by historical buildings and supported by transit and commercial, educational, healthcare, institutional, and other services (City of Edmonton, 2019b).

Specifically, the task was to propose a design for a total of fifteen dwelling units in four to six-storey buildings (City of Edmonton, 2019b). Candidates were required to respond to criteria including innovative designs, feasibility, sustainability, climate resiliency, affordability, livability, accessibility, intergenerational living, and winter design (City of Edmonton, 2019b). The winning team would then buy the land and seek approval of a rezoning application. The City would waive its application fee. If the winning team were no longer interested in purchasing the site and developing their proposal, the City would offer this opportunity to the successive team on the winners’ list (J. Syvixay, personal communication, April 12, 2021).

The community had a vital role throughout the project development. The residents of the Spruce Avenue neighbourhood refined the criteria used to evaluate the submission before the launch of the competition (City of Edmonton, 2019a). They also communicated their vision of the community and the values they wanted the proposed project to reflect. Community advisors also participated in jury discussions and shared the community’s thoughts and feedback (City of Edmonton, 2019a).

4.0 KEY OUTPUTS

Winning Submissions

Thirty national and international teams participated in the *Missing Middle* competition (The City of Edmonton, n.d. -d). The jury granted first prize to *The Goodweather* by Part & Parcel, Studio North, and Gravity Architecture (City of Edmonton, 2019a). See Figure 2. This proposal surpassed others by its “contextually responsive design which may be translated into a tangible community asset due to its high degree of construction viability and replicable design elements” (City of Edmonton, 2019a, p. 14). *The Goodweather* responded to the larger Spruce Avenue

community's identity. It suggested creative arrangements of intergenerational living, semi-private outdoor spaces, and interactive street facades, among other thoughtful features (City of Edmonton, 2019a).

Other awarded proposals include:

- Second Place Award for *Bricolage* by Leckie Studio Architecture + Design INC (Figure 3)
- Third Place Award for *Spectrum* by Redbrick Group of Companies and Spectacle (Figure 4)
- Honourable Mention for *S.A.M. (Spruce Avenue Mews)* by Primavera Development Group INC., RPK Architects LTD., Mcelhanney Consulting Services LTD., and Synergy Projects LTD, (Figure 5) and
- People's Choice Award for *Treehouse Community* by Postmark Development CO., Holo Blok Architecture INC., Ground3 INC., Design Works Engineering & Inspections LTD., and Rahman Hameed Studios INC. (Figure 6)

(City of Edmonton, 2019a, pp. 15, 17, 19, and 21).

Planning Award

The *Missing Middle* results granted the City of Edmonton a planning award from the Canadian Institute of Planners (CIP) for its impact on raising awareness about medium-density housing (Cox, 2020). The *2020 CIP Awards for Planning Excellence* recognized the role of this initiative in bridging the gap between the community and housing providers, and for inspiring conversation among stakeholders to create infill housing that reflects community vision.



5.0 / INFILL HOUSING IN WINNIPEG

The City of Winnipeg shares a similar interest in encouraging infill housing in mature communities (City of Winnipeg, 2020a). For this reason, the City assigned a temporary team of two planners to develop a *Residential Infill Strategy*, with design guidelines (R. Mahé, personal communication, April 15, 2021). The strategy is intended to help increase the diversity of housing options while meeting the community's diverse needs, increase residential density in mature communities, and improve the efficiency of established infrastructure (City of Winnipeg, 2020a). It is also intended to contribute to economic development, help revitalize older neighbourhoods, better attain sustainable, equitable, and affordable housing, and improve community resiliency. These goals stem from the City's citywide development plans, *OurWinnipeg* and the *Complete Communities Direction Strategy* (City of Winnipeg, 2020b). See Figure 7.

6.0 / PUBLIC ENGAGEMENT

In general, there are four main stakeholders in infill discussions: City planners, elected officials, developers, and the community (R. Mahé, personal communication, April 8, 2021). Planners generally recommend policies, guidelines and regulations shaping infill housing, typically following a public consultation process. Elected officials communicate with constituents and are the body that approves the policies, guidelines and regulations. Developers are impacted as the main party making investments in neighbourhoods. The community is impacted by the change when developers construct new buildings.



Edmonton and Winnipeg pursue different approaches to respond to residents' concerns. In Edmonton, the City created an online directory, *Development in Your Neighbourhood*, that explains development process steps, how the residents can complain and whom to contact during each phase (City of Edmonton, n.d. -a). The webpage and additional resources are provided in plain language. This tool teaches the community and guides them to effective ways at each stage to impact future infill (J. Syvixay, personal communication, April 12, 2021). As a result, an educated community would support planners in monitoring infill practices instead of opposing infill without organized purpose and, maybe, when it is late to object.

In 2017, the City of Winnipeg launched its infill housing public consultation activities, including focus groups, stakeholder and realtors' workshops, pop-ups, online surveys, news releases, *Infill Housing Speaker Series*, and open house events (City of Winnipeg, 2021). In one unique activity, the City conducted driving tours to recently established infill locations and workshops to start a dialogue between community members and developers. These exercises helped introduce the infill concept to the community and convey residents' and developers' concerns and aspirations (R. Mahé, personal communication, April 8, 2021).

7.0 / RELATED PLANNING POLICIES AND REGULATIONS

Zoning

Both municipalities are developing infill housing strategies and design guidelines to inform updates to zoning by-laws



FIGURE 4 | Spectrum

(J. Syvixay, personal communication, April 12, 2021; R. Mahé, personal communication, April 8, 2021). The new zoning by-laws will provide regulatory support for infill housing requirements and design, and will lead to modifying zoning designations in strategic locations for developing infill housing. These updates will formalize goals and are intended to reduce the volume of variance and rezoning applications.

Parking

Parking requirements are also a factor both cities have looked at. Winnipeg removed parking requirements in the Downtown area in 2004, reduced them for mixed use in 2006, reduced them in mature communities in 2013 (A. Ross, personal communication, April 14, 2021; City of Winnipeg, 2018) and has a number of other parking reduction tools planned as part of its revised *Complete Communities Direction Strategy* document (*Complete Communities 2.0*) (City of Winnipeg, 2020b).

Edmonton adopted a city-wide *Open Option Parking* policy in June 2020 to relax parking requirements except in the downtown area, main streets areas, and around transit oriented developments, where parking maximums are retained (City of Edmonton, n.d. -e). The City aims to free more space for the public realm and support housing affordability as new units will not be associated with parking spaces. Involving developers in proposing parking capacity would create an economically viable response to the market. The City can then focus on improving transit service and active transportation infrastructure to support more residents to be independent of car use, which would reduce market demand on parking and lead developers toward a zero-parking approach.



FIGURE 5 | Spruce Avenue Mews (S.A.M.)

Permitting

Delays in development application processing can severely affect infill housing provision (R. Mahé, personal communication, April 8, 2021). In both cities, developers submitting incomplete applications pauses application reviews while both municipalities are pursuing a digital format to expedite the process. Edmonton launched the *Expedited Infill Pilot* program requiring developers to complete educational courses about development applications requirements (City of Edmonton, n.d. -c). This program continues throughout the development, allowing neighbours to assess developers' construction practices (J. Syvixay, personal communication, April 12, 2021). As a result, developers would ensure submitting complete applications and avoid disturbing neighbours to maintain this program's eligibility. A high turnout of this program would result in smoother development applications reviews, which would expedite creating infill housing and help the City of Edmonton meet its growth goals within the planned timeframe.

8.0 ANALYSIS

Updating zoning by-laws and zoning designations is essential for minimizing regulatory barriers to the construction of infill housing, reducing debates regarding infill, and building public support for infill.

Large-scale efforts and investments in innovative tools can be exhaustive initially, but it may lead to better long-term achievements. Launching the *Expedited Infill Pilot*, the *Development in Your Neighbourhood* webpage, and the *Missing Middle* competition required dedication and commitment. As a result, the City of Edmonton engaged other stakeholders in

the development process; all stakeholders developed self-assessment and monitoring tools to help support the flow and improve infill housing quality.

Engaging stakeholders in the decision-making process suggests that building the city is a collective responsibility. For example, neighbours can report intolerable construction practices, developers decide the parking capacity their projects require, and the community can participate in choosing the winning infill proposals. Outcomes of infill become a shared responsibility and experience.

The *Missing Middle* competition is an example of an equitable communication tool because it addresses the common public who may find information illustrated in written reports and sketches too complex to understand. Envisioning infill housing by creating prototypes and real-life scale models contributes to educating and receiving feedback from the maximum number of people of diverse backgrounds about infill housing.

Both municipalities encourage creating sustainable, equitable, and affordable housing. However, they have not framed policies to enforce them; they remain recommended approaches. The *Missing Middle* competition winners adopted a few of these concepts, but this is not necessarily the case in other projects in both cities.

Lastly, celebrating infill housing through a national and international competition creates a sense of pride for Edmontonians. Covering this positive experience through media spread awareness and emphasized the benefits of infill. This experiment could initiate a national *Missing Middle* competition among mid-sized Canadian cities, including Winnipeg. It would help other growing cities to overcome some of the obstacles faced at the early infill journey.



9.0 / LESSONS LEARNED

Both cities have been developing policies, engaging the public, and allowing stakeholders to participate in reshaping their communities. The City of Edmonton began developing infill strategies earlier than the City of Winnipeg, while both cities are simultaneously aiming to change their zoning by-laws. Winnipeggers are given less time to accept and adapt to the changes happening in their neighbourhoods. In Winnipeg, tools for engaging the public have been varied but more singular and short-lived, whereas Edmontonians are given tools to participate in a continuous monitoring of infill quality and practices. Both cities plan relaxed parking requirements based on the uniqueness of their urban, demographic, and economic growth goals. Infill guidelines and strategies may describe the future urban form; they cannot frame or guarantee housing equity, affordability, and sustainability- in spite of those being stated policy goals of each city. More financial resources, staffing and time are needed to allow the City of Winnipeg to plan, organize, and manage its competition, and then achieve accomplishments that others are enjoying their rewards.

10.0 / FINAL THOUGHTS

Winnipeg has undertaken an infill strategy recently, while other cities, such as Edmonton, started a long time ago. This has presented an opportunity for Winnipeg to adopt and develop infill strategies based on other cities' trials while considering the local context and Winnipeggers' needs. A lingering issue is that successful tools, borrowed or not, take staff time and a well-resourced planning department - things that remain a challenge in the Winnipeg context (A. Ross, personal communication, April 15, 2021). Edmonton's experience suggests that a well-resourced effort may be a key to success for the very contentious topic of residential infill strategies. On April 19, 2021, *Winnipeg's Residential Infill Strategy* goes to public hearing (A. Ross, personal communication, April 15, 2021). It remains to be seen how the *Strategy*, if adopted, will be received in the short and long term.

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Image Resources

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