

Attachment 16: Key Findings of the Beaches-East York Pilot Project

KEY FINDINGS

One of the main objectives of the Pilot Project is to inform future projects of a similar scale. The following is a description of the key findings of the first two phases of the Pilot Project, which includes information on the site selection process and the Official Plan and Zoning By-law Amendment process. As part of Recommendation No. 5, City Planning staff will report back with an updated document discussing the Site Plan Control process, following the completion of that process at 72 Amroth Avenue.

Site Selection

City staff and CreateTO began work on the Pilot Project by assessing the feasibility of developing a missing middle scale building on sites within Ward 19. Included in the consideration was the physical characteristics of the site, location, policy and zoning regulations, easements on title, existing infrastructure surrounding the site, and the existing use of the site, among other matters.

Lot Configuration

Physically, the site should be large enough and be of a regular shape to allow for an efficiently designed building that is able to achieve good planning outcomes by meeting important City objectives, such as the preservation of existing trees on site. Although the Pilot Project site at 72 Amroth Avenue is an irregular shape, the lot has characteristics that allow for an efficiently designed building such as lot lines at right-angles, sufficient lot frontage and sufficient lot depth. A triangular-shaped lot, for instance, would require special design considerations that would reduce the efficiency of the layout and the viability of the project, given the financial constraints of building at this scale.

Infrastructure

Potential sites should consider the presence of existing utilities or infrastructure below-grade, including whether water, wastewater and sewer services are located near the site and whether there is existing capacity to service the proposal. Utilities are often very costly to move, extend and upgrade, and for projects at this scale can be detrimental to project viability. Similarly, avoidance of sites adjacent to rail lines, contaminated sites and sites with archaeological potential are also important considerations, given the costs associated with the relevant studies and mitigation measures.

Proximity to Higher Order Transit

The Pilot Project site was selected, in part, due to its location within the Woodbine Protected Major Transit Station Area and direct access to the Bloor-Danforth Woodbine subway station. Small-scale apartment buildings do not need to be located exclusively within Major Transit Station Areas; however, good access to frequent transit is an

important consideration for projects at this scale, as the construction of below-grade parking structures is both costly and results in higher embodied carbon emissions. Furthermore, supporting transit-oriented development helps support the City's TransformTO 2030 targets of increasing the share of trips taken by transit and ensuring all new homes will be designed to be near zero greenhouse gas emissions.

Opportunities with City-owned Assets

The site was also selected as it was an opportunity to take an underperforming Toronto Parking Authority (TPA) parking lot, operating at a net loss to the City to achieve key city-building objectives and make more efficient use of the City asset. Concerns were acknowledged about the loss of the parking lot by residents in the area. Although personal vehicles will continue to play a significant role in the City's transportation network, supporting transit-oriented development is crucial to increasing housing supply, making more efficient use of the City's existing transit infrastructure, supporting the City's climate goals, and ensuring that new population growth does not lead to an equivalent increase in traffic congestion. It is likely other opportunities exist for making more efficient use of other assets in the City's real estate portfolio.

Data Sharing

Initial phases of the Pilot Project included preliminary due diligence work to assess the feasibility of building a missing middle demonstration project on a variety of sites within Ward 19, including sites operated by both internal and external City agencies. Staff were required to spend a significant amount of time connecting with staff across divisions and agencies to obtain site information for the due diligence work. Improved data sharing across City agencies of survey information, existing infrastructure plans and section drawings, Building Condition Assessment Reports, photos, title documents, and any other pertinent information that could assist staff in assessing the feasibility of a site would be an asset to CreateTO and other City divisions and agencies that work on capital projects.

Financial Considerations

CreateTO was authorized to spend up to \$631,000 on consultant fees to advance the Official Plan and Zoning By-law Amendment process for the Pilot Project. On a per unit basis, this amounts to \$18,559 per unit for the 34 units proposed in the Pilot Project.

CreateTO staff confirm that consultant fees are generally comparable across different scales of City-initiated projects, having reviewed the fees of Housing Now projects that can deliver over twenty times the number of units as proposed through the Pilot Project. This is due to a similar set of technical studies and drawings required to support planning approvals for these projects, regardless of the number of units and scale of the building. Consultant fees thus have a disproportionate impact on overall project costs at the missing middle scale.

Increasing as-of-right zoning permissions for small-scale apartment buildings would enable projects to advance without the need for an Official Plan and/or Zoning By-law Amendment. This would assist in speeding up project timelines and reduce the costs.

Single-Stair Access

Today, in most of Canada, multi-unit residential buildings larger than two-storeys in height are required to have two means of egress (i.e. two ways to exit the building). For the Pilot Project, the need to meet the minimum requirements of the Ontario Building Code (OBC) has influenced the design of the proposed six-storey building fronting Amroth Avenue. The proposal features two exit stairs with a 9 metre long corridor between them.

As noted in the [Single Exit Stair: Ontario Building Code Feasibility Study](#), created as part of City Council [Item PH14.7](#), adopted on July 24, 2024, permit applicants can propose an alternative solution to the prescriptive requirements of the OBC. This Study highlights that potential alternative solutions are feasible and may include additional mitigation features. These measures may include, for example restrictions on the number of units per floor, expanded use of sprinkler systems and limited travel distances to the exit, among other matters.

The Pilot Project chose to include two exit stairs. The additional exit stair takes up approximately 150 square metres, or 6.5 percent of the gross construction area.

Official Plan Policy

The EHON initiative intends to equitably distribute housing options across the city, in the Neighbourhoods designation, while prioritizing built form of residential buildings rather than distinguishing between neighbourhoods based on building type. The Neighbourhoods designation, which comprises 35.4 percent of the city's land area, are described as "stable but not static", with some physical change expected over time. Neighbourhoods are primarily made up of low-density residential uses in small-scale building types, including detached houses, semi-detached houses, duplexes, triplexes and various forms of townhouses, as well as interspersed walk-up apartment buildings that are no higher than four-storeys.

Height

The existing Official Plan Neighbourhoods policies do not enable the construction of small-scale apartment buildings greater than four-storeys in the interior of neighbourhoods, even where contextually appropriate. In May of this year, City Council adopted an Official Plan Amendment to enable apartment buildings up to six-storeys in height for lots in Neighbourhoods along Major Streets.

The Pilot Project is located in between a Neighbourhood context, along Amroth Avenue, which plans for buildings up to four-storeys in height and a Mixed Use Area, Avenue and Major Street context of intensification, along Danforth Avenue and Woodbine Avenue, which plans for buildings greater than or equal to six-storeys.

Although six-storey apartment buildings are not appropriate across all sites within the interior of Neighbourhoods, the Pilot Project has demonstrated that six-storeys is appropriate under certain circumstances, including in areas that act as transition between areas of different scale. The proposed Official Plan Amendment will provide permission for one six-storey building on the lot.

Prevailing Character

A current objective of the Official Plan is that new development be sensitive, gradual and "fit" the existing physical character to respect and reinforce the general physical patterns in a Neighbourhood. While Official Plan Policy 4.1.5 specifies that proposed development within a Neighbourhood will be materially consistent with the prevailing physical character of properties in both the broader and immediate contexts, Policy 4.1.9 provides more flexibility for infill development on lots which differ from the prevailing pattern of lot size, configuration and/or orientation. The Pilot Project is on a lot with a different size and configuration than the prevailing lots in the Neighbourhood, and as such Policy 4.1.9 applies. An Official Plan amendment is not required to permit the proposed building types: apartment building; duplex; and fourplex. If the Pilot Project was not located on an irregular lot and Policy 4.1.5 was applicable, an Official Plan amendment to permit the proposed building types would be required.

Through [Item 2023.MM13.27 - Federal Housing Accelerator Fund - Supporting Generational Transformation of Toronto's Housing System](#), the City Planning Division will be reporting back on opportunities to permit more low-rise, multi-unit housing through as-of-right zoning in neighbourhoods across Toronto. In order to permit as-of-right zoning permissions for small-scale apartment buildings in transitions zones or in the interior of neighbourhoods, amendments to the Neighbourhood policies in the Official Plan will need to be considered.

Zoning By-law

Chapter 10 of the city-wide Zoning By-law, the Residential Zone Category implements the policies of the Neighbourhoods designation of the Official Plan. This zone category applies to all lands, uses, buildings and structures in the Residential Zone category. The Residential Zone category permits uses generally associated with the Neighbourhoods designation in the Official Plan. This zone category includes a range of residential zones including the Residential (R) Zone, Residential Detached (RD) Zone, Residential Semi-Detached (RS) Zone, Residential Townhouse (RT) Zone, and the Residential Multiple (RM); the Pilot Project is in the R zone.

Through the creation of the site-specific Zoning By-law for the Pilot Project, City staff have developed a list of variances to existing zoning regulations that are needed to enable missing middle development, including small-scale apartment buildings in Neighbourhoods. The following is a description of some of the site-specific variances required to implement the Pilot Project and is intended to inform future work to permit missing middle development as of right in Neighbourhoods and help streamline the approval process.

Height

The Official Plan plans for small-scale apartment buildings up to four-storeys in the Neighbourhoods designation. The city-wide Zoning By-law generally permits heights slightly lower than that in low-rise residential zones — 3 to 3.5-storeys. In the R and RM zones, where apartment buildings are currently permitted, the maximum permitted heights vary from 10 to 14 metres; 11 metres for 72 Amroth Avenue. Due to this height

regulation, an amendment to the Zoning By-law is required to permit a small-scale apartment building of four or more storeys. The recommended site-specific Zoning By-law amendment includes a permission for the proposed six-storey building along Amroth Avenue. The proposed duplex and fourplex at the rear of the site do not require amendments to the height regulation as the Zoning By-law permits multiplexes (up to four units) to have a maximum height of 10 metres.

Maximum Building Depth

Building Depth is a regulation in the Zoning By-law that regulates the placement of a building on a lot (i.e. how far back the building is permitted to sit on the lot). The Pilot Project requires relief from this performance standard, as the maximum permitted depth for an apartment building is 17 metres and the proposed depth for the six-storey apartment building fronting Amroth Avenue is approximately 27 metres. Furthermore, the maximum permitted depth for buildings with a height of 13 metres or less is 19 metres; however, the proposed depth for the duplex and fourplex at the rear of the site is approximately 41.5 metres.

The impact of the building depth regulation on the duplex and fourplex are a result of those buildings being proposed at the rear of an irregular lot, not something that will likely be replicated on many lots in the City. The depth requirement for the apartment building is likely more relevant on a City-wide basis. The apartment building was proposed to be of a certain size, in part, to create an efficient floor plan with a mix of unit types and sizes in comfortable and liveable unit layouts. Compliance with the 17 metre building depth requirement would have meant a loss of 10 metres from the length of the proposed apartment building.

Density or Floor Space Index (FSI)

The term FSI represents the ratio of gross floor areas of all buildings on a lot to the lot area. The Zoning By-law defines Gross Floor Area (GFA) as the sum of the total area of each floor level of a building, above and below the ground, measured from the exterior of the main wall of each floor level. The intent of limits on FSI is to control the bulk and mass of a building. The Pilot Project requires relief from this performance standard as the maximum permitted FSI is 0.6 and the proposed is 1.82. The permitted maximum FSI in the Zoning By-law would severely impact the ability to accommodate the proposed number of dwelling units.

Landscaping

The Zoning By-law has landscaping regulations that apply specifically to apartment buildings in the Residential Zone Category. All apartment buildings must have a minimum of 50 percent of the area of the lot for landscaping, of which a minimum of 50 percent must be for soft landscaping. Furthermore, a lot with an apartment building must have a minimum 1.5 metre wide strip of soft landscaping along any part of the lot line abutting another lot in the Residential Zone Category.

The Pilot Project proposes a minimum of 50 percent of the lot for landscaping, of which a minimum of 30 percent will be soft landscaping. The Pilot Project also proposes a strip

of landscaping along much of the side lot lines abutting lots in the Residential Zone Category but does not do so for the portion at the front of the lot alongside the proposed apartment building.

Although the Pilot Project requires an amendment to the landscaping regulations, an intentional design choice was made to create a courtyard in the rear, in part to preserve the existing trees along the rear property line and create room to plant new trees. In this case, the intent of the landscaping regulation has been achieved albeit without meeting the minimum standards outlined in the regulation. A more flexible landscaping regulation could ensure both its intent as a mechanism to promote landscaping is maintained while helping enable the development of missing middle housing.

Amenity Space

A minimum amount of amenity space is a requirement for an apartment building in the R Zone with 20 or more dwelling units. The Zoning By-law requires a minimum of 136 square metres of total amenity space including 68 square metres of indoor amenity space. The Pilot Project proposes 292 square metres of outdoor amenity space at the ground floor in a central courtyard with no indoor amenity space.

The provision of indoor amenity space for a small-scale building is difficult to achieve due to limited space. In this case, the provision of indoor amenity space would have required the loss of units, larger buildings or the provision of amenity space underground, which does not align with other objectives of the project such limiting the amount of embodied carbon emissions. Furthermore, the Pilot Project was presented with an opportunity to exceed the outdoor amenity space requirement through the creation of a central courtyard at the rear which proposes to connect the three buildings while preserving the trees at the rear of the site.

Setbacks

Setbacks regulate the placement of a building on a lot in relation to the front, rear and side lot lines. Setbacks have many purposes including supporting the provision of landscaping, allowing access to the sides and rear of the lot for ingress/egress and maintenance purposes, and limiting the impact of a building on adjacent lots and the public realm.

The Pilot Project requires relief from the rear and side yard setback requirements in the Zoning By-law. The required side yard setback for an apartment building of 13 metres or more is 7.5 metres, and the required rear yard setback for this site is 7.5 metres. The Pilot Project proposes side yard setbacks of 2.1 metres and 1.5 metres and a rear yard setback of 4.4 metres and 3.0 metres. With the proposed setbacks, the Pilot Project is able to create a compatible built form that adheres to the purposes of the provision of setbacks. Intentional design choices were made such as creating larger setbacks to the rear lot lines of the abutting properties to ensure the impact on neighbouring properties could be minimized. A 2.1 metre south side yard setback was also created in line with the City's sidewalk standard to ensure future residents and visitors could comfortably move to and from the courtyard at the rear.

If the Pilot Project complied with a 7.5 metre setback, none of the buildings proposed would be feasible to construct, given the reductions to the buildable area those setbacks would produce. The Pilot Project has demonstrated that the objectives of the setback regulation can be achieved without the need to adhere to the specific regulation as it is enforced today. More flexibility would preserve the objectives of the setback regulation while helping enable to creation of missing middle housing.

Visitor Parking

Zoning By-law 569-2013 requires a minimum of two visitor parking spaces for this proposal. The Pilot Project does not propose any parking spaces. The Zoning By-law requirement for a minimum number of visitor parking spaces applies equally to an Apartment Building and a Mixed Use Building but differs depending on the parking zone the building is located in. In Parking Zone A, which represents areas of the City well-served by transit, a minimum of two plus 0.01 visitor parking spaces per dwelling unit are required in an apartment building and a Mixed Use Building.

While this requirement can often be accommodated on large mid-rise or tall building sites in an underground garage, it is difficult to accommodate an underground garage on a small-scale apartment building site, due to costs and site constraints. Underground structures also significantly increase embodied carbon emissions.

Loading Space

The Zoning By-law does not require a loading space for buildings with 30 dwelling units or less and requires the provision of one Type G loading space for buildings containing 31 to 399 dwelling units. The Pilot Project does not propose a loading space and proposes an amendment to that provision in the site-specific Zoning By-law.

The provision of a loading space would be difficult to provide for the Pilot Project, as the site is simply not large enough. A loading space on this site would have reduced the constructability of the apartment building and would have taken up significant space within the public realm.

Irrespective of the Zoning By-law requirement, Solid Waste Management Services allows exemptions to the provision of a loading space for buildings less than 60 units, provided that it can be demonstrated that the building can accommodate curb-side pickup. The design of the public realm to support this activity as well as the City's green streets objectives must be considered early in the design of these missing middle projects. Curbside pick-up can have a significant impact on the public realm by impeding sidewalks and preventing the planting of street trees. The Pilot Project was successfully able to demonstrate that curb-side pickup can be accommodated along Amroth Avenue. This is unlikely to be the case in all scenarios, depending on the conditions associated with the public realm on other small-scale apartment building sites.

Near Net-Zero Project Goals/Toronto Green Standard

Energy modelling and costing studies performed for the Pilot Project helped illustrate pathways for other buildings of this scale to meet higher tiers of the Toronto Green Standard (TGS).

Higher tiers of the TGS in a missing middle context can be achieved through some strategic design considerations and upgrades to materials and mechanical systems that are readily available in today's market. For instance: building forms can be kept simple and compact to minimize the surface area of exterior walls; wall thicknesses can be increased compared to a typical building; and a wood structure could be used instead of concrete, which can avoid substantial embodied carbon emissions.

Such high-performance interventions can also be economically feasible at this scale, particularly for buildings on the larger end of the missing middle spectrum. Costing analyses showed a 2.6 percent upfront cost premium for building to TGS Version, Tier 3 compared to Tier 1. However, this upfront increase in cost was offset by comparatively lower operational energy expenses for the buildings designed to Tier 3. Over a 40-year lifespan, the costs were nearly equivalent, with the analysis revealing a \$188,000 cost difference between TGS Version 4 Tier 3 design and its Tier 1 counterpart. This cost differential was attributed to the efficiency of the equipment chosen combined with the significant rise in carbon pricing. These estimates are based on an average for the two buildings that made up the preliminary design.

Servicing Requirements

Electrical servicing must be considered early in the design of missing middle projects, especially for buildings with significant electrical demand, which can be driven by scale and/or equipment choice (e.g. number of dwelling units, electric heat pumps vs natural gas boilers). Depending on the available service and nearby electrical infrastructure, sites may need to accommodate the space of a pad-mounted transformer or a building vault transformer. In many cases, for missing middle projects, new service lines will need to be buried (underground), which may increase the complexity of the site utility design.

The Pilot Project site is located close to a major arterial, with available system infrastructure and capacity. Furthermore, Toronto Hydro has confirmed that the electrical demand can be met by a pole-mounted transformer on the east side of Amroth Avenue, with the supply continuing underground across Amroth Avenue to the site, which avoids the need for a pad-mounted transformer on site. Not all projects will have these conditions; therefore, discussing options with Toronto Hydro early in the design process is essential.

Available water, sanitary and stormwater capacity is another element that needs to be considered for small-scale apartment buildings. If capacity is insufficient, the developer could be required to pay to upgrade city services, adding costs to the project. Given the difference in expected returns between missing middle development and larger multi-unit buildings, upgrades to city services can present greater challenges at this scale. A requirement to upgrade city services could have been problematic for the Pilot Project,

depending on the type and scope of work required and the cost associated with the work.

Application of the Townhouse and Low-rise Design Guidelines

The City's [Townhouse and Low-Rise Apartment Guidelines](#) apply to buildings that are four-storeys or less. The City's [Mid-Rise Performance Standards](#) apply to buildings that are no taller than the width of their adjacent right-of-way, typically found on Avenues and between five and 11-storeys in height. Currently, there are no design guidelines that speak to proposals like the Pilot Project — proposals between four and six-storeys in height in the interior of Neighbourhoods or within transition zones on smaller infill sites.

City staff are moving forward with an Addendum to the Mid-Rise Performance Standards to address six-storey apartment buildings on Major Streets. The Housing Action Plan 2022-2026 - Priorities and Work Plan ([Item EX3.1](#)) refers to updates to the Townhouse and Low-Rise Apartment Guidelines as an action item to be undertaken at a future date. As City Planning advances work to update the Townhouse and Low-Rise Apartment Guidelines, it is recommended that staff consider the Pilot Project, while recognizing the importance of promoting efficient building design to encourage project viability and to reduce operational and embodied carbon emissions.

Advisory Group

On March 18, 2024, CreateTO, City staff, the consultant architects from Superkül and staff from Councillor Bradford's office, including Councillor Bradford, met with a panel of development industry experts to review and discuss the Pilot Project. The discussion focused on the five project principles of sustainability and resiliency, accessibility, replicability, compatibility, and cost-effective design, and included input on how the City could improve the uptake of missing middle projects.

Feedback received from the panel included:

- Recommendation to eliminate the basement level and relocate the bicycle parking to a shed in the rear, to improve overall operational efficiency and reduce embodied carbon emissions.
- Support for the use of structural materials with low-embodied carbon, including stick-frame construction or mass timber.
- Support for eliminating or reducing amenity space requirements for missing middle projects and/or expanding the definition of amenity space to include functional amenities such as locker and/or storage space.
- Recommendation for a clear and predictable exemption process for loading and parking requirements applied to missing middle projects, with an emphasis on consistency across the City.
- Support for expanding as-of-right permissions for missing middle projects to enhance viability and minimize carrying costs.
- Support for the stand-alone three-storey typologies at the rear of the property.
- Recommendation for zoning flexibility to enable multiple buildings on a lot.

- Acknowledgement for a need to create new policy considerations for missing middle projects based on their locational context, such as the unique considerations for the subject site, which is located in what could be considered a transition zone within a Protected Major Transit Station Area.
- Support for a consideration of a range of unit types in response to demographic/market trends and affordability challenges, specifically one-bedroom and studio units to support overall project viability and affordability.
- Acknowledgement of the benefits of single egress buildings in enhancing efficiency and overall project viability. A strong desire was expressed for further Building Code flexibility to consider single egress for buildings up to six-storeys.
- Acknowledgement of the financial challenges associated with the delivery of small-scale apartment buildings. In many cases, the consolidation of lots to deliver Development Charge exempted multiplexes can make more economic sense than a higher density small-scale apartment building.
- Support for the enhanced accessibility aspirations of the project and suggested a focus on universal design measures that are both cost effective and minimally disruptive to functional layouts through design iterations.

Summary of Key Findings

The Pilot Project was initiated to develop a missing middle demonstration project and to inform future projects of a similar scale. The key findings of the pilot project can be summarized as follows:

- City staff involved in city-building initiatives of city assets would benefit from improved data-sharing capacity across divisions and agencies;
- Fees associated with development review have an outsized impact on missing middle development;
- While the OBC requires two means of egress for multi-unit buildings above two-storeys in height, permit applicants can propose an alternative solution to these requirements.
- There are Official Plan policies and Zoning By-law regulations that exist today that discourage development of small-scale apartment buildings in the interior of neighbourhoods;
- Meeting higher tiers of the Toronto Green Standard can be economically feasible for small-scale apartment buildings as higher upfront costs can be offset by lower operational expenses over a 40-year lifespan; and
- Updated design guidelines suited to proposals between four and six-storeys would assist in the review and approval process for development review staff.

The City Planning Division is in the process of completing work to address issues, as it relates to policies and regulations present within the Official Plan and Zoning By-law that discourage the uptake of small-scale apartment buildings. The EHON Major Streets study, adopted by council in May 2024 (currently under appeal) expanded permissions to allow small-scale apartment buildings, up to 60 units and a maximum of six-storeys on Major Streets. Staff are currently exploring permitting six-unit apartment buildings with a maximum height of 10 metres in Ward 23 and are expected to report back at the December 5th Planning and Housing Committee with final recommendations. Staff have also been tasked with enabling permissions for buildings within transition zones through

the Housing Action Plan, in addition to enabling permissions for low-rise multi-unit residential buildings, including permissions for four-storey buildings and six-unit buildings in neighbourhoods City-wide through the Housing Accelerator Fund.

As the City Planning Division advances work to expand permissions for missing middle projects, including small-scale apartment buildings, it is recommended staff consider the key findings outlined here. More work is required to evaluate the Site Plan Control process and to identify areas of process improvement through the next phase of the Pilot Project. Through Recommendation No. 5, City Planning staff will report back with an updated document discussing the Site Plan Control process.