

A Home for Urban Families

An Alternative Approach to
Housing in Downtown Toronto

by

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AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis.

This is a true copy of this thesis, including any required final revisions, as accepted by my examiners. I understand that my thesis may be made electronically available to the public.

ABSTRACT

As prices of single family homes rapidly increase in Toronto, many families are faced with a challenging dilemma: move beyond the city's peripheries to where house prices are lower, or remain within the city and attempt to find suitable housing in multi-unit buildings. Recently, more families have been choosing the latter, yet discovering that the city offers very few affordable housing options suitable for families with children. This thesis is an exploration into why this is the case and a proposition for a possible solution.

The exploration is broken down into two components: the political and economic framework of housing affordability and an urban and architectural analysis of design compatibility of housing for families with children. The findings suggest that a more comprehensive economic model is required, with consideration given to community land trusts and co-operative housing. Furthermore, a design approach which considers the amenities and diversity required by family life is seen to create a more inclusive built environment.

The research culminates in a design synthesis - a proposal of a co-operative building on an existing parking lot in Bloor West Village. The proposed design of the Home for Urban Families is exemplary in nature, in that it displays a possible solution within the established framework of the thesis.

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DEDICATION

Dedicated to my dear grandma,
Elvira Avgustovna Ratniece,
In honour of her 90th birthday.

Посвящается моей дорогой бабуле,
Эльвире Августовне Ратнице,
В честь ее 90-летия.

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INTRODUCTION

PROBLEM STATEMENT

The average price of a detached single-family home in the city of Toronto passed \$1-million in 2015, presenting a 12% increase from 2014.¹ This rapidly escalating trend in real estate prices has been characteristic to Toronto, as well as many other major cities in North America. Factors such as foreign investment, an increase in corporate acquisition of properties, and the struggle of housing supply to keep up with the rapidly growing demand, all play a role in making Toronto, together with Vancouver, San Francisco, and New York City, as North America's least affordable cities. In all of these cities, as average incomes fail to keep up with the inflating housing market, a larger majority of middle-class first-time buyers are unable to afford a home for themselves and their families.

It can be seen that the issues surrounding the provision of housing for large numbers of people on limited land areas are becoming widespread. Alejandro Aravena, principal of the firm Elemental in Chile, notes that when housing prices increase, the

¹ Market Watch."Toronto Real Estate Boards, April 2016. Accessed May 26, 2016. http://www.trebhome.com/market_news/market_watch/2016/mw1604.pdf

market and public policy consequently react in two ways: reducing the size of housing; and displacing its location to where land costs less.² This is a phenomenon which can be seen to be happening in Toronto in tandem with rising real estate prices. The size of housing is rapidly decreasing, with bachelor and one bedroom units currently saturating the condominium market. Concurrently, housing which is both suitable and financially accessible for middle-class families is being displaced further beyond the peripheries of the city.

This thesis proposes that any solution to the housing crisis in Toronto must take a twofold approach:

First of all, the issue of unaffordability is seen to be the result of housing being regarded as a purely financial investment, rather than a social one. The private market of housing, following a profit-driven mandate and subject to escalating land values, is unable to address the lack of affordable housing for a growing number of the city's residents. In North America, the public sector assumes a passive role towards housing, mostly using policies and regulations in an attempt to mitigate the effects of an increasingly more expensive housing market. The research presented in this thesis demonstrates that it is imperative for governments to play a more proactive role in the housing sector in order to effectively combat unaffordability, with a particular emphasis on the cost of land, rather than simply the supply of social housing units. A framework is thus developed in relation to land costs, with the explicit goal of keeping affordable housing for families in, or close to, the city center. A solution to this particular issue is presented in the form of a community land

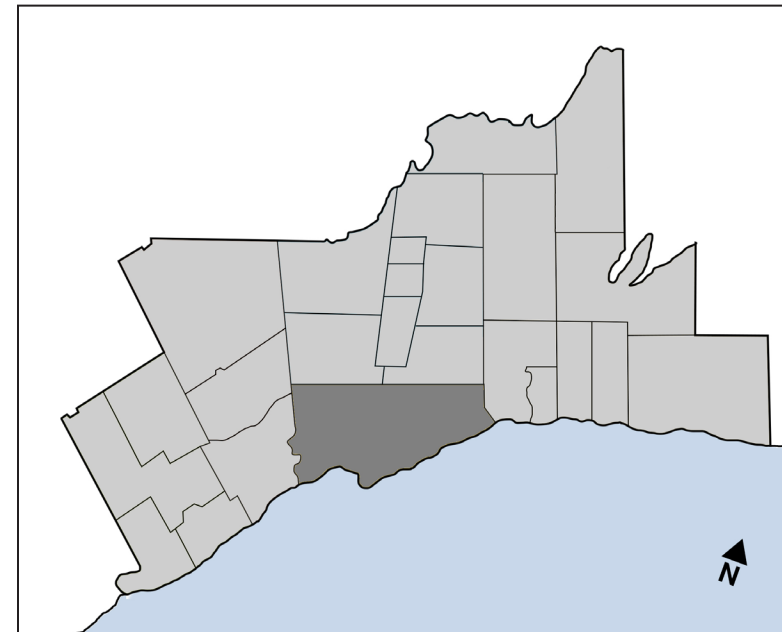


Fig. 0.01. City of Toronto and its surrounding municipalities, all part of the Greater Toronto Area (GTA).

² “The Big Interview - Alejandro Aravena.” Interview by Josh Fehner. *Monocle* 24. July 17, 2016.

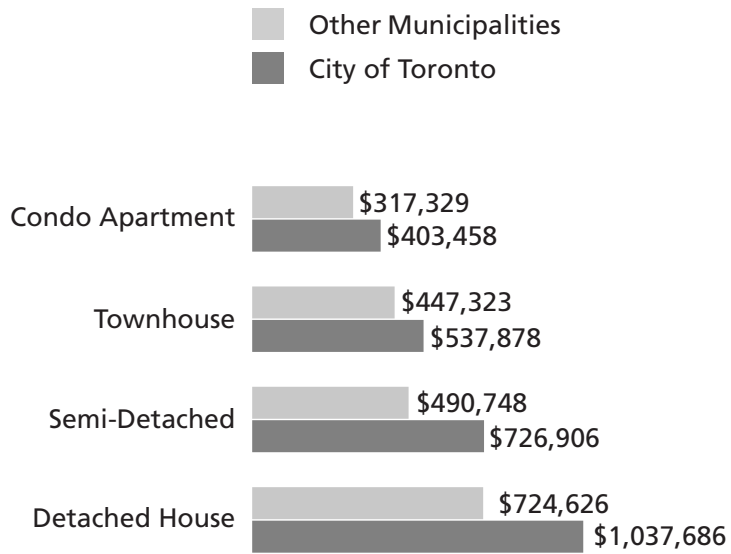


Fig. 0.02. Average prices of homes in 2015, by major home type, in the city of Toronto compared to its surrounding municipalities.

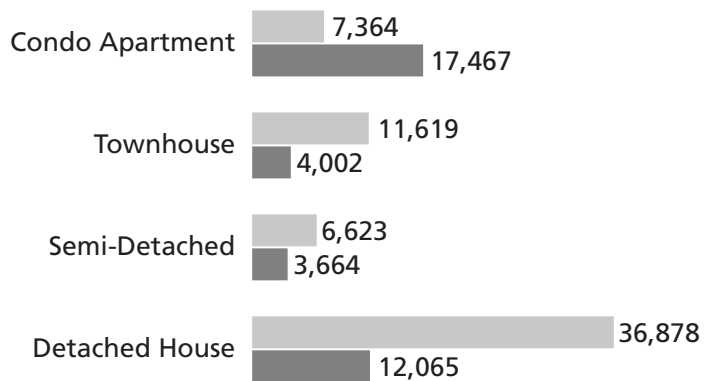


Fig. 0.03. Number of sales of homes in 2015, by major home type, in the city of Toronto compared to its surrounding municipalities.

trust, in which a level of government sets aside municipally- or provincially-owned land for the development of housing, which residents can rent or purchase with the elevated cost of the land excluded. The tenure option which is explored is that of the co-operative building or group of buildings, as it is found to be most suitable in becoming part of the organizational structure of the community land trust, while providing a sustainable and gratifying environment for family life.

Second of all, the thesis addresses the issue of compatibility through design, which focuses on the relationship between architecture and the social framework of livability of families with children in an urban environment. The aim of this analysis is to establish a set of architectural typologies and elements which are economically viable, but at the same time provide the necessary amenities and address the diversity required by family life. The presence of children in an urban environment is given particular attention, as this is seen to be one of the most neglected areas in urban planning and the design of contemporary urban residences.

The final design proposal is a synthesis of the outlined solutions in dealing with affordability and compatibility. It is suggested that municipally-owned 'GreenP' surface parking lots be utilized by the city in a 'housing-first' policy and the land which they occupy placed in a community land trust. As the parking lots share many similar characteristics, it is assumed that an architectural proposal for one lot can be replicated on others with minimal modification. A project of a co-operative building is then proposed for a site which consists of three parking lots in Bloor West Village. The project employs the outcomes of the analysis in proposing design solutions

for the individual units, for the building and its amenities, and for its connections to the surrounding neighbourhood. The design proposed for the Home for Urban Families is exemplary in nature, in that it displays what is possible to achieve within the framework established by the earlier chapters of the thesis.

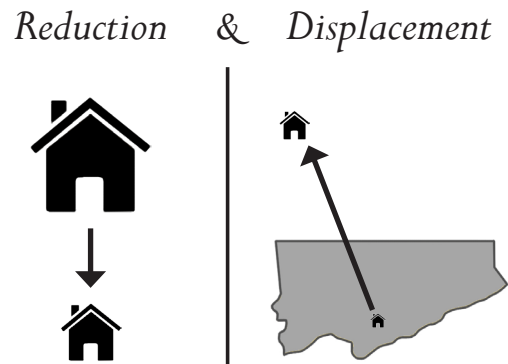


Fig. 0.04. Diagram of Aravena's explanation of the consequences of increasing land values on housing: reduction and displacement.

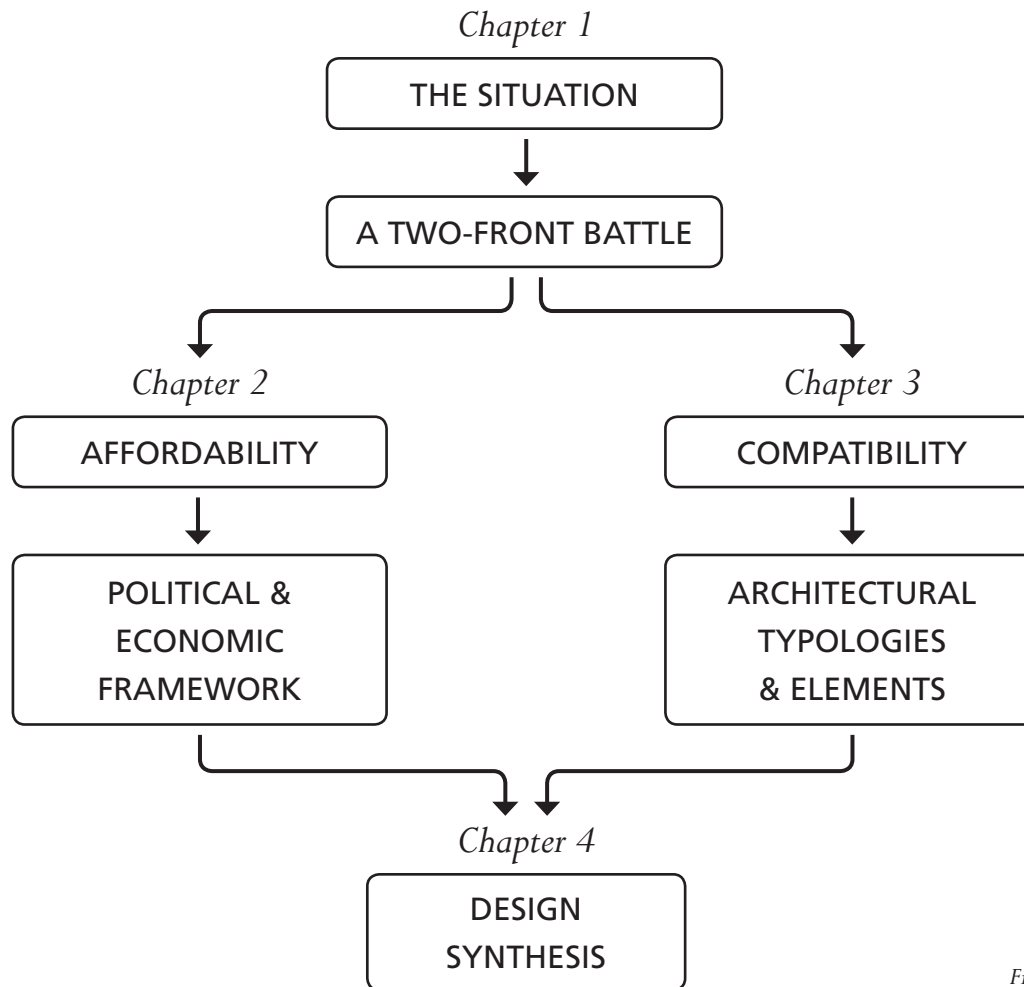


Fig. 0.05. Diagram of thesis structure.

THESIS STRUCTURE

This thesis is structured into four main chapters:

Chapter 1 provides an outline of the situation currently afflicting families in central urban areas. It gives an overview of the situation worldwide, with a particular focus on Toronto.

Chapter 2 addresses the problem of *affordability* of housing for families seeking a home in central urban areas. It establishes a political and economic framework of dealing with this particular issue and suggests how this could be incorporated into the design of a Home for Urban Families.

Chapter 3 addresses the problem of *compatibility* of housing for families seeking a home in central urban areas. Through an analysis of architectural precedents at the scale of the unit, the building, and the neighbourhood, it establishes the most suitable typologies for family life in the city and provides a set of criteria which will inform the design of a Home for Urban Families.

Chapter 4 is the synthesis of the political and economic framework for affordability established in Chapter 2 with the analysis of compatible architectural precedents analyzed in Chapter 3. It presents the design of the Home for Urban Families, addressing the individual unit, the building and its amenities, the street block, the surrounding urban context, and the city as a whole.

CHAPTER 1

THE SITUATION OF HOUSING FOR FAMILIES

This chapter provides an overview of the current dilemma of family housing, both in Toronto and in other cities facing similar issues. An analysis of the way that families and governments in other cities are dealing with this problem allows for a critical examination of Toronto's current policies, proposed actions, and potential solutions.

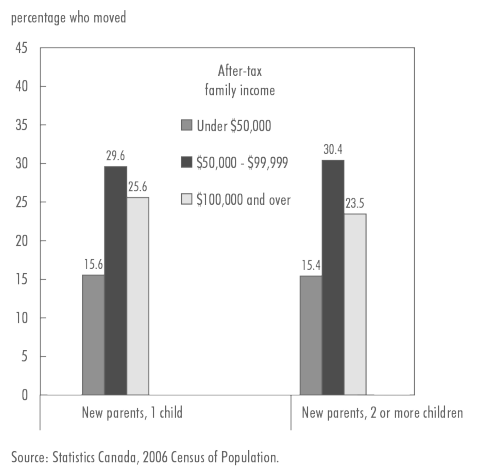
1.1 SHIFTING DEMOGRAPHICS

1.2 THE PROBLEM: TORONTO AND ELSEWHERE

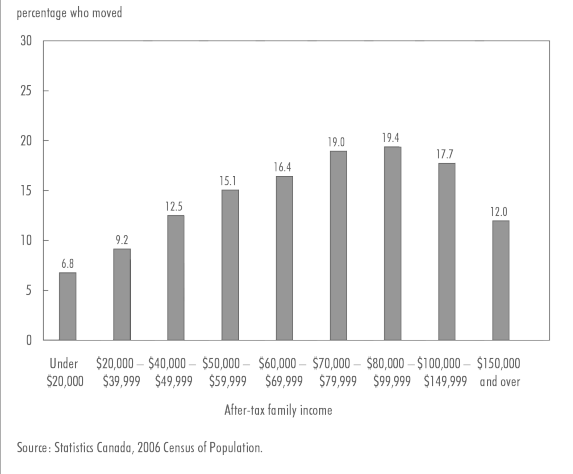
1.3 TORONTO: CURRENT ACTIONS

1.4 A TWO-FRONT BATTLE

New parents with 1 child or more are most likely to have moved.



Middle class families are most likely to have moved (incomes \$50 000 - \$99 000).



People aged 30 to 34 are the most likely to have moved.

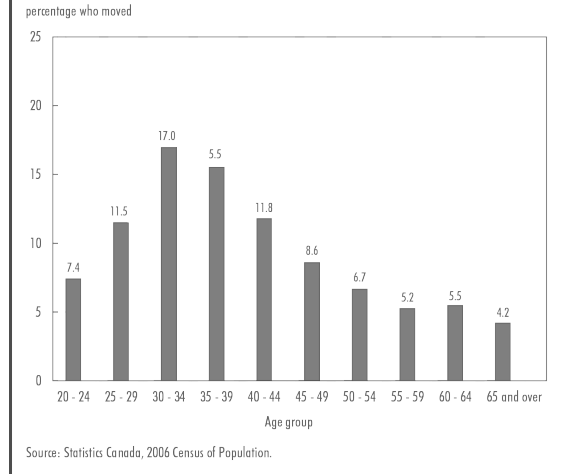


Fig. 1.01. Intrametropolitan Migration

1.1 SHIFTING DEMOGRAPHICS

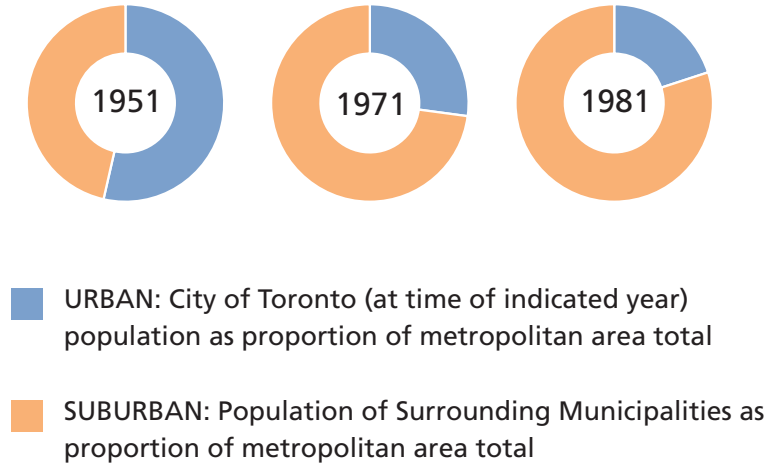


Fig. 1.02. Changes in the urban:suburban population ratios in Toronto.

The Family and Suburbia

Most major North American cities have experienced a similar cycle during the 20th century: rapid urbanization at the beginning of the century, followed by suburbanization of the post-war years extending into the later part of the century, and finally reurbanization through gentrification and state-sponsored inner-city regeneration at the end of the 20th and beginning of the 21st century.¹ The situation in Toronto has followed this cycle and has seen both political activity and urban form dictated by the preference of the middle classes swing from the city centre to the suburbs and back. The particular demographic group of the family with children has played a vital role in both the social and geographical changes in cities and their surroundings.

For most of the latter part of the past century, family life has been associated with suburban life. In the essay *Masculine Cities and Feminine Suburbs: Polarized Ideas, Contradictory Realities*, Susan Saegert claims that the masculine urban life has typically been

¹ A. G. Champion, *Counterurbanization: The Changing Pace and Nature of Population Deconcentration* (London; New York: Edward Arnold, 1990).

associated with aggressiveness, intellect, power and publicity; while feminine suburban life shares associations with domesticity, repose, proximity to nature and privacy.² She argues that when private and public life are thus segregated, a radical distance is created between work and home which is characterized by suburban characteristics of low density, lack of public transportation and public services, and limited provision of housing options. As gender roles begin to change, however, the separation between the symbolic and lived experience creates for a complicated family existence in the suburbs.

Reorganization of Family Roles

The second half of the 20th century has seen a re-structuring of gender roles within the family. Between 1961 and 1996, among couples with dependent children, the proportion in which the wife as well as the husband held paid employment went up from less than 20 percent to 71 percent.³ The transition of the family from single- to dual-earner has had significant repercussions in terms of time and space allocation. With both partners actively engaged in their own careers, as well as household and caring responsibilities, the separations between work and home have been blurred. Many have referred to this as “workification” of the home and family life.⁴

² S. Saegert, “Masculine Cities and Feminine Suburbs: Polarized Ideas, Contradictory Realities,” *Signs: Journal of Women in Culture and Society* 5 (1980), S96.

³ Larry S. Bourne and Damaris Rose, *The Changing Face of Canada: The Uneven Geographies of Population and Social Change*, Vol. 45 (Oxford, UK: , 2001), 105-119.

⁴ Helen Jarvis 1965-, *Work/Life City Limits : Comparative Household Perspectives* (New York: Palgrave Macmillan, 2005).



Fig. 1.03. Women increasingly engaged in paid employment:

Among couples with dependent children, the proportion in which the wife as well as the husband held paid employment:

1961: 20 %

1996: 71 %



Fig. 1.04. In a dual-earner households, both partners have to manage career aspirations together with home and family care.

This has placed pressures and demands on both the physical and social structuring of the urban environment. The drastic division between work and home which has been inherent in the planning of cities and suburbs is no longer a sustainable nor a convenient way of living. A more integrated and inherently urban lifestyle thus becomes attractive to the rapidly rising number of dual-earner families. However, with growing real estate values in urban centres, the price – both financial and spatial – of this convenience is steadily increasing and making it an inaccessible and problematic choice for many middle class families.

The Millennial *Yupps* and the Desire for Urban Life

Yuppie has been a popular term, coined in the 1980s, to describe a ‘young urban professional.’ It refers to a person who is an inner city-dweller, and has a strong preference for both work and residence to be located in a central urban area.⁵ Although the term is often seen as merely part of popular urban culture, it nevertheless has played an important role in defining trends and the social atmosphere of urban environments. *Yuppies* have been crucial to marketing campaigns and the direct target of building developers. The booming condominium market in Toronto can be seen as part of this phenomenon.

In his essay on the condominium typology, Mason White describes condominium culture: “Lifestyle is its measuring

⁵ John R. Short, “Yuppies, Yuffies and the New Urban Order,” *Transactions of the Institute of British Geographers* 14, no. 2 (1989), 173-188.

stick. Demographic is its angle. Convenience is its goal.”⁶ The demographic angle which the condominium typology has taken is that of the childless, one-to-two person, household. The lifestyle which it tries to portray is that of a young, mostly single, and childless demographic, which is constantly emphasized in the condominiums’ advertisement campaigns. This has marginalized the households which do not conform to this lifestyle, creating the illusion that urban living is not for families with children. The May 2008 issue of *Toronto Life* depicts the presence of children in urban public spaces as “Baby Invasion: They’re taking over our bars, restaurants and sidewalks.”⁷ The article goes on to frame the dispute currently being played out between those wishing to maintain a childless urban environment, and a new demographic group struggling with social norms and choosing to stay in central areas when starting a family and raising their children.

Lia Karsten, associate professor of Urban Geographies at the University of Amsterdam, has been studying the changing relationship between cities and families with children. In her research, she has identified a new demographic group growing in prevalence in urban centres – the *yupps*. This term defines ‘young urban professional parents’ and characterizes them as *yuppies* who have embarked onto the next step in their life cycle – having children – while continuing their careers and their preference for

6 Mason White, “CONDOMANIUM! Condominium Culture and Cities of Convenience,” in *Ourtopias: Cities and the Role of Design* (Cambridge, Ont.: Riverside Architectural Press, 2008), 21.

7 Onstad, Katrina. “Baby Wars: The Stroller Showdown.” *Toronto Life*, May 2008, 44-52.



Fig 1.05. Jade Condominiums advertisement



Fig. 1.06. Cover of May 2008 issue of Toronto Life.

an urban lifestyle.⁸ The *yupps*, however, have encountered many problems in their attempt to reconcile those parts of life which seem to be incompatible: starting a family and continuing to live in the city; raising children and having a career; becoming a parent and keeping abreast of cultural life.⁹ They have, for the most part, been ignored by both politicians and developers engaged in planning and constructing the urban environment. Karsten argues that much higher priority must be given to family issues in urban policies; that the lack of childcare, safe places to play, traffic safety and children's clubs are all issues which require more attention.¹⁰ Although the focus of her studies and recommendations is the city of Amsterdam, similar problems can be found in other major cities. Lack of affordability for family-appropriate housing, together with a neglect of spaces for children, has made it very difficult for young families to live in urban centres.

Cities Need Young Families

There is a large amount of evidence that not only do central cities offer families with convenience and a healthier work-life balance, but they themselves are also a benefit to cities. Nuclear families – couples with children – provide the most reliable and stable foundation for successful economies. Studies have shown that metropolitan regions characterized by a family-friendly urban

8 Lia Karsten, "Family Gentrifiers: Challenging the City as a Place Simultaneously to Build a Career and to Raise Children," *Urban Studies* 40, no. 12 (2003), 2573-2584.

9 Ibid.

10 Ibid.

environment have seen the biggest net gains of professionals.¹¹ This is largely due to the fact that they do not only attract young workers, but they are also successful in retaining them through their 30s and 40s as these workers start and maintain their families. Mildred E. Warner, a professor at the Cornell University College of Architecture, warned of the consequences: “If you build a city filled with efficiencies and one-bedrooms you are pushing people out at exactly the time that they are starting to put down roots and spend money.”¹²

Other than economic, there are also ecological benefits of families living in dense urban environments. It is estimated that urban families generate a 50% smaller carbon footprint than suburban families.¹³ When families live close to work and school, they are able to walk, bike and use public transit. Sustainability has become one of the biggest priorities for cities, and thus having families reside in close proximity to work and services is of utmost importance. Furthermore, children who grow up in dense, walkable, and sustainable communities are more likely to continue to prioritize and value these characteristics later on in life. Creating family-friendly urban environments does not only benefit the current population, but is an investment for future generations as well.

¹¹ Joel Kotkin, *The Rise of Family-Friendly Cities* (New York, N.Y.: , 2007), A.19.

¹² Jonathan O’Connell, “The Real Challenge for Cities: What Happens when Millenials have Babies and the Suburbs Beckon?” *The Washington Post* 2015.

¹³ City of Vancouver, *Healthy City Strategy: Housing for Children and Families* (Vancouver, BC: ,[2015]).



Fig. 1.07. Families featured in Toronto Life’s May 2008 issue.



Fig. 1.08. Brian and his three kids on an Xtracycle in New York City:

Brian lives in New York City with his wife and three kids - Ivy, 7, Oliver, 4, and Rosie, 2. He purchased an *Xtracycle* to be able to ride around the city with his whole family.

Many urban centres have existing infrastructure that had been built to accommodate large numbers of middle class families which had resided in central areas prior to affordability factors expelling them to the peripheries. In Toronto, the Toronto District School Board is looking at closing 48 elementary schools and 12 high schools due to enrolment dropping to below 65%.¹⁴ With families moving to the suburbs, the demand for schools in those areas has become higher than in the inner city. Existing infrastructure therefore becomes underused, while demand for new infrastructure grows. A strategy which facilitates family life in cities would reverse this trend and make use of schools and other services which are already in place.

¹⁴ CBC News, "TDSB Names 10 More Schools for Possible Closure," *CBC News Toronto* 2015.

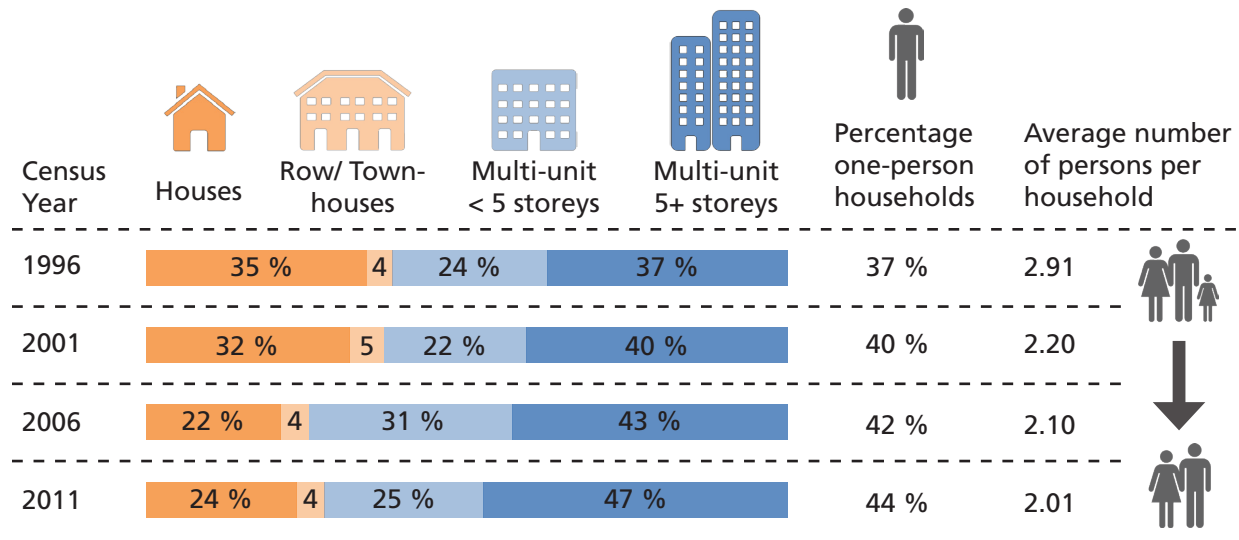


Fig. 1.09. Downtown Toronto social profile over 15 years, by building type of residence & household composition.

1.2 THE PROBLEM: TORONTO AND ELSEWHERE

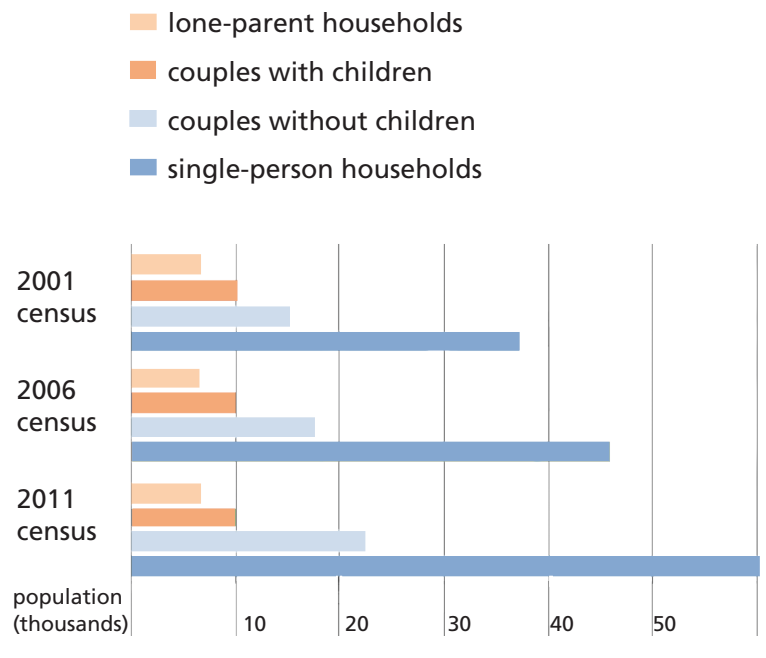


Fig. 1.10. Ten years of change to downtown Toronto households, by type.

The Toronto Dilemma

Growing prices in Toronto's finite single-family home market have resulted in the creation of an alternative, more affordable home-ownership option – the condominium. While condominium prices are substantially lower than the typical single-family home due to their smaller area and higher density, they are both designed for and marketed towards a certain demographic group – the single or couple, childless household. Convenience is presented in terms of access to amenities and services prioritized by this particular demographic group: gyms, yoga studios and party rooms are chosen over daycares, play-spaces and outdoor space.

As the number of condominiums grows in Toronto's urban centres, the childless demographic is seen to become the dominant household type in these areas. Approximately 18,000 condo units were built in Toronto in 2014, compared with only about 1,200 single-family homes.¹⁵ This means that the majority of new housing

¹⁵ Tamsin McMahon, "Price Gap between Condos, New Houses Soars," *The Globe and Mail* March 22, 2015, 2015.

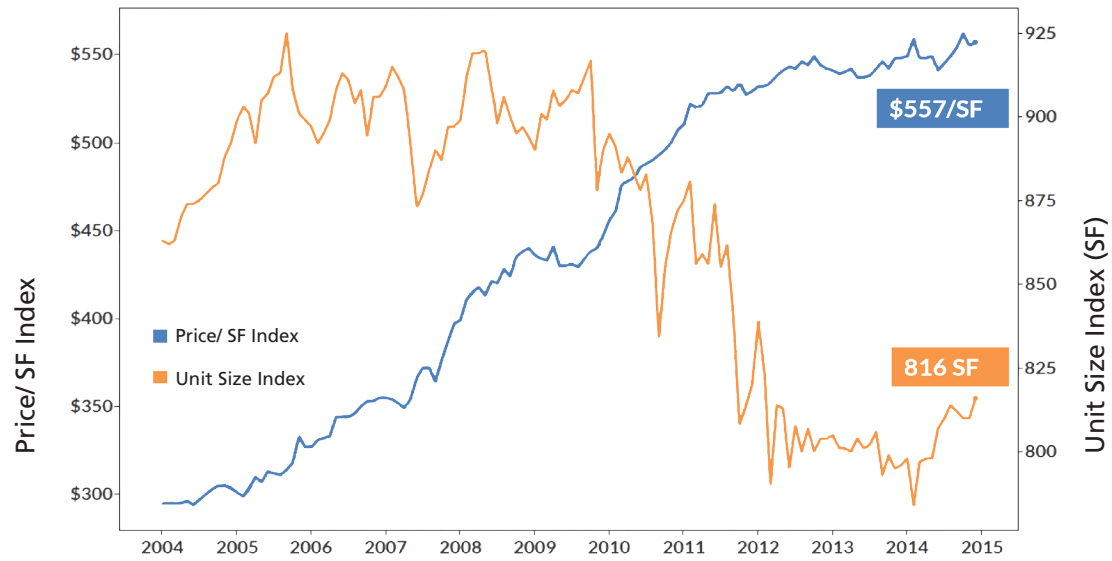


Fig. 1.11. Price per square foot versus unit size in downtown Toronto condominiums.

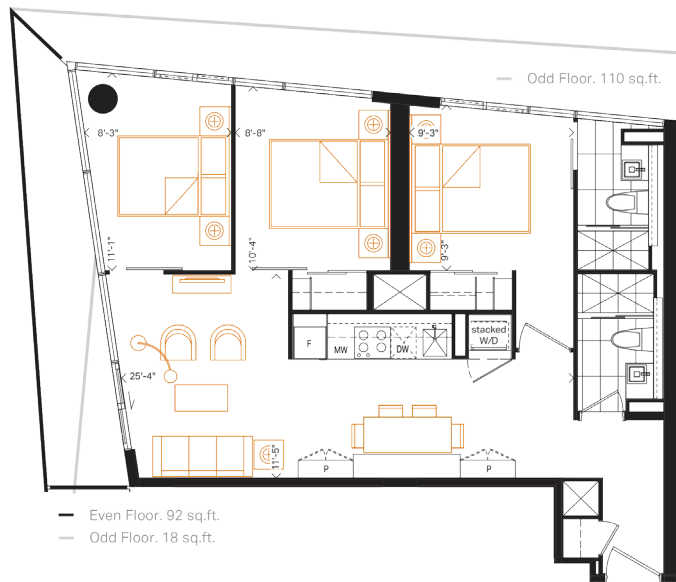


Fig. 1.12. Typical 3-bedroom unit in a new condominium 'Smart House.'

Currently under construction on Queen Street West by Urban Capital Property Group, expected to be completed in 2017. 8.5% of the units are 3-bedroom with a floor area of 742 sq.ft. each.

built in the city does not take into consideration the family with children and its particular needs, and the family is thus obligated to find housing elsewhere. Proportionally, these families are becoming less common in central areas of the city, and are seen to primarily reside on the city's peripheries and the suburbs beyond.

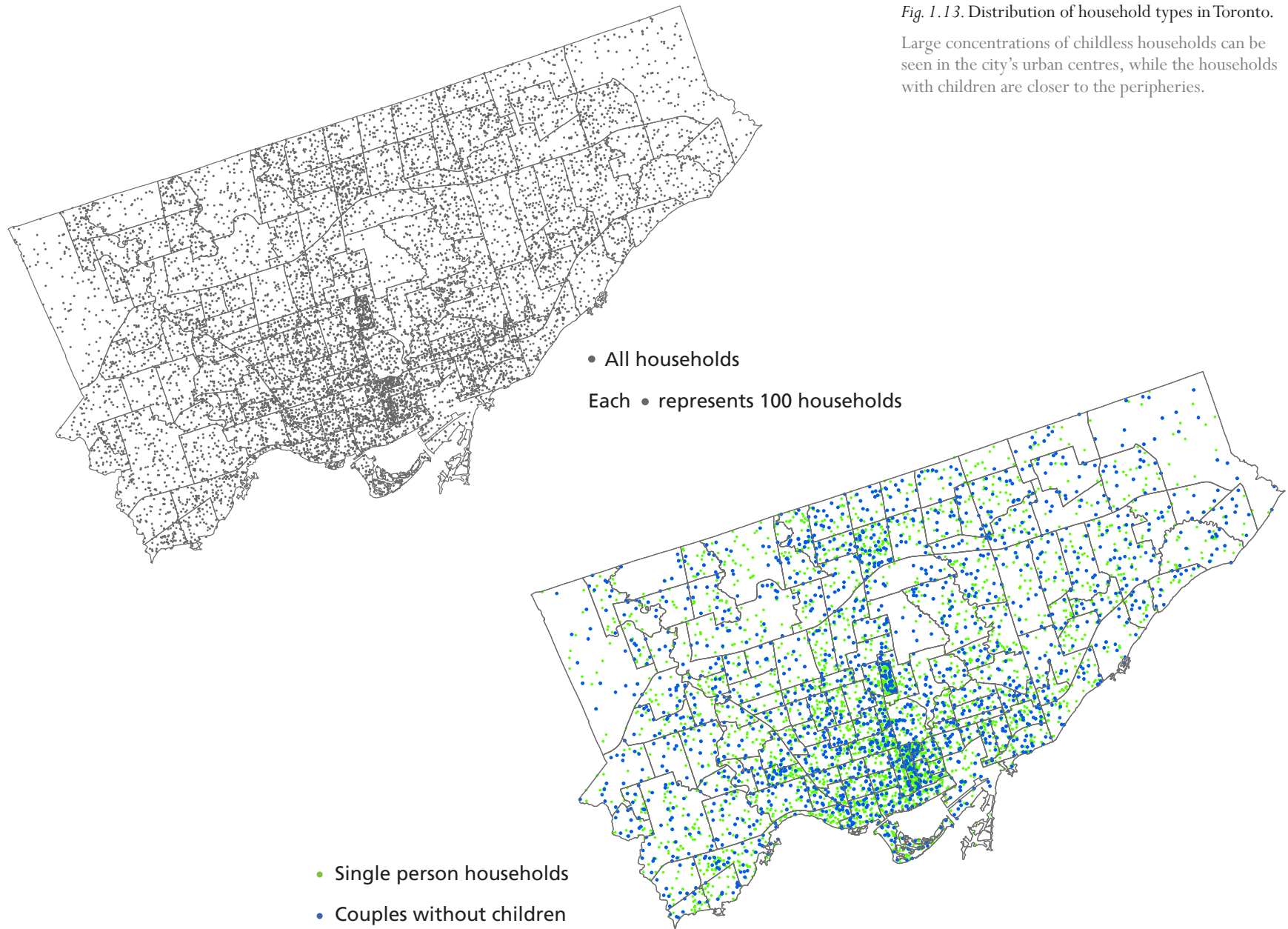
The current situation in Toronto is that of a severely demographically-divided city. The lack of diversity in housing built throughout the city in the past several decades has created an environment in which different household types are segregated to different areas in the city. As new young families try to find housing in the city centre, they are faced with unaffordability and a lack of choice in housing typologies.

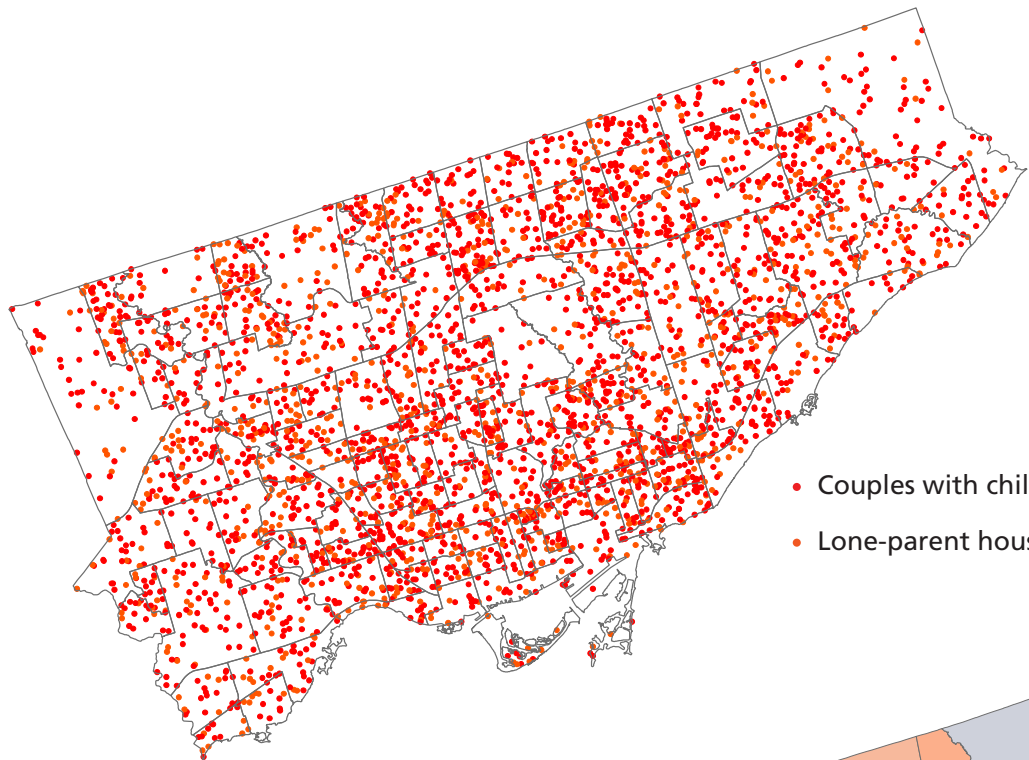
Large condos which could accommodate a family have also become much less affordable. A search for three-bedroom condos in Toronto's downtown core turned up only 45 listings, the median price of them being \$960,000.¹⁶ The cheapest of these units (shown in Fig. 1.11) is 742 square feet with a relatively affordable price tag of \$550,000. Its tiny size, though, does not allow for a layout which would meet the needs of a family. The small kitchen together with an incomplete dining area would make family meals uncomfortable. The high segregation of areas results in furniture and circulation taking up most of the space, leaving very little for children's play. The unit is more appropriate for being rented by a group of students, rather than a family with children.

¹⁶ Bascaramurty, D. "Toronto's Shrinking Condos: Built for Families, Perfect for Roommates or Couples without Kids." *The Globe and Mail*. January 23, 2015. Accessed July 06, 2016. <http://www.theglobeandmail.com/news/toronto/condos-for-families-without-the-space/article22602785/>.

Fig. 1.13. Distribution of household types in Toronto.

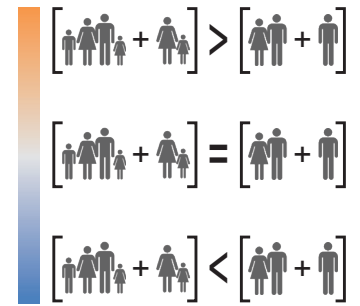
Large concentrations of childless households can be seen in the city's urban centres, while the households with children are closer to the peripheries.







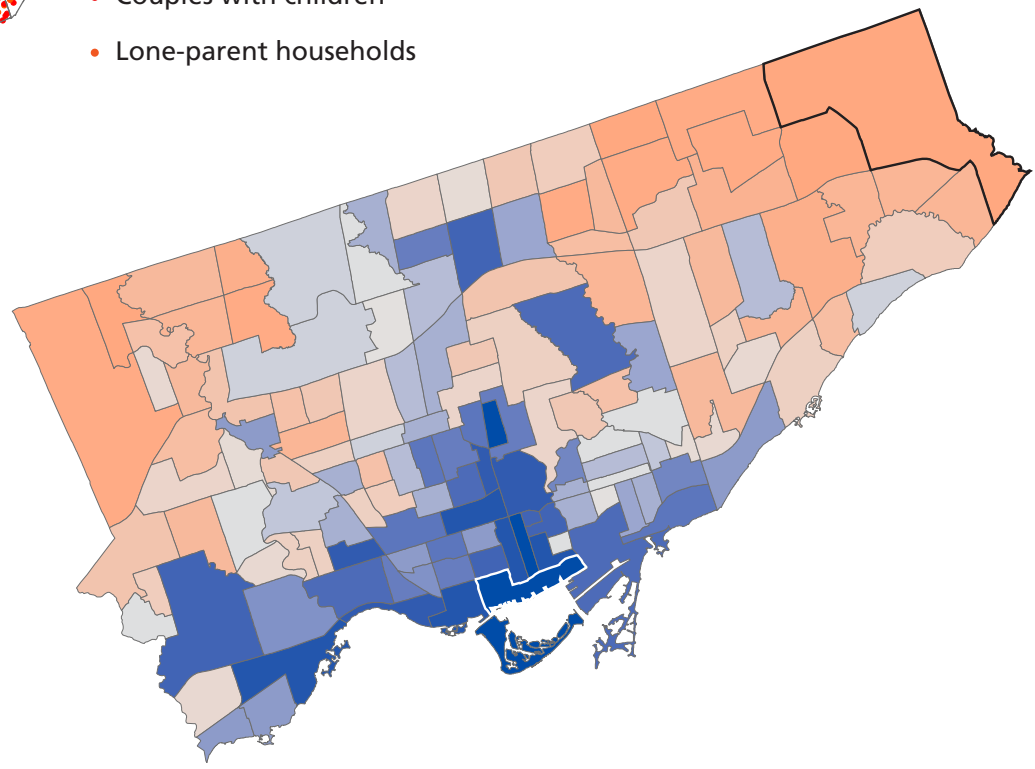


- Couples with children
- Lone-parent households

Household type variances:



-  couples with children
-  lone-parent households
-  couples without children
-  single-person households



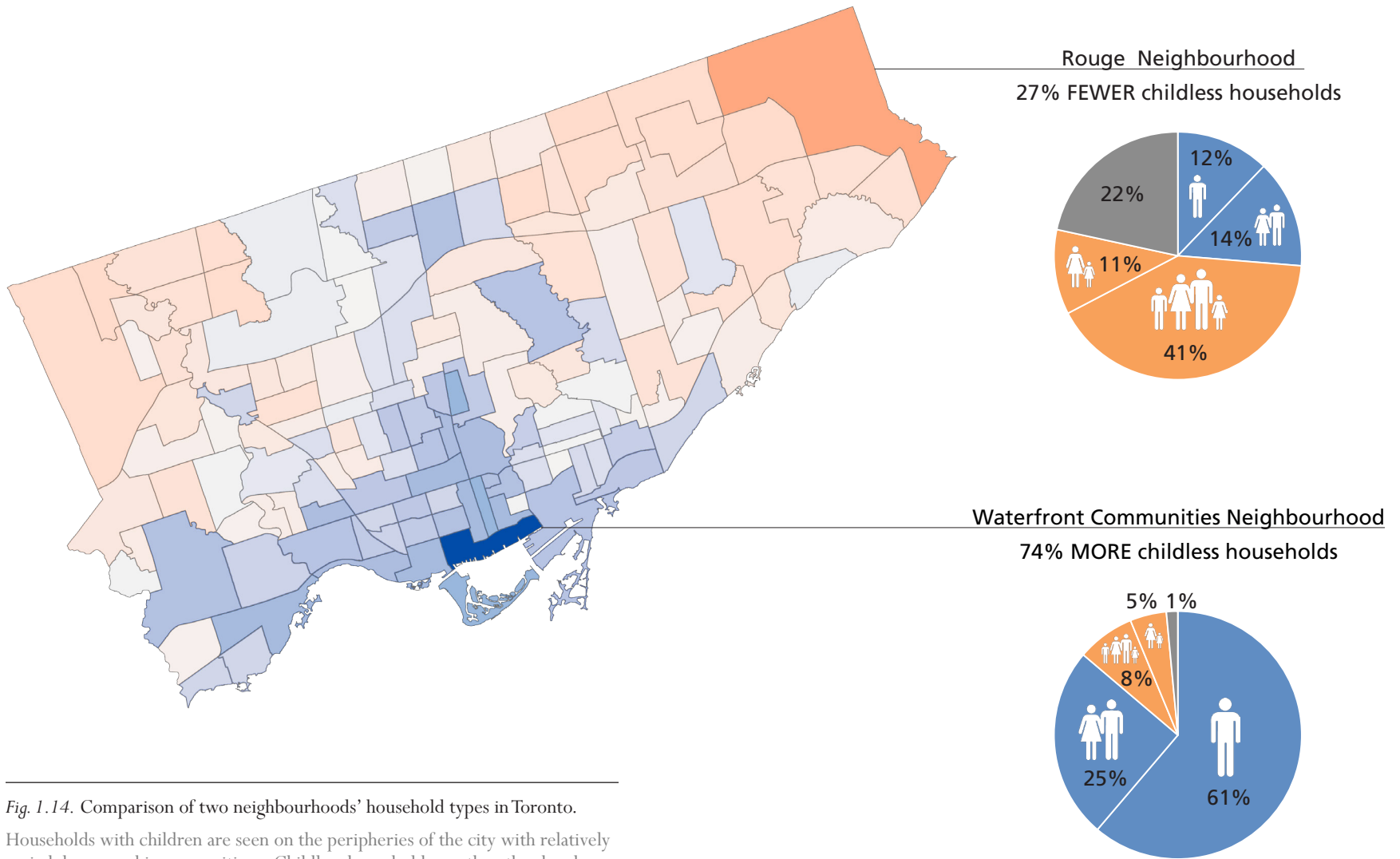


Fig. 1.14. Comparison of two neighbourhoods' household types in Toronto. Households with children are seen on the peripheries of the city with relatively varied demographic compositions. Childless households, on the other hand, dominate urban centres in proportions which greatly outnumber any other household type.

It can thus be seen that the private market is not able to provide a diverse number of housing options which would satisfy various household types. With profit as its bottom line, the market seeks to deliver units which sell faster and easier. Larger units, having a higher price tag, often take longer and are harder to sell, therefore making them an unpopular unit choice for most condominium developers. The rapidly rising costs of land, together with construction costs, exacerbate this situation, inevitably leading to the shrinking size of the average condominium unit. Due to these circumstances of the private sector, it is fundamental that the public sector interferes, either in the form of policies or by actively engaging in the construction of social housing. Municipal governments throughout many cities are seen to be taking action in order to keep families in city centres. Toronto has only recently begun to explore and implement policies which would produce affordable and compatible housing for families with children, as improving the situation has become a matter of urgency.

Vancouver: The Public Front

Vancouver currently has the highest real estate values in Canada, as factors such as foreign ownership have turned many of the residential properties in the city into methods for investment, rather than places to live in, and resulted in escalated prices which are unaffordable to middle class families. Furthermore, for-profit development in the city has largely been focused on condominiums and very small units, a situation similar to Toronto.

Politicians at the municipal level are aware of the problem. Gregor Robertson, the current mayor of Vancouver, stated in an interview in March of 2016 that “Affordability is our No. 1 issue,” going on to explain that: “As a city we need to strive to ensure there’s housing available for people who want to live and work in Vancouver and particularly those who grow up here and want to build a career and start a family.”¹⁷

The municipal government of Vancouver proposed an outline of policy and project initiatives to help create a healthier and more accessible urban environment for families with children (Fig. 1.16). The strategy is to address the issues of housing size by ensuring that the market provides more units suitable for families, especially 3-bedroom units. The strategy in addressing the issues of housing costs is to provide families with lower incomes struggling to pay rent with subsidies and grants. These initiatives take time to implement and in the meantime, families are trying to find solutions themselves on the private front.

¹⁷ Robinson, Matthew. “Vancouver Plans a Rethink of Its Housing Strategy.” The Vancouver Sun, March 3, 2016. Accessed June 16, 2016. http://www.vancouversun.com/touch/story.html?id=11761154&__lsa=a0cc-2a7f.



Fig. 1.15. Vancouver’s Public Front Strategy



Fig. 1.16. Young family at the ‘Don’t Have \$1 Million’ affordable housing rally in Vancouver on May 24, 2015.



Fig. 1.17. City of Vancouver’s proposed policy plan to provide housing for families with children in the city.

HOUSING COSTS



HOUSING SIZE

Collectivize in order to economize

Adapt to family life in small spaces

Fig. 1.18. Vancouver's Private Front Strategy



Fig. 1.19. Photos of Adrian Crook's condo in Vancouver.

Adrian Crook, a father of five, lives in a 2-bedroom plus den condo in downtown Vancouver. His blog "5 Kids 1 Condo" provides advice on urban living with kids.

Vancouver: The Private Front

On the private front, Vancouver's families are finding their own ways to combat the housing crisis. Parents, such as Adrian Crook, are adapting small condos into units appropriate for a family with children.¹⁸ By minimizing possessions, adjusting furniture to fit their needs, and using custom made storage to optimize capacity; these families are appropriating the condominium typology to their particular needs. This takes a considerable amount of innovation on the parents' part as there is a general understanding that the city centre has few options for urban living with children.

In addressing the issue of housing costs, the private front in Vancouver is seen to have begun to collectivize in order to economize. The Vancouver Cohousing project¹⁹ is a privately funded initiative by a group of individuals and families, with the goal of creating an environment where many amenities common to a traditional home are shared, and thus the size and price of the private dwelling is reduced. The project includes 31 private units, ranging from studios to four bedroom units, all with their own kitchens, as well as a community kitchen and dining room, activity rooms for children and teens, office areas, guest rooms, a yoga studio and a rooftop garden. Due to land and construction costs, the prices of the units did not fall very far below their typical market

¹⁸ Crook, A. "5 Kids 1 Condo | Urbanism, Minimalism and Technology with 5 Kids." 5 Kids 1 Condo. Accessed July 06, 2016. <http://5kids1condo.com/>.

¹⁹ "The Project - Vancouver Cohousing." Vancouver Cohousing. Accessed July 12, 2016. <http://vancouvercohousing.com/vancouver-cohousing/the-project/>.

equivalents.²⁰ However, sharing many amenities, equipment, and services, is also a way to maintain affordability for the families. In this way, collective living strategies look to offset costs associated with private home ownership.

New York City: The Private Front

On the private front in New York City, families are using similar tactics as Adrian Crook in Vancouver to make family living work in small apartments. Even when the parents desire more spacious living conditions beyond city limits, their reasons for staying in the central city are often the social life of their children: “the close knit neighbourhood relationships, especially those forged among children.”²¹ A New York Times article studies the relationships of children and their families in two apartment buildings in Brooklyn and Harlem. Children are seen to use the 12-by-15-foot elevator landing as a play space and to ride scooters down the hallway. The parents keep their doors unlocked when the children are playing and often have dinners together, share toys and hand-me-downs, and get help with last-minute babysitting. The buildings’ older residents have become surrogate grandparents, teaching children how to garden in the shared backyard and cooking them breakfast.



Fig. 1.20. Vancouver’s first co-housing complex.

Owners of Vancouver’s first cohousing complex moved into their newly built housing project at the end of February 2016.

20 Jackson, Emily. “Vancouver’s First Cohousing Project Breaks Ground.” *Metro News Vancouver*. July 15, 2014. Accessed July 12, 2016. <http://www.metronews.ca/news/vancouver/2014/07/15/vancouvers-first-cohousing-project-breaks-ground.html>.

21 Miller, Jennifer. “Growing Families That Stay Put.” *The New York Times*. October 23, 2015. Accessed July 12, 2016. http://www.nytimes.com/2015/10/25/realestate/large-families-in-tiny-apartments-for-the-sake-of-the-kids-friendships.html?_r=1.

HOUSING COSTS \$



HOUSING SIZE

Collectivize in order to economize

Adapt to family life in small spaces

Fig. 1.21. New York's Private Front Strategy



Fig. 1.22. Kids play in the hallway of their building in New York City.

The communities which resulted in these buildings are exceptional examples of the possibilities for healthy family life in a dense urban environment, as well as intergenerational living.

These examples can be used to determine the important spatial features in these buildings which facilitate the residents' – and especially, the children's – interaction. Ample circulation space between units, such as landings and hallways, provide an indoor environment where children can play within viewing range or earshot of their parents inside the apartments. Common facilities shared by residents of the building, such as gardens, a kitchen, and playrooms, also provide space which residents can use communally. It can be seen that families adjust their surroundings to their own particular needs. The family-oriented building thus needs only to create a framework which allows them to do so, rather than have a prescribed form or program requirements.

1.3 TORONTO: CURRENT ACTIONS

Encourage the Development of 3-Bedroom Units

In October of 2013, an official report was released by the City of Toronto Planning Department titled “Official Plan Amendment to Encourage the Development of Units for Households with Children.” The two proposed amendments included:

1. For the Housing Policies section of the Official Plan to include the term “dwelling units suitable for households with children” as part of a full range of housing.
2. A requirement that 10% of all dwelling units in larger developments (with 100 or more dwelling units) in the downtown area be built either with three or more bedrooms, or offer the potential to be easily converted to contain three or more bedrooms.²²

While both of these points are important changes to the Official Plan, they are rather limiting in scope. Developers, instructed to build 3-bedroom units, yet not given any other parameters, have



Fig. 1.23. An 822 square foot, 3-bedroom unit by Tridel.

Although this unit provides 3 decently sized bedrooms and an entrance area rarely seen in condos, its common spaces lack functionality. The dining area appears in the circulation space, while the kitchen is minimal and against the living room wall. This is an example of lost functionality due to added bedroom counts.

²² Wright, Gary, Chief Planner and Executive Director. *Official Plan Amendment to Encourage the Development of Units for Households with Children*. Report. City Planning Division, City of Toronto. Toronto, ON, 2009.

been building units which are better suited for roommates rather than families with children. New 3-bedroom units are being built smaller than 2-bedroom units of the older stock of Toronto condos from the 1980s, sacrificing functionality of space for an extra bedroom.²³ If the plan amendment action by the city seriously looks to increase the number of units for families with children, a more detailed set of required parameters is necessary. Unit size and functionality of its spaces must be taken into consideration, along with a greater supply.

Chief Planner Roundtable: Planning Cities for families

Jennifer Keesmaat is the current Chief Planner at the City of Toronto and since 2011 has held roundtables at the City Hall as a way of bringing awareness to the public of concerns affecting the city. In April of 2014, she held a roundtable discussion titled “Planning Cities for Families” to highlight the important issues pertaining to families with children living in the city. There were several significant topics addressed in the discussion:

1. Encouraging city planners and developers to work together to provide a much wider range of housing options.
2. Integrating flexibility into the design of multi-family housing, so that units can be expanded in response to the

²³ Bascaramurty, D. “Toronto’s Shrinking Condos: Built for Families, Perfect for Roommates or Couples without Kids.”The Globe and Mail. January 23, 2015. Accessed July 06, 2016. <http://www.theglobeandmail.com/news/toronto/condos-for-families-without-the-space/article22602785/>.



Fig. 1.24. Photo from City of Toronto Chief Planner Roundtable, A City for Families, held on April 24, 2014.

A City for Families



“If there is appropriate accommodation available, more and more households will choose to raise families downtown as they do in other cities. It is a question of facilities, amenities, and affordability.”

Stephen Diamond

President & CEO, Diamond Corp.

Fig. 1.25. Excerpt from City of Toronto Chief Planner Roundtable, A City for Families, held on April 24, 2014.

dynamic growth of a family.

3. Ensuring the public realm is suitable for all ages and that appropriate amenity space for families with children is provided in tall buildings.
4. Understanding the roles of public libraries and schools as critical infrastructure components for families in the city.²⁴

This discussion is an immensely important first step in addressing the problem of the lack of demographic diversity in Toronto’s urban neighbourhoods. It is crucial for city planners to understand the depth and particulars of the problem in order to take the appropriate actions and plan for successful solutions. This Chief Planner’s Roundtable brought to the surface many issues and generated a stimulating discussion of what the city currently lacks – the next step in addressing the problem would be the planning of how to bring about the necessary changes, and their successive implementation.

Inclusionary Zoning Policy

In March of 2016 Ontario announced an update to the Long-Term Affordable Housing Strategy, citing as one of the principal changes the provision of power to municipalities to use tools such as

²⁴ *Planning Cities for Families | Session BRIEF* Toronto, ON: Toronto City Hall, 2014.

<http://www1.toronto.ca/CityOfToronto/CityPlanning/Home/Files/pdf/C/RoundtableBrief,PlanningCitiesforFamilies.pdf>

inclusionary zoning.²⁵ Inclusionary zoning is a strategy which would require developers to reserve a percentage – typically 10-20% – of units in new developments as affordable housing. Jennifer Keesmaat has noted that there could have been over 12,000 new affordable housing units built in Toronto in the past five years if inclusionary zoning had been a requirement, instead of the fewer than 3,700 which were actually built.²⁶

While a proven tool to battle affordability, inclusionary zoning may not necessarily provide the answer for families seeking affordable and compatible housing within the city’s central areas. It targets only the affordability factor, while leaving out the important compatibility aspects, such as unit size and family-oriented amenities. It also has limited ability to address the long-term aspects of affordability. If a percentage of condominium units are sold at an affordable price, their successive re-sale will nevertheless be market price, making this strategy rather short-term.

Growing Up: planning for children in new vertical communities

The Planning Division of the City of Toronto has initiated a study to observe how new multi-unit housing in high-density

²⁵ Ministry of Municipal Affairs. “Ontario Introduces Legislation to Encourage More Affordable Housing.” Ontario Newsroom. May 18, 2016. Accessed July 22, 2016. <https://news.ontario.ca/mma/en/2016/05/ontario-introduces-legislation-to-encourage-more-affordable-housing.html>.

²⁶ Monsebraaten, Laurie. “Ontario to green light ‘inclusionary zoning’” The Star. March 13, 2016. Accessed July 22, 2016. <https://www.thestar.com/news/gta/2016/03/13/ontario-to-green-light-inclusionary-zoning.html>.



Fig. 1.26. Website view of “Growing Up: planning for children in new vertical communities.”

Growing Up is a study initiated by the City Planning Division of the City of Toronto. The updates published on the website indicated the study schedule, and main points to be addressed.

communities can better accommodate the needs of households with children and youth.²⁷ This is ongoing research which, together with many of the initiatives discussed above, is an important step in creating family-oriented housing in Toronto.

27 City of Toronto. "Growing Up: Planning for Children in New Vertical Communities - Strategic Initiatives, Policy & Analysis." Accessed July 22, 2016. <http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=35cf62e9d88c0510VgnVCM10000071d60f89RCRD>.

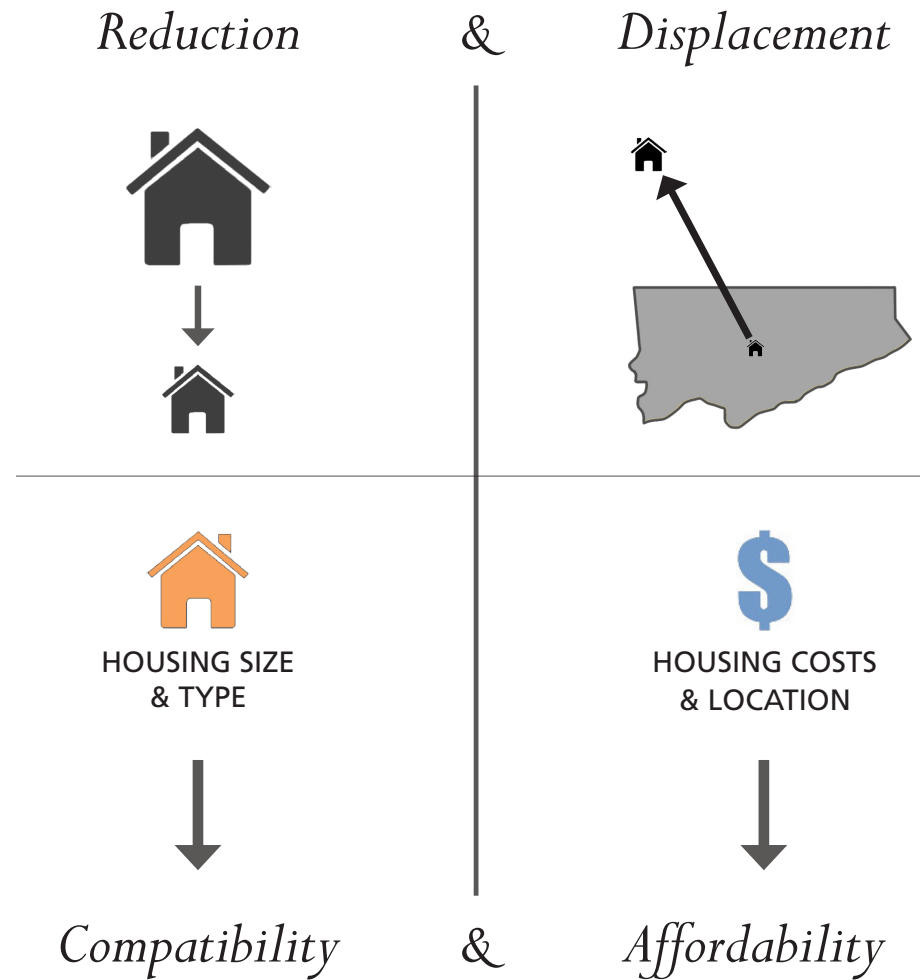


Fig. 1.27. Diagram of strategy for addressing Toronto's housing problem.

1.4 A TWO-FRONT BATTLE

The strategy for addressing the problem of family-oriented housing in central areas of Toronto is two-fold:

Reduction

The reduction in the size of housing which occurs as a result of increasing real estate costs creates housing which is not compatible with family life-style. With an influx of bachelor and one-bedroom units built throughout the city, the options for families seeking a home become very limited. It is thus through addressing compatibility that this problem can be resolved.

Displacement

The displacement of families from the city centre occurs as a result of increasing land costs. Families move to the city's peripheries and beyond due to a lack of affordability resulting from escalating prices of land in central areas. It is through addressing affordability, primarily associated with land costs, that this side of the problem can be resolved.

CHAPTER 2

AFFORDABILITY OF HOUSING IN TORONTO

This chapter presents the political and economic framework for addressing affordability in Toronto. To set the context, a brief history of housing policy is given in relationship to the three levels of government. Then a case is made for co-op housing as a possible solution to address affordability issues, paired with community land trusts. Finally, a potential strategy is presented for providing affordable housing to families in Toronto.

2.1 HOUSING POLICY HISTORY

2.2 COMMUNITY LAND TRUSTS

2.3 TORONTO: CALL FOR ACTION

2.1 HOUSING POLICY HISTORY

An Active 30 Years: 1960s-1990s

Affordability of housing in Toronto cannot be discussed without an understanding of the political and economic forces which have had an active role in shaping the present relationships between housing location and costs. The focus of the Canadian government has largely been on enforcing the homeownership sector, with little attention given to private-sector rental housing or to social housing, which includes assisted housing, non-profits, and non-equity co-operatives.¹ Due to Canada's federal system of government, both the power to make decisions and the ability to finance social housing initiatives, remain primarily at the federal level of government, and secondarily at the provincial. Municipalities, which are closest to housing issues and are responsible for administering solutions, have few resources to act when not aided by the federal and provincial governments. Nevertheless, international precedents have shown that the federalist structure has not impeded any other government

1 Hulchanski, J. David. "How Did We Get Here? The Evolution of Canada's "Exclusionary" Housing System." In *Finding Room: Policy Options for a Canadian Rental Housing Strategy*, edited by J. David Hulchanski and Michael Shapcott (Toronto: CUCS Press, University of Toronto, 2004), 179

from providing housing.²

Over the past 75 years, the Canadian government's contributions to its social housing sector have been fluctuant in character. David Hulchanski, professor of housing and urban development at the University of Toronto, has broken down the federal government's role in providing social housing into four distinct periods:

Period 1, 1949-63: Leave it to the marketplace and hope for the best.

Period 2, 1964-84: Build an inclusive housing system by addressing the social need for housing.

Period 3, 1984-93: From a small federal role in housing, to no role at all.

Period 4, 1993-present (2004): Leave it to the marketplace and hope for the best.³

The first period defines the initial steps towards a social housing system in Canada, which took place relatively late compared to other major Western nations.⁴ It is interesting to note that the motivation for federal interest in social housing came from Toronto, where public housing was made to be a major political issue. Toronto reformers were able to gather enough support to persuade the federal government to accept the principle of federally funded,



Fig. 2.01. Photograph of Regent Park in March of 2005. The project consisted of high-density tower-in-the-park buildings, as well as lower-height walk-up residences. The project has experienced many social problems during the past 50 years of its existence and is currently undergoing a revitalization process.

² Bacher, John C. *Keeping to the Marketplace: The Evolution of Canadian Housing Policy*. (Montreal: McGill-Queen's University Press, 1993), 9

³ Hulchanski, *Finding Room*, 180

⁴ *Ibid.*



Fig. 2.02. A recent photograph of the St. Lawrence Housing development. Built in the 1970s, this project remains Toronto’s most successful housing scheme, encompassing market housing, co-operatives, non-profit housing, as well as subsidized units. David Crombie, mayor of Toronto at the time the project was developed and built, believes one particular tenure type brought success: “The magic of it,” says Mr. Crombie, “was the co-op – almost all those buildings are co-op – and that was new, and it has not been duplicated in the same strength since.”¹

1 LeBlanc, Dave. “35 Years On, St. Lawrence Is a Template for Urban Housing.” *The Globe and Mail*. February 06, 2013. Accessed October 26, 2016. <http://www.theglobeandmail.com/life/home-and-garden/architecture/35-years-on-st-lawrence-is-a-template-for-urban-housing/article8296990/>.

rent-geared-to-income housing units.⁵ This victory ultimately resulted in approval for Regent Park, the first and largest social housing project in Canada.

The second period defines the twenty years when most social housing was built throughout Canada, largely in Toronto due to the vigour of its reformers in the previous period.⁶ Amendments to the National Housing Act created a federally-funded, municipally administered social housing program, with a direct relationship between the federal government and provinces or municipalities.⁷ The majority of social housing in Toronto was built during this period, which satisfied a great need for low-income families, and at the same time gave the incitement for other types of social housing to emerge: non-profit and co-operative housing. It was during this period that St. Lawrence Housing, considered to have been a major urban planning success due to its diverse housing tenure and admissibility of various income groups,⁸ was developed and built.

The third period defines the beginning of the end of federally-funded programs for social housing. The Progressive Conservative government of Brian Mulroney assumed power in 1984, after winning with a record majority government.⁹ They soon began to express concern over a long-term commitment to social housing,

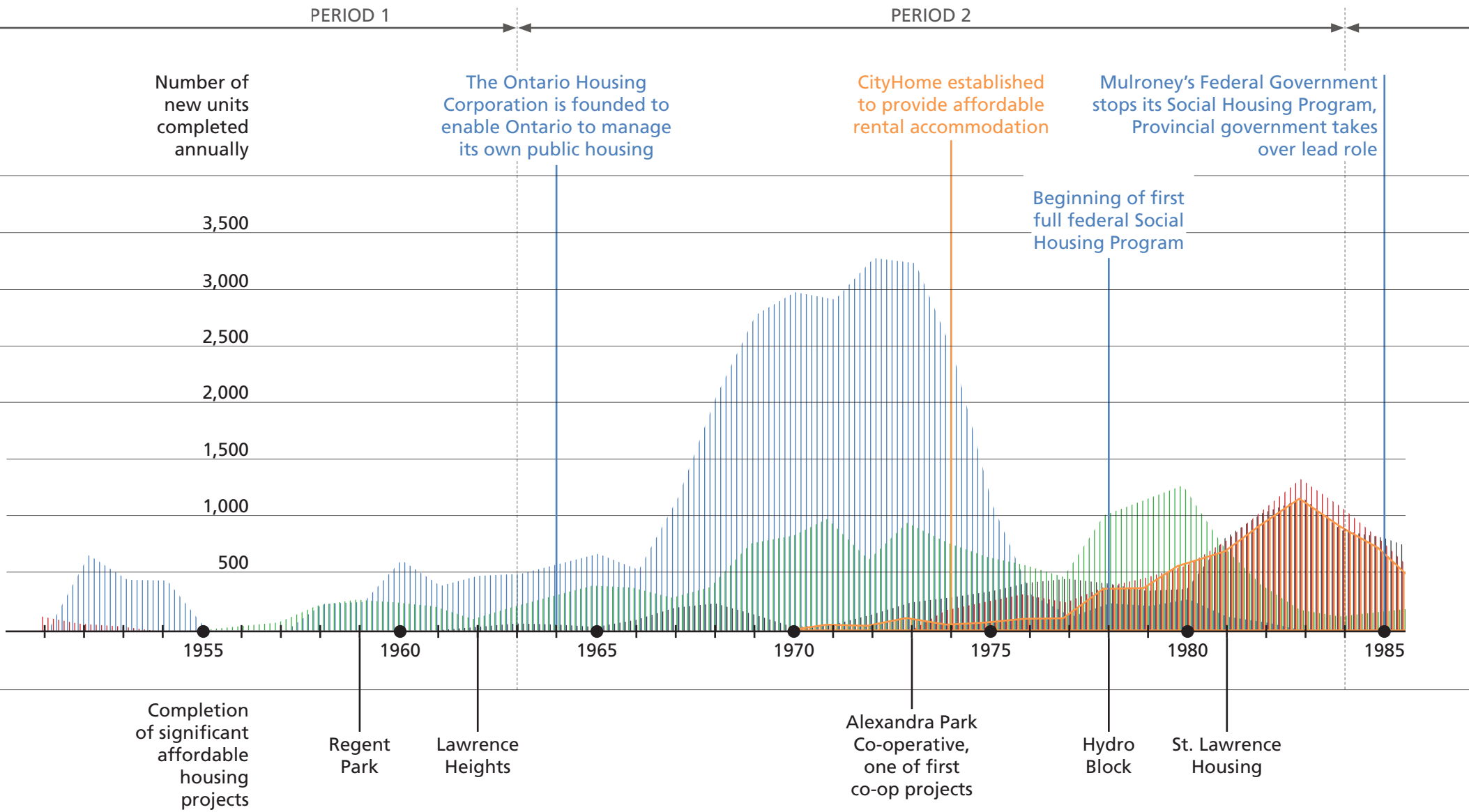
5 Bacher, *Keeping to the Marketplace*, 9

6 *Ibid.*, 10

7 Hulchanski, *Finding Room*, 181

8 Bacher, *Keeping to the Marketplace*, 11

9 “Brian Mulroney’s stunning landslide victory in 1984.” CBC Digital Archives. September 10, 2013. Accessed January 10, 2017. <http://www.cbc.ca/archives/entry/brian-mulroney-a-stunning-landslide-victory>.



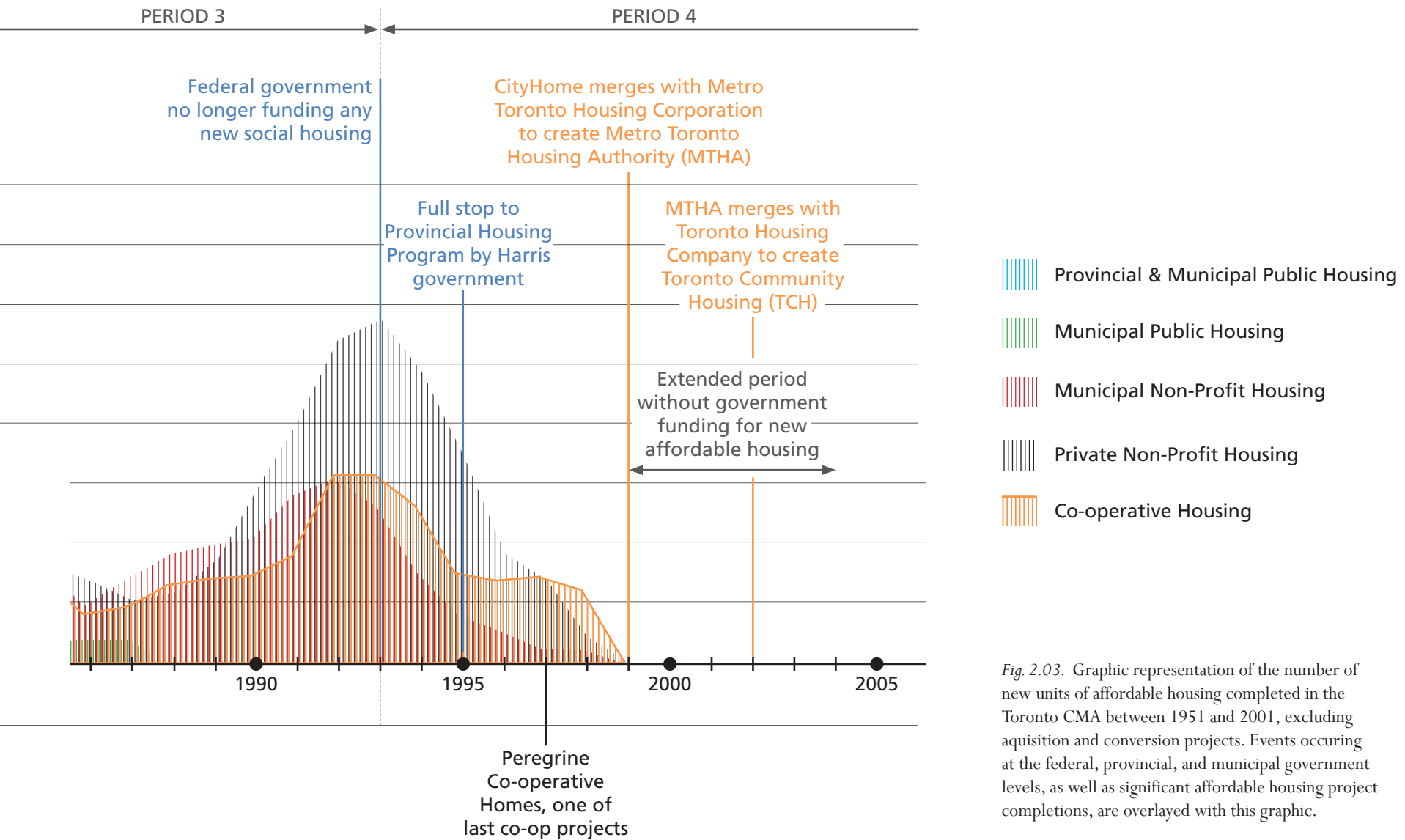
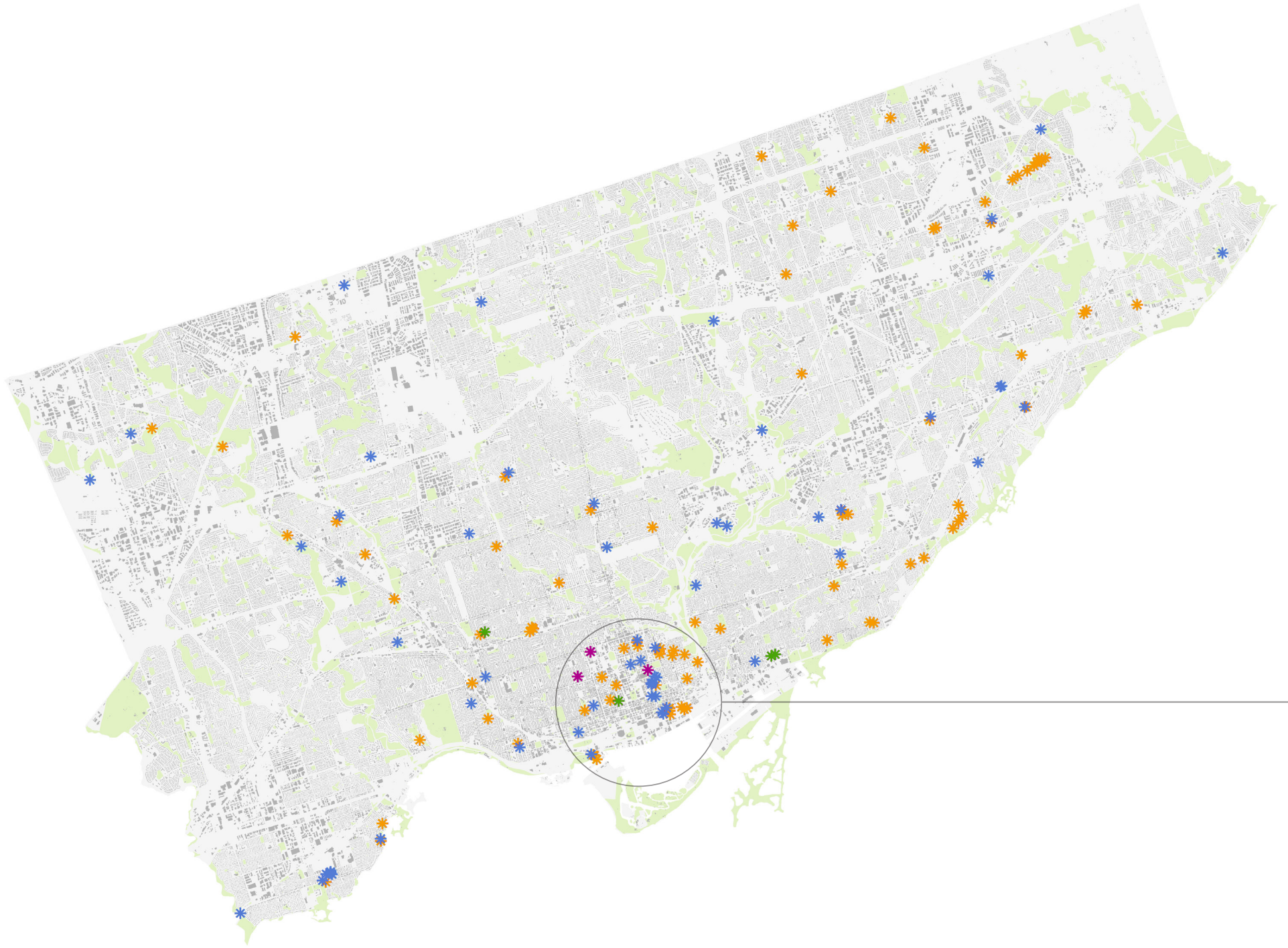


Fig. 2.03. Graphic representation of the number of new units of affordable housing completed in the Toronto CMA between 1951 and 2001, excluding acquisition and conversion projects. Events occurring at the federal, provincial, and municipal government levels, as well as significant affordable housing project completions, are overlaid with this graphic.



Total number of currently active co-operatives throughout Toronto: 155 co-ops

★ Federal administration: 89 co-ops

★ Municipal administration: 59 co-ops

★ Federal & municipal administration: 4 co-ops

★ Self-administered co-operatives: 3 co-ops

— Within the city centre: 43 co-ops

Fig. 2.04. Map showing distribution of the different co-operative housing administration types throughout Toronto. Data was collected from the currently active co-ops listed on the Co-operative Housing Federation of Toronto website.

a lack of flexibility in the government's position, sensitivity to the claim that social housing was unfair competition to market housing, and finally the desire to cut the budget deficit.¹⁰ In 1993, the same government, now under the leadership of Kim Campbell, terminated any federal funding for programs, closely followed by termination of funding from the provincial level in 1995 by the Progressive Conservative government of Mike Harris. This ultimately led to a fourth period, once again characterized by a severe lack of any federal or provincial funding for social housing.

A Focus on Co-operative Housing

Most of the co-operative housing projects present today in Toronto were built during the 1970s and 1980s. After several social housing projects in the 1950s and 1960s demonstrated that many of the social issues associated with inaccessible housing could not be simply solved by providing a supply of units, alternative methods were sought. Co-operative housing proved to be a remarkable alternative in that it not only provided affordable housing in perpetuity, but also created a force for social cohesion.¹¹ In June of 1973, the National Housing Act was amended to include a specific provision for financing non-profit housing co-operatives. This allowed the municipalities a large degree of freedom and public funds to build more than 2,185 housing co-operatives throughout

10 Hulchanski, *Finding Room*, 183

11 Goldblatt, Mark. "The Role of the Co-operative Housing Sector in Creating Affordable Housing." In *Finding Room: Policy Options for a Canadian Rental Housing Strategy*, edited by J. David Hulchanski and Michael Shapcott (Toronto: CUCS Press, University of Toronto, 2004), 364

Canada, more than 150 of those within the Toronto CMA.¹²

Housing co-ops have since been a popular choice for both low- and moderate- income households. The two main advantages of co-ops are that they give residents direct control over their housing based on the formula “one member, one vote,” and they have the capacity to efficiently work with different levels of government on the design of their particular programs.¹³ This places co-ops in a unique position of offering its members a model in which they are active participants in their own housing needs, yet without the price-tag of private ownership.

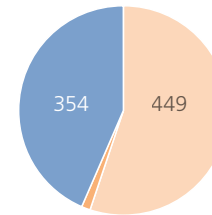
Currently, out of all the co-ops throughout Toronto, there are no vacancies. This is a common occurrence in co-operative housing as the supply is limited for the number of people searching for affordable housing. Furthermore, co-op members tend to remain in their residences for very long periods of time when compared to other housing tenures. Currently, there are 37 co-ops, approximately 24% of all co-ops, in the Toronto area which have open waiting lists; which means that 76% of the co-ops are not even considering new applicants for the near future.¹⁴ A waiting list opening means that one could place their name in line for a specific unit type at a particular co-op and wait until such a unit becomes available; the wait often stretching to more than 5 years. The deficiency in supply of this particular housing option signals that it has proven to be successful in addressing both short- and long-term housing issues

12 Ibid., 357-8

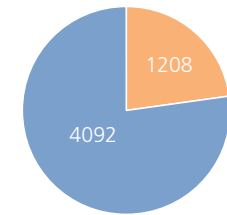
13 Ibid., 357

14 “Co-op Open Waiting Lists.” Cooperative Housing Federation of Toronto. Accessed November 01, 2016. <http://co-ophousingtoronto.coop/>.

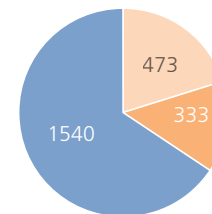
150 Davenport
Start Year: 2015
Area: 2.6 acres



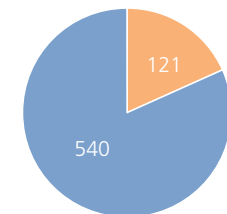
Lawrence Heights
Start Year: 2015
Area: 100 acres



Alexandra Park
Start Year: 2014
Area: 18 acres



Leslie Nymark
Start Year: 2016
Area: 7 acres



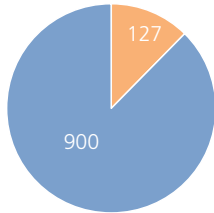
and should once again be brought to the forefront of the housing affordability debate.

Current Actions and Directions

Currently, Toronto can be seen to be relying heavily on partnerships with the private sector in the replacement of deteriorating existing social housing and the construction of new social housing. Whether using inclusionary zoning, or partnering with developers in revitalization schemes of social housing estates such as Regent Park, the city is seen to be primarily engaged in trade-offs with private entities when it comes to providing new social housing in Toronto.

There are currently six major revitalization projects occurring throughout Toronto. In all six projects, the sale of public land is used to finance the replacement or refurbishment of affordable units which had previously occupied the development sites. While it has been proven to be socially beneficial to have a mixture of incomes in every housing development, these projects portray a saturation of market units, making them closer in semblance to most condominium developments in the city. When the revitalization projects are completed, only about 25% of the total units will be affordable units which had been replaced or refurbished, with the remaining 75% consisting of added market units. The proportions of market to affordable units can be seen in the graphs in Figure 2.06. The goal of these projects is not to create any additional affordable housing, but use the funds acquired from partnership with a private developer to replace existing units.

Allenbury Gardens
 Start Year: 2015
 Area: 7 acres



- Private Market Units to be Added
- Replaced RGI or Affordable Rental Units
- Refurbished RGI or Affordable Rental Units

Regent Park
 Start Year: 2005
 Area: 69 acres

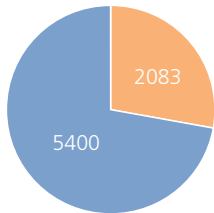


Fig. 2.05. Pie charts showing the proportion of market units to replaced affordable rental units in the six major revitalization projects planned by Toronto Community Housing.

It is interesting to compare these proportions to those of the St. Lawrence development, completed in the 1970s. Part of the success which the St. Lawrence housing development has been attributed with has come from the great variety of tenure options and the resulting diversity of incomes among its residents. As can be seen in Figure 2.05, the tenure types at St. Lawrence are roughly divided into thirds, with one third reserved for co-operative and private non-profit units, one for municipal affordable rental units, and one for private market units. The failures of current developments to maintain a mixture of tenure types and diversity of incomes among its residents cannot be attributed solely to the municipality, as its options are limited without financial and authoritative power of the upper governments.

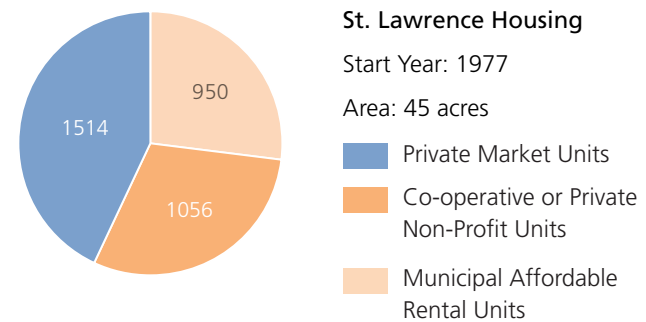


Fig. 2.06. Pie chart showing the proportions of different tenure types which were planned and implemented in the St. Lawrence Housing project in the 1970s.

2.2 COMMUNITY LAND TRUSTS

Affordability of Land in Central Areas

Housing affordability is inadvertently tied to the cost of land, which tends to be higher in more desired areas, such as city centres and downtowns. The forces of re-urbanization of the inner cities, together with gentrification of many central neighbourhoods, have resulted in steep increases of land values in these areas. A renewed interest in downtown areas has made qualities such as accessibility by public transit, walkability, bike-ability, and the convenience of proximity to work and amenities, as well as the vibrancy of a dense urban environment, very attractive factors for many home-buyers, and it turns investors. Increasing land values have created a polarization of income groups throughout many urban neighbourhoods in Toronto and if left to the market, will ultimately create a condition where only the wealthiest citizens will be able to live in central areas and reap the benefits of the urban lifestyle.

It is thus crucial, when discussing housing affordability in central Toronto, to acknowledge the major role of land values within the city. The public sector has the ability to intervene in an attempt to reduce the income polarization which the private market has created, and thus aid in maintaining accessibility to housing within

the city to a multitude of income groups. This, however, has not been actively pursued by any of the three levels of government. As Hulchanski states in his paper on Co-operative Land Management, “The land issue has not been addressed by Canada’s housing programs. The objective of housing programs has been limited to the supply of housing units.”¹⁵ One of the ways in which rising land values can be addressed by the public sector is through the establishment of one or several Community Land Trusts.

Community Land Trust Definition

The modern model for Community Land Trusts (CLTs) was pioneered by the Institute for Community Economics, founded in 1979 in the United States. The Institute still functions to this day, providing aid in the development, acquisition, and creation of CLTs. It defines a CLT as:

“a private non-profit corporation created to acquire and hold land for the benefit of a community and provide secure affordable access to land and housing for community residents.”¹⁶

The organizational framework of a CLT is typically formed at the grass-roots level by community groups. Members of a CLT

15 Hulchanski, J. David. “Co-operative Land Management: The Potential of Linking a Community Land Trust to Government Housing Supply Programs.” In *Managing Land for Housing: The Experience of Housing Co-operatives in British Columbia*, 35-50. Paper 31. (Vancouver, B.C.: University of British Columbia, Centre for Human Settlements, 1983), 38

16 “Institute for Community Economics.” National Housing Trust. Accessed October 31, 2016. <http://www.nhtinc.org/ice.php>.

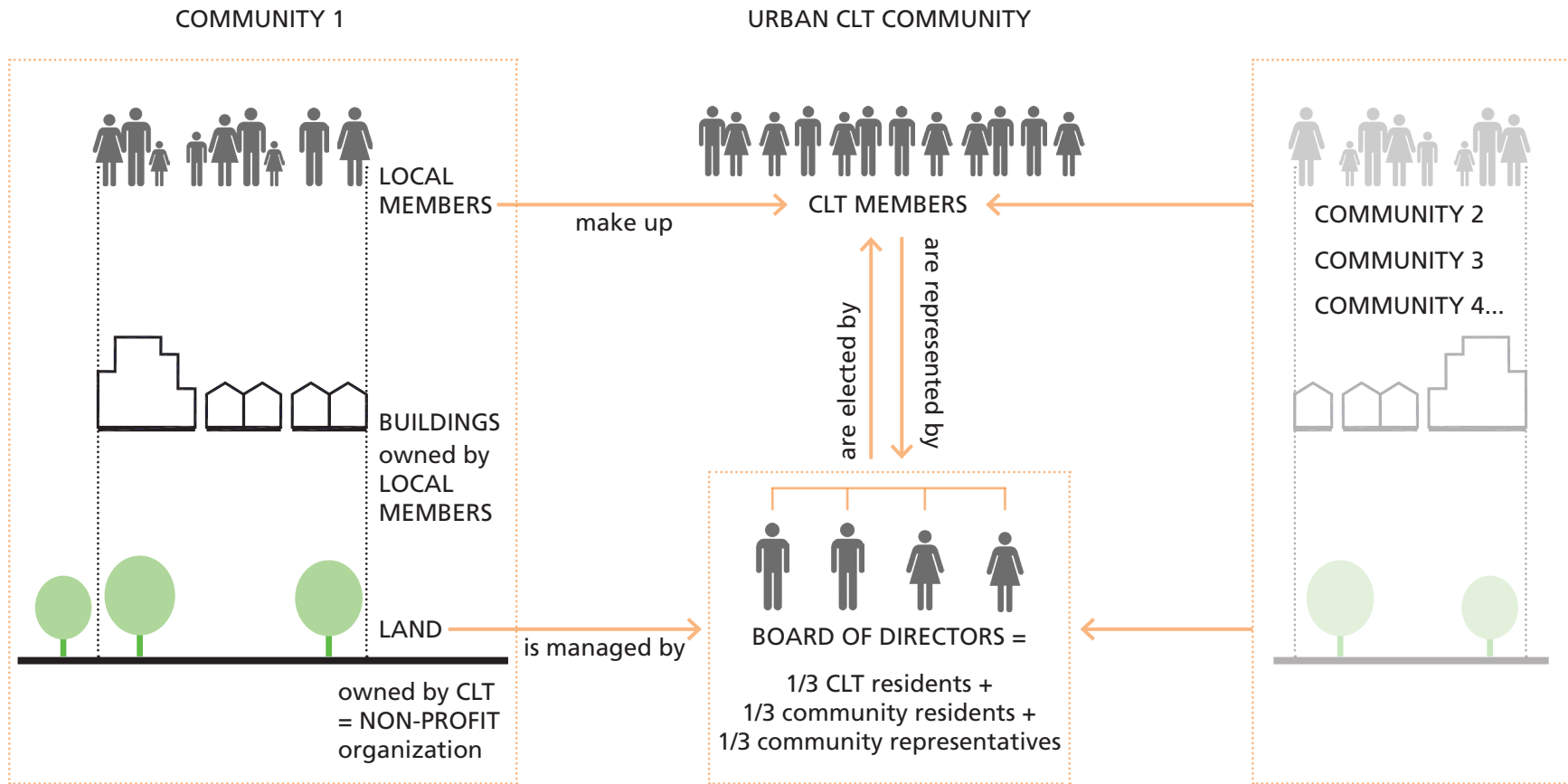


Fig. 2.07. Schematic representation of the organization of a Community Land Trust, showing the relationships between the different entities which make up the trust.

include the residents living on the land owned by the CLT, some residents from the surrounding community, and the broader municipal community of public officials and housing professionals. From this large group of members, a Board of Directors is elected to represent the CLT. This Board is typically divided equally into three groups: CLT residents, community residents, and community representatives, such as public officials. Figure 2.07 presents a diagrammatic representation of this organizational framework. The interconnectedness of this framework ensures that all residents have the ability to participate in all decisions related to the CLT, which owns the land on which they reside, enabling both the democratic control of the land and the ability to address the needs of the local community, as well as the larger one.¹⁷

Benefits of a CLT

One of the main economic advantages of a CLT is that it ensures *perpetual affordability* of the housing which occupies its land. This concept can be seen in the difference between Figure 2.08 (typical market housing) and Figure 2.09 (CLT housing scheme). Although most CLTs establish their own resale formula, many of them function in a way which allows residents to buy from and then sell back their housing to the CLT. In this way, they benefit from the appreciation on their homes, but not the land, thus maintaining the affordability of the homes for future buyers.¹⁸

17 Housing Strategies Inc., Housing. *Critical Success Factors for Community Land Trusts in Canada*. Report. External Research Program 2002, Canada Mortgage and Housing Corporation. (Canada: CMHC, 2005), 4

18 Ibid., 5

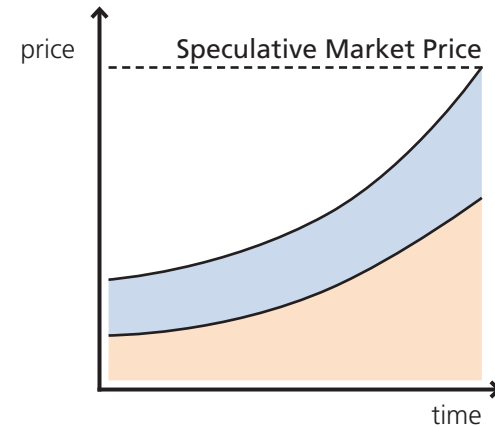


Fig. 2.08. Graphic representation of the relationship between housing value and land value in a typical MARKET HOUSING scenario.

■ House Value ■ Land Value

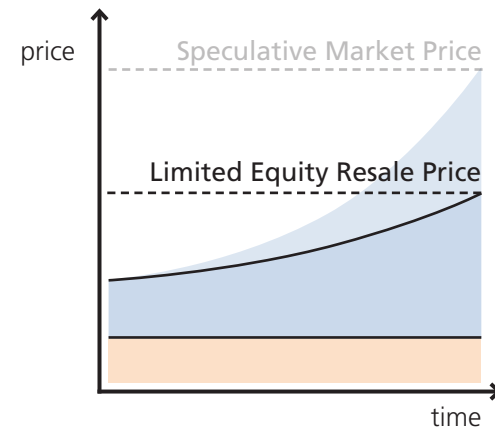


Fig. 2.09. Graphic representation of the relationship between housing value and land value in a CLT HOUSING scenario.

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House of Hildegard Co-op
Owship Co-op

Queensbury Housing Co-op
Leasing Co-op

Rose Street Artists' Co-op
Leasing Co-op

Thelma Maple Housing Co-op
Leasing Co-op

Fig. 2.10. Screenshot of the different tenure and housing types available at the Champlain Housing Trust.

CLTs are also beneficial in that they provide *flexibility* in terms of the land and development sizes, as well as the tenure types and housing typologies which occupy it. A CLT may be comprised of any number of parcels of land of varying sizes. It can also be used for an ownership model of housing, for rental housing, or jointly with co-operative housing, as well as for any combination of these.

Most importantly, CLTs bring many *social benefits* to the communities in which they are established. Through their membership model, they encourage the participation of both local members, as well as the larger community, therefore establishing a long-term social network.¹⁹ This is particularly beneficial for families, which require stable and strong ties to their communities in order to maintain their own social well-being.

Existing CLTs in Toronto and North America

“The lessons so far from Burlington Community Land Trust hold promise for establishing long-term affordability – and even helping homeowners build resources to purchase market-rate housing.”²⁰

One of the first, largest, and most successful CLTs in North America is the *Champlain Housing Trust* (formerly known as the Burlington Community Land Trust) in Vermont, established in 1984. The CLT was one of the efforts of the mayor of Burlington at the time, Bernard Sanders, to create affordable housing in the

¹⁹ Ibid., 6

²⁰ Pitcoff, Winton. “Building Assets with Permanently Affordable Housing.” *Shelterforce Online*, no. 127 (January 2003). Accessed October 31, 2016. <http://www.nhi.org/online/issues/127/assets.html>.

city. With more than 30 years having passed since its establishment, it is possible to evaluate the success of this particular CLT and learn from it for future applications. The Champlain Housing Trust proved to not only continue affordability of its housing, but improve it, as the resold homes were a lower percentage of the median market housing price than at the initial time of sale. Public subsidies which were invested were seen to grow in value with each resale of a house, eliminating the need for additional public money. Furthermore, most homeowners were able to make modest equity gains and thus improve their financial situations.²¹

The concept of CLTs is not a novelty for Toronto. The first CLT in the city was the **Colandco CLT**, established in 1986 by the Co-operative Housing Federation of Canada. In its first five years, the CLT purchased land, developed housing, and sold it to new housing co-operatives, ending up with 14 housing co-ops in Toronto and surrounding areas. In 1994, Colando was forced to downsize due to a lack of support from the co-operative sector, which at the time was being heavily underfunded by the federal and provincial governments. Presently, Colandco owns the land of 7 co-operatives which it had developed and 6 co-ops which had donated their land.²²

Another example of a successful CLT in Toronto is the **Bathurst Quay Community Land Co-operative**, established in September of 1991 as the result of petitioning by four housing co-operatives which occupy the land. The harbour front land had been

21 Pitcoff, Winton. "Building Assets with Permanently Affordable Housing."

22 Bunce, Susannah, Noreen Khimani, Yesim Sungu-Eryilmaz, and Emily Earle. *Urban Community Land Trusts: Experiences from Canada, the United States, and Britain*. Report. University of Toronto and Boston University. February 2013. 21-22.

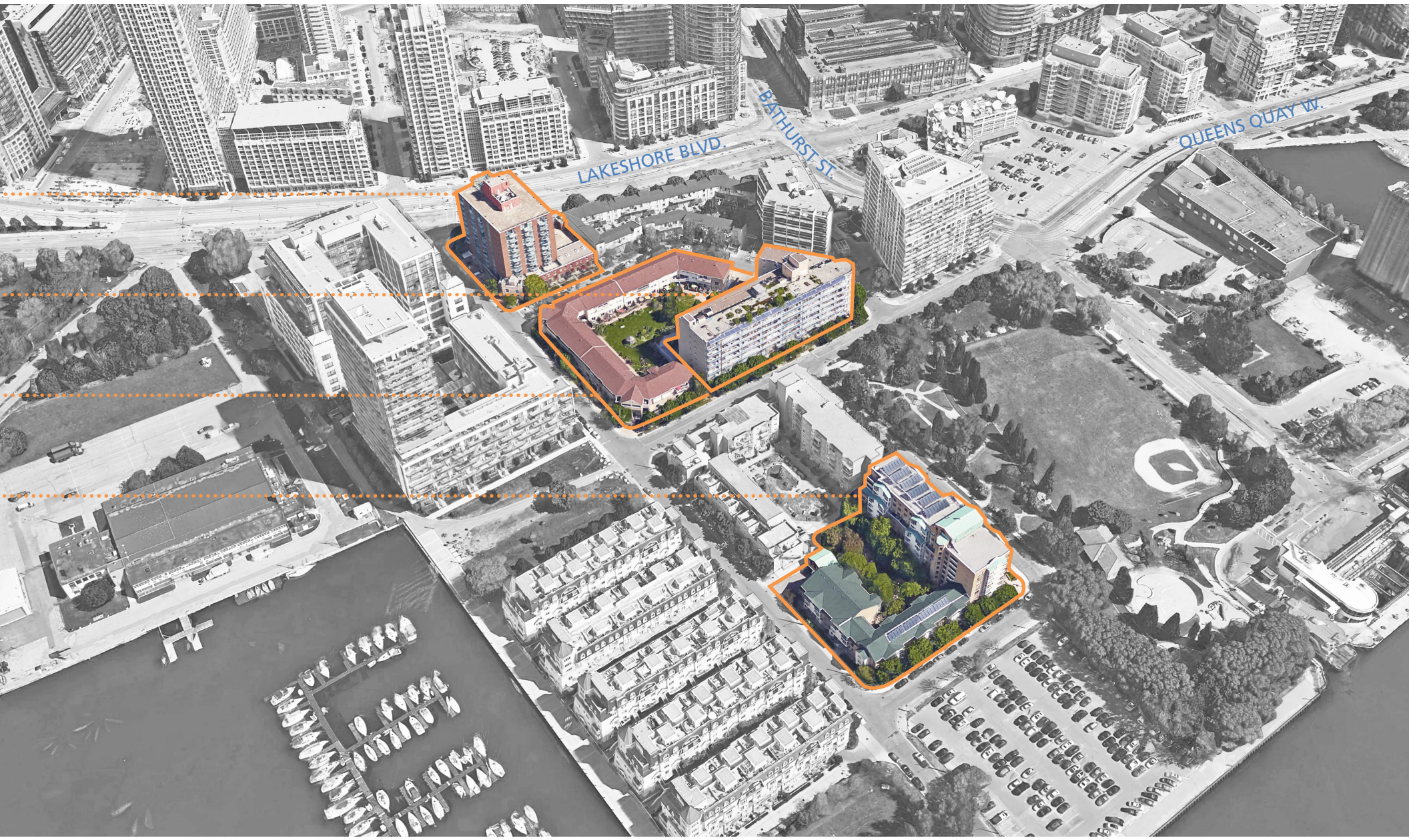
Harbour Channel Housing Co-operative Inc.
founded in 1989.

Harbourside Co-operative Homes Inc.

Arcadia Housing Co-operative Inc.
founded in 1986.

Windward Co-operative Homes Inc.
founded in 1987.

Fig. 2.11. Aerial view of the Bathurst Quay area in Toronto. The four housing co-operatives which make up the Bathurst Quay Community Land Co-operative are outlined.



previously owned by the federal government – when it decided it no longer wanted it, the four co-operatives worked together to ensure that their land was secured.²³ The CLT is functioning to this day and ensures that the rapidly-developing harbour front area of Toronto maintains the co-operatives which have been established there since the late 1980s.

The third CLT established in Toronto was the **Toronto Islands Residential Community Trust**, formed in 1993 to manage the land and buildings associated with the island community. Residents of the islands own their houses, but lease the land from the CLT, ensuring that the sale of the island homes is only done through the CLT.²⁴ With a land area as delicate and unique as the Toronto islands, the CLT ensures protection for both residents and the land.

In 2014, The Parkdale neighbourhood started the **Parkdale Neighbourhood Land Trust**, which is attempting to preserve the affordable housing and community gardens in its rapidly developing and gentrifying area. Currently in the early stages of its development and establishment, this CLT's largest concern is the acquisition of land in Parkdale, which has become very expensive.²⁵ Without any support from the public sector, the newly formed CLT will have trouble securing land in a neighbourhood with rapidly increasing land values.

23 Hoy, Shirley. *Bathurst Quay Community Land Co-operative Inc.: Appointment of Members and Directors*. Report. City Manager, City of Toronto. June 11, 2007.

24 "Toronto Islands Residential Community Trust Corporation." Toronto Islands Community. December 10, 2015. Accessed November 01, 2016. <http://torontoisland.org/land-trust>.

25 Porter, Catherine. "In Neighbourhood Land We Trust, Some Parkdale Residents Hope." The Toronto Star. November 17, 2014. Accessed November 01, 2016. https://www.thestar.com/news/canada/2014/11/17/in_neighbourhood_land_we_trust_some_parkdale_residents_hope.html.

2.3 TORONTO: CALL FOR ACTION

Middle Ground for the Middle Class

Rapidly increasing real estate prices in Toronto are creating a situation where many income groups are left unable to purchase, or even affordably rent, a home. In Canada, housing is considered affordable when shelter costs account for 30% of a household's before-tax income.²⁶ When income distribution and average housing costs are compared for the Toronto area, as shown in Figure 2.14, it can be seen that incomes are significantly falling short of housing costs.

The portion of the population in the highest-income quintile is able to afford to purchase a home, while the higher-middle-income quintile is able to afford market rent. However, it is important to note that Toronto has a very limited rental market, and so this option is not available to such a large portion of the population. The overall rental vacancy rate was just 1.6% in 2015, with the figure even lower for condo units, even though their rents tend to be 30-

²⁶ "About Affordable Housing in Canada" Canadian Mortgage and Housing Corporation. Accessed November 03, 2016. https://www.cmhc-schl.gc.ca/en/inpr/afhoce/afhoce_021.cfm.

Approximations of Annual Household Income Required for Different Tenure Types:

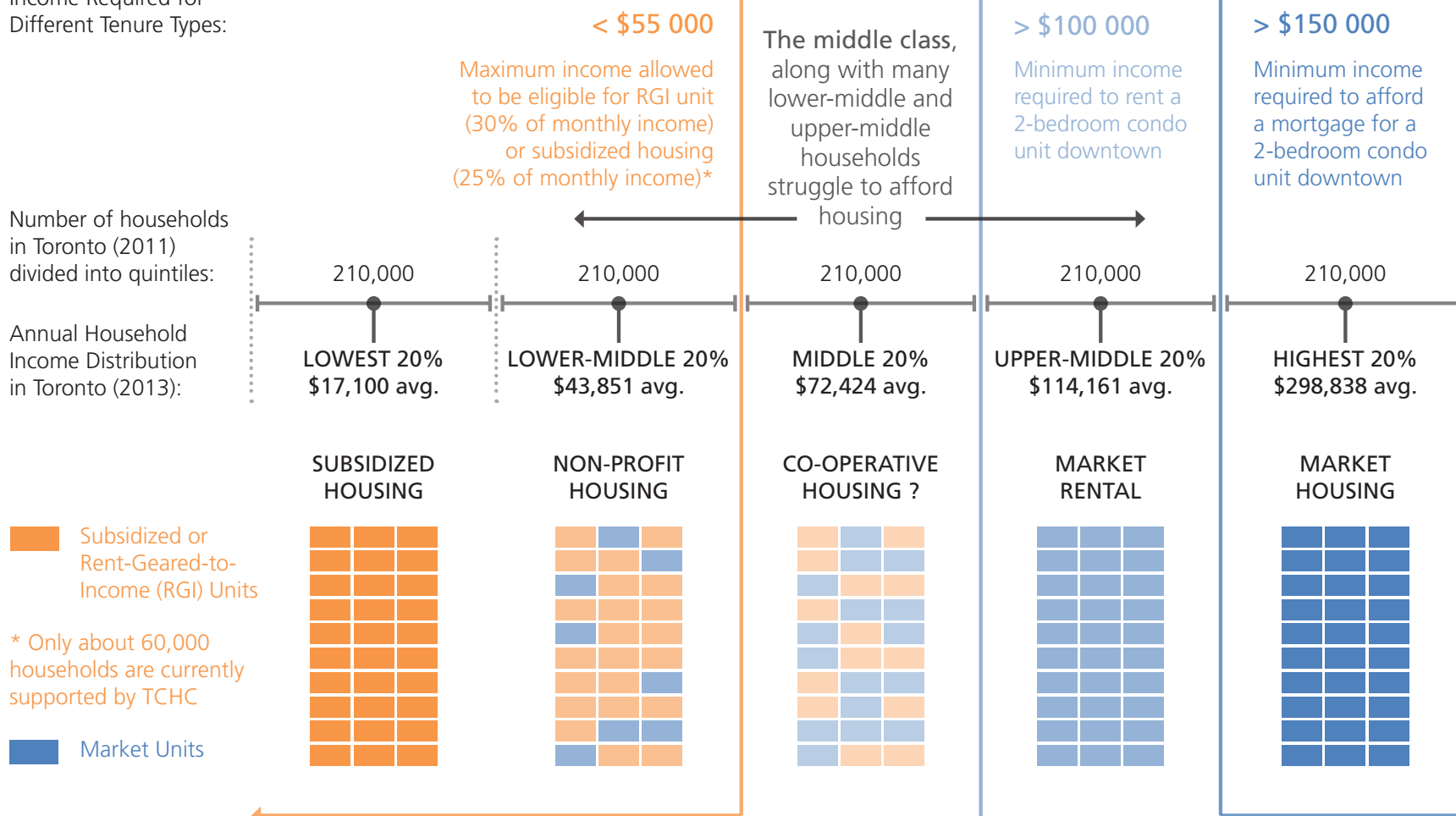


Fig. 2.12. A diagram comparing the annual household income distribution of Toronto households and the estimated price of different tenure options. This diagram does not take into consideration family size or the number of available subsidized units.

40% more than those of purpose-built rental apartments.²⁷

The portion of the population in the lowest-income quintile is eligible to be supported by the government in the form of completely- or partially-subsidized housing. The most common subsidy, which is administered to 93% of Toronto Community Housing (TCH) tenants is rent-gear-to income (RGI), where a subsidy is provided for the difference between the actual rent paid by the tenant, at 30% of their income, and the government approved rent of the unit.²⁸ There are currently 60,000 households receiving support from TCH, with almost 80,000 households on the waiting list for RGI as of December 2014. Of those on the waiting list, nearly 25,000 are families with children, facing 8.4 years of wait time before they will receive affordable housing.²⁹

This presents a severe case of unaffordability in Toronto, a situation which can be seen to be worsening rapidly. A large proportion of the population, loosely defined as the middle class, together with the lower-income population waiting for government support, are left with few or no housing options. The private sector has demonstrated its inability to accommodate housing for the majority of income groups present within the city. A more diverse housing stock, both in terms of typology, tenure and administration would be necessary, if Toronto is to remain an inclusive city for all households and families.

27 “Canada’s Purpose-Built Rental Vacancy Rate Increases” Canadian Mortgage and Housing Corporation. Accessed November 03, 2016. <https://www.cmhc-schl.gc.ca/en/corp/nero/nere/2015/2015-11-02-0815.cfm>

28 “Subsidized Housing (rent-gear-to-income).” Toronto Community Housing. Accessed November 03, 2016. <https://www.torontohousing.ca/rent/subsidized-housing>

29 *2015 Waiting Lists Survey: ONPHA’s Report on Waiting Lists Statistics for Ontario*. Report. Ontario Non-Profit Housing Association. 2015.

The International Context

When compared to other Western nations, Canada - together with the United States - is almost fully dependent on the private sector for the provision of housing. Many countries in Europe provide social assistance to as many as a third of all their households. Countries such as Denmark and Sweden also rely heavily on the co-operative sector to address a lot of their affordable housing needs. The comparison shown in Figure 2.16 is rather limited, as it does not take into account factors such as government structure, social policy measures, and cultural perceptions of housing. Nevertheless, it shows clearly the difference between North America and Europe in terms of the role played by governments and non-profit organizations in providing housing assistance. Some European countries do not require a maximum income to be eligible for social or non-profit housing, and so assisted housing is not limited to the low-income portion of the population, but is available to many middle class families as well.³⁰ Most major North American cities are currently struggling with housing affordability, and this can be attributed to their heavy reliance on the private sector and absence of a stable, diverse and sufficient public sector component in housing. It is crucial to recognize that the lack of a proactive approach by North American governments towards social housing programs results in a deteriorating situation of unaffordability and ultimately leads to inequality and polarization of income groups within the city.

Involvement by sectors other than the private sector in the

³⁰ Pittini, Alice, and Elsa Laino. *Housing Europe Review 2012: The Nuts and Bolts of European Social Housing Systems*. Report. Brussels: CECODHAS Housing Europe's Observatory, 2011.

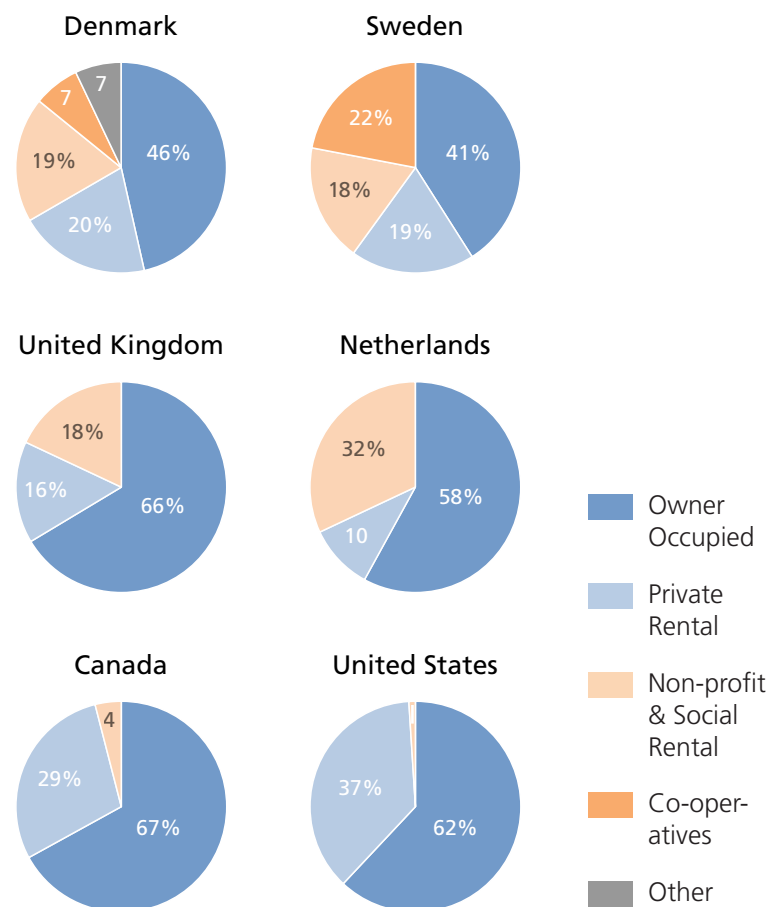


Fig. 2.13. A comparison of the tenure types found in different Western countries. Except for the United States, Canada has the smallest social housing sector of any Western nation.



Fig. 2.14. Puukuoka, an eight-storey housing block, design by the Finnish firm OOPEAA and built using CLT. The project was planned in collaboration with the City of Jyväskylä to ensure the affordability of its units.



Fig. 2.15. Wenlock Cross, the first ten-storey building to be built using CLT. Designed by Hawkins/Brown, the building consists of 50 units ranging in size from one to three bedrooms.

provision of housing also helps in diversifying the housing being built. Many projects in Europe are exemplary precedents for multi-family housing schemes, yet cannot be easily appropriated in North America. This is largely due to the fact that in North America, housing is built by private developers expecting a profit; while in Europe, housing is often built by either the public sector or by non-profit organizations, which place a large emphasis on social objectives, rather than financial ones.

European countries have also been leading in the construction of buildings using cross-laminated timber (CLT) panels. After the product was introduced to the market and proven to be compatible with fire-safety standards, most European countries quickly adjusted their building codes to create greater allowances for wood buildings. Currently, CLT panels are a widespread choice for building affordable and sustainable housing projects. In 2015, the Puukuokka housing block was completed in Finland and marked the first eight-storey wooden building to be built in the country,³¹ while the Wenlock Cross housing project was built in London and marked the first ten-storey wood building to be built in the UK.³² These are two of many examples of innovative housing project built in Europe using CLT.

31 “Puukuokka Housing Block.” OOPEAA. 2015. Accessed November 04, 2016. <http://oopeaa.com/project/puukuokka-housing-block/>.

32 “Wenlock Cross.” HawkinsBrown. 2015. Accessed November 04, 2016. <http://www.hawkinsbrown.com/projects/17-21-wenlock>.

A Future for Family and Community

*“Two parents, to say nothing of one, cannot possibly satisfy all the needs of a family-household. A community is needed as well, for raising children, and also to keep adults reasonably sane and cheerful. A community is a complex organism with complicated resources that grow gradually and organically.”*³³

In one of her last books, *Dark Age Ahead*, Jane Jacobs reflects on the way in which the affordability crisis and the implications of the recently built urban environment are affecting the nuclear family – a biological unit of mother, father, and their children. She notes that as prices of housing rise beyond the reach of most families, the biological unit gives way to the economic one – the household, which may consist of any group of people, related or not, sharing a home.³⁴ This can be witnessed in the tendency of Toronto’s young generation to remain in a roommate-type housing arrangement and often postpone starting families. Many of the three bedroom condominium units enforced by the city that developers include in their projects are occupied by groups of students or young professionals, rather than families, for whom they were originally intended. As Jacobs observes: *“It took two people to produce children, but on average two by themselves could no longer afford to purchase or rent shelter for them.”*³⁵

Jacobs places particular emphasis on the role played by

³³ Jacobs, Jane. “Families Rigged to Fail.” In *Dark Age Ahead*. (New York: Random House, 2004), 34

³⁴ Ibid., 28

³⁵ Ibid., 30

community in creating the appropriate and desirable atmosphere for family life. These communities are most often found in central and urban areas of the city, rather than the car-dependent suburbs; however, these central areas are also the ones which are currently experiencing the steepest rises in housing values. Unaffordability therefore brings with it the threat of creating an urban environment in which the family unit struggles to survive.

For Toronto to maintain young families, it must be able to provide affordable, community-oriented housing options. It is the position of this thesis that this can be done by jointly or interchangeably using the mechanisms described in this chapter. The establishment of a community land trust, paired with co-operative housing secures desirable land specifically for affordable housing, while providing residents with a sense of ownership and connection to their community. As it has been demonstrated that the private sector is incapable of maintaining affordability and is often seen to disturb, rather than create, communities, it is fundamental that the public sector assume a more proactive role in housing. The municipal, provincial, and federal governments have the potential to work together to address and take action regarding the housing crisis currently afflicting Canada's largest cities and the families who live in those cities.

CHAPTER 3

COMPATIBILITY IN THE DESIGN OF HOUSING

This chapter provides an analysis of relevant precedents in an attempt to determine the particular elements which make certain typologies and housing schemes compatible with family life.

3.1 PRECEDENTS & SOURCES

3.2 AMENITIES & PUBLIC SPACE

3.3 VISIBILITY & SPATIAL HIERARCHY

3.4 ACCESS & CIRCULATION

3.5 FLEXIBILITY & ADAPTABILITY

3.6 THE TORONTO CONTEXT

| | Precedent Overview | Hugh Garner Co-op | PX Athens | Darbishire Place Housing | Tango Housing | Hansa-viertel Apt's | Windsong Co-housing | Home for Senior Citizens | Very Social Housing | Grange Triple Double | Communal House A1 |
|---------------|----------------------------|-------------------|-----------|--------------------------|---------------|---------------------|---------------------|--------------------------|---------------------|----------------------|-------------------|
| NEIGHBOURHOOD | Amenities: Gardens | | | | | | | | | | |
| | Amenities: Playspace | | | | | | | | | | |
| | Visibility of Public Space | | | | | | | | | | |
| BUILDING | Spatial Hierarchy | | | | | | | | | | |
| | Circulation & Corridors | | | | | | | | | | |
| UNIT | Building & Unit Access | | | | | | | | | | |
| | Flexibility & Adaptability | | | | | | | | | | |

3.1 PRECEDENTS & SOURCES

Selection and Distillation of Precedents

The selection of precedents relevant to family life in dense urban environments involved an iterative process of analysis and distillation of particular features. These features were then accessed and verified by literary sources and reports in order to determine their established significance in both present and past discourses on family housing.

The matrix shown in Figure 3.01 presents a summary of precedents and features, as well as their relationship to one another. Several of the features are interdependent in nature, such as *spatial hierarchy* and *building access*, and so can be seen often applying to a group of precedents. Nevertheless, each feature is represented by a single precedent which was found to best demonstrate its architectural manifestation. While several of the precedents relate directly to family life, some are chosen due to a particular feature which is found relevant. Focus is made on the attributes and architectural elements of the precedents, rather than their potential users and typologies. In this, the precedent analysis attempts to provide an overview of important architectural elements to consider during the design of family-oriented housing and highlight



Precedent selected as **BEST** example of relative feature



Precedent is a **GOOD** example of relative feature



Precedent is an **AVERAGE** example of relative feature



Precedent is a **POOR** or non-applicable example of relative feature

Fig. 3.01. Matrix of selected precedents, showing qualitative relevance to the features discussed in this chapter, as part of the discourse on the compatibility of housing for families with children.

the shortcomings of current multi-unit residential design in this regard.

Current Discourse on Family Housing

“Consultation undertaken in Phase 1, dubbed “CondoHack”, was designed to better understand how families “hacked” their homes to deal with the realities of living with children.”¹

Several of the sources used in highlighting the dominant issues in relation to family-oriented housing and the methods of addressing them stemmed from the current discourse in Toronto in relation to families with children living in dense urban environments. The symposium *Standard of Dwelling* at the University of Toronto in February of 2016 included lectures and roundtable discussions by prominent architects and developers regarding the design and planning of housing and neighbourhoods in Toronto. Many of the topics mentioned current concerns with providing adequate housing for families in the city and served as a great resource for a thorough analysis of features and precedents.

In spring of 2016, the City of Toronto Planning Division began a currently ongoing study titled *Growing Up: Planning for Children in New Vertical Communities*. During Phase 1 of the study, part of the consultation process involved an online survey which asked families raising children in the city to share their experiences with and expectations of the built environment, with a focus on the design of units, buildings, and the neighbourhood. The survey received

¹ Growing Up: Planning for Children in New Vertical Communities. Report. City Planning Division, City of Toronto. Phase 1 Summary Report. 3.



Fig. 3.02. Poster for the Standard of Dwelling symposium, which took place in February 2016 at the University of Toronto. The speakers included: (Top) Hans Ibelings, Peter Clewes, Meg Graham, Niall Haggart, (Bottom) Julian Battiston, Pina Petricone, David Wex, Michael Maltzan.

over 600 responses, with the majority of respondents either from downtown or another urban centre area of Toronto.² The report of this first phase was published in October of 2016 and directly addresses the challenges families encounter when raising their children in the central urban areas. It provides the opportunity to discover the particular needs of several families through interviews, as well as the more general responses of many families to the survey.

Further relevant discourses have been featured on the podcast *Invisible City*, by City of Toronto Chief Planner Jennifer Keesmaat. In this podcast, Keesmaat discusses urban issues and their particular relevance to Toronto; planning an inclusive city for families has been a recurring topic in her discussions.

Oscar Newman & Jane Jacobs

“All different elements which combine to make a defensible space have a common goal—an environment in which latent territoriality and sense of community in the inhabitants can be translated into responsibility for ensuring a safe, productive, and well-maintained living space.”³

Oscar Newman’s book *Defensible Space* was published as a reaction to the alarming increase in urban crime rates throughout low-income housing developments in the United States. The study was conducted to determine why certain housing developments were crime-free and safe and others experienced very high levels of crime and vandalism, while being located in close proximity to



Fig. 3.03. Front book cover of *Defensible Space*, by Oscar Newman.

² Ibid., 4

³ Newman, Oscar. *Defensible Space: Crime Prevention through Urban Design* (New York: Macmillan, 1972), 3

each other or in similar neighbourhoods. The conclusion reached was that the physical form of the urban environment has a direct influence on the safety and security of its residents.⁴

Although the study focused on low-income housing in areas deemed to be very unsafe, its findings can be applied to any development intended for occupation by families, especially those with children. Newman notes that high-density and high-rise developments seem to work well for upper-middle-income families with none or very few children, but cannot be simplistically transplanted for the use of larger families.⁵ In the case of Toronto, this can be seen in the incompatibility of family life and condominiums, even though income levels in this instance do not play as significant a role as in Newman's study. It is therefore useful to look at Newman's observations and proposed remedies as a means of determining an alternative housing typology for families with children in the city centre.

In her most renowned work *The Death and life of Great American Cities*, Jane Jacobs argues that children in cities need a variety of places in which to play and to learn.⁶ She provides an extensive analysis of the effects of both the planning of the urban realm and the design of buildings on the lives of children. Her critique offers insight into how design at the scales of the neighbourhood and the building can create an environment which is suitable for people of all ages, and therefore also desirable for families with children.

4 Ibid.

5 Ibid.

6 Jacobs, Jane. *The Death and Life of Great American Cities* (New York: Vintage Books, 1961), 80.

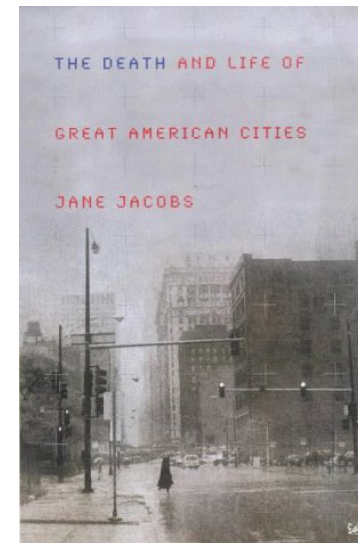


Fig. 3.04. Front book cover of *The Death and Life of Great American Cities*, by Jane Jacobs.

3.2 AMENITIES AND PLAYSPACE

“Outdoor space for children that is fully enclosed with areas/benches for caregiver supervision is ideal. It need not be designed as a playground, and can still be attractive to adults but should be robust to withstand and encourage active play.”⁷

In the *Growing Up* study, when participants were asked what they consider to be the most important feature of a building for families, the overwhelming majority selected outdoor green space, with children’s indoor play areas being the second most important. It is therefore crucial for these features to be considered in any design of a building for families. Outdoor greenspace, such as community gardens, playgrounds, leisure and sports areas, are vital places for children, as well as their families and communities.

Rooftops Capitalized as Community Gardens

Building rooftops have the great potential of becoming semi-public green areas for the use of a building’s residents. With some structural modifications, additional weight of the soil required for plants can be supported. The use of the roof for gardening and storm

⁷ Growing Up: Planning for Children in New Vertical Communities. Report. City Planning Division, City of Toronto. Phase 1 Summary Report. 12.

@ the building scale

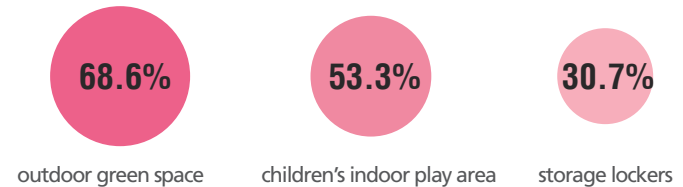


Fig. 3.05. Results of a survey conducted by the “Growing Up” study. Percentage of responses chosen for the question: *When it comes to raising kids, what are the three most important features your building has or should have?*



Fig. 3.06. Roof garden of the Hugh Garner Housing Co-operative in Toronto, installed in 2010.



Fig. 3.07. Roof garden of the Lore Krill Housing Co-operative in Vancouver, built in 2002.

water management is an efficient way of introducing sustainable measures into the urban environment and is especially common in co-operative communities.

The Hugh Garner Housing Co-op, in the Cabbagetown area of Toronto, was built in 1983. In 2003, when it came time to replace the roof, the members of the co-op decided to convert the entire 2000 m² of their roof into gardens. Work on the southern section of the roof was completed in 2010 and includes plant beds, seating areas, a gazebo, and a stream feature. The green roof has become one of the most important amenities of this co-op building.⁸

The Lore Krill Housing Co-op in Vancouver was completed in 2002 and features a green roof as part of its design by Henriquez Partners Architects. The building includes five landscaped terraces with community gardens for growing vegetables. The architects had led a participatory design process and the roof garden had been one of the main goals of the co-op members.⁹

Playspaces for Children

Exterior and interior playspaces for children are the most desired elements of a building, and yet the most neglected in the design of most multi-unit housing projects in Toronto. Without a

⁸ “Greenroofs.com.” *Hugh Garner Housing Co-operative*. Accessed October 18, 2016. <http://www.greenroofs.com/projects/pview.php?id=1218>.

⁹ “Lore Krill Housing Co-op.” *Henriquez Partners Architects*. Accessed October 18, 2016. <http://henriquezpartners.com/work/lore-krill-housing-co-op/>.

back yard or basement playroom, typically found in single family homes, multi-unit buildings are challenged to re-create these spaces, often within the buildings' communal areas.

Design of space for play and exploration does not necessarily have to include typical brightly-coloured playground equipment, which is often installed in parks and school yards throughout Toronto. In describing the “playground revolution” in New York in the 1960s and 70s in her upcoming graphic novel *Playground of My Mind*, Julia Jacquette says of the modernist playgrounds built throughout the city at the time: “The playgrounds were meant to make the city more inclusive, more attractive, and more malleable: a place where everyone could thrive.”¹⁰ She describes play spaces for children as outdoor living rooms, outdoor areas where the children feel free to explore, and which are built to engage the child’s curiosity about the built environment, yet which are also protected and offer feelings of safety and security.

Several relevant examples of such play spaces can be seen in the projects of Buerger Katsota Architects for their playground proposals for Athens, PX SixThresholds, as well as muf architecture/art’s project, Four play spaces for Camden, in London, UK.



Fig. 3.08. In Buerger Katsota Architects’ project for Athens, play elements are simple in shape and movable, allowing for re-arrangement and multitude of uses by children.



Fig. 3.09. In muf architecture/art’s project for Camden, play elements are scaled for use by children and include water features, as well as natural materials.

¹⁰ Jacquette, Julia, and James Trainor. “City as Playground.” *Urban Omnibus*. September 21, 2016. Accessed November 09, 2016. <http://urbanomnibus.net/2016/09/playground-of-my-mind/>.

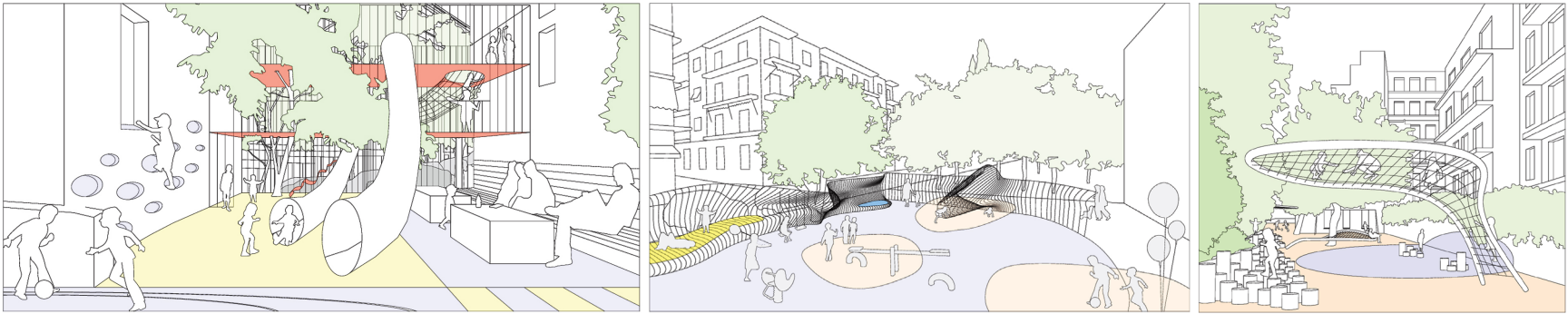


Fig. 3.10. In the development stages of Buerger Katsota Architects' project for Athens, it can be seen that play spaces were envisioned as enclosed environments, surrounded by buildings and seating areas for adult supervision. The play elements are varied and allow for exploration and adventure.

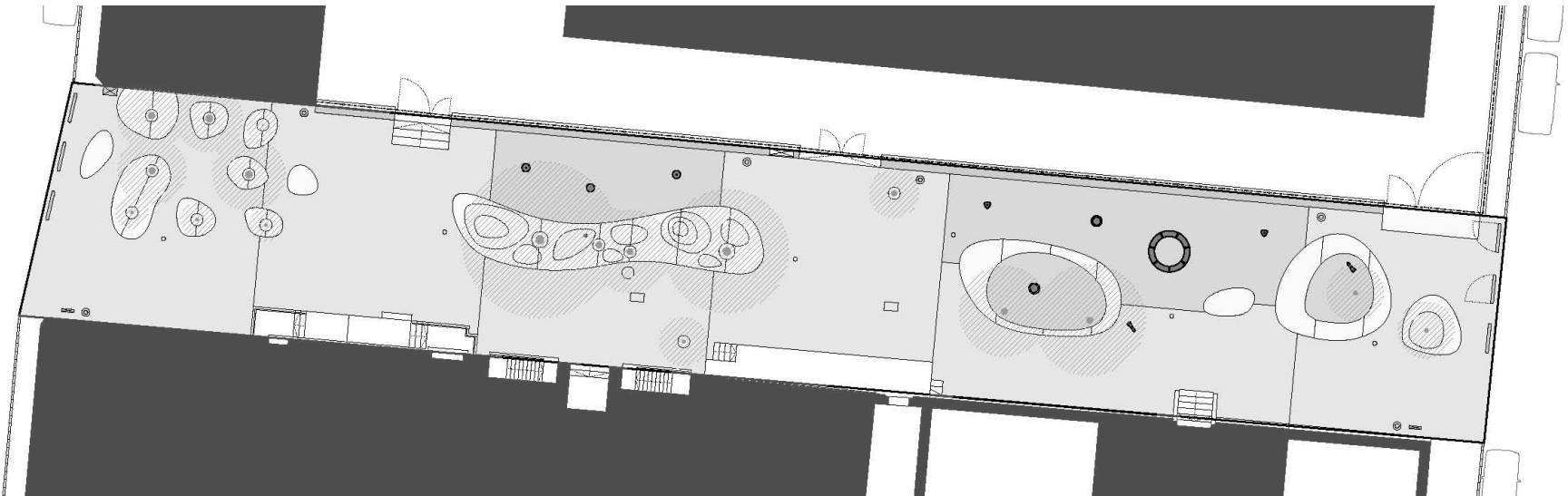


Fig. 3.11 Plan of Buerger Katsota Architects' project for Athens.

3.3 VISIBILITY & SPATIAL HIERARCHY

“... the surveillance of outside areas from within the apartment ... involves designing apartments so that people within them will naturally view the communally used paths, entries, play, and seating areas of a project during their normal household activities.”¹¹

Newman notes that visibility involves the juxtaposition of activity areas in building and apartment interiors with exterior non-private areas to facilitate visual observation from within.¹² This not only enables the residents to observe the public life surrounding their buildings, but is essential for supervision of children playing outside by parents inside the apartments. Placing kitchen windows to face communal play areas ensures that one of the most used areas of the unit - the kitchen-dining area - has visibility of exterior play areas used extensively by children. This has the reciprocal effect of reassuring parents of their children’s safety, while at the same time enabling children to exercise more independence, if allowed to play outside of their apartment units.

A parallel can be drawn with Jane Jacob’s concept of ‘eyes on the street,’ where she states that “the buildings on a street equipped

¹¹ Newman, Oscar. *Defensible Space: Crime Prevention through Urban Design* (New York: Macmillan, 1972), 91.

¹² Ibid.



Fig. 3.12. Newman’s analysis of Tilden houses in Brooklyn, New York, where the positioning of windows at the stairwell landings and private units allows for surveillance of the street from the building interior and vice versa.

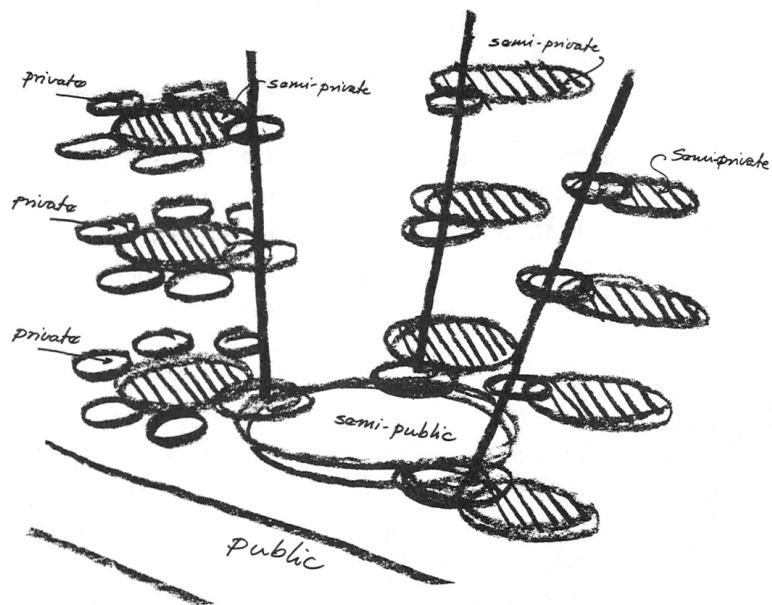


Fig. 3.13. Newman's diagram of defensible space hierarchy in a multi-level dwelling, showing the transitory nature of the public-to-private gradient.

to handle strangers and to insure the safety of both residents and strangers must be oriented to the street."¹³ She also mentions that there must be a clear demarcation between public and private, that there must not be any ambiguity as to which space belongs to which realm, in order for both private and public space to remain safe.

Newman takes this concept further and defines the spatial hierarchy found in successful multi-family dwellings. A clear demarcation remains between the public street and the private building; however, as the building is home to many families, a further break-down of the interior space of the building is necessary. An evolving hierarchy from level to level in multi-family building allows for occupants and groups of occupants to extend the realms of their homes and responsibilities.¹⁴ The transition normally involves the grouping of several private residences around a semi-private landing or small communal area. These small communal areas are then grouped around a semi-public courtyard or larger communal area. The larger communal area acts as the buffer between public and private and performs the role of demarcation which Jacobs outlines.

Buildings employing these concepts of visibility and spatial hierarchy provide an increased sense of security to its residents, a feature which is particularly crucial to families with children. They also provide the children with a gradual accumulation of independence as they venture out of the private realm of the unit, mastering each level of the spatial hierarchy before independently confronting the public realm.

¹³ Jacobs, Jane. *The Death and Life of Great American Cities* (New York: Vintage Books, 1961), 35.

¹⁴ Newman, Oscar. *Defensible Space: Crime Prevention through Urban Design* (New York: Macmillan, 1972), 9.

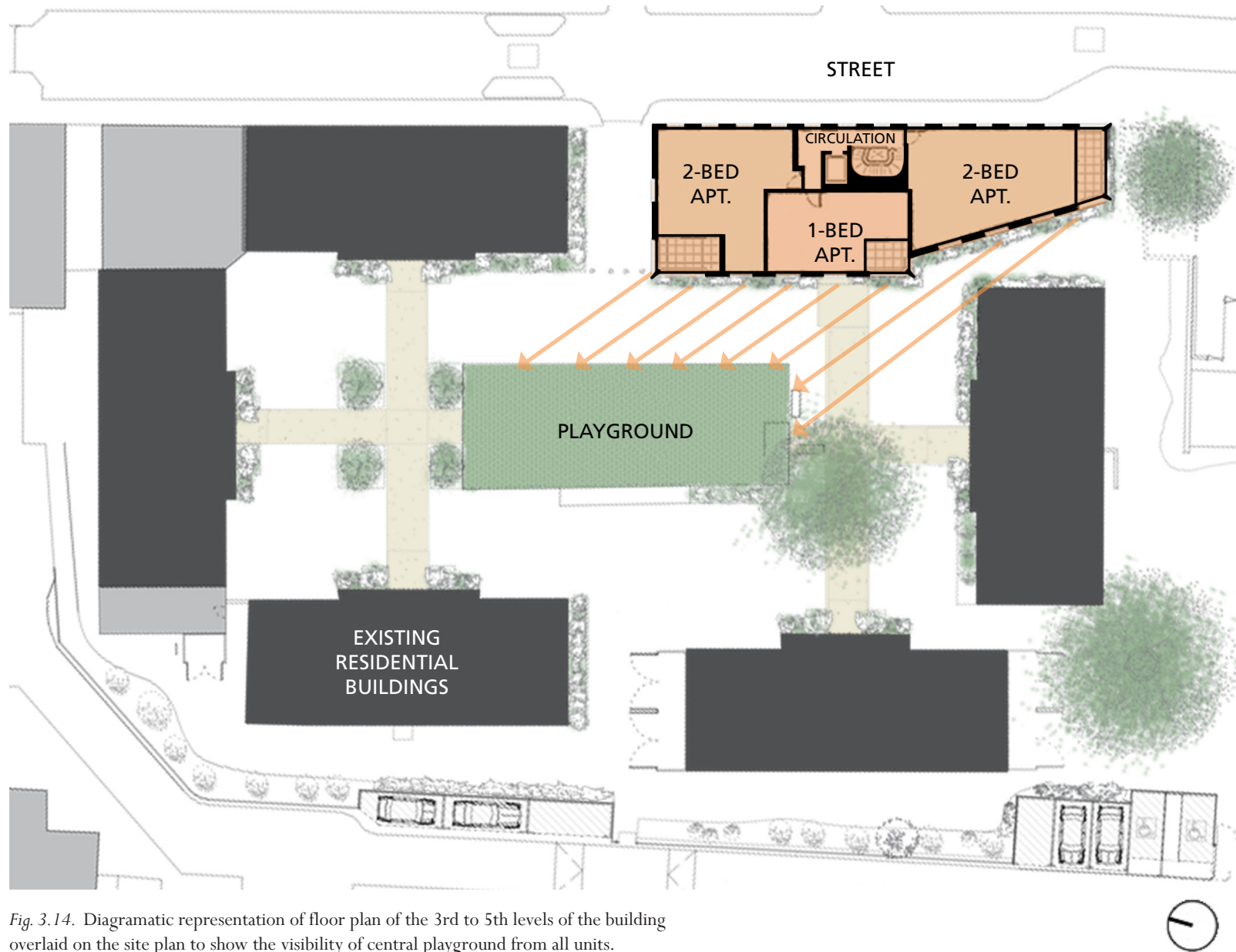


Fig. 3.14. Diagrammatic representation of floor plan of the 3rd to 5th levels of the building overlaid on the site plan to show the visibility of central playground from all units.



Fig. 3.15. View of corner balcony of one of the units.



Fig. 3.16. View of building from central playground.

Visibility of Public Areas

Example: **Darbishire Place Housing**

Architect: Niall McLaughlin Architects

Location: Whitechapel, East London, UK

Year of Completion: 2015

Type: Social Housing

Units: (1) 4-br, (2) 3-br, (7) 2-br, (3) 1-br

“The plan also allows each flat a vestibule off the landing, an enclosed space they can fill with plants or the over-flow of their flats, it doesn’t matter because it is theirs. The balconies likewise: each has a generous deep balcony from which to watch the children play in the safe square.”¹⁵

The circulation (staircase and elevator) face the street with three windows on every floor. This allows the constant movement throughout the building to be visually connected with the public realm of the street.

All units have openings towards the west side, where the courtyard with a playground is located. This allows for parents inside units to always be able to see the playground.

Most units (except the 1-bedroom) face three different directions, allowing for a nearly peripheral view of the surroundings. This facilitates visibility and adds to the safety felt by both the building’s residents as well as those occupying the surrounding public realm.

¹⁵ “Darbishire Place.” *RIBA Journal Magazine*. Accessed October 14, 2016. <https://www.ribaj.com/buildings/darbishire-place>.



Fig. 3.17. View of courtyard from living area.



Fig. 3.18. Exterior of building from street.

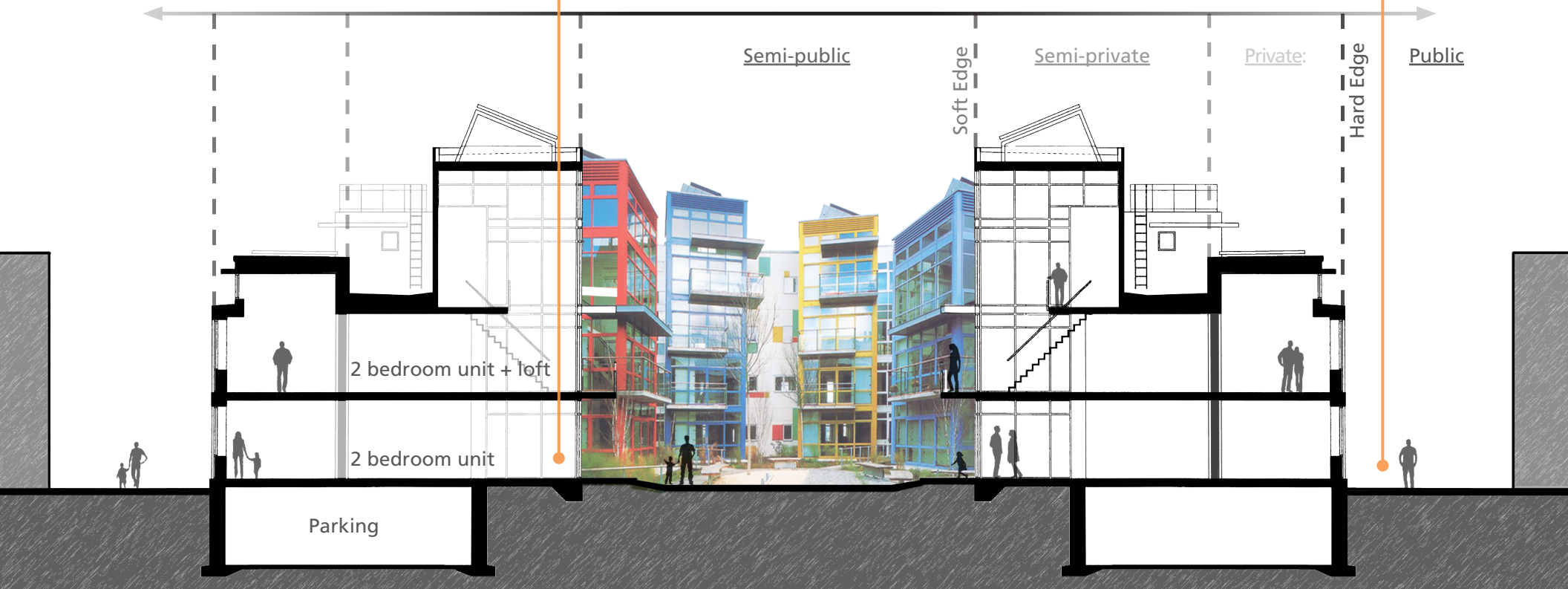


Fig. 3.19. Diagrammatic section showing public-to-private gradient.

Spatial Hierarchy: The Public-Private Gradient

Example: **Tango Housing**

Architect: Moore Ruble Yudell Architects

Location: Malmö, Sweden

Year of Completion: 2001

Type: Rental Housing

Units: (2) 3-br, (13) 2-br, (12) 1-br, (2) studio

“The living room of each unit occupies part of a tower, ‘borrowing’ space from the garden while making the units feel more spacious. To the same effect, entire walls of glass open onto the garden, allowing the units to literally flow into the landscape.”¹⁶

The courtyard in this project acts as a mediator – it is the transitory space between the public street and the semi-private building entrance and circulation.

The building entrances are broken up, a total of four servicing the building. This enables each access tower to act as a semi-private space, used only by those residents whose units are connected by it.

The interior layout of the units continues the gradient. All common living areas face the courtyard with extensive amounts of glazing, making them the less private areas of each unit. The bedrooms and bathrooms, on the other hand, face outwards towards the public street with smaller windows, ensuring intimacy and privacy in those spaces.

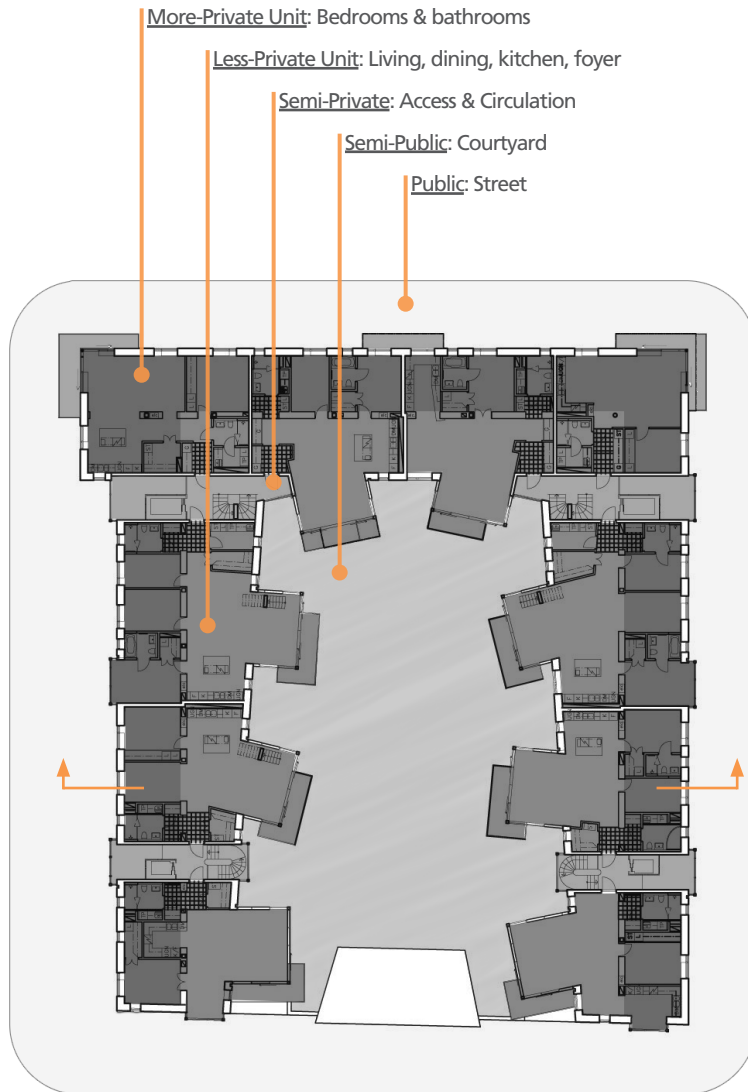


Fig. 3.20. Diagrammatic plan showing public-to-private gradient.

¹⁶ Moore, Ruble, Yudell, Architects & Planners. *Innovation in Sustainable Housing: Tango* (New York: Edizioni Press, 2005).



Fig. 3.21. View of semi-private landing used to access half (5) of the units on each floor. The large window allows light, while the intimate nature of the space encourages communal use.



Fig. 3.22. Interior view of a 3-bedroom unit. The large window unifies the central area of living room and balcony, while the kitchen and dining areas to the left are more private.



Fig. 3.23. Left - plan of floors 2-7 of the building. Right - plan and room descriptions of a 3-bedroom apartment.

Spatial Hierarchy within the Unit

Example: **Hansaviertel Apartments**

Architect: Alvar Aalto

Location: Berlin, Germany

Year of Completion: 1955

Type: originally Rental Housing, currently Ownership

Units: (46) 3-br, (8) 2-br, (9) 1-br, (15) studio

“The conventional small corridor-like balconies were transformed into patios around which the rooms of the apartments were grouped. This grouping around the open-air room created an intimate, private atmosphere.”¹⁷

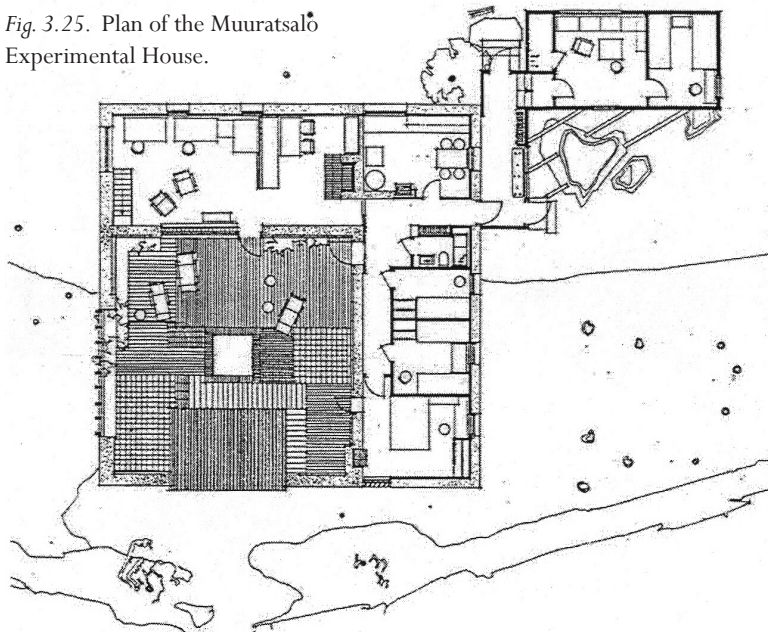
Each unit is organized to have the private areas surround the communal areas - as in a courtyard. The living room and balcony are seen as one central space - the single large pane of glass connects the two areas and unifies them. The balcony is large and almost square in shape, providing an exterior room which connects the central area of the unit with the public realm outside.

Aalto’s goal was to approximate the design of individual apartments with that of a house, specifically drawing inspiration from his previous project, Muuratsalo Experimental House. By introducing the courtyard, Aalto combined “in an ideal manner, the specific advantages of an apartment block with the merits of the individual house.”¹⁸



Fig. 3.24. View of courtyard at Aalto's Muuratsalo Experimental House.

Fig. 3.25. Plan of the Muuratsalo Experimental House.



¹⁷ Quantrill, Malcolm. *Alvar Aalto, a Critical Study* (New York: Schocken Books, 1983).

¹⁸ *Ibid.*, 144.

3.4 ACCESS & CIRCULATION

*“The elevators and corridors of these projects are, in a sense, streets. They are streets piled up in the sky in order to eliminate streets on the ground and permit the ground to become deserted parks...”*¹⁹

Jacobs parallels the interior circulation of buildings to the streets of a city. Just as a city has streets which function better than others in terms of safety and vibrancy; so in some buildings, the interior circulation works better than in others. Jacobs observes that the long dark corridors in high-rise housing projects are the equivalent of deserted, dull, blind streets in gray areas of the city.²⁰ Newman also critiques the conventional double-loaded corridor as devoid of visibility opportunities except where tenants choose to use the peepholes in their doors,²¹ thus making them one of the least safe and least populous circulation options.

Multi-storey buildings with long corridors are often characterized by a lack of semi-private areas. The corridor serves many units and is interconnected, essentially assuming the characteristics of the public realm. Spatial hierarchy is in this case neglected and the transition from public corridor to private unit becomes abrupt and sudden. Many condominium towers suffer from this condition, as those with a slab



Fig. 3.26. Typical condominium corridor.

¹⁹ Jacobs, Jane. *The Death and Life of Great American Cities* (New York: Vintage Books, 1961), 42.

²⁰ *Ibid.*, 44.

²¹ Newman, Oscar. *Defensible Space: Crime Prevention through Urban Design* (New York: Macmillan, 1972), 91.

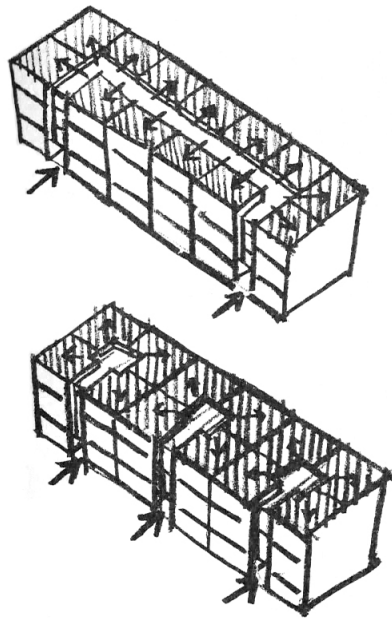


Fig. 3.27. Newman's diagrammatic comparison of the corridor typology with one consisting of separate entrances.

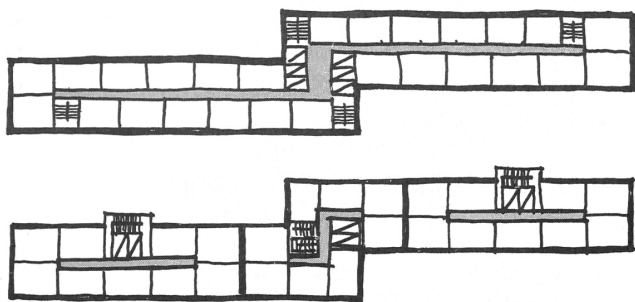


Fig. 3.28. Newman's diagrammatic comparison of the single corridor typology with one consisting of broken up corridors.

typology inevitably have long monotonous corridors. Lacking any sense of communal responsibility for the space or intimacy with neighbours, the corridors are an unfavourable setting for the creation of a community or the daily routines of family life.

There are several options in avoiding this condition in residential buildings; although, building height and typology play an important role in providing or limiting the possibilities. High-rise buildings of a slab typology benefit from simply breaking the corridor into sections, thus reducing its parts into what resembles landings (see Fig. 3.17). The landings offer more intimacy between the units they serve and thus enable feelings of safety and community. Lower-height buildings function better when broken up into clusters; once again forming landings which serve a fewer number of units than larger corridors (see Fig. 3.18).

The corridor does still have the possibility of being a favourable space in a building. According to Jacobs, this involves uses other than plain circulation being built into it,²² creating the same diversity required in a vibrant street. Playspaces, narrow porches, planters, picnic areas are all examples of possible additional uses. Newman notes that simply setting back entrances to apartments four feet from the corridor proper creates a small transitional zone - a semi-private area which residents adopt and where they often place lounge chairs and allow their children to play.²³ In this way the corridor becomes a place of activity and prolonged use, rather than simply a passageway. As with a vibrant street, this means that sufficient space must be allocated for these uses and conditions such as day-light and ventilation seriously considered.

²² Jacobs, Jane. *The Death and Life of Great American Cities* (New York: Vintage Books, 1961), 43.

²³ Newman, Oscar. *Defensible Space: Crime Prevention through Urban Design* (New York: Macmillan, 1972), 95.

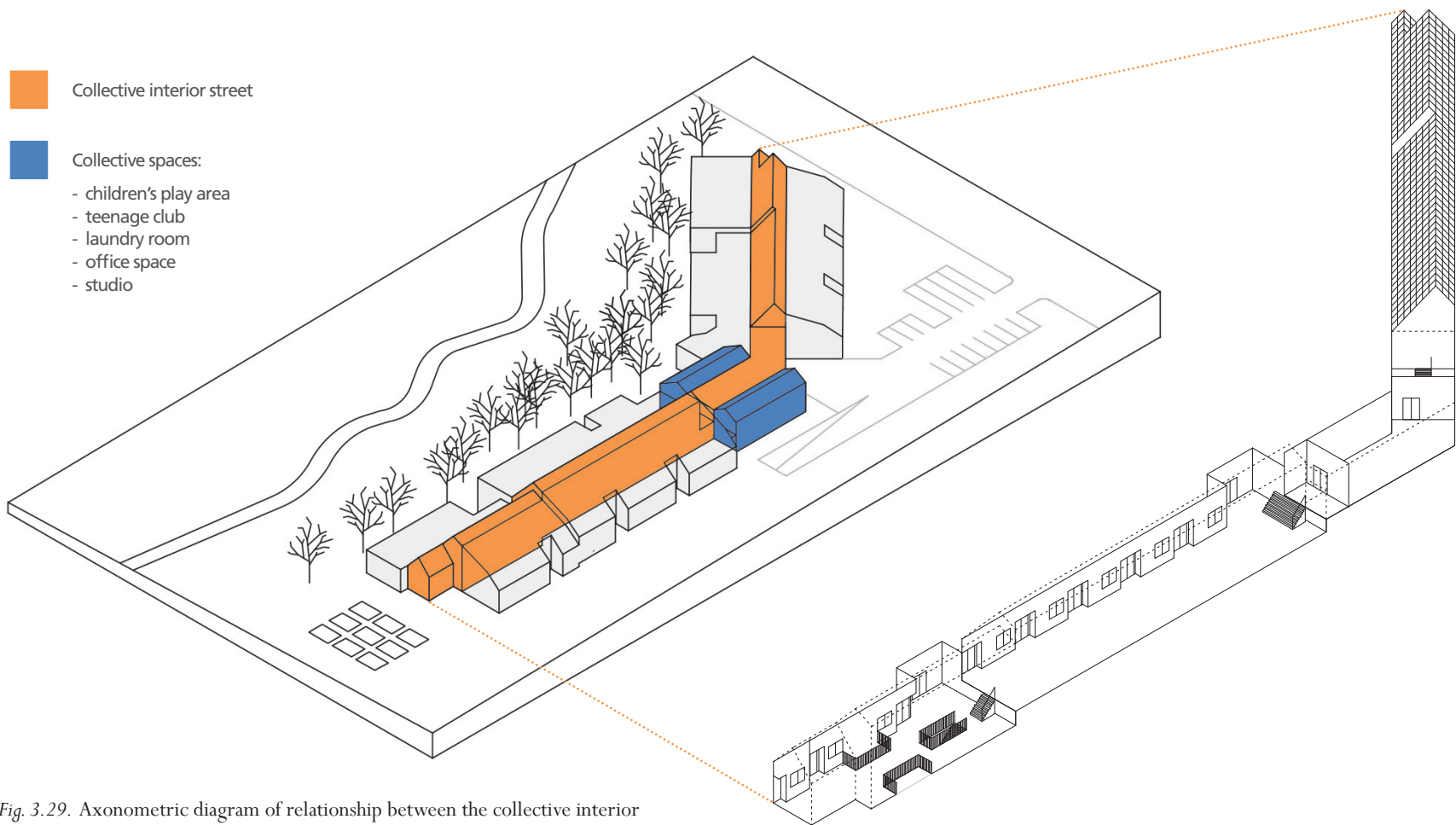


Fig. 3.29. Axonometric diagram of relationship between the collective interior street, collective spaces, and individual units of the building.



Fig. 3.30. Interior street functions as a gathering place.



Fig. 3.31. Porches, balconies, planters, and seating areas add to the vibrance and diversity of the interior street.

Corridors as Streets

Example: **Windsong Co-housing**

Architects: Davidson Yuen Simpson (dys) architecture

Location: Langley, British Columbia

Year of Completion: 1998

Type: Co-housing

Units: (7) 4-br, (17) 3-br, (2) 2-br, (8) 1-br

“David Simpson of dys architecture ... designed two covered residential streets that come together in a cluster containing collective functions such as a kitchen and diningroom, laundry, a children’s play area with playground equipment and a handicrafts space for creative activities.”²⁴

The street-corridor is the main circulation route and provides access to all units of the building, either directly or as walk-ups to upper levels.

The design of the corridor considers many aspects important for a successful street: day lighting is provided by a glazed roof, public and private areas are clearly demarcated using porches, steps and fenced yards, monotony is avoided with stepping interior facades, and a variety of uses are introduced with collective spaces.

The corridor is in clear view from the interior of the units, as all units have windows which open on to it, ensuring security and safety felt by parents, and thus possible independent use of the space by children.

²⁴ Van Der Putt, Pierijn. “WindSong Cohousing.” *Delft Architectural Studies on Housing [DASH]*, July 12, 2013, 108-15.



Fig. 3.32. View of the single-loaded corridor from the exterior of the building, with large, east-facing windows.



Fig. 3.33. Interior view of the single-loaded corridor, with unit entrances at the right. The corridor is well lit and used as the residents' informal gathering area.

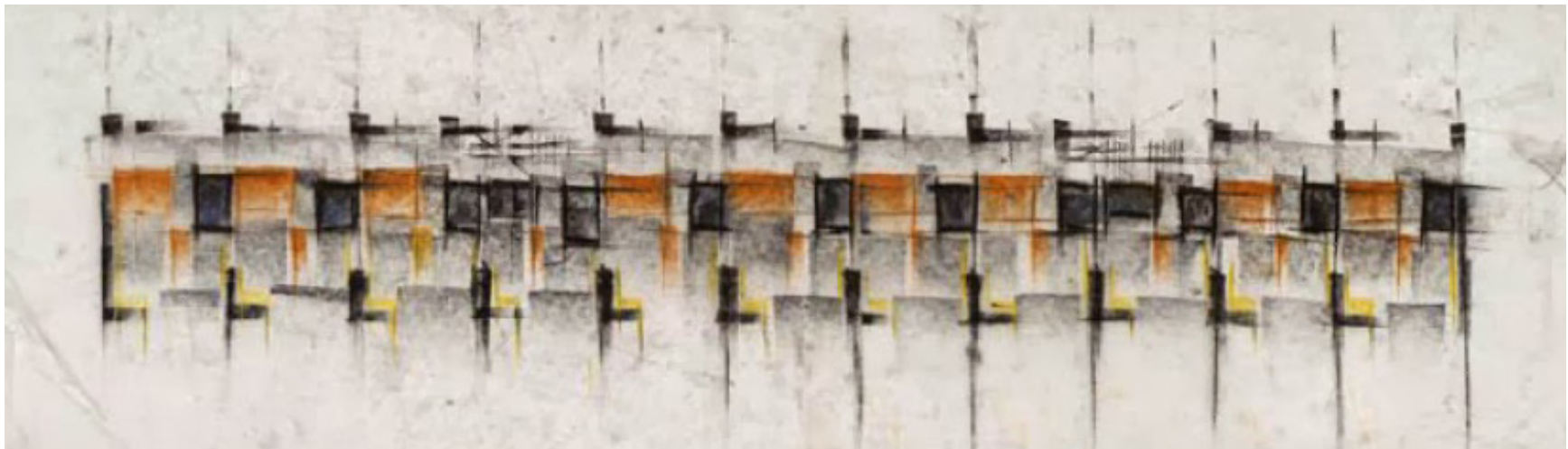


Fig. 3.34. Zumthor's schematic plan of the building, showing the private areas of each unit, as well as the connection of the less-private areas with the corridor.



Fig. 3.35. Porches, balconies, planters, and seating areas add to the vibrance and diversity of the interior street.



Fig. 3.36. Plan of the identical units and the corridor.

Units and the Single-Loaded Corridor

Example: **Home for Senior Citizens**

Architect: Peter Zumthor

Location: Chur, Switzerland

Year of Completion: 1993

Type: Senior's Home

Units: (21) 1-br units

“The entrance leads into a large common space that distributes the inhabitants into their personal living units. Instead of a hallway this space is more like a long living room which has been subtly parceled by the repetition of the apartments and by the personal furniture of the inhabitants, although in an unobtrusive way and keeping a communitarian sense in the space.”²⁵

The use of the single-loaded corridor to provide access to individual units offers opportunities for the space of the corridor to acquire a multitude of uses. In Zumthor's scheme, the corridor has a very particular width – not too wide to feel grand or impersonal, yet large enough to accommodate resting areas and spaces for small tables with chairs. The undulating pattern of the walls decreases the monotony often encountered in straight corridors. The exterior wall is broken up into large panes of glass and robust structural elements, while the interior provides a gradual transition into the private realm of the units. A counter-height window connects the kitchens of the units with the corridor, linking the semi-private areas with the semi-public and emphasising the communal aspects of the project.

²⁵ Abache, Ludwig. “Home for Senior Citizens, Chur by Peter Zumthor.” Galinsky. 2001. Accessed November 10, 2016. <http://www.galinsky.com/buildings/elderly/>.

Building and Unit Entrances

Example: **Very Social Housing**

Architects: Leth & Gori

Location: Copenhagen, Denmark

Year of Completion: unbuilt (developed in 2014)

Type: Non-Profit Housing

“The goal of the project is to create value for people by focusing on the transition from to the city to the individual dwelling. The project does this by creating a series of common spaces for meeting, interacting, resting, celebrating and playing.”²⁶

Upper units are served by broken up circulation blocks which feature a large and open staircase and generous landings and are envisioned to have many uses. As only six apartments share each circulation block, the stair and landings are semi-private spaces for use by the six families.

The entrance to each unit is set back from the rectangular shape of the landing, providing a transitional area between the semi-private landing and the private apartment. It creates an opportunity for the residents to appropriate part of the landing, having the private space of the apartment spill out onto it.

The many opportunities for pause and interaction, together with a sense of intimacy between the few families sharing the semi-private space, makes it suitable for children to play and occupy independently.

²⁶ “Very Social Housing.” *LETH & GORI*. Accessed October 15, 2016. <http://lethgori.dk/housing-project/>.

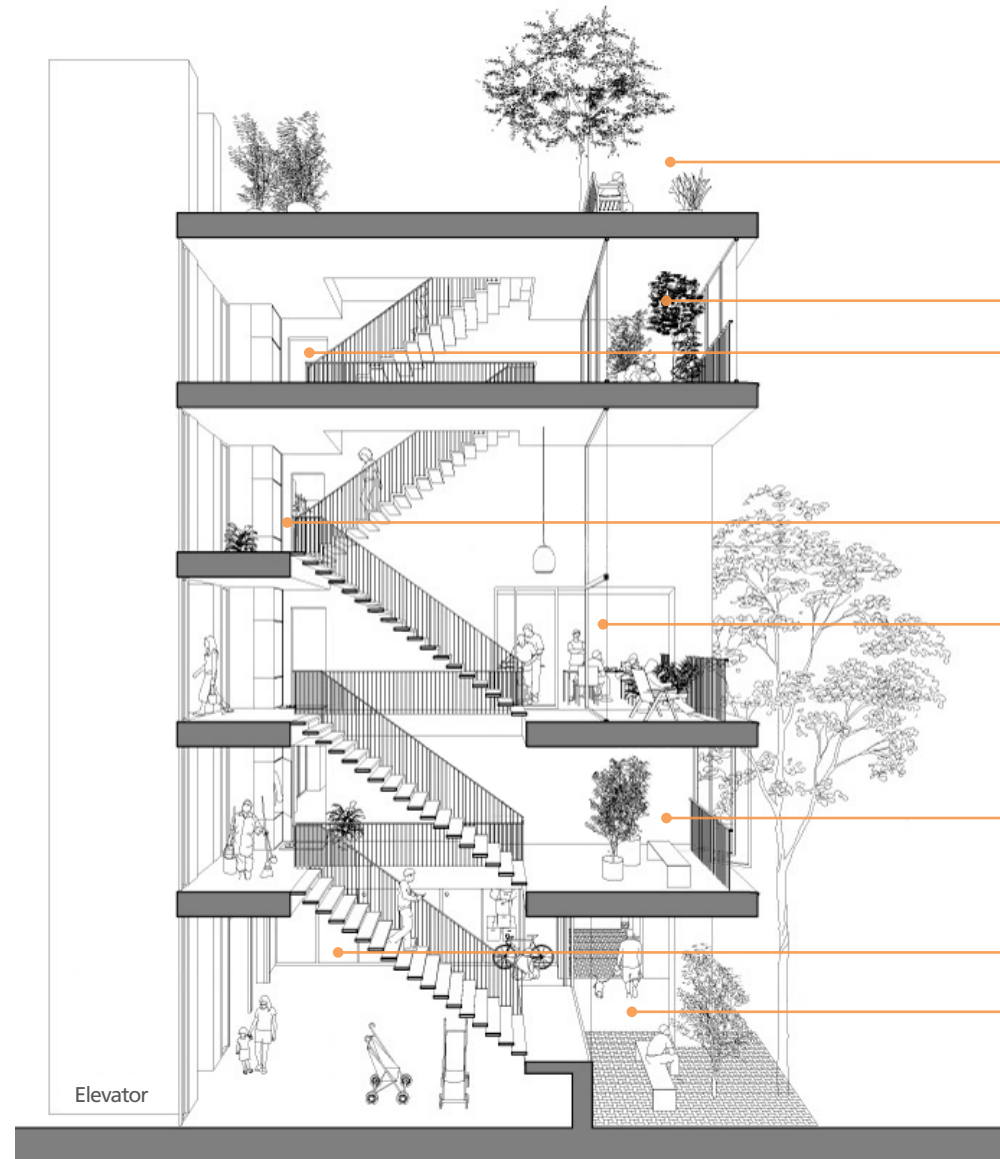


Fig. 3.37. Perspective section of common stairwell used to access upper units.

Roof garden

Winter garden



Fig. 3.38. Render of unit entrance proposal.



Fig. 3.39. Render of circulation stair with double-height common area and terrace.

Double height common area with terrace

Common area on stair landing

Storage

Entrance



Fig. 3.40. Elevation with breakdown of entrances and circulation areas providing access to units.

3.5 FLEXIBILITY AND ADAPTABILITY

In her talk during the *Standard of Dwelling* symposium, architect Meg Graham of superkül stressed that the notion of flexibility must be rooted in the design of a good home – in its massing, proportions, and sense of well-sized spaces – to ultimately allow for a multitude of uses of the different areas within a home.²⁷ The provision of just one additional room or area that could be enclosed to create a room, allows for a family to have more options in terms of a potential office or bedroom for children or other family members. Due to high square-footage costs, however, this is often hard to achieve. Nevertheless, flexibility and the ability of a home to adapt to a family’s needs and changes are vital parts of design for family housing.

In an episode which aired on Jennifer Keesmaat’s podcast *Invisible Cities* in October of 2016, she interviewed Adrian Crook, father of five children living in a two-bedroom-plus-den condo in Vancouver and author of the blog *5 kids 1 condo*. A large portion of the interview focused on how spaces with a multitude of uses allow Crook and his five children to live in a condo of just over 1000 square feet. Bedrooms are often used as work, homework,

²⁷ Graham, Meg. “Meg Graham, Superkül, and Julian Battiston, Oben Flats.” Lecture, Standard of Dwelling Symposium, University of Toronto, John H. Daniels Faculty of Architecture, Landscape, and Design, Toronto, February 26, 2016.



Fig. 3.41. The girls’ bedroom has a bunk bed in which the bottom bunk converts into a table with bench seating for four people. It is used as a gathering space and homework area.

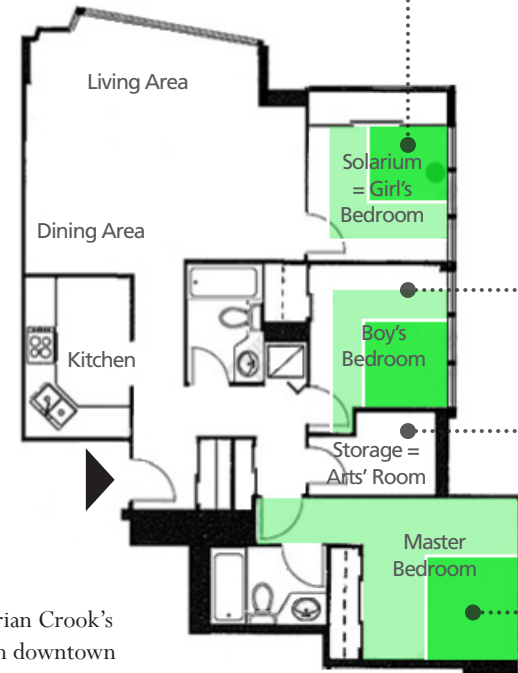


Fig. 3.42. Plan of Adrian Crook’s 1023 ft² apartment in downtown Vancouver. Crook argues that by using some of the areas for most hours of the day, he doubles the usability of those spaces, increasing the total apartment area by 153 ft² (shown in green).



Fig. 3.43. The boys' bedroom has a triple bunk bed and futon which serves as a gaming area during the day and spare bed for sleepover guests at night.



Fig. 3.44. The large storage room of the apartment was converted into an arts' room. Out of sight and with easy-to-clean surfaces, the room is used for the kids' messy activities.



Fig. 3.45. The master bedroom has a murphy bed which folds away to provide space for a desk. The room thus serves as a sleeping area at night and working area during the day.

or play areas during the day and for sleeping at night. The large en-suite storage area is also doubled as an arts' room and becomes an additional space of retreat for the children. Keesmaat parallels Crook's approach to what 21st century urbanists are trying to do in the city – to use urban spaces much more efficiently and to recognize that it is a waste of resources to create single-use spaces.²⁸ The old suburban model of separating areas by their characterization of work, sleep, or recreation is no longer sustainable and is being challenged by contemporary urban planning. The extension of these ideas into individual domestic realms presents the possibility of spatial economy through the flexibility assigned to spaces and their ability to sustain multiple uses, as the example of Crook's lifestyle demonstrates.

Further flexibility can be integrated into a design's ability to adapt to changes in the household composition of a home. In multi-family housing, integrating the possibility of a unit to respond to the dynamic growth of a family can create the potential of a home to sustain several generations. This is difficult to do in a condominium typology, as the family would have to purchase two or more units and be permitted by management combine them. If housing design envisages the potential combination or separation of units, this might be easier to achieve. Joined with a co-operative housing tenure scheme, such a design would allow families to purchase or sell back to the co-operative parts of or entire units, enabling the housing to adapt to family growth or reduction.

²⁸ Crook, Adrian. "5 Kids 1 Condo." Interview by Jennifer Keesmaat. *Invisible City*. Lossless Creative. October 29, 2016.

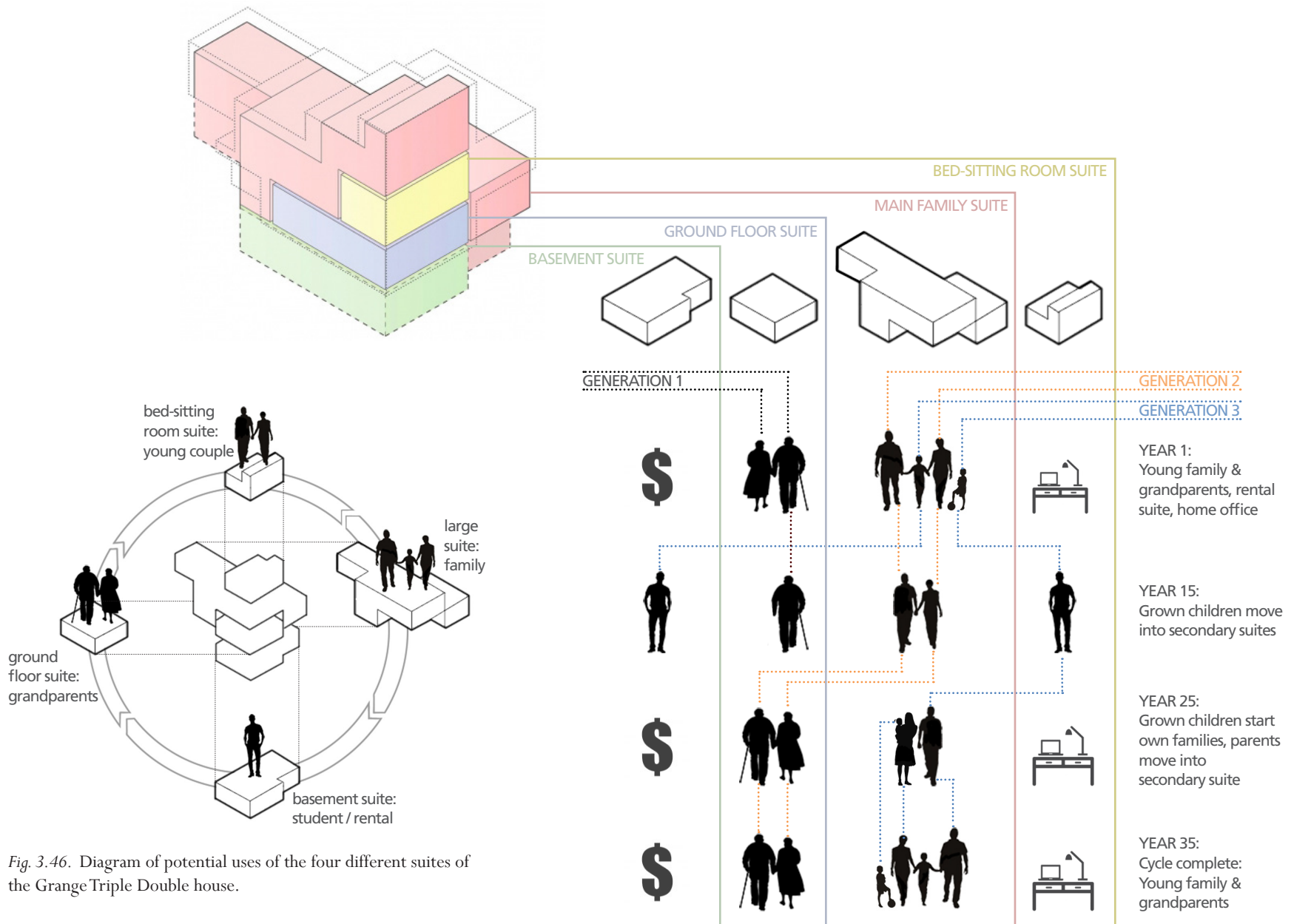


Fig. 3.46. Diagram of potential uses of the four different suites of the Grange Triple Double house.



Fig. 3.47. Exterior view of the house. Although having the appearance of a single-family home, this view shows the exterior walls of three units.



Fig. 3.48. The large family unit opens onto a large exterior courtyard. Each of the units in the house has an exterior space proportionate with the size of the unit. The ground-floor grandparents' suite also has the potential to access the courtyard.

Many Generations, One Home

Example: **Grange Triple Double**

Architects: Williamson Chong

Location: Toronto, Ontario

Year of Completion: 2016

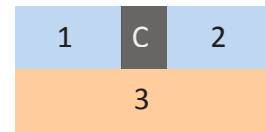
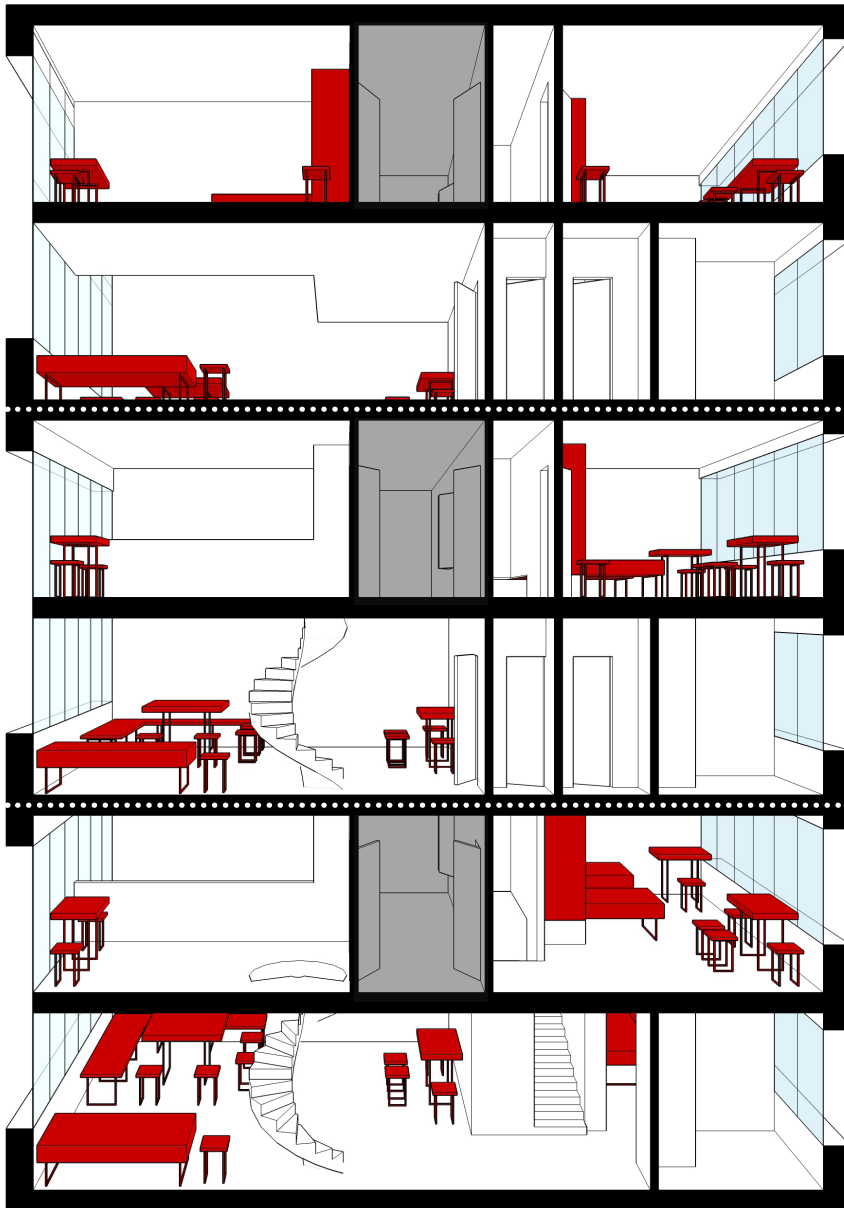
Type: Single-family house converted into multi-family home

Units: (1) 3-br, (2) 1-br, (1) studio

“The Grange Triple Double creates a unique form for owner-driven multi-unit housing that would not have been possible without the commitment of the client and the opportunities discovered in the City’s by-laws. It confirms that increased density can feel expansive, include large, outdoor spaces and embrace new ways of living in old neighbourhoods.”²⁹

The interlocking units of this single house create a diversity of separate, yet connected, suites which can be occupied by different generations of one family, or rented out for additional income. Williamson Chong worked closely with the clients to develop a housing scheme which would allow for intergenerational living, as well as the possibility of adjustment of the architecture as the needs of the different generations of the household change. The result was a series of volumes which have the ability to merge or separate, constantly changing their relationship to each other in accordance with changes in the family. Architectural elements, such as closets which can be converted to passages from one unit to the other facilitate these transitions.

²⁹ “2016 National Winner - GRANGETRIPLE DOUBLE - Toronto, ON.” *SABMag*. June 9, 2016. Accessed November 09, 2016. <http://www.sabmagazine.com/blog/2016/06/09/2016-national-winner-grange-triple-double-toronto-on/>.



3 APARTMENTS:

- 1. 15 m² - single occupancy
- 2. 25 m² - single or couple
- 3. 70 m² - family of 2 to 4



2 APARTMENTS:

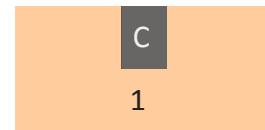
- 1. 15 m² - single occupancy
- 2. 95 m² - growing family

OR



2 APARTMENTS:

- 1. 25 m² - single or couple
- 2. 85 m² - growing family



1 APARTMENT:

- 1. 110 m² for a large family

Fig. 3.49. A cross sectional view of the different configurations of units possible in the housing scheme of Communal House A1. The removal of walls and addition of stairs creates the possibility of linking smaller units to create large ones.

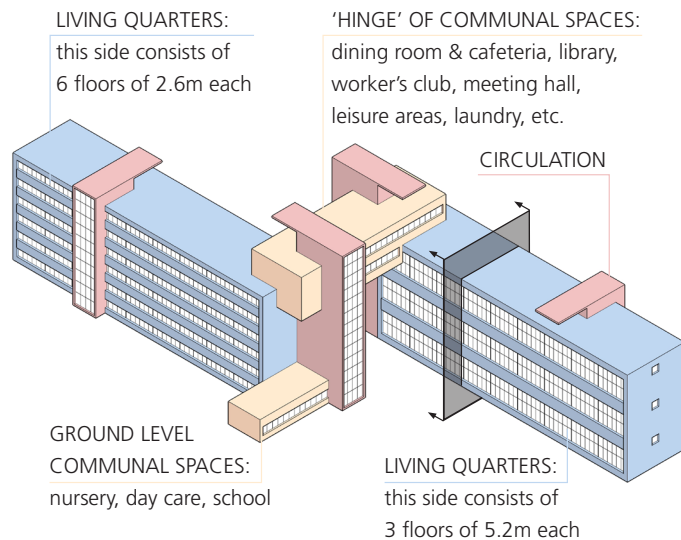


Fig. 3.50. The overall scheme of the building demonstrates the relationship between private and communal areas.

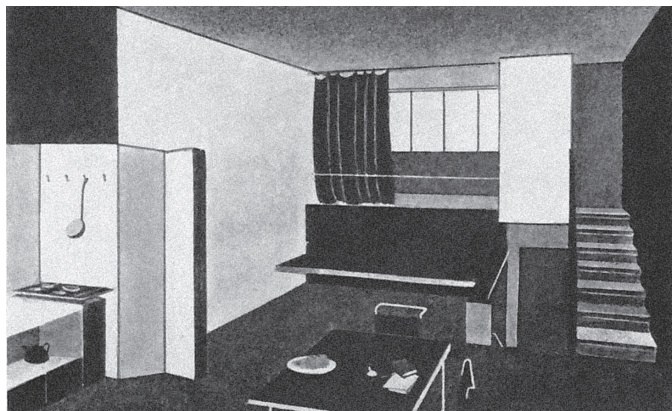


Fig. 3.51. An interior view of one of the units, demonstrating spatial division through the use of different levels.

Units Respond to Dynamic Family Growth

Example: **Communal House A1**

Architects: Moisei Ginzburg

Location: Moscow, former USSR

Year of Completion: unbuilt (developed in 1927)

Type: Communal Housing

“Each block of 3 units consists of residences for singles, couples, or a family. Their arrangement is designed for the dynamic growth of the family, and its particular necessities; which is facilitated by any one of the combinations of the 3 units.”³⁰

Moisei Ginzburg was one of the leading Constructivist architects of post-revolutionary Russia, working to define the new socialist society and create the basis for a completely new type of housing, with a large focus on communal aspects of life. He saw his designs as the foundation for the organization of the communal society and the private family. In the scheme developed for Communal House A1, he demonstrates this by attempting to give architectural form to dynamic family growth, as well as the relationship between private units and communal elements. In this regard, he is able to achieve a ‘living system,’ rather than simply a building. Many have used this term to describe his buildings, meaning that they function as a structure for the organization of family life.³¹

³⁰ Ginzburg, Moisei. “Novie Formi Sovremennogo Zhilya (New Forms of Contemporary Housing).” *SA: Sovremennaya Arkhitektura (Contemporary Architecture)*, October 1927, 130-31.

³¹ Kopp, Anatole. *Constructivist Architecture in the USSR* (London: Academy Editions, 1985).

3.6 THE TORONTO CONTEXT

Implications of Fire Safety and the OBC

Many of the projects outlined in this chapter demonstrate building elements and typologies which can be seen to have been designed for and built in European cities. When these ideas are imported into the Canadian context, they are often at odds with the fire safety portions of local Building Codes and thus have difficulty being implemented in Canadian cities. This is particularly true for elements related to building circulation and the quality of common space found in a building's stairs, landings, and corridors. European projects analyzed in this chapter, such as Darbshire Place Housing, Tango Housing, Hansaviertel Apartments, and Very Social Housing; all demonstrate open, singular staircases, seamlessly flowing through the large communal landings of the buildings, with no walls or doors separating them.

Such configurations of building circulation would currently be impossible to build in Toronto due to the exit requirements of the Ontario Building Code (OBC), required as a result of fire safety standards enforced by the National Building Code. Two clauses in the OBC in particular dictate the configuration of a building's interior circulation, which is inevitably tied to its exit requirements:

3.4.2.1. Minimum Number of Exits

Buildings intended for residential occupancy more than 2 storeys in building height, shall be served by at least **two exits**; and

3.4.4.1. Fire-Resistance Rating of Exit Separations

Every exit shall be separated from the remainder of the building by a fire separation having a fire-resistance rating not less than 45 minutes. In a building within the scope of “Residential, up to 6 storeys, Sprinklered, Combustible Construction,” referring to the new allowance for 6-storey wood construction, the fire-resistance rating of the fire separation shall not be less than 1.5 hours.³²

These two clauses offer resistance to the two aspects discussed in this chapter in the design of building circulation. First of all, staircases must be enclosed and separated from the rest of the building, meaning that they cannot form parts of landings and common areas. Secondly, the requirement of two staircases as exits for any unit above the second floor makes it difficult to avoid long corridors, as the most economical solution in this case is to place the two exit stairways at either end of a corridor. In the case of units on upper floors accessed from a single landing with no corridor, this landing must still provide two separate exit staircases. In this situation, the use of scissor stairs often facilitates the arrangement of two staircases, at least one elevator and circulation for access to units, preferably maintaining some area on the landing as communal space for the surrounding units.

32 *Ontario Building Code*. Toronto: Ministry of Housing, Buildings Branch, 2012.

Prolific Examples of Local Projects

Most multi-unit residential projects in Toronto have employed the requirements outlined by the code rather literally and the result has been the proliferation of monotonous building typologies throughout the city. The double-loaded corridor, with elevator core in the centre and fire exit stairs at either end, is the most common type for both rental apartments and condominium projects. The point tower typology has also been common in condominium projects and often uses scissor stairs to satisfy the stair exit requirement. The inevitable consequence of these types of buildings is that the resulting units are all single-sided, with the exception of corner units, which face two perpendicular directions.

Despite the monotony of building typologies in Toronto, there have been several innovative residential projects constructed in the last half century, which have been able to simultaneously meet code requirements and provide inventive solutions to the internal circulation in buildings. Most importantly, these projects prioritize the quality of building circulation spaces, treating them as important elements for the quality of life in the buildings. The resulting schemes consequently produce interesting unit configurations, often allowing through-units which face in two opposite directions.

Example: **Hydro Block**

Architects: A.J. Diamond of Diamond and Myers
(now Diamond Schmitt Architects)

Location: Grange Park, Toronto

Year of Completion: 1978

Type: Non-Profit Housing for Toronto Housing Corporation

The Hydro Block project showcases how a multi-unit, mid-density building can be integrated into a single-family home residential area and provide a diverse range of housing options for residents. High importance is given to the ability to access units from the street, as well as to having through units which face two opposite directions; in this case, west at the courtyard side and east at the street side.

The units on the top two level of the building are accessed by a single-loaded corridor. This part of the building acts as an interior street, a continuous strip of windows maintaining visual contact with the urban street below. Entrances to the units on the fourth and fifth floors are staggered and imitate the entrances to the ground-accessed unit below. The corridor also provides access to an enclosed communal terrace, found in the central part of the building. The terrace acts as a communal room for the residents of the building and extends into the courtyard, its circular shape and glazing allowing for peripheral views of the building's exterior courtyard.

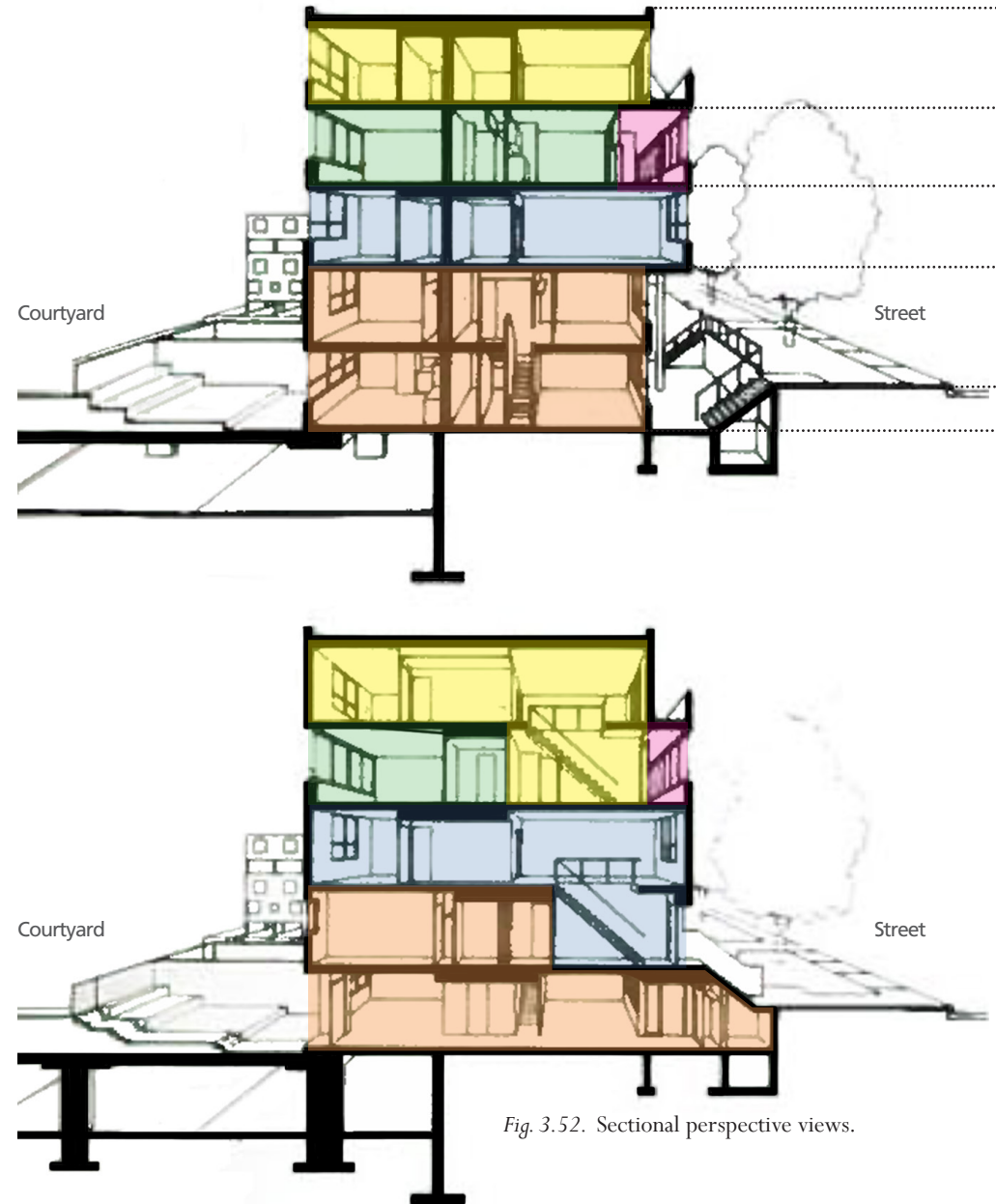


Fig. 3.52. Sectional perspective views.



Fig. 3.53. Street facade.



Fig. 3.54. Courtyard facade.



Fig. 3.55. View of third floor common area and its connection to the courtyard.

- One bedroom through units
- One bedroom single-sided units
- One bedroom, ground-accessed, through units
- Three-bedroom, ground-accessed, through units
- Single-loaded corridor
- Common area
- Exit staircases

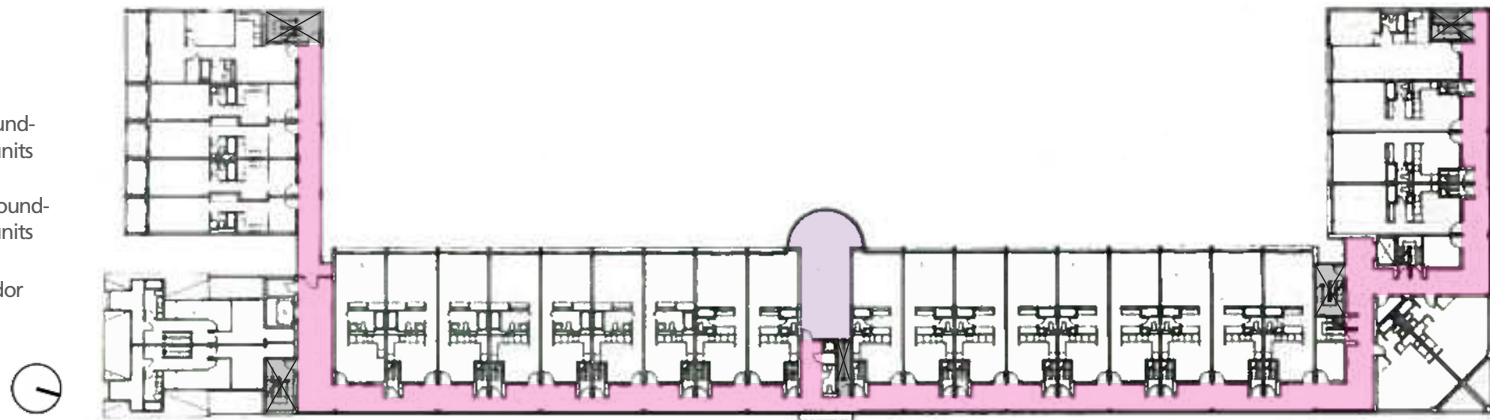


Fig. 3.56. Building third floor plan.

Example: **Twenty Niagara**

Architects: Peter Clewes of Wallman Clewes Bergman Architects (now ArchitectsAlliance)

Location: King West Village, Toronto

Year of Completion: 1998

Type: Ownership Condominium

The units at Twenty Niagara were intended to feel and operate as a collection of single-family homes.³³ All units face at least two opposite directions, with half of them additionally facing a third direction; allowing for optimal light and ventilation. Access to the units is broken up into two separate elevator cores; and even though there are only four units per floor, each pair shares its own elevator and small landing.

In order to comply with code requirements, two exit staircases are placed at the northwest and southwest corners of the building with an exterior corridor running along the entire west side on each floor. All units have access to the corridor, and consequently two different exit options. It distinguishes the west façade, prevents the placement of balconies, and creates some shading for the windows. This is compensated by ample balconies and terraces on other sides of the units, while the 10-foot ceiling height ensures that the west side receives light despite the overhang of the exterior corridor.

33 Warnica, Richard. "Why Is Toronto's Condo King Peter Clewes so Worried about the Emerging Shape of Downtown?" National Post. March 06, 2015. Accessed December 07, 2016. <http://news.nationalpost.com/toronto/why-is-torontos-condo-king-peter-clewes-so-worried-about-the-emerging-shape-of-downtown>.



Fig. 3.57. West building facade, showing exterior corridor on each floor.

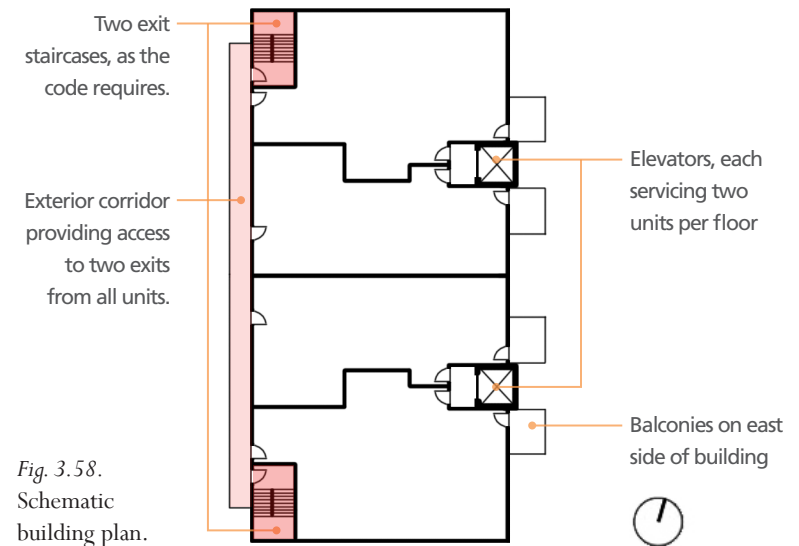


Fig. 3.58. Schematic building plan.



Fig. 3.59. West building facade, showing exterior bridges on every second floor.

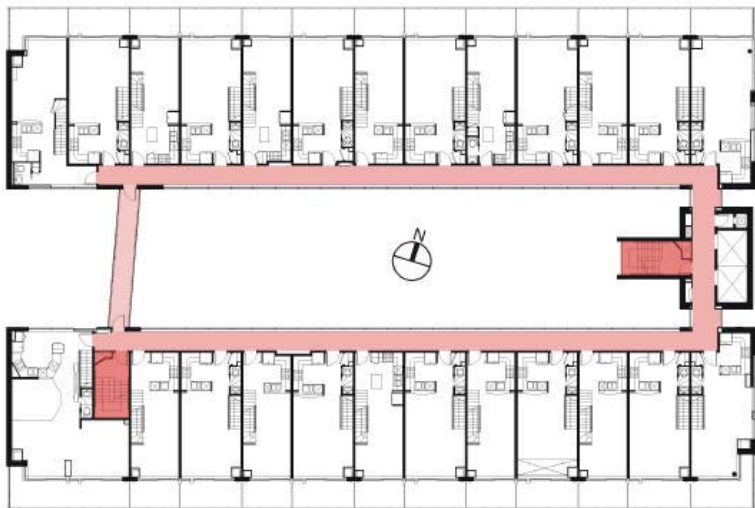


Fig. 3.60. District Lofts building plan, showing fire egress strategy.

Example: **District Lofts**

Architects: Peter Clewes of ArchitectsAlliance

Location: Entertainment District, Toronto

Year of Completion: 2001

Type: Ownership Condominium

In the District Lofts project, Clewes further explores the concept of creating units which resemble single family homes, rather than typical apartments. All units in this building are double height through units, facing two opposite directions. Every second floor provides access to 25 units, with a single elevator core on the east side of the building. The fire egress strategy employed here is a single-loaded corridor which forms a loop around the courtyard of the building. As the west side of the courtyard is open, the corridor in this portion takes the shape of an exterior bridge, connecting the north and south slabs of the building. This ensures that all units have access to two different means of egress: a staircase near the elevator core, and another one embedded into the southwest corner unit.

With each unit occupying a double-height space and facing two directions, opportunity is created for deep balconies which do not significantly overshadow the units below them. The balconies face outward, opening onto the street, and acting as an elevated porch from which to observe the busy street below. The opposite side of the unit faces inward, onto the courtyard, with characteristics of intimacy and community, in this way acting as a communal backyard of all units.

Example: **150 Dan Leckie Way**

Architects: KPMB

Location: Bathurst Quay, Toronto

Year of Completion: 2011

Type: Toronto Community Housing (Rental Assistance)

KPMB's project for the Toronto Community Housing Corporation (TCHC) is located in Toronto's rapidly developing railway lands area and at first glance may appear similar to its surrounding condominium towers. It does share with them the tower-and-podium typology; however, the internal design of the podium distinguishes itself in the manner in which it provides access to the units, as well as the diversity of unit types implemented in its configuration.

The project takes inspiration from Hydro Block in providing street-level access to rows of units on two different levels. The lower ground-related units are partially submerged, with a private front yard several steps lower than the street level. The upper ground-related units are accessed by a flight of stairs from the street and are through-units, also accessible from the courtyard at the opposite side.

The single-loaded corridor at the podium's seventh level is also similar to the upper-level configuration of Hydro Block. In this project, it provides access to units on three different levels, with the units on levels above and below the corridor thus being able to be through units.

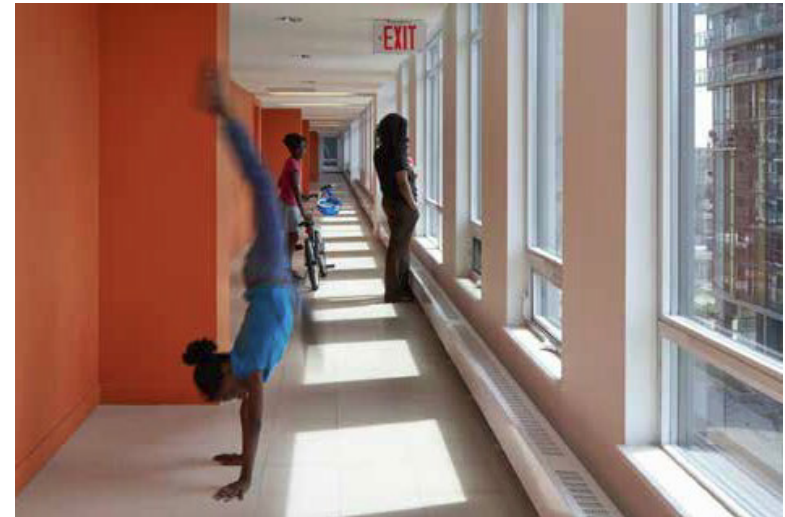


Fig. 3.61. Interior view of the single-loaded corridor on the 7th level of the building's podium.

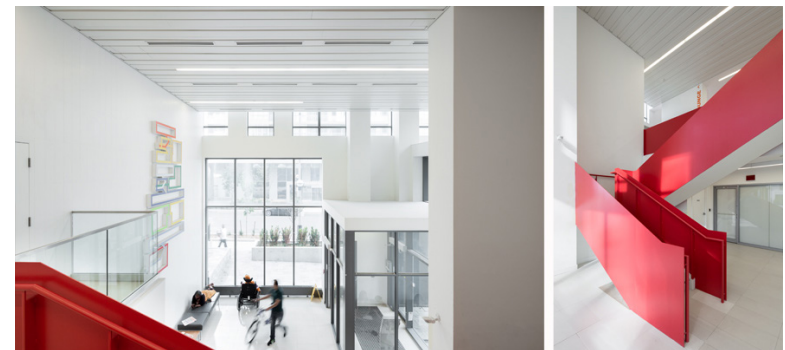


Fig. 3.62. Building entrance and open staircase, using a similar colour scheme for all circulation elements.

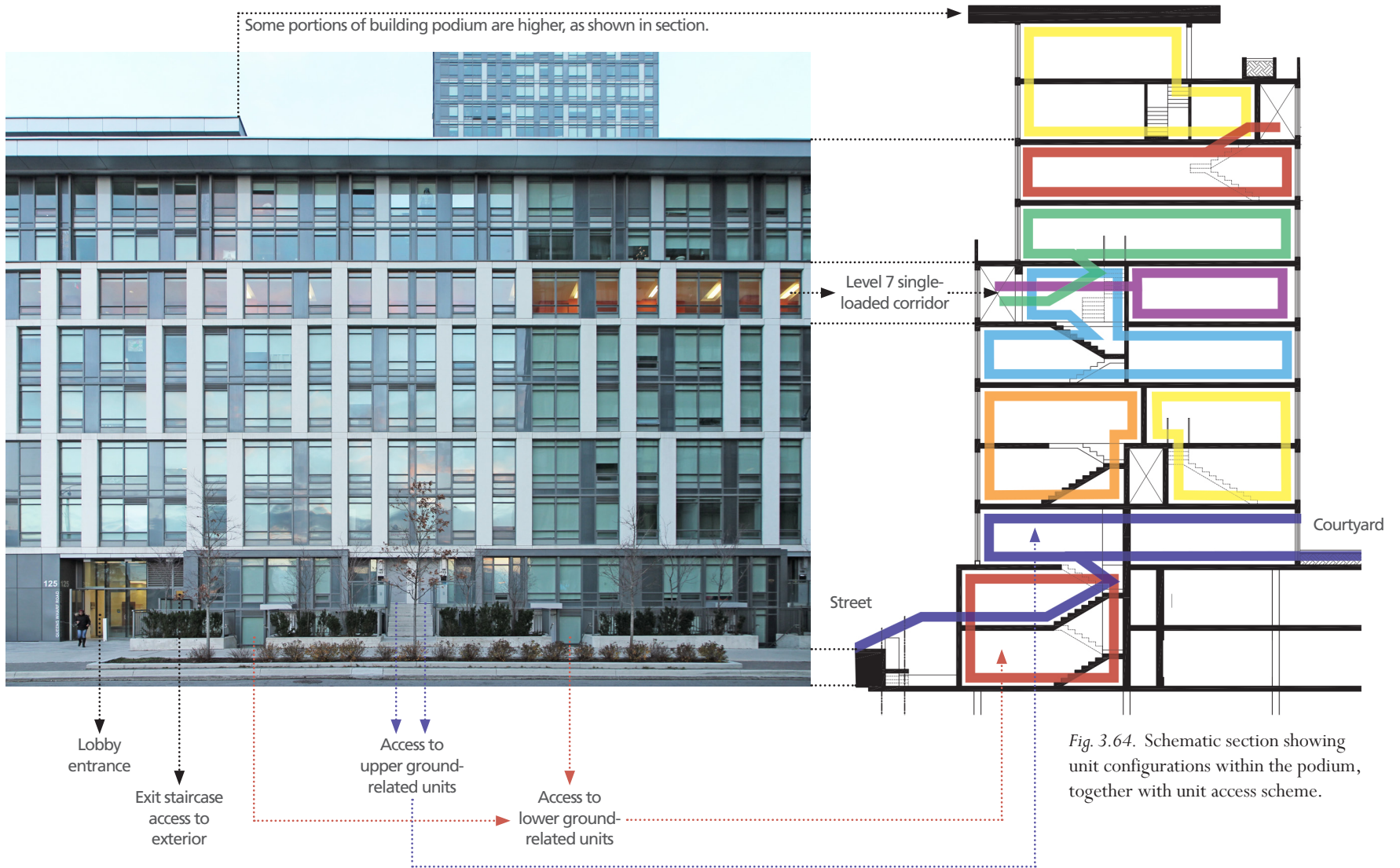


Fig. 3.63. Elevation of podium with depictions of access points to various units.

Residential Construction in Toronto

The projects described in this section demonstrate that while the OBC poses certain limitations which do not exist in other countries, there is possibility and opportunity for clever solutions. It is unfortunate that most multi-unit residential developments in the city do not explore these possibilities, but rather choose to follow the standard course of action, often blatantly using the code in the absolute most cost-efficient manner. This has created structures which do not address many social needs of their occupants, and are especially unsuitable for families, who greatly rely on the home unit as the foundation around which family life and its routines revolve.

The design portion of this thesis is an attempt to examine the possibility of designing a building compatible with family life within the constraints of the laws and codes governing construction in Toronto. It takes the examples set by the local precedents outlined in this section and attempts to employ a similar rigour in pursuing solutions within Toronto's building constraints. In this way, it tries to employ the qualities which were identified in the international precedents and adapt them to the Toronto context.

CHAPTER 4

DESIGN SYNTHESIS OF A HOME FOR URBAN FAMILIES

This chapter combines the research from the previous chapters to propose a design solution for family housing in Toronto. It responds to the questions posed in the chapter 1 by using the tools and strategies outlined in chapters 2 and 3.

4.1 CITY: TORONTO'S CARPARKS

4.2 SITE: BLOOR WEST VILLAGE

4.3 BLOCK: CONFIGURATIONS

4.4 BUILDING: AN URBAN HOME

4.5 UNIT: A FAMILY HOME

4.6 A HOME FOR URBAN FAMILIES



4.1 CITY: TORONTO'S CARPARKS

Land Potential of Green P Carparks

Green P, officially known as the Toronto Parking Authority, is a public corporation owned by the City of Toronto and is the largest municipal parking operator in North America. It provides more than 20,000 off-street spaces in a total of 160 locations, with only 20 of these locations characterized by parking garages.¹ The remaining 140 locations are surface lots, often providing parking behind retail along main avenues, close to attractions such as community or sports centres, or near subway stations.

As Toronto strives to improve the quality of its urban life and environment, reducing car dependence has become one of the main objectives of city planners and officials. Many strategies outlined in the transportation component of the City of Toronto Official Plan focus on creating less need to own or use an automobile within the city, such as competitive public transit service, incentivizing walking and cycling, and the addition of suburban parking beside transit nodes.² Reduced car dependence would also bring the

Fig. 4.01. Green P surface parking lot, located at the intersection of Durie Street and Bloor Street West, in Toronto's Bloor West Village.

1 "About Green P." Green P Parking's for You. Accessed September 17, 2016. <http://parking.greenp.com/about/what-is-the-tpa.html>.

2 *Toronto Official Plan*. City Planning Division, City of Toronto. Chapter 2. 27.

advantages of liberating the urban land which is currently being used for parking. Surface parking lots in particular present themselves as voids in the urban fabric. They inhibit the use of the land for other productive means, while the large areas they occupy decrease the walkability of adjacent neighbourhoods.

It is the position of this thesis that surface parking lots in the City of Toronto currently present a lost potential of alternate land uses. The fact that these lots are part of municipally-owned land presents the City with the opportunity to independently utilize these pieces of urban land. This would require collaboration between different departments, primarily the Toronto Parking Authority and the City Planning Division, but is facilitated due to both being municipal entities. Surface parking lots, if not possible to eliminate, should be moved to underground facilities, freeing up the land which they currently occupy.

30 Carparks Selected for Development

This thesis will explore the possibility of redeveloping land currently being used as surface parking lots into much-needed housing. For this purpose, of the 140 surface parking lot locations throughout Toronto, 30 were selected due to their similar characteristics. These lots are mostly rectangular in shape and occupy an area of approximately 3,600 m² each. Combined, the lots take up 10.6 hectares of land throughout Toronto. In comparison, this is roughly half of the area which was developed in the 1970s as the St. Lawrence Neighbourhood. As the city grows in population and densifies, such large areas of land as had been found for the St.

30 total

SURFACE PARKING
LOTS SELECTED FOR
DEVELOPMENT

12 ha

TOTAL COMBINED
AREA OF SELECTED
PARKING LOTS

4,000 m²

AVERAGE AREA OF
EACH PARKING LOT

85 x 45 m

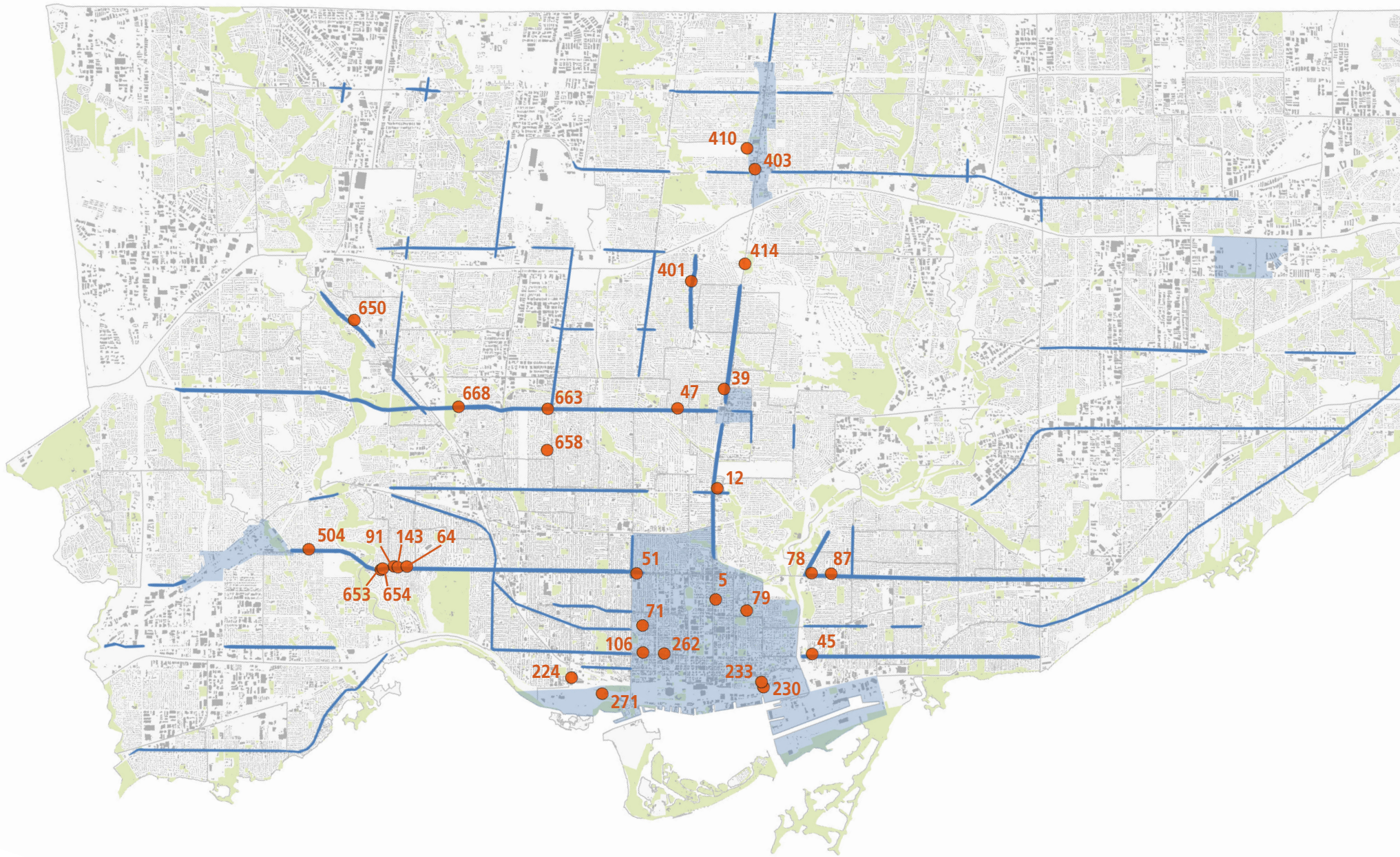
AVERAGE DIMENSIONS
OF EACH PARKING LOT

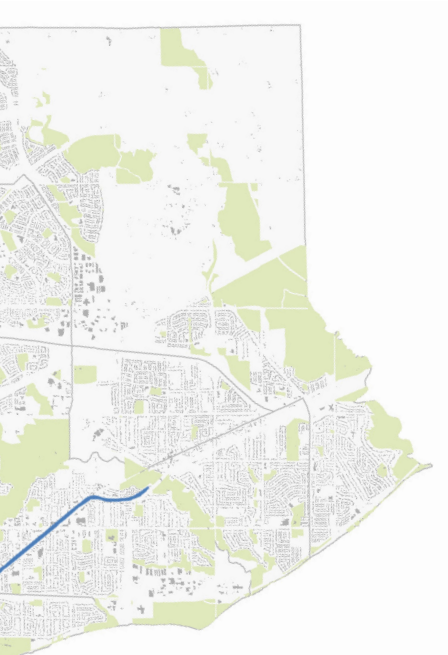
130 cars

AVERAGE CAPACITY OF
EACH PARKING LOT

Fig. 4.02. Views of all 30 parking lots selected for development and their respective Green P numbers.







17 lots

OF THE 30 SELECTED
ARE LOCATED ON
AVENUES

10 lots

OF THE 30 SELECTED
ARE LOCATED IN
URBAN CENTRES

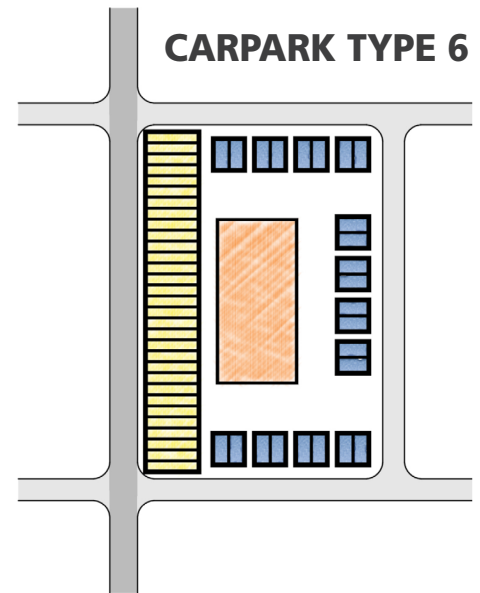
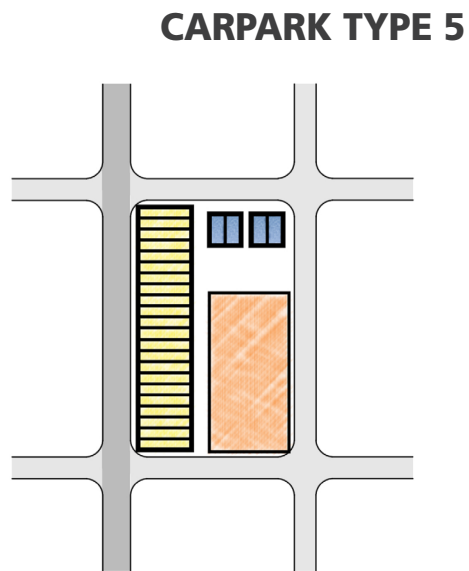
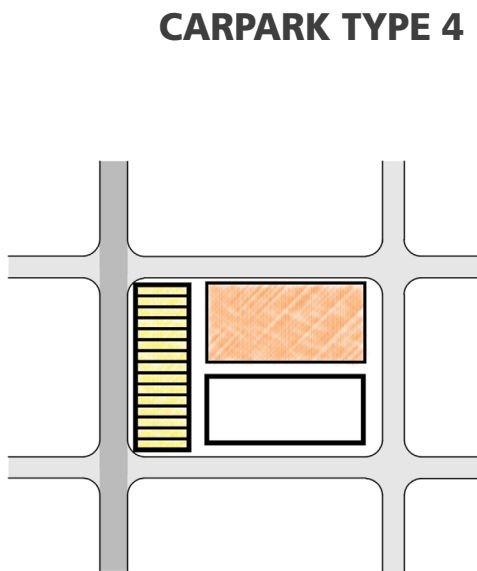
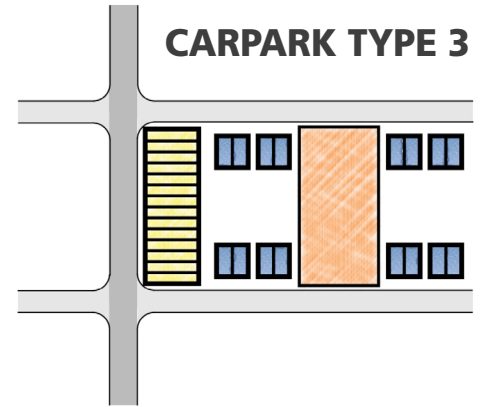
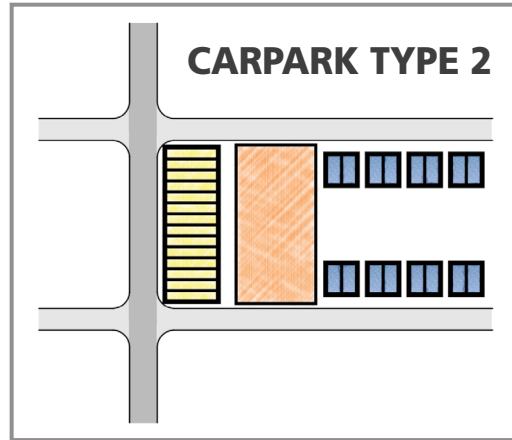
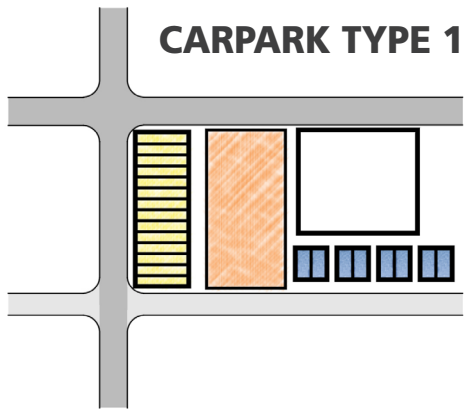
- URBAN GROWTH CENTRE AREAS
- AVENUES DESIGNATED FOR MID-RISE DEVELOPMENT
- ## 30 SELECTED SURFACE PARKING LOTS AND THEIR ASSIGNED GREEN P NUMBER

Fig. 4.03. Map showing locations of 30 selected parking lots in relation to urban centres and avenues designated for mid-rise development.

Lawrence neighbourhood become increasingly hard to find. It thus becomes important to consider smaller parcels, such as the ones provided by the surface parking lots, for incremental development throughout the city. The similar characteristics of the selected lots allows for a general strategy to be applied and repeated throughout, with minimal modification.

Location and Opportunity of the 30 Lots

When located on a map of Toronto, the 30 selected lots can be seen to occupy areas critical to the growth and development of the city, especially along the two main subway corridors. This is mostly because after the ‘cut and cover’ construction method was implemented to build the subway, parcels of land were left empty, often with the subway tunnel running not far beneath the surface. With few options for construction and the possibility of parking for the use of those using the subway, parking lots were a logical option for these areas. Currently, however, these parcels are located along newly established key corridors - they are well connected to the rest of the city and are part of an increasingly more vital and diverse urban environment. Of the 30 selected lots, 10 lots are located in urban centres defined in the Places to Grow Plan, primarily downtown Toronto, the Yonge-Eglinton Centre, and North York Centre, while 17 lots are located along avenues designated for mid-rise development in the Avenues and Mid-Rise Buildings Study. The locations of these lots signify that they are occupying land in areas which have been designated as having great potential for development and intensification.



The selected lots therefore display potential in two areas. Firstly, they are part of a system of city-owned land, which can be re-distributed within the municipality to be utilized by the public sector for other means. Given the high demand for affordable housing in the city, the most logical would be residential use. Secondly, the lots are in areas which are well-connected and in the process of revitalization, again re-enforcing their suitability as sites for residential development.

Parking Lot Typologies

The 30 selected lots display many similarities in shape and size. They can be grouped into 6 main typologies in terms of their relationship to the avenues, retail and surrounding single-family home neighbourhoods. This relationship is important as it will determine the way in which any potential development on the parking lot sites will interact with the immediate surroundings. Understanding the differences in the typologies will also facilitate the application of a project strategy developed for one particular site, to the other sites.

The most common typology found throughout the 30 selected lots is Carpark Type 2, in which the parking lot is located between retail on a main avenue and a single-family home neighbourhood behind. It has access from two local residential streets and is primarily used by those working at or visiting the main avenue shops and services. Development on a parking lot of this typology must simultaneously respect the low scale and density of the residential neighbourhood on one side, while enriching the vibrant and



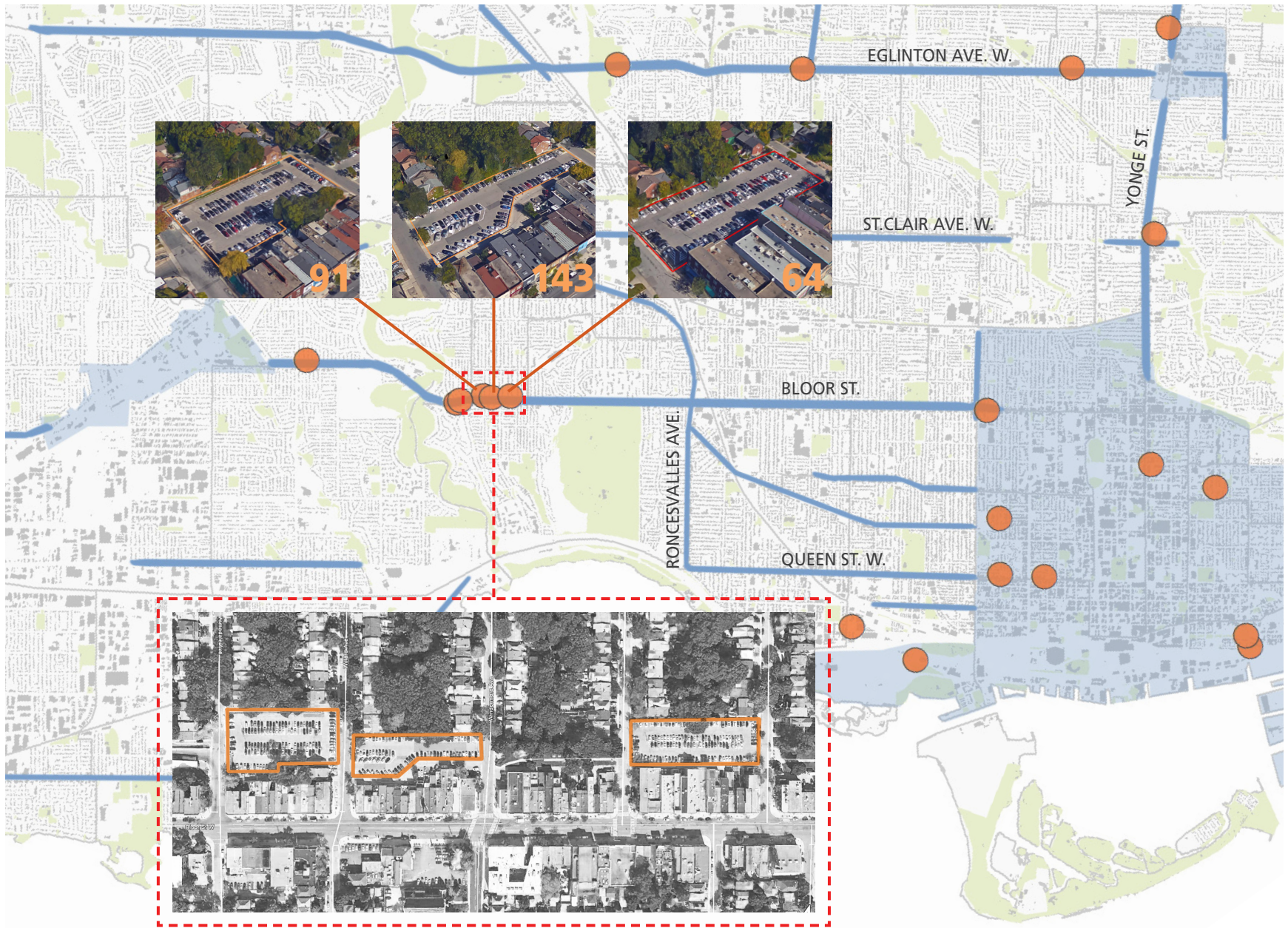
Fig. 4.04. Schematic representation of 6 main carpark typologies found within the 30 selected lots.

diverse streetlife of the main avenue and its retail. The possibility to extend the development to include the existing retail buildings is also an attractive option to be considered. The selected site for experimentation will work with this particular parking lot typology and its conditions.

Site Selection for Experimentation

The area selected for experimentation of development is comprised of three consecutive parking lots in Bloor West Village. The advantage of having three lots together gives the possibility of studying various options and trade-offs which could be implemented. This site also presents the challenge of building over the Bloor subway line, which runs beneath these three lots and is the reason that they are located precisely in this area. Through site analysis which included counting steps at the two subway stations bordering the site, it was determined that the level of the top of the subway tunnel is a minimum of 8 metres below grade at the site. This would allow construction of a medium-sized building, as well as at least one level of parking below.

Fig. 4.05. Map and diagram showing the site chosen for experimentation.



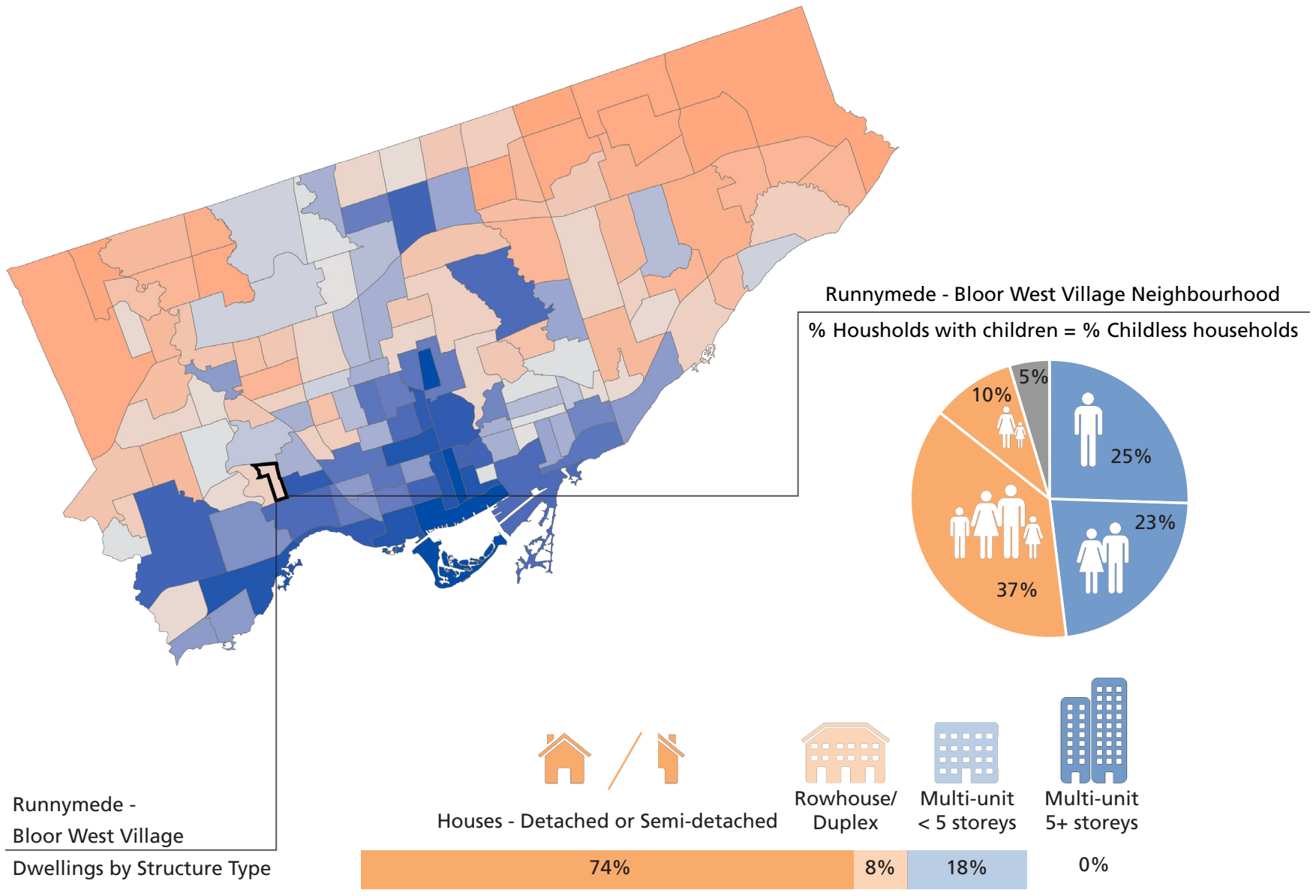


Fig. 4.06. Social and dwelling profiles of the Runnymede- Bloor West Village neighbourhood.

4.2 SITE: BLOOR WEST VILLAGE

Demographic Profile

Bloor West Village is very characteristic of low-density residential neighbourhoods in Toronto. The main dwelling type in this neighbourhood is the single-family home, with detached and semi-detached houses making up 74% of all dwellings. The average price of one of these homes in Bloor West Village was recorded at \$1,004,862 in Fall of 2015,³ making them financially inaccessible to a growing number of families.

Due to a high number of single-family homes in this area, there is a lot of existing infrastructure available for families and children. The area is located between two major green spaces, High Park to the East and the many parks along Humber River to the West. Schools, kindergardens, libraries, and community centres are also abundant in the neighbourhood, making it suitable and desirable for families with children. An 850-meter walking radius around the site chosen for experimentation can be seen to include many neighbourhood amenities which are beneficial to families.

³ Manza, Chris, and D'Arcy McGovern. "Exclusive: How Much Are Homes in Toronto Neighbourhoods?" *The Globe and Mail: Real Estate*. 2015. Accessed October 01, 2016. <http://www.theglobeandmail.com/real-estate/exclusive-how-much-are-homes-in-toronto-neighbourhoods/article24060725/>.

Neighbourhood Amenities within 850m Radius



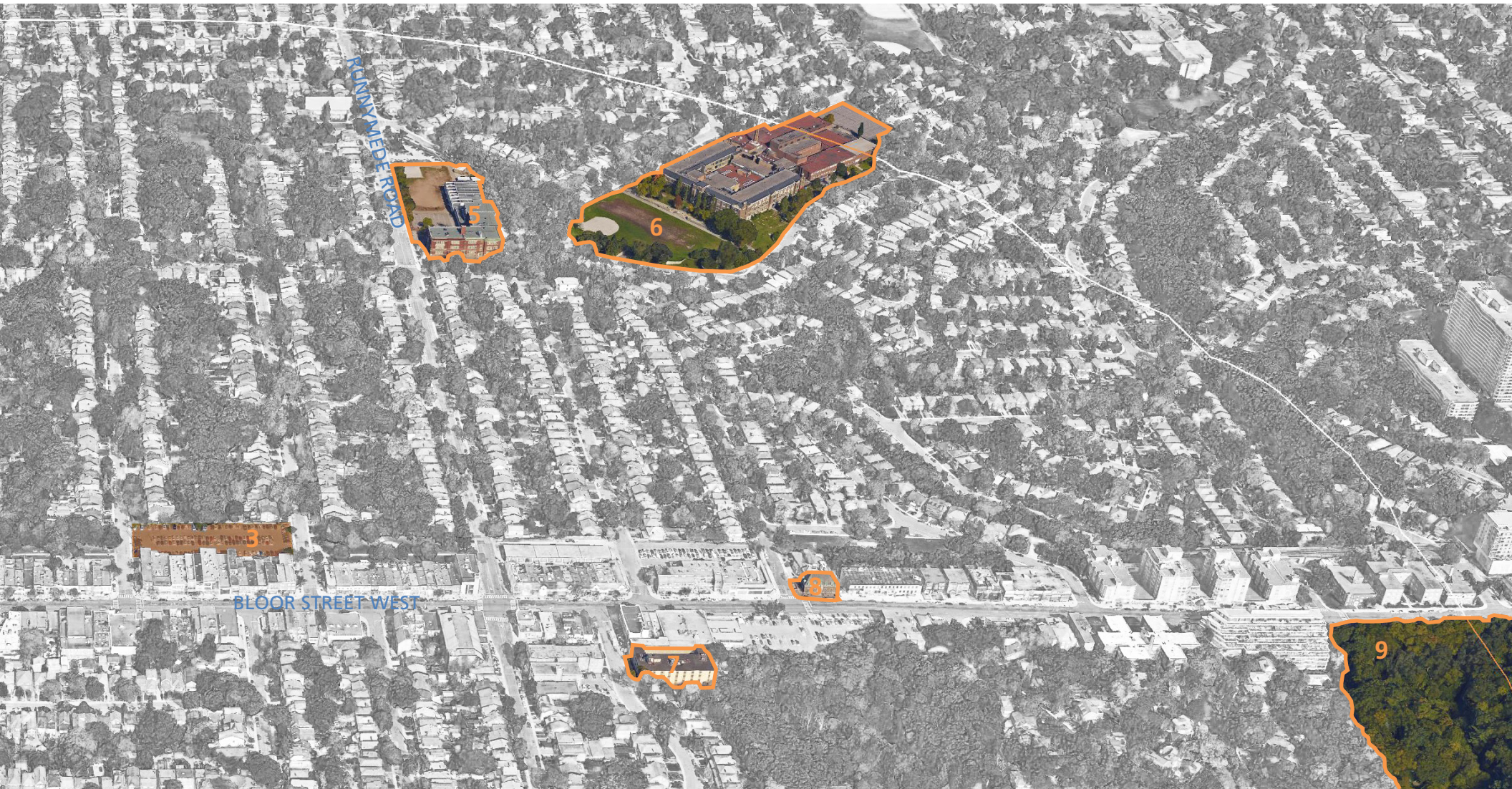


Fig. 4.07. Aerial view of the site in relationship to its surrounding neighbourhood.

1, 2, 3 Parking lots on Armadale Avenue, Willard Avenue, and Durie Street.



4 St. Pius X Catholic School: junior kindergarden to grade 8 & childcare



5 Runnymede Junior and Senior Public School: junior kindergarden to grade 8 & childcare



6 Western Technical Commercial School, Ursula Franklin Academy, & The Student School: grade 9 to12 & various sports programs



- 7 HumberSide Montessori School:
programs for children ages 2 to 14



- 8 Toronto Public Library:
Runnymede Location



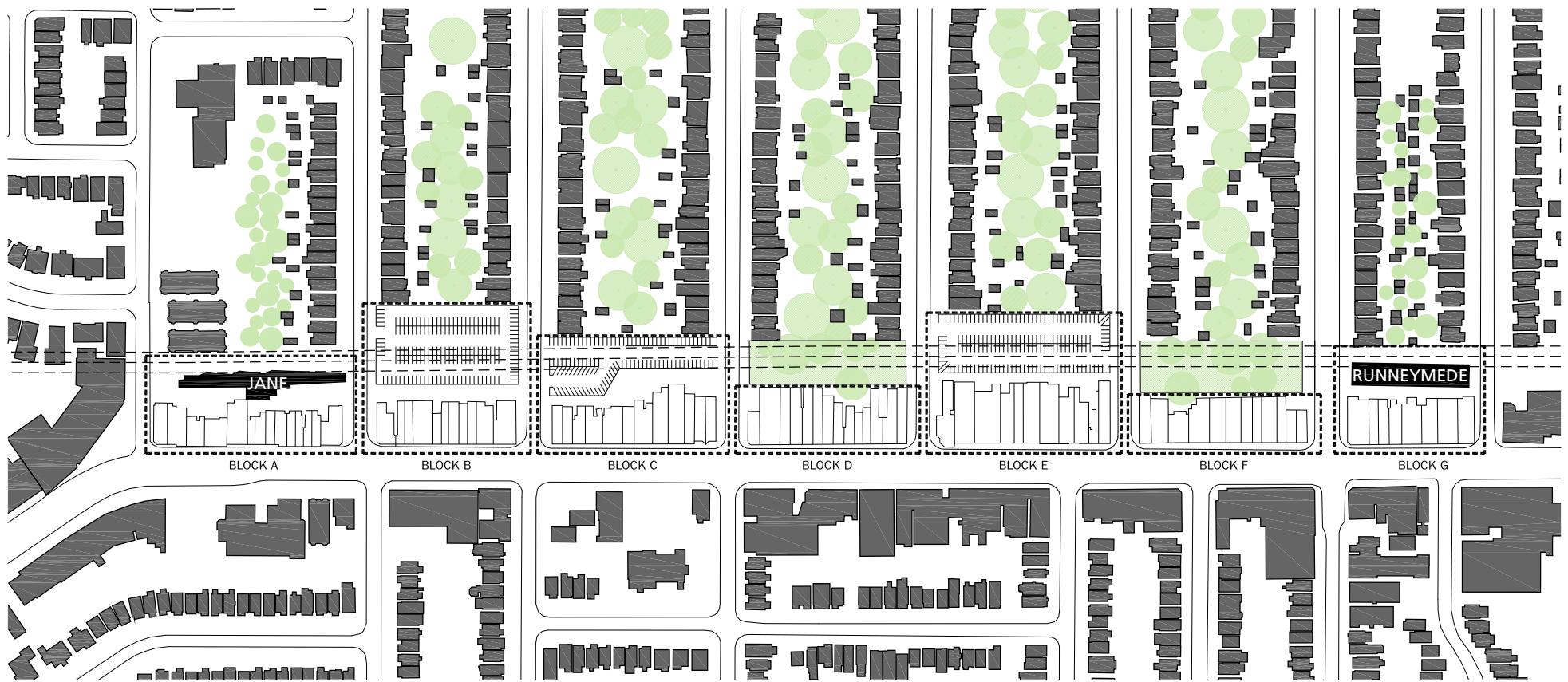
- 9 High Park: Toronto's largest public park with zoo, playgrounds,
greenhouses, sports facilities, hiking trails



- 10 Parks along Humber River: hiking and biking trails, tennis
courts, ball diamond, access to river, fishing



Fig. 4.08. Photographs of neighbourhood amenities .



SITE PLAN
SCALE 1:3500

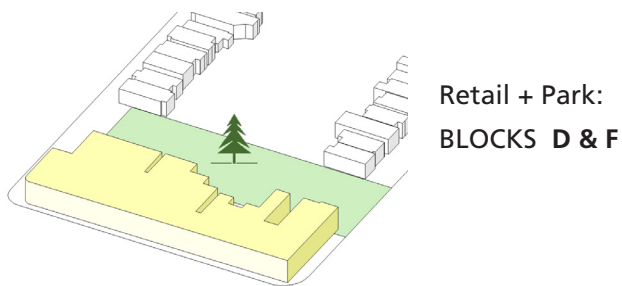
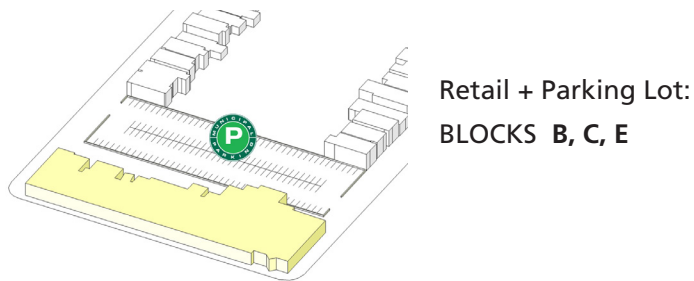
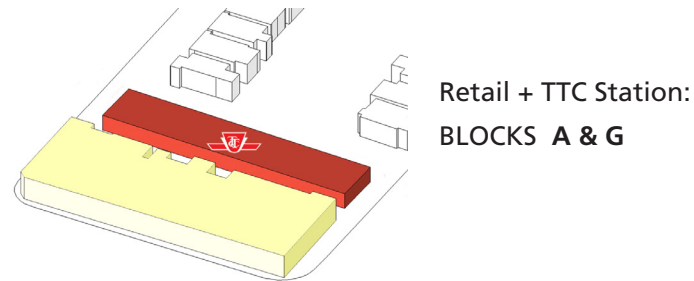


Fig. 4.09. Site plan drawing above, and to the right, diagrammatic representation of block typologies found on the site.

4.3 BLOCK: CONFIGURATIONS

Typical Block Typologies

The three parking lots situated along Bloor Street West, between Jane and Runnymede subway stations, form part of a series of block typologies with similar characteristics. Each block is defined by a strip of retail along Bloor Street, with an infill lot to the north of it. This infill lot is either occupied by a subway station, a parking lot, or a small parkette. All three types of infill lots belong to the municipality of Toronto, although to different jurisdictions: the subway stations to the Toronto Transit Commission (TTC), the parking lots to the Toronto Parking Authority, and the parkettes to the Parks, Forestry & Recreation Division. This combination gives the municipality control of how these blocks and infill sites may be potentially used and developed. The retail portions to the south of each of the lots provide further opportunities for a partnership between the municipality and the private sector in the redevelopment of these sites. Bloor West Village has a very strong retail character and was the first Business Improvement Area (BIA) to be established in Toronto. It can be assumed that the private businesses forming part of the selected blocks may be interested in a redevelopment strategy for the neighbourhood.



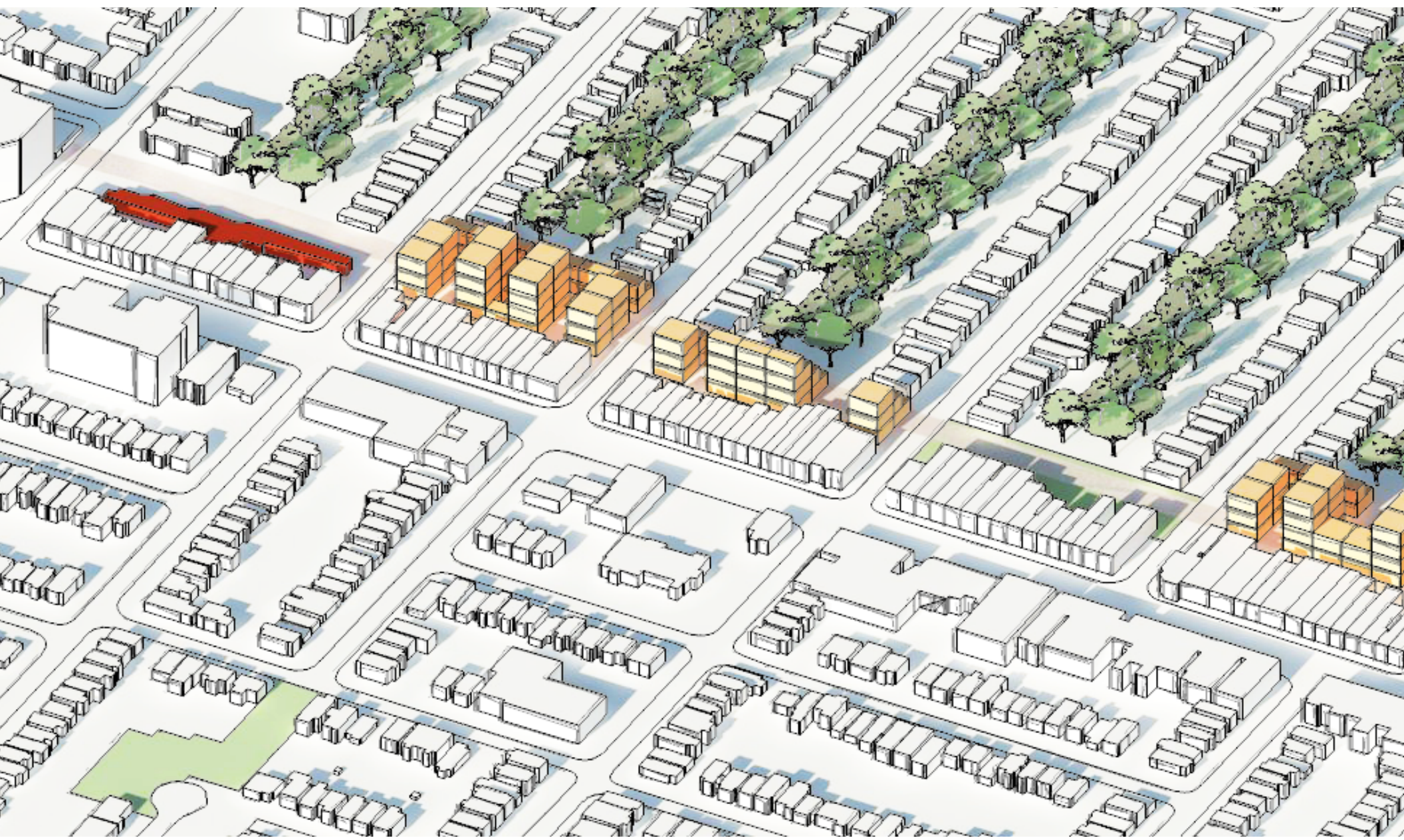


Fig. 4.10. Site scenario employing only Strategy 1.

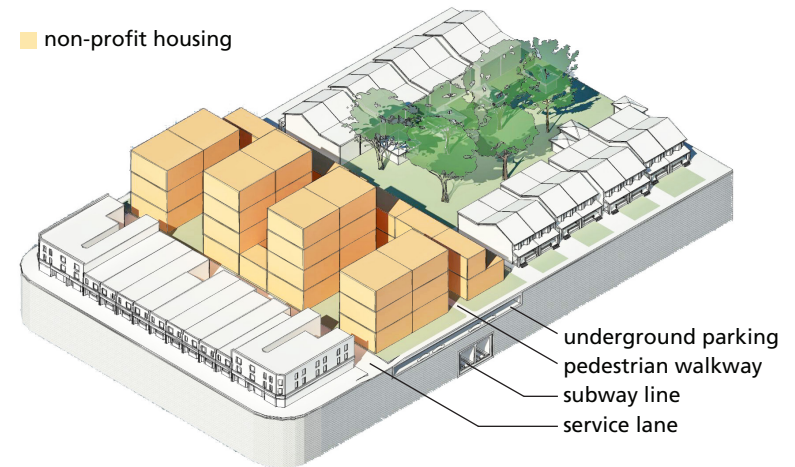


Fig. 4.11. Diagram of Strategy 1.

Strategy 1: Build on Parking Lot Only

The public sector has the option of developing the parking lot infill sites into non-profit housing. In this scenario, the subway station and parkette sites would be left untouched, as would all the retail on these blocks. The residential developments would require funding from the provincial and federal governments, or the non-profit sector. In the framework of this thesis, it is proposed that these sites be developed as co-operative housing, thus involving the participation of the municipality in the provision of land, the upper levels of government in financial aid, and the co-operative sector in the initiative and partial funding. Provision of land by the municipality can take the form of establishing a community land trust.

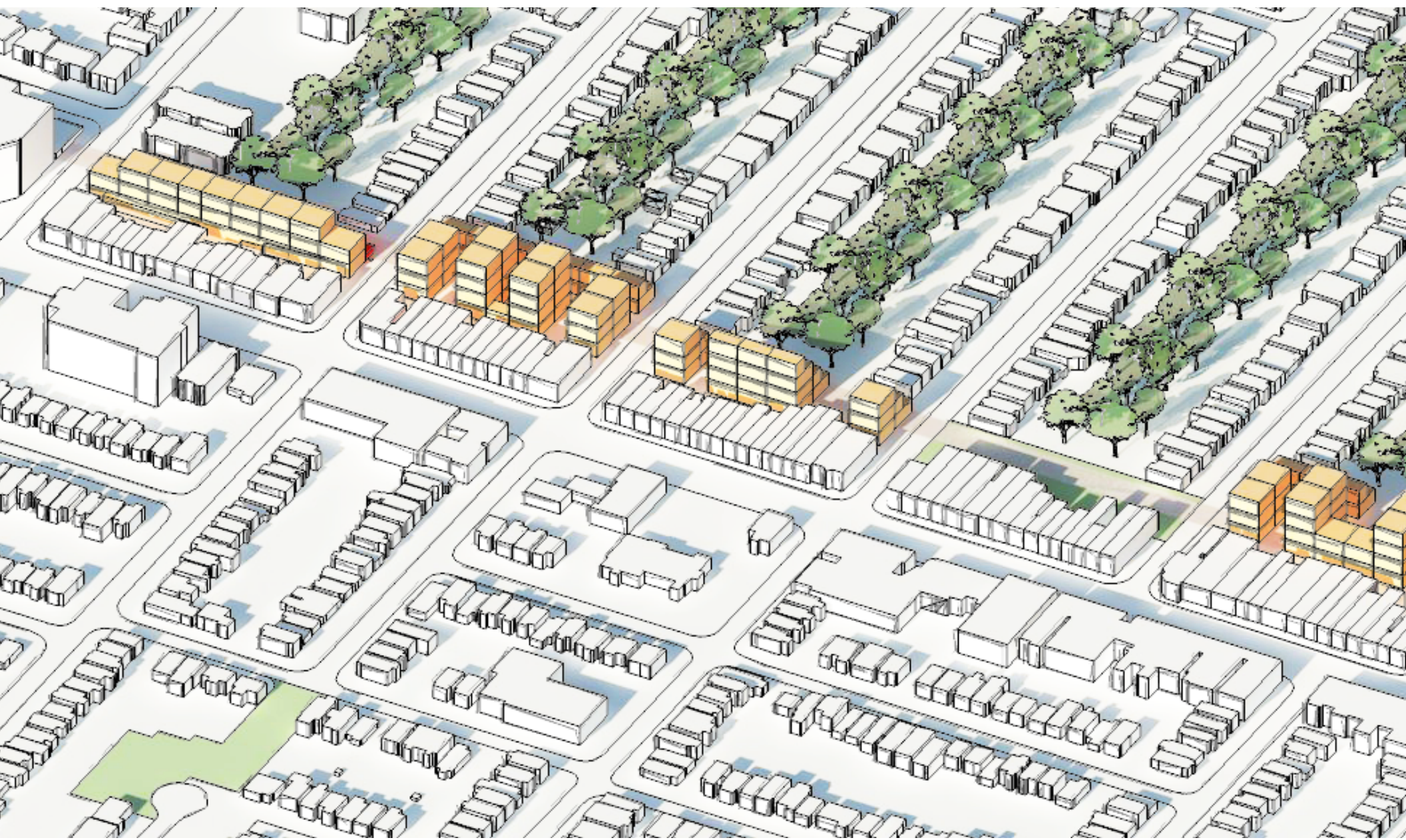


Fig. 4.12. Site scenario employing Strategies 1 and 2.

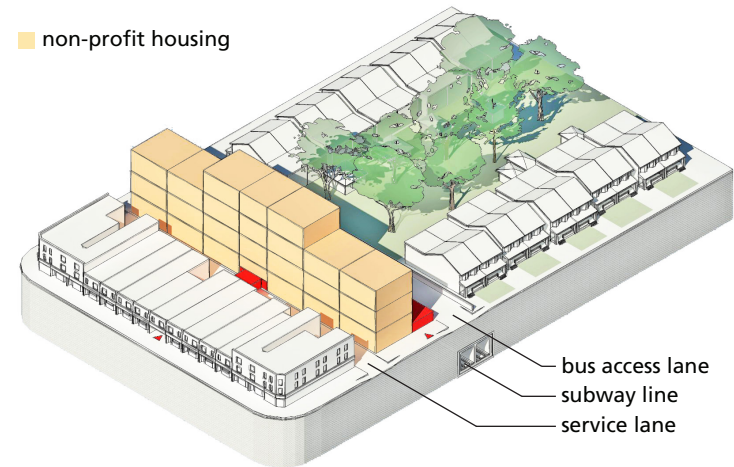


Fig. 4.13. Diagram of Strategy 2.

Strategy 2: + Build Above Subway Stations

The public sector has the option of additionally developing the subway station blocks, by building non-profit housing on the TTC-owned land and integrating the subway station within the first and lower floor of the building. This type of housing project would not be able to have underground parking; however, this may be justified by the fact that the residents would have direct access to the subway from within the building. It is also limited by the bus lane which would be required at the ground level. This type of housing project would have to take the shape of a narrow building with few exterior spaces; possibly making use of the parkette blocks as the buildings' exterior spaces, playgrounds, and gardens.

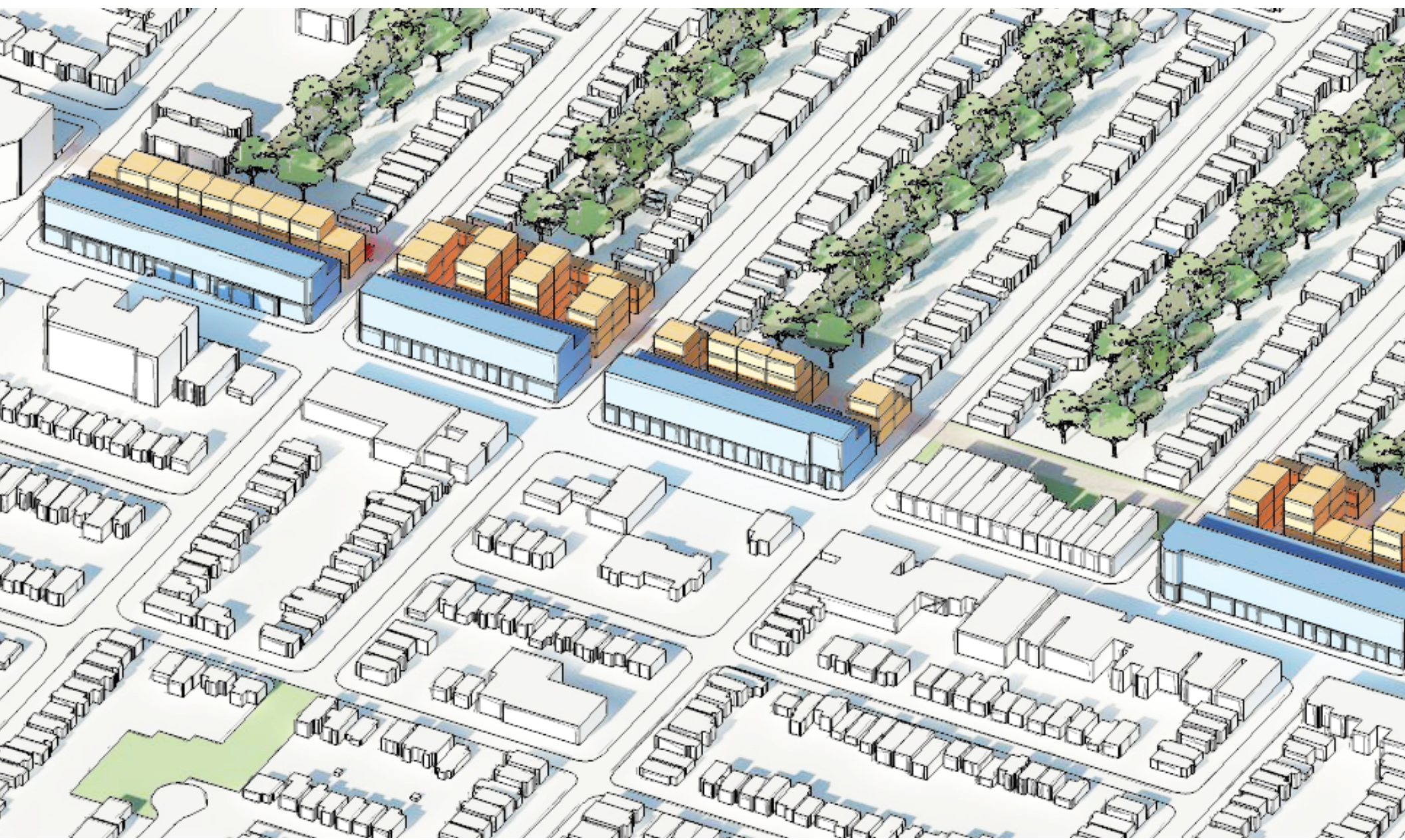


Fig. 4.14. Site scenario employing Strategies 1, 2, and 3.

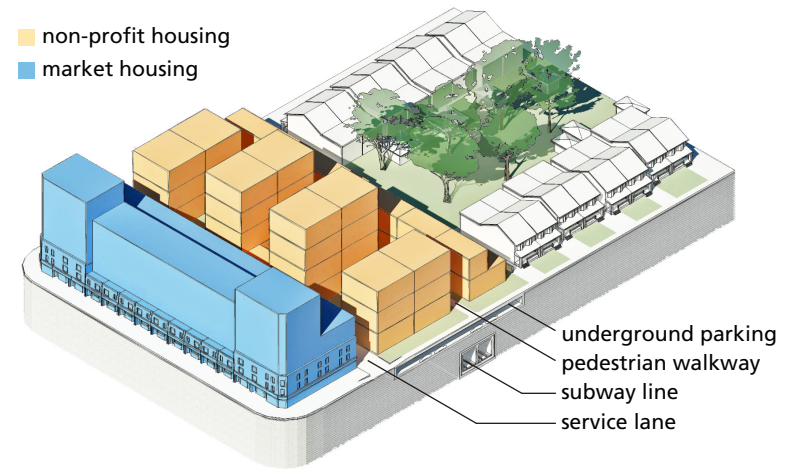


Fig. 4.15. Diagram of Strategy 3.

Strategy 3: + Build on Retail along Bloor Street

Potential collaboration with the private sector gives additional possibilities for developing the site. As the retail along Bloor Street is all privately-owned by different parties, a partnership with these owners and an overseeing developer could potentially integrate the retail and the right to build over it into the project scheme. This would be the most difficult and prolonged scenario as all the separate retail spaces of each block would have to be assembled. It also presents a danger of a single developer purchasing and unifying the fine-grained retail spaces into a single big-box store. The ideal scenario would involve the integration of existing fine-grained retail spaces into the housing scheme without any or much unification.

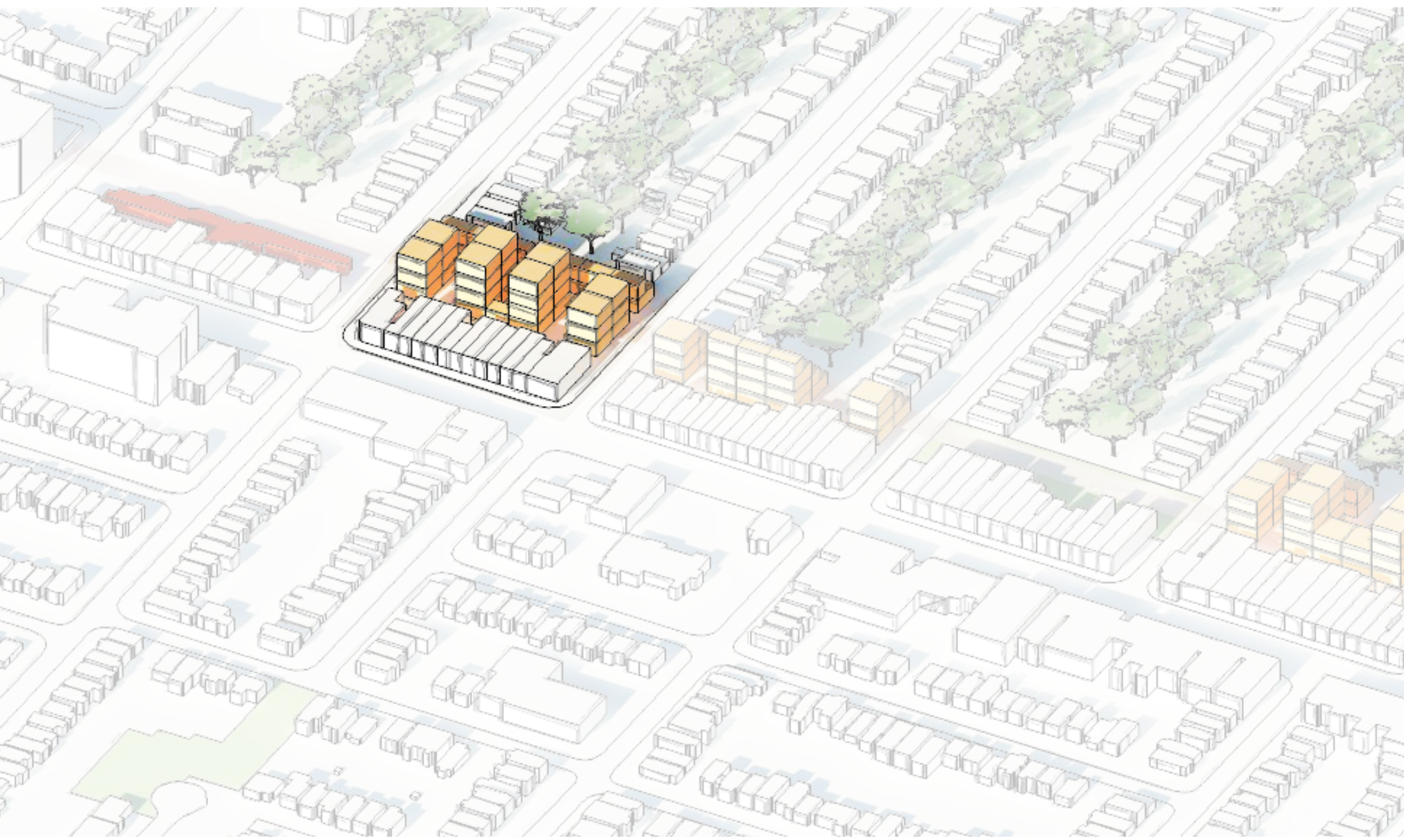
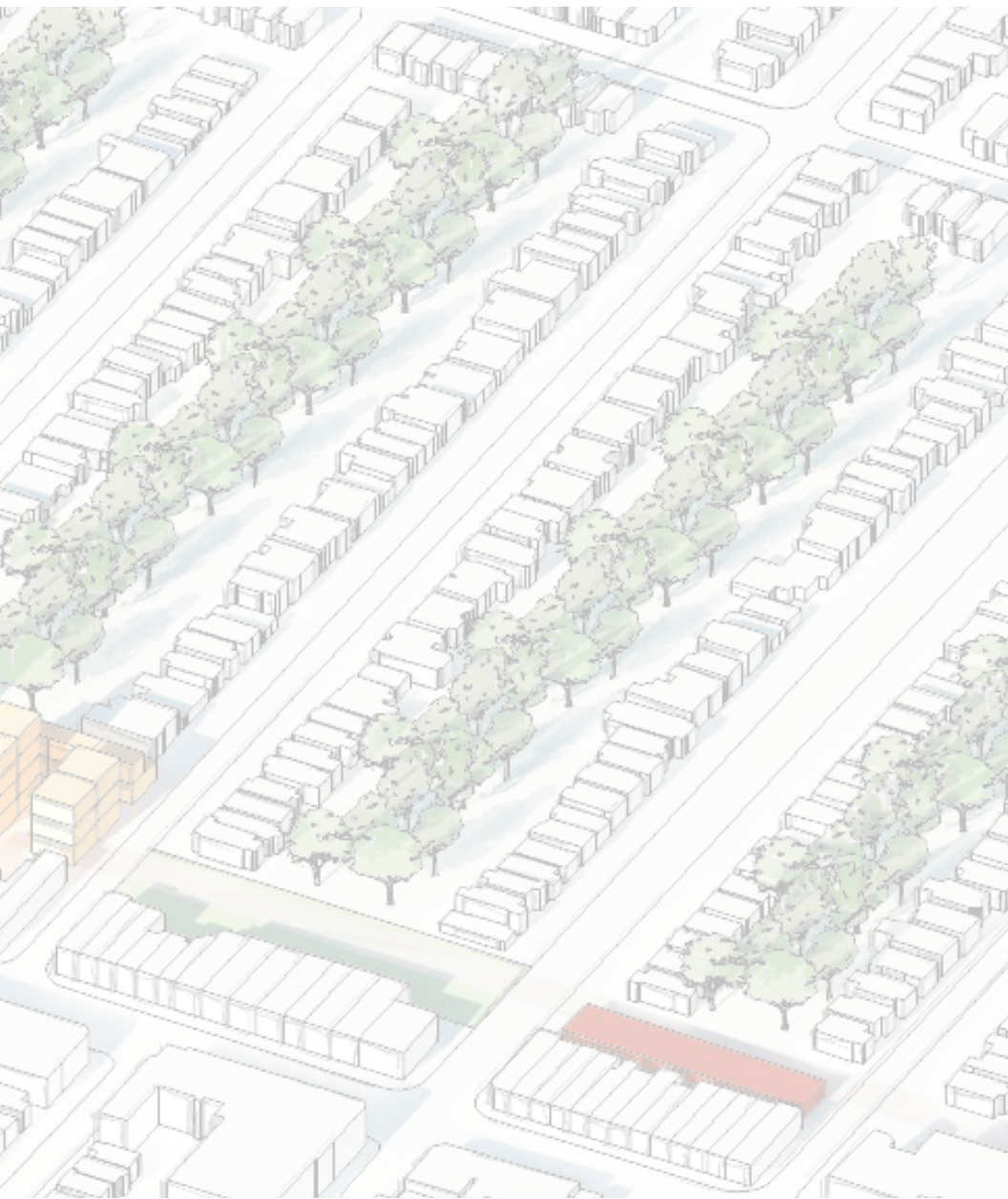


Fig. 4.16. Site scenario to be considered in the design of the Home for Urban Families.



Scenario of the Home for Urban Families

The scenario to be considered for the building design of the Home for Urban Families is one which employs Strategy 1 - building on the parking lots only. This scenario is chosen because it gives the municipality, and consequently the non-profit sector, the most control over the buildings to be developed. As there would be no involvement of the private sector, the building would be composed of entirely co-operative housing units and amenities. In this case, funding would have to be derived from the government and non-profit sector.

Given the current climate surrounding the provision of affordable housing in Toronto, the most likely scenario to take place is one which employs Strategies 1, 2, and 3. In that scenario, the municipality has the possibility of making trade-offs with the private sector in which the sale of municipal land would finance the construction of affordable housing units.

For the purposes of this thesis, however, a solution which does not involve the private sector will be considered. It assumes financial assistance from upper levels of government and the setting aside of municipally-owned land in the form of a community land trust. The building to be developed is a co-operative, accepting the rules of this tenure type and ensuring non-profit housing for families.



4.4 BUILDING: AN URBAN HOME

Proposal Framework

The Home for Urban Families takes the form of a co-operative building to be proposed for the site currently occupied by a Green P parking lot. It takes the boundaries of the lot as its bounding property lines and maintains a 3 meter buffer with the single-family homes to its north, as well as a vegetation buffer with the service lane of the retail to its south. The aim of this project is to integrate the building into the existing context in a manner respectful of the different building typologies which surround it, while at the same time provide a denser and more urban version of family living than is currently the norm in Toronto. The design of the building focuses especially on families with children as the main residents; however, it is recognized that inclusive design has the ability to provide an environment for all ages and family structure types. The design thus aims to present the residents of the building with flexibility and a diverse range of possibilities for inhabitation. It blurs the boundaries between the aspects of productive and reproductive spaces within residential design in an attempt to integrate both live, work, and care spaces into its program. The result is an attempt to architecturally display the possible solutions to the issues raised in the previous chapters of the thesis.

Fig. 4.17. Diagram of design proposal.

Parking Submerged

The existing Green P parking lot is placed underground so as to free up the ground plane. Having a full underground level, as well as an additional partial level allows for 174 parking spaces. These would be distributed between Green P spaces, allowing for 120 spots rather than the 148 which had been in the surface lot; and resident parking, allowing for 54 spaces for residents, as well as possible car share options.

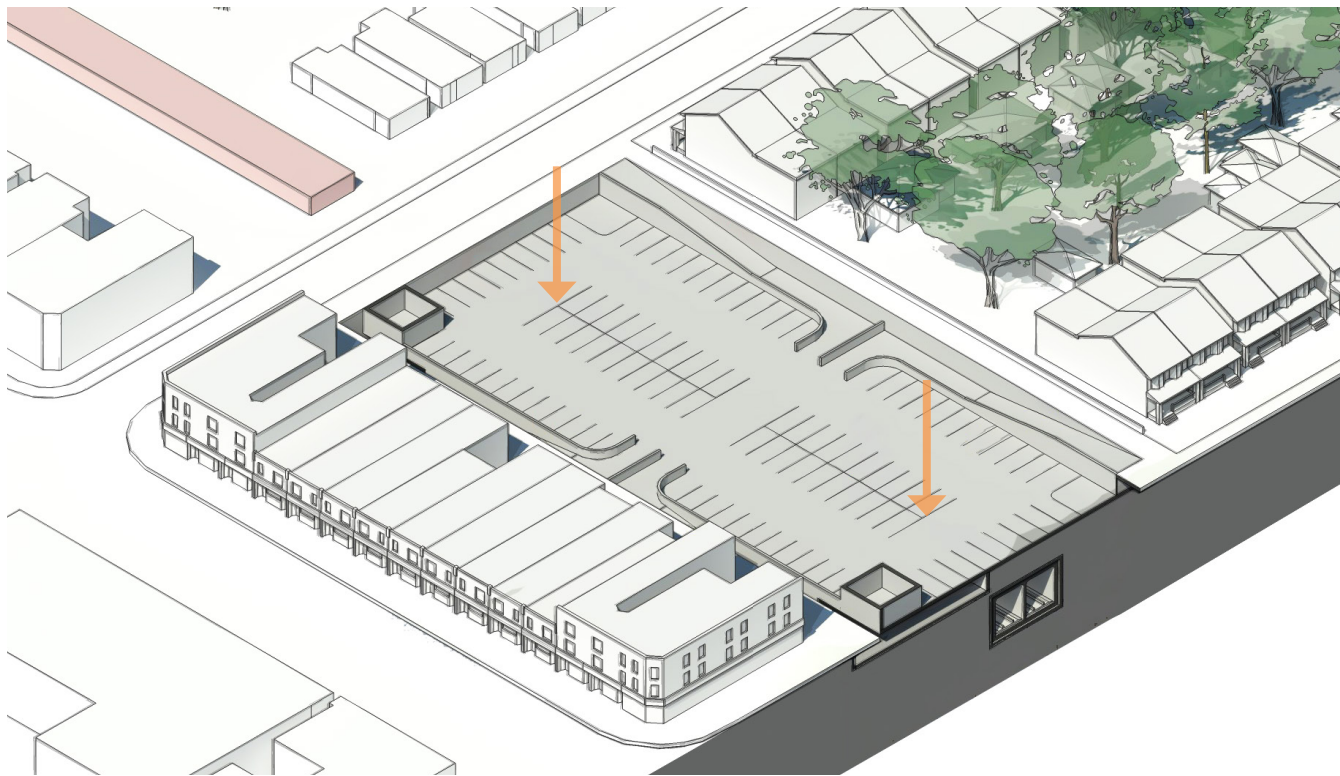


Fig. 4.18. Diagram of parking.

Pedestrian Laneway

A laneway is created along the southern border of the site. The function of this lane is 3 fold:

- 1) It connects the strip of parks, subway stations, and parking lots (potential housing projects) to create a continuous pedestrian and bike-friendly walkway.
- 2) It acts as a buffer between the co-op building and the service lane of the retail along Bloor Street.
- 3) It provides access to the amenities and the co-op building itself.

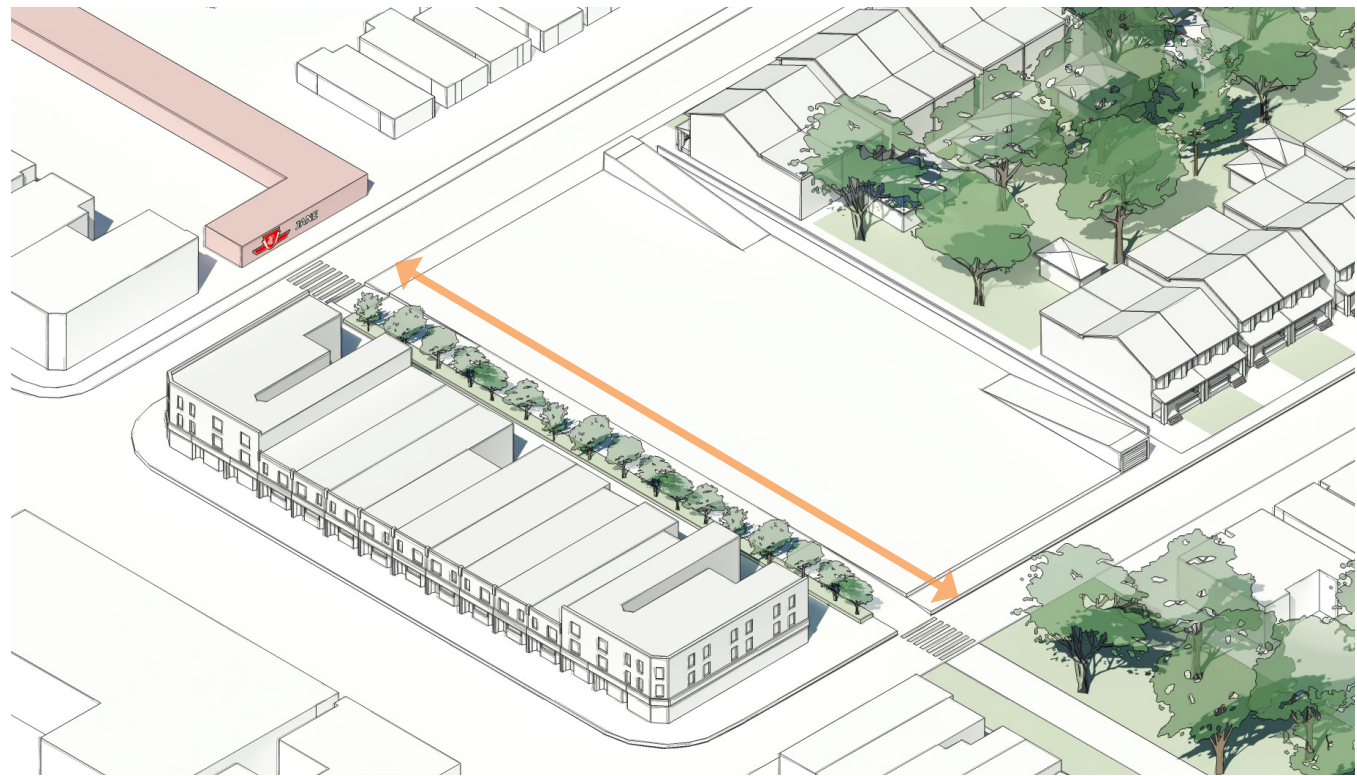


Fig. 4.19. Diagram of laneway.

Residential Typology Extended

The existing condition of the residential block is characteristic of most single-family home neighbourhoods in Toronto. Detached or semi-detached houses line the street, while a wide strip of greenspace allows for each home to have a backyard. This concept is extended into the building. Townhomes with ground-level access continue the line of houses, while a large communal courtyard acts as the backyard of the building.



Fig. 4.20. Diagram of townhomes.

Ground-Level Amenities

Amenities are placed at the ground level of the building, between the public laneway and the semi-public courtyard. A large volume, connected by a corridor, includes co-working areas, daycare and playroom, and studio space for flexible use. Having direct access to the street, these amenity spaces have the possibility of being used by the public, rather than only residents of the co-op. Co-working and daycare spaces in particular, may become important anchors, establishing the building within the existing community.



Fig. 4.21. Diagram of amenities.

Increased Density

Residential units are placed above the strip of amenities on the south side of the building, and partially along the two residential side streets, above the townhouse units. A building height of 6 storeys is maintained in order to allow the building to be constructed of wood - a combination of cross-laminated timber construction with light wood frame. Density is concentrated in the southeast and southwest corners of the site, with the middle section lowered to allow more light into the courtyard. A floor-to-area ratio of 2.5 is achieved for the proposed building on this site.



Fig. 4.22 Diagram of upper units.

Access and Rooftops

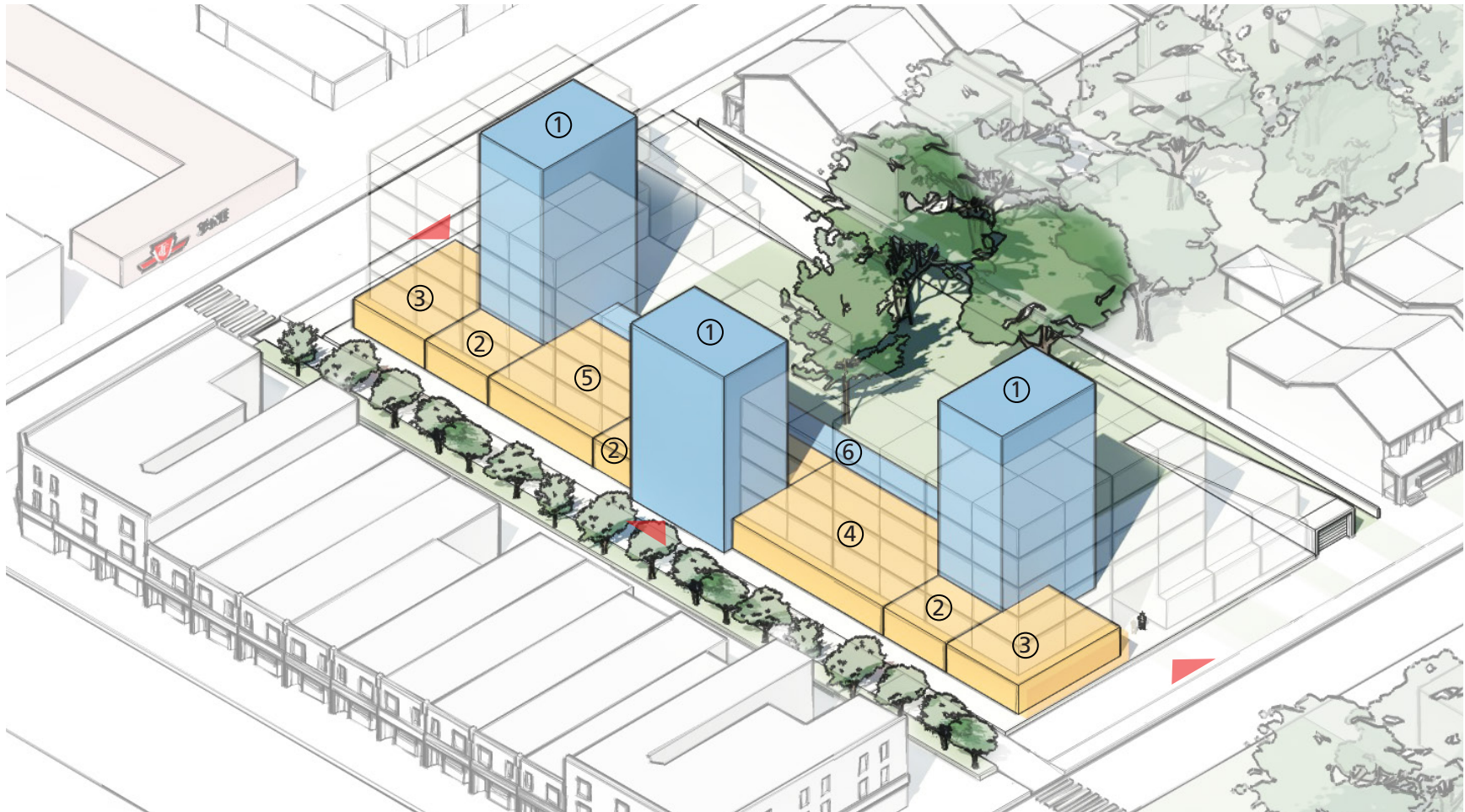
Access to upper units is broken up into three separate cores. This avoids the use of corridors and allows a small number of units to take ownership of the landings on each floor. This essentially divides the building into three separate portions, completely separated on the upper floors, yet accessible from the first floor by a corridor which connects the three access cores, as well as amenities of the building, while providing access to the courtyard. Each of the three building portions has access to its own roof garden.



Fig. 4.23. Diagram of access.

Building Circulation and Ground-Floor Amenities

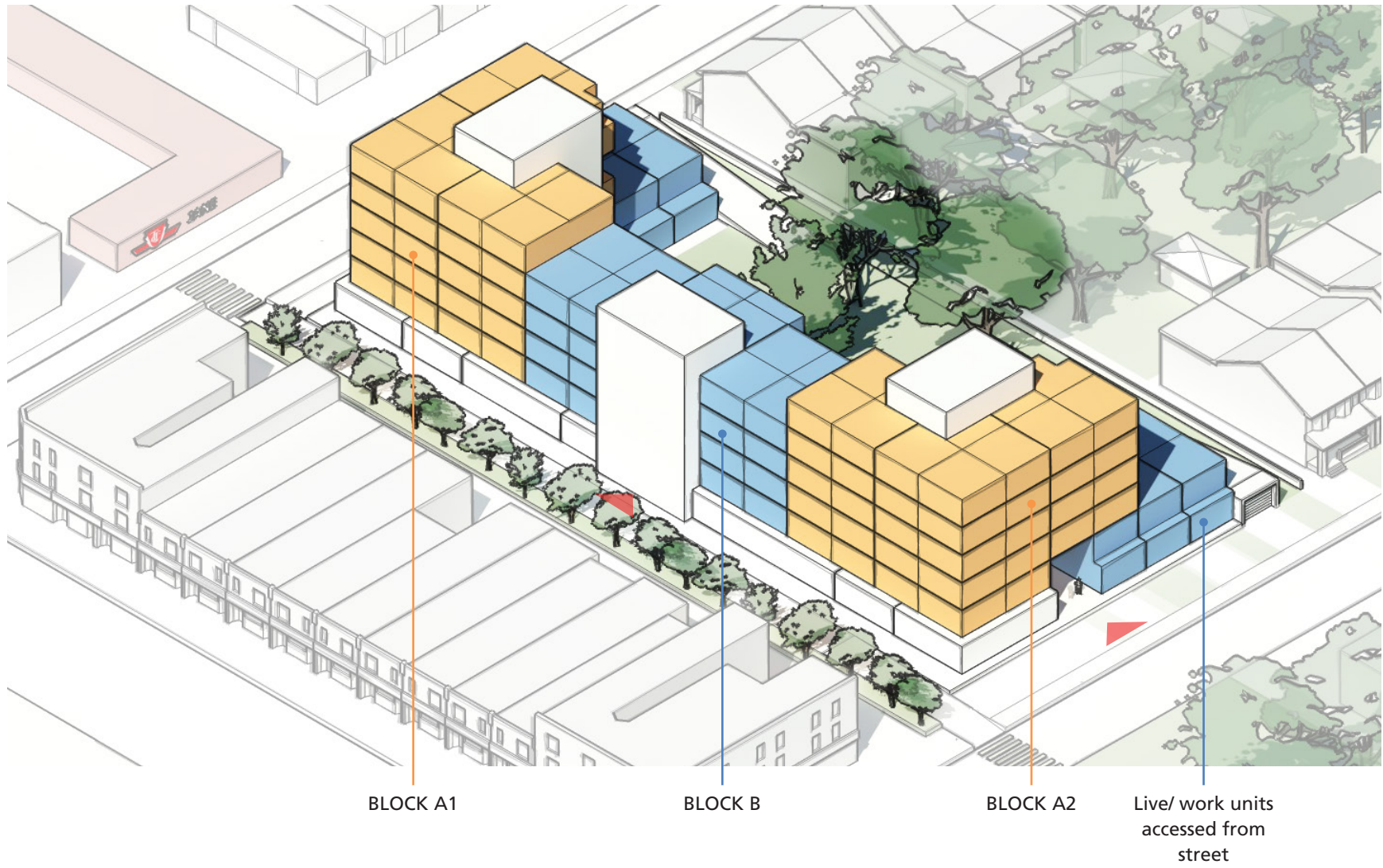
Fig. 4.24. Circulation and amenities diagram.



- ① Vertical circulation cores, each with 2 exit stairs & elevator
- ② Lobby adjacent to each core with mail & bike storage
- ③ Co-working, study & homework areas
- ④ Daytime daycare & nursery; evening playroom
- ⑤ Flexible room: studio, meeting, party room
- ⑥ Interior street connecting all cores and amenities

Grouping and Distribution of Units

Fig. 4.25. Unit distribution diagram.



Facade Treatment for Additional Light and Terraces

Fig. 4.26. Facade treatment diagram.



Access to Roof Gardens from each Block

Fig. 4.27. Green roof diagram.

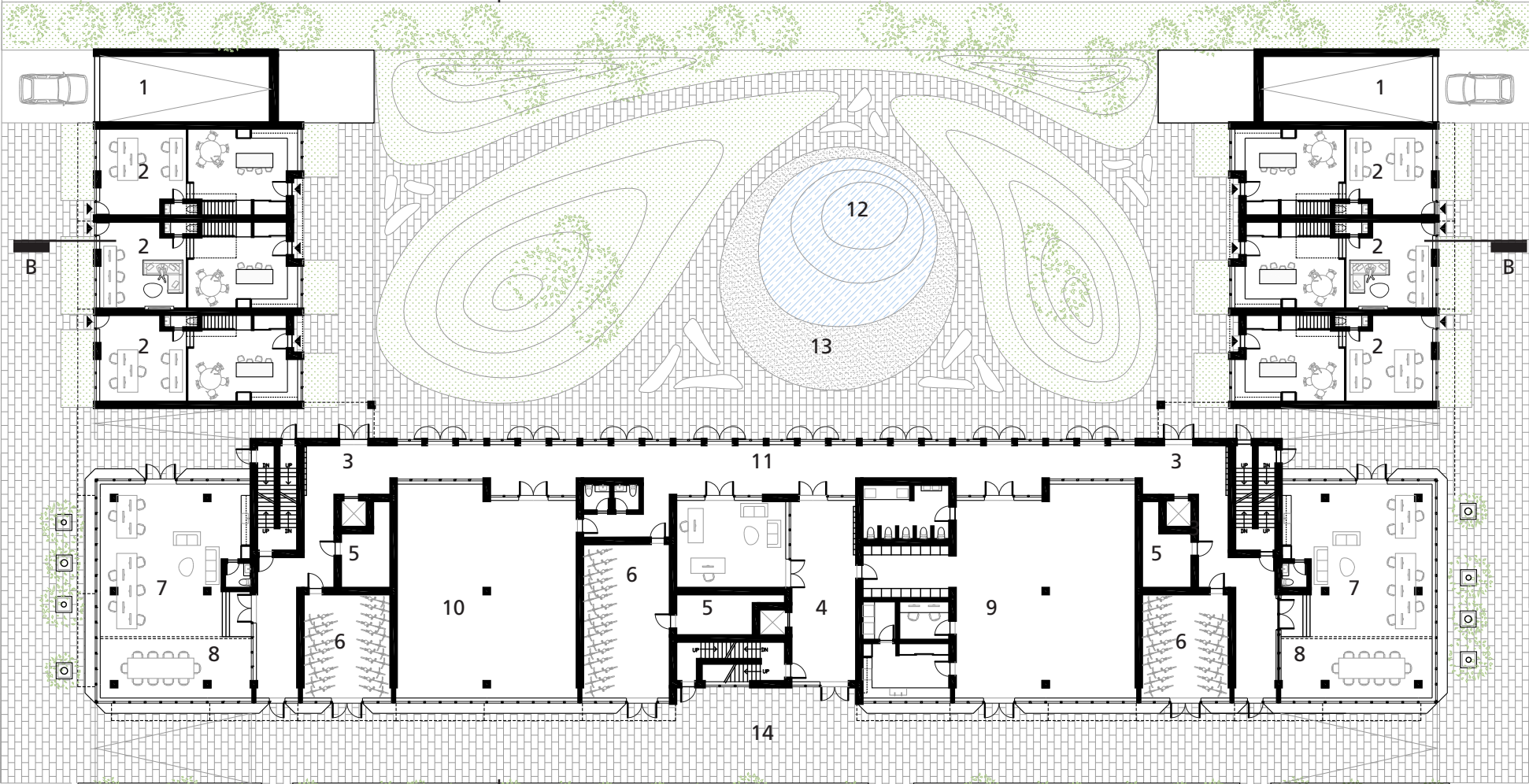


① BLOCK A1
roof garden

② BLOCK B
roof garden

③ BLOCK A2
roof garden

A



A

15

152



GROUND FLOOR PLAN

- 1 Underground parking access
- 2 Live/work townhouse units
- 3 Residents-only lobby
- 4 Public lobby (residents, parking, daycare)
- 5 Garbage and mechanical room
- 6 Storage - bikes, strollers, carts
- 7 Co-working area
- 8 Co-working and/or meeting area
- 9 Daytime daycare/ after-hours playroom
- 10 Flexible studio space - yoga, arts, party
- 11 Interior street
- 12 Shallow water play area
- 13 Sand-filled play area
- 14 Public pedestrian street
- 15 Existing retail service lane

SCALE 1:350

Fig. 4.28. Ground floor plan of building, showing amenities, access to units above, ground-accessed townhouse units, and the semi-public courtyard.

The Ground Plane

The ground plan acts to integrate the building within its urban context. The live-work townhome units establish the transition between the single-family home residential area to the north and the retail along Bloor to the south. In typology and size, they are similar to the single-family homes, yet they begin to borrow characteristics from the retail strip by allocating the ground-accessed, street-facing portion of each unit for office or commercial use. This creates a condition in which a family can live in a unit which serves as both a home and small business. It takes advantage of the proximity to Bloor Street and borrows the principle of the juxtaposition of retail or business on the ground floor with residential above.

The southern portion of the building contains amenities, storage and access to units above, with an internal street linking all entities. The co-working areas and daycare are accessible from the street and thus intended for daytime use by members of the community, as well as residents of the building. This ensures that the building is used throughout the weekdays and not only on weeknights and weekends when most residents are home.

The intention of the ground plane is to create a space which is self-contained and offers a sense of security and protection to the families living in the building, while at the same time integrating itself and establishing connections and roots to the existing community.

SECTION A-A

- 1 Ground floor amenity space
- 2 Interior street
- 3 Residential units - one large through unit or two smaller single-sided units
- 4 Roof garden

SCALE 1:200

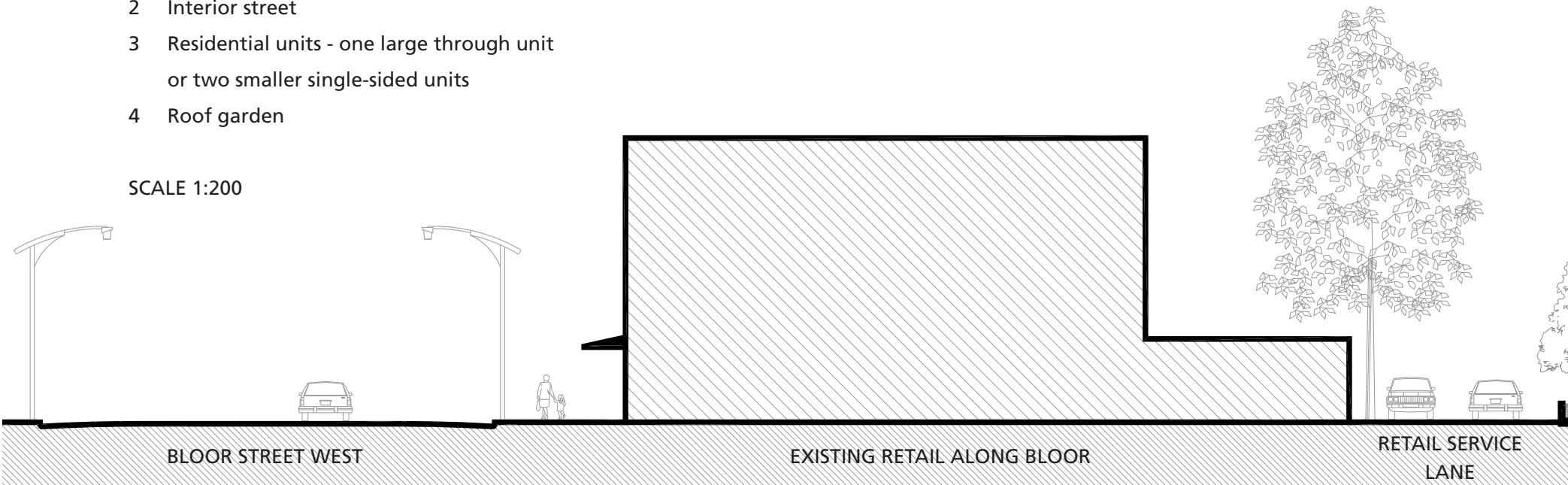
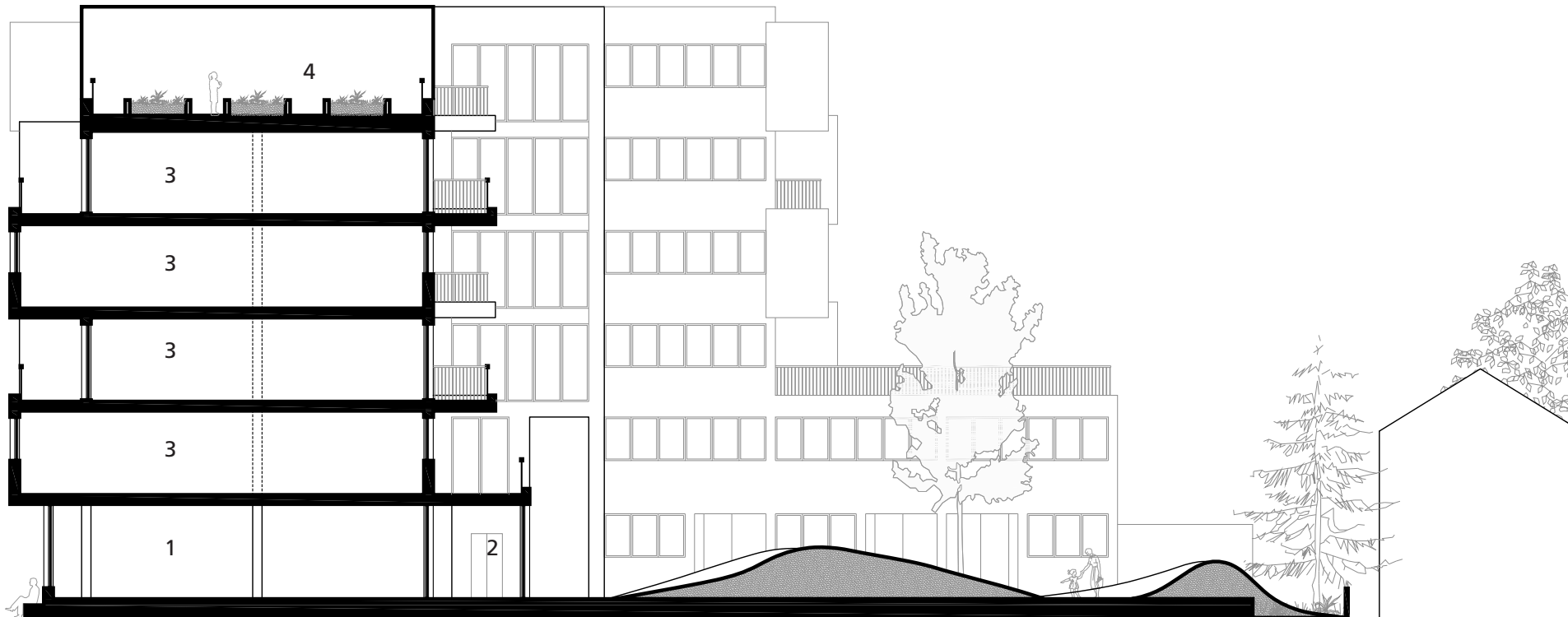


Fig. 4.29. Building section showing relationship of proposed building to the surrounding neighbourhood of retail on the avenue and single-family home residential.



PUBLIC
PEDESTRIAN
STREET

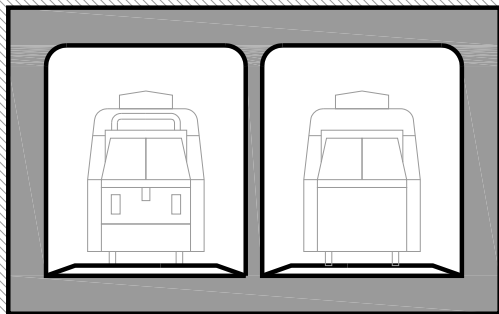
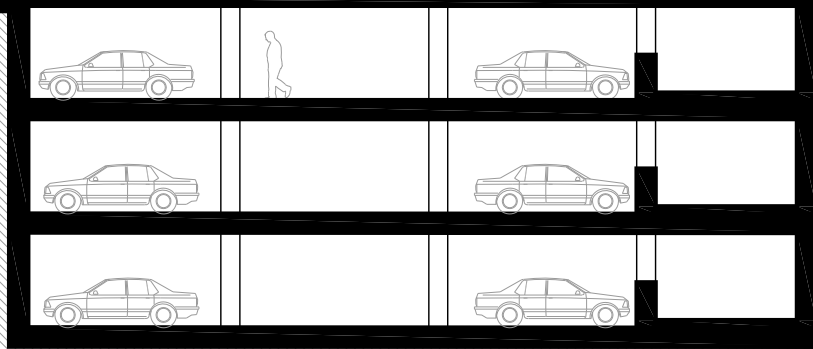






Fig. 4.30. Rendered perspective of the building exterior, as seen from Armadale Avenue.

Public Realm: The Street Corner

The street corner displays the integration of the building into its urban environment. The side of the building closest to the single-family homes continues the typology and appropriates a similar setback from the street to create small yards in front of the townhome units. The portion of the building closer to Bloor Street and its retail maintains a bigger setback to allow for a larger sidewalk. The ground floor of this portion of the building includes co-working and daycare spaces, which may potentially be accessible to the public. The configuration of these spaces also foresees the possibility of including a retail space, should the residents of the co-op building prefer it to the proposed program.

The laneway to the south of the building aims to provide a pedestrian walkway with sufficient width to comfortably maintain pedestrians, cyclists, strollers, and children playing. In contrast to the enclosed courtyard of the building, this is a completely public space, yet it is still kept within viewsight of the building's units, as most have visual access to it. It thus becomes another gradient in the transition from private unit to public street and provides children with an introduction to the public urban environment within close proximity of the family home.





Fig. 4.31. Rendered perspective of the building courtyard, on a late summer afternoon.

Semi-Public Realm: The Courtyard

The courtyard of the building is conceived as an intermediary space between the public realm of the street and the private realm of the residences within the building. The courtyard is accessed from the public street by a double height exterior passageway through the building. This passageway allows for control by the residents of the degree of privacy that is desired within this communal space through the possible addition of gates or doors.

Nearly all of the units have visual access to the courtyard, in this way facilitating supervision of children playing in the yard by parents from within the units, the amenity spaces, and the landings which provide access to the upper units. The facade of the building facing the yard is bright in colour in an attempt to bring the maximum amount of light penetrating into this space.

The elements within the courtyard consist primarily of a shallow water reservoir surrounded by a sand-filled play area, as well as mounds of grass with shrubs and trees. Paths and seating areas are interspersed throughout. Children are provided with various play elements and opportunities for exploration, while adults find space for interaction, supervision, or contemplation. The interior street which runs along the north side of the courtyard and has multiple doors opening onto it creates a buffer between exterior courtyard and interior building. It serves to allow adults to remain on the interior, while maintaining close proximity to children in the yard.



Semi-Private Realm: The Landing

The circulation scheme of the building avoids the use of long corridors and instead employs large landings, which provide access to several units clustered around them. A scissor stair is used to provide two means of egress, as is required by local fire safety standards. Additionally, an elevator and garbage chute take up a portion of the landing space. The remainder of the area is left for access to units and as a communal area and playspace.

Access to units ensures a degree of privacy, as the access points are generally hidden from view of the main landing area. This ensures a transition from the semi-private realm of the landing to the private realms of the units. The communal area of the landing is both visually and - through its protruding form - spatially connected to the courtyard, allowing this interior space to borrow light and landscape qualities from the exterior.

The landing would serve a maximum of 3 three-bedroom units, and its dimensions are designed to provide a play area for several children. In this way it becomes part of the child's exploratory realm, expanding the boundaries of the private family unit, to involve the landing, and prepare the child for independent play in the courtyard. This sequence allows the gradual accession of independence, as the child possibly leaves the private family home to explore play areas throughout the building and its surroundings.

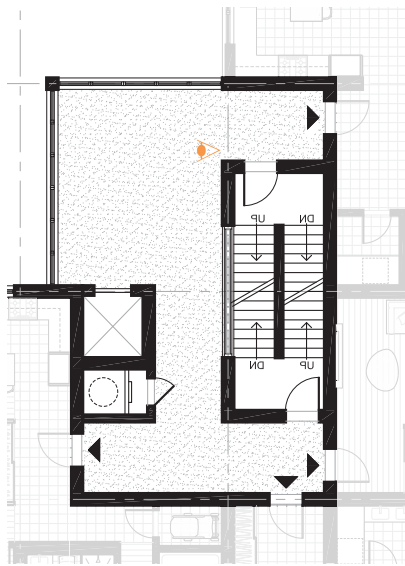


Fig. 4.32. To the left, a rendered perspective showing the view of the landing. Above, a plan of the landing, helping to locate the viewpoint.

4.5 UNIT: A FAMILY HOME

Designing a Home for a Family

The unit - a home for a family - is one of the most intricate and complex areas in the design of the Home for Urban Families. Its design should address the balance between the private and the common areas of the unit itself, as well as its relationship to the building's common areas and the urban realm beyond.

The unit layouts and configurations in the design of this project take certain aspects of the single-family home found in low-density urban areas and integrate them into a multi-unit typology. In this way, the building addresses the needs of the family home in terms of flexibility, access to exterior areas, and a sensible division between private and common areas within the unit. At the same time, it acts as a part of a larger collection of units, forming connections to other units of the building in a hierarchical manner.

The attempt of the design is to create an environment which facilitates the daily life of a family with children, providing spaces of retreat, as well as opportunities to interact with the community of families within the building.

Configurations of Typical Toronto Single-Family Home

INTERIOR STRUCTURE

Light wood frame construction: flexible

SECOND FLOOR

Private areas: bedrooms, bathroom(s), laundry

GROUND FLOOR

Common areas: kitchen, living, dining

EXTERIOR STRUCTURE

Masonry construction: static, may be modified to make openings

BASEMENT

Alternate use: office, rental apartment, in-law suite, etc

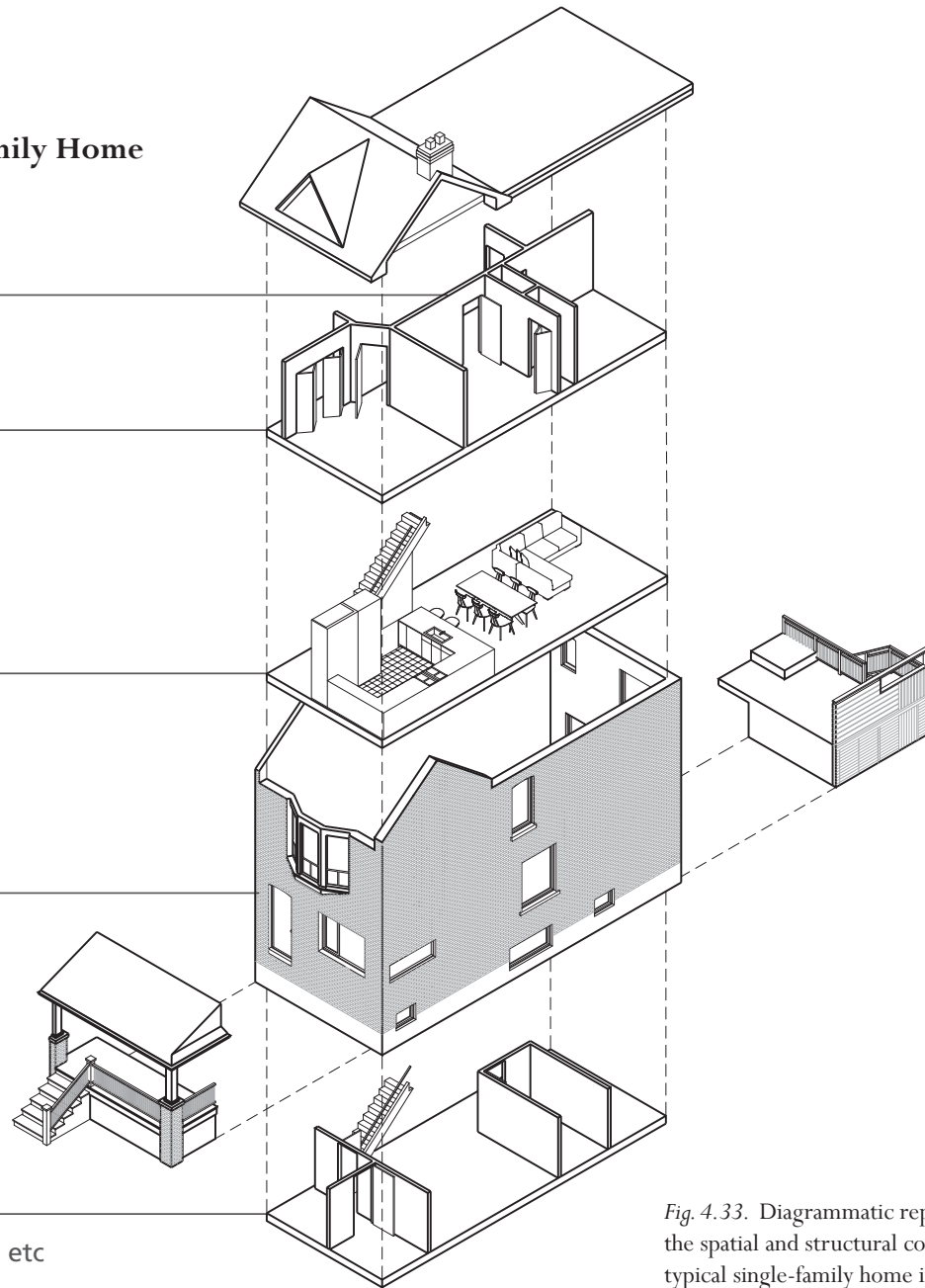


Fig. 4.33. Diagrammatic representation of the spatial and structural components of a typical single-family home in Toronto.

Modular Configuration of Family Units within Building

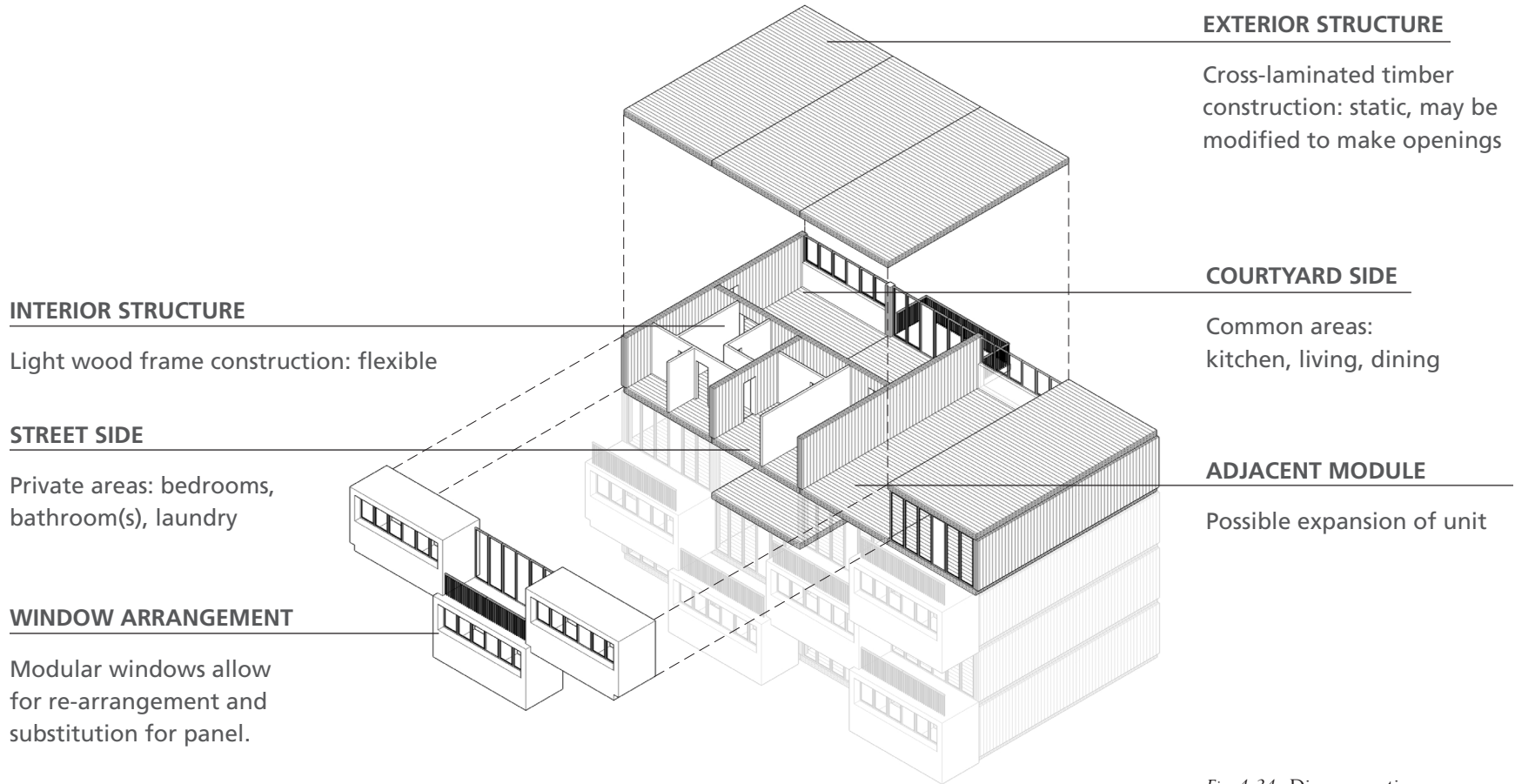
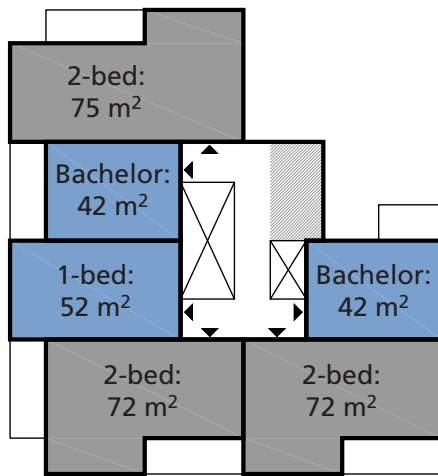


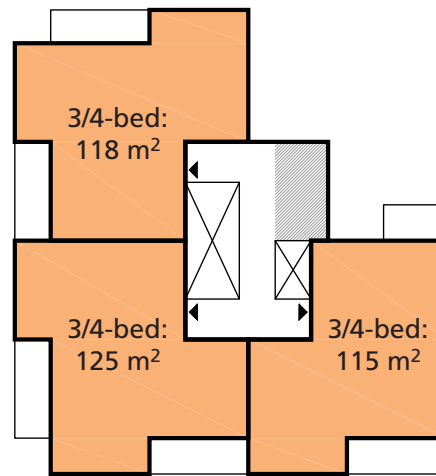
Fig. 4.34. Diagrammatic representation of the spatial and structural components of the proposed family home module.

Unit Configurations of a Single Floor of Block A1



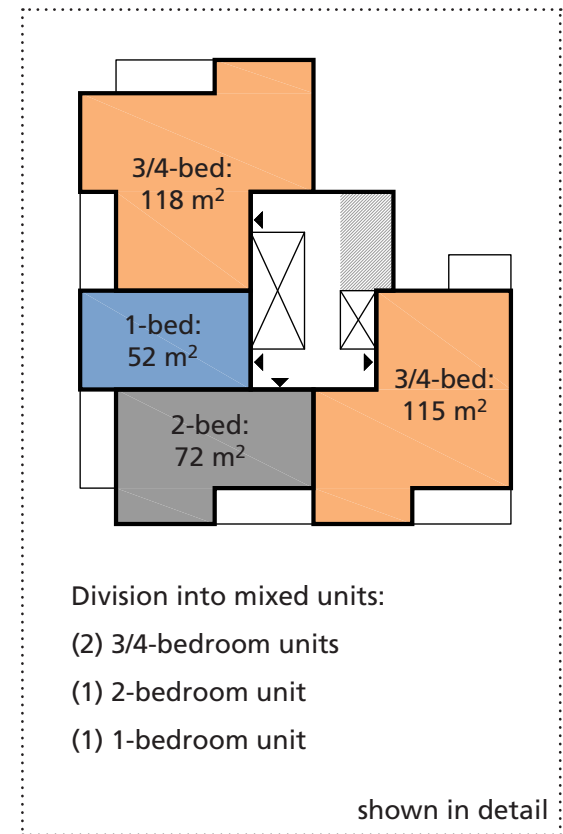
Division into smallest units:

- (3) 1-bedroom units
- (3) 2-bedroom units




Division into largest units:

- (3) 3/4-bedroom units



Division into mixed units:

- (2) 3/4-bedroom units
- (1) 2-bedroom unit
- (1) 1-bedroom unit

 Communal area on landing of each floor


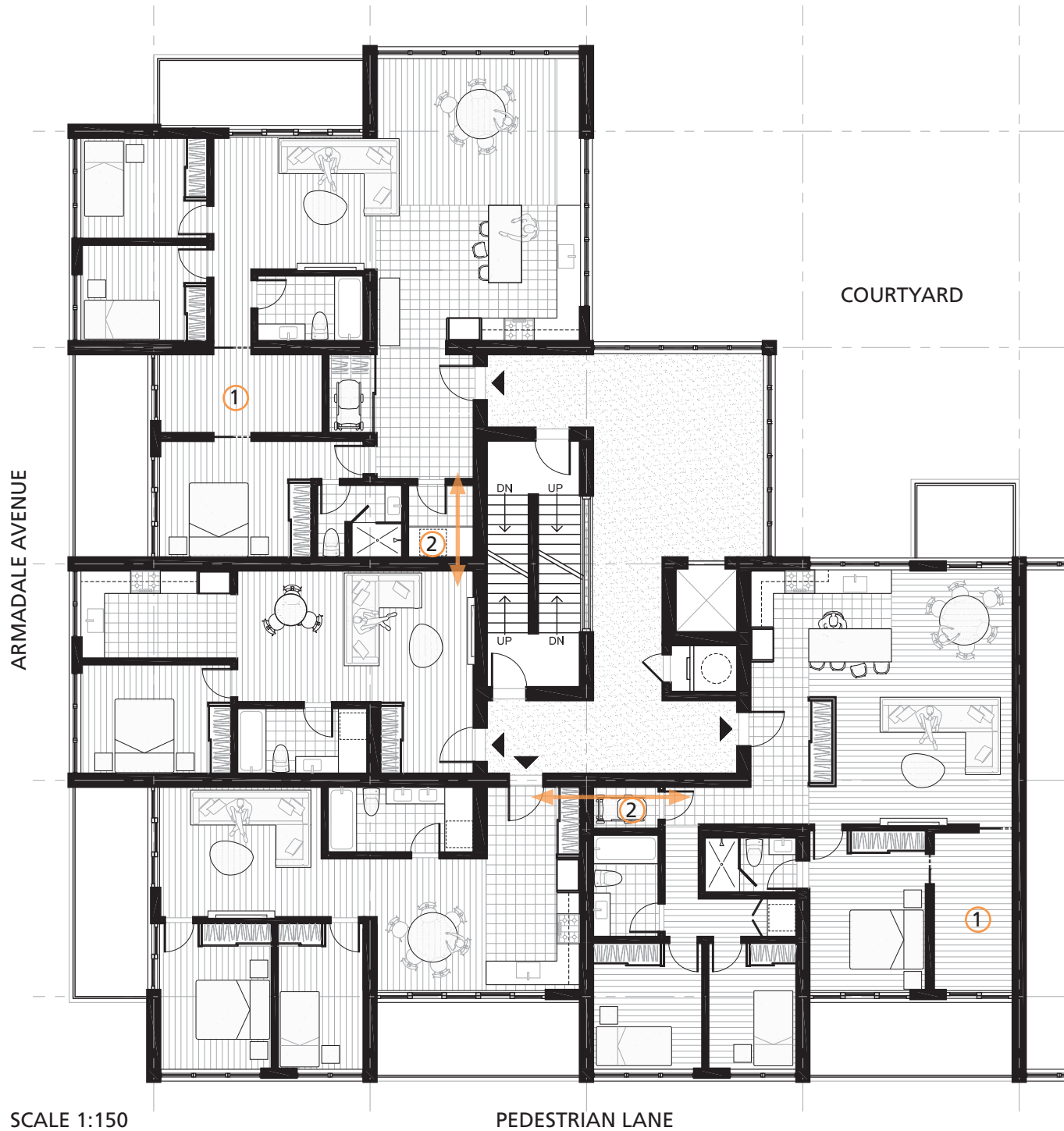
 Vertical circulation: stair, elevator, etc.

Fig. 4.35. Diagrammatic representation of the different combinations of units possible on a single floor of Building Block A1. The same combinations, but mirrored, apply to Building Block A2.



COURTYARD

ARMADALE AVENUE

PEDESTRIAN LANE

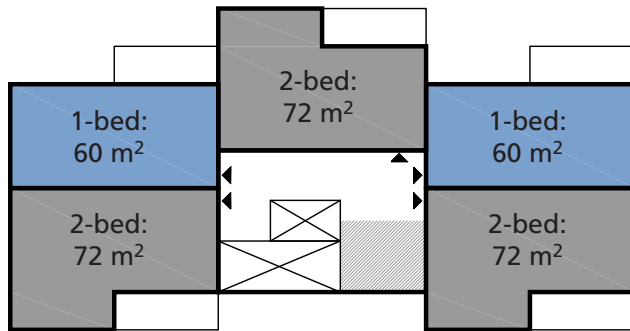
NOTES:

- ① 3-bedroom units have an additional room which can be used as: an extension of the living space, a home office, a nursery, guest room, etc.
- ② Large units can be connected with smaller units by removing a storage or laundry room. This is convenient in the case of grandparents or extended family members living in a unit adjacent to the nuclear family's unit.

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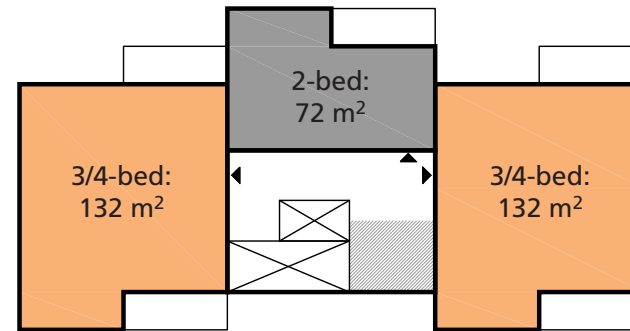
Fig. 4.36. Detailed floor plan of one of the possible unit configurations on a single floor of Building Block A1 and its mirrored version, Building Block A2.

Unit Configurations of a Single Floor of Block B



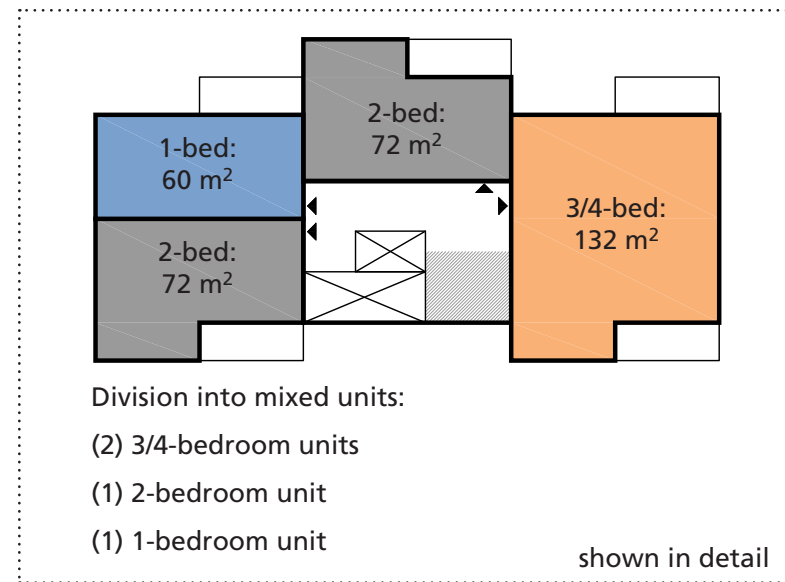
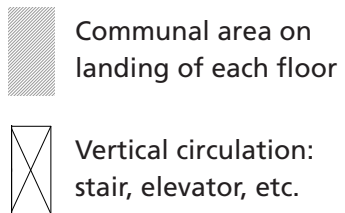
Division into smallest units:

- (2) 1-bedroom units
- (3) 2-bedroom unit



Division into largest units:

- (2) 3/4-bedroom units
- (1) 2-bedroom unit



Division into mixed units:

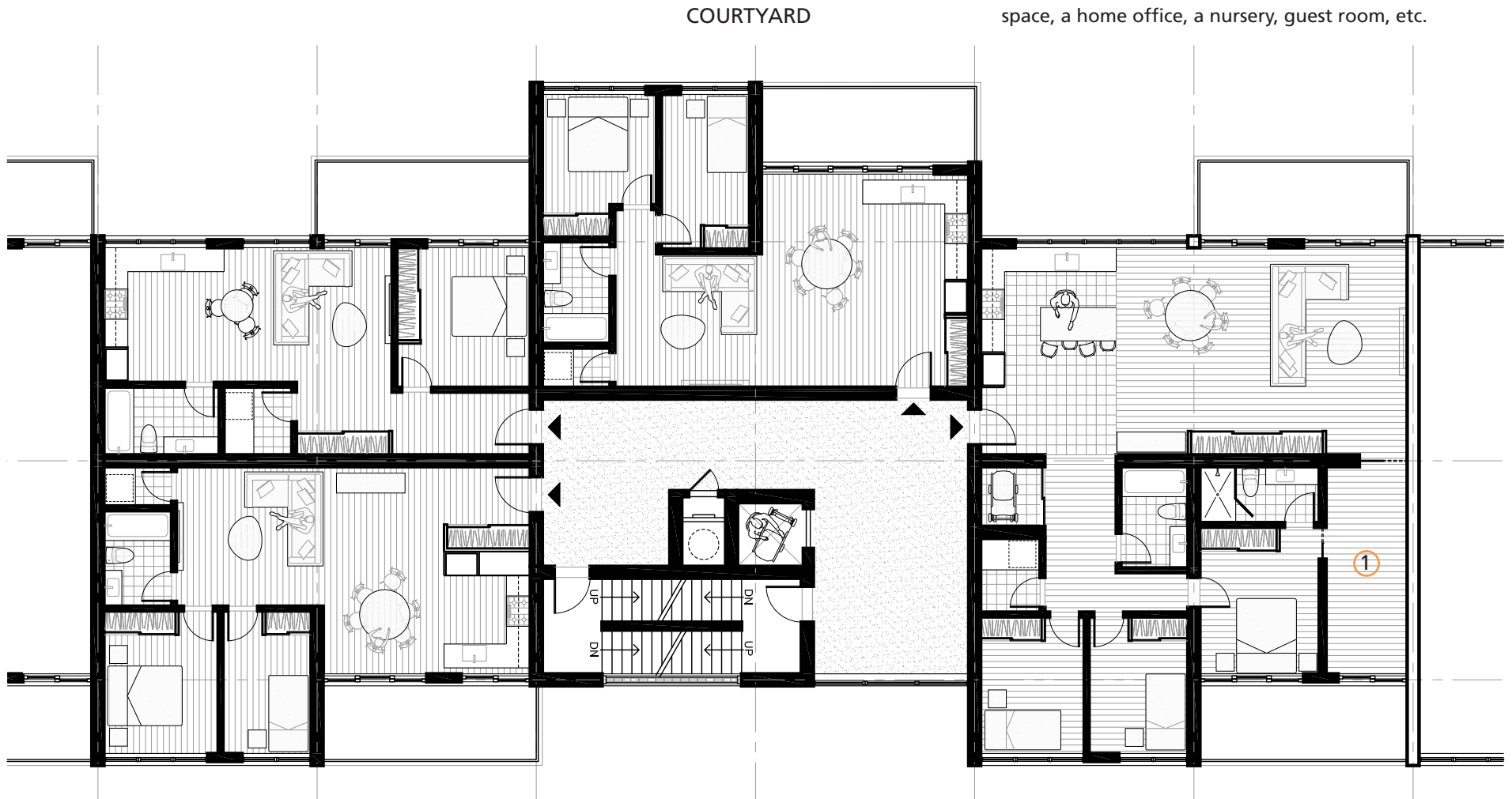
- (2) 3/4-bedroom units
- (1) 2-bedroom unit
- (1) 1-bedroom unit

shown in detail

Fig. 4.37. Diagrammatic representation of the different combinations of units possible on a single floor of Building Block B.

NOTES:

- ① 3-bedroom units have an additional room which can be used as: an extension of the living space, a home office, a nursery, guest room, etc.

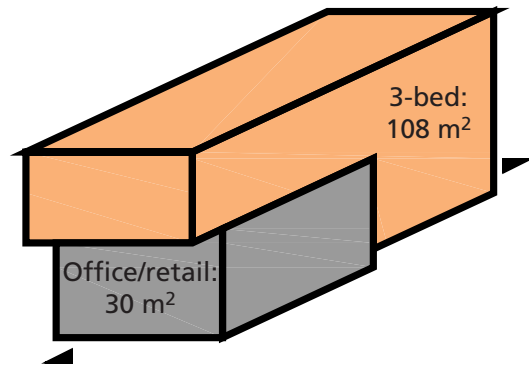


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PEDESTRIAN LANE

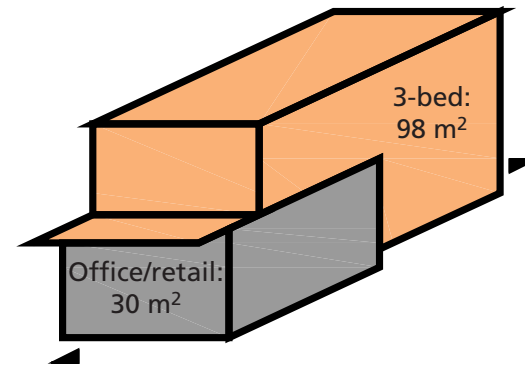
Fig. 4.38. Detailed floor plan of one of the possible unit configurations on a single floor of Building Block B.

Types of Live-Work Townhouse Units



Larger townhouse unit:

The family unit and the office/retail space are completely separated. In this way, the two portions can function independently and the office/retail possibly rented out if not being used by the family.

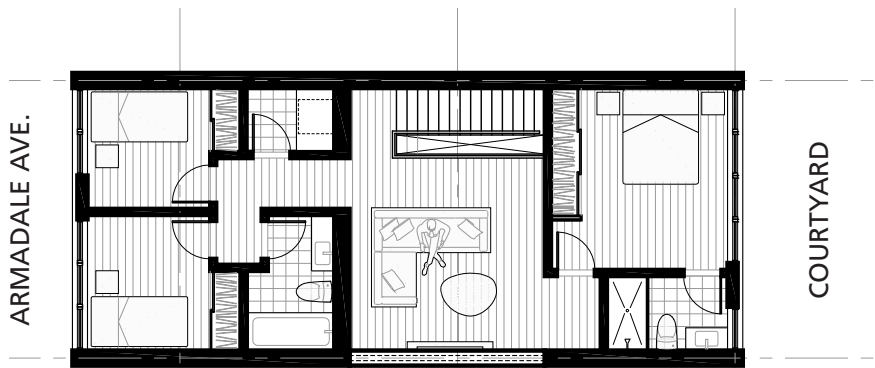


Smaller townhouse unit:

The living area of the unit is part of the office/retail space. In this way, it can be used for business purposes during the workday and as a family living space at all other times.

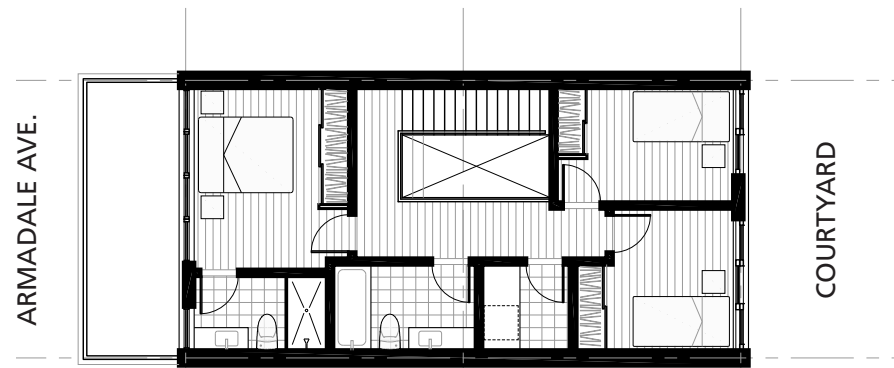
Fig. 4.39. Diagrammatic representation of the two different types of ground-accessed townhouse units.

LARGER TOWNHOUSE UNIT

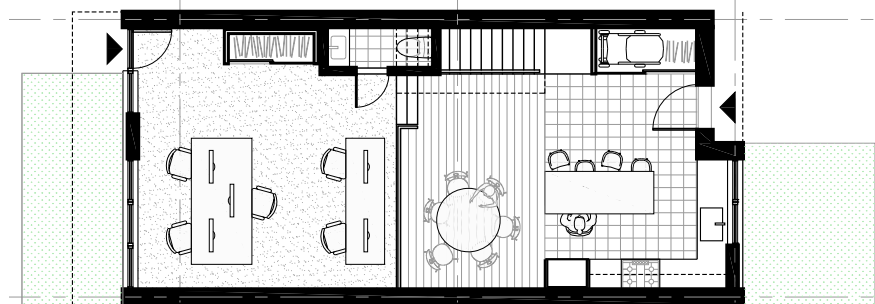


SECOND FLOOR PLAN
SCALE 1:150

SMALLER TOWNHOUSE UNIT



SECOND FLOOR PLAN
SCALE 1:150



GROUND FLOOR PLAN
SCALE 1:150



GROUND FLOOR PLAN
SCALE 1:150

Fig. 4.40. Detailed floor plans of one of the ground and second floors of the ground-accessed live-work townhouse units.





Fig. 4.41. To the left, a render showing the interior areas of a 3-4 bedroom apartment, specifically the kitchen and dining area, with a view towards the courtyard. Above, a plan of entire unit, helping to locate the viewpoint.

The Kitchen View

All of the 3-bedroom units of the building are oriented to ensure that the kitchen and dining or living areas have direct visual access to the courtyard. This is done in an attempt to juxtapose the common and most used areas of the units with the semi-public space of the building - the courtyard. Large windows are placed above the kitchen counter, allowing light to fill the kitchen area, and providing a view for anyone working at the counter. Supervision of children playing in the courtyard from inside the unit is thus facilitated and the children’s exploratory zone expanded.

The kitchen counter plays a central role in the arrangement. The multitude of uses of this surface - as breakfast area, after-school snack and homework area, occasional family meal area - signifies that it is one of the most used spaces in the unit. Locating it centrally ensures that it is visually connected to most other areas of the unit - the living, dining, and entrance to children’s bedrooms. In this way, the kitchen space acts as the junction between the unit and the courtyard.



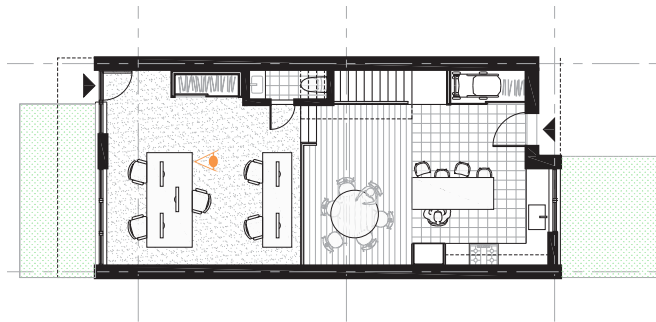


Fig. 4.42. To the left, a render showing the interior areas of a live-work townhouse unit, specifically the possible office or retail area, with the kitchen and dining area up three steps. Above, a plan of the first level of the unit, helping to locate the viewpoint.

The Home Office

The possibility of integrating business functions within the unit of the family home is presented in the configuration of the townhomes. These units take advantage of having street access to provide a small office space at the front of the building. This is particularly useful for families in which one or both partners are self-employed and require space for additional employees or production facilities. Street frontage allows for easy access to these offices by clients or others involved in the small business. A live-work configuration ensures that these units are used throughout the entire day. Whereas the home kitchen is often unused throughout the work day, it can become part of the functioning of the office. All private areas of the unit - the bedrooms and bathrooms - are located on the second floor and may be accessed from a separate entrance from the courtyard. This ensures that the productive business area may be completely separated from the remaining functions of the unit, if necessary. The co-op building includes 6 such units and it is intended that preference be given to families in need of a business area within their units.

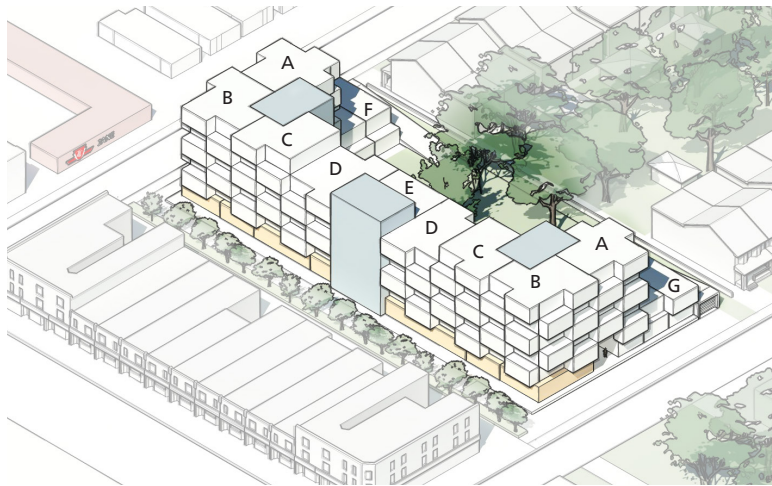


Single-family home development:

Total lot size: 3,820 m²

Number of units: 12

Size of each unit: approx. 175 m² + basement



Home for Urban Families (large units only):

Total lot size: 3,820 m²

Number of units: 48

Size of each unit: approx. 120 m²

| Unit type | # of units | Unit size |
|-------------------------------|------------|--------------------|
| A 3-4 bdrm | 10 | 118 m ² |
| B 3-4 bdrm | 10 | 125 m ² |
| C 3-4 bdrm | 10 | 115 m ² |
| D 3-4 bdrm | 8 | 132 m ² |
| E 2 bdrm | 4 | 72 m ² |
| F 3 bdrm + office | 3 | 138 m ² |
| G 3 bdrm + office | 3 | 128 m ² |

4.6 A HOME FOR URBAN FAMILIES

Opportunities of City-Owned Land

The proposal of the Home for Urban Families has the potential to densify Toronto's neighbourhoods currently characterized by single-family homes. The development proposed in this thesis displays that a multi-unit building, designed with family-sized units can provide homes to almost 50 families on the site currently occupied by a municipal parking lot. If this proposition is extended to the 30 parking lots described earlier in this chapter, the possibility of providing homes to up to 1,500 families presents itself in the city of Toronto. It must further be considered that some of the parking lot sites can potentially sustain a higher density than proposed for the site in Bloor West Village and would result in the possibilities to build homes for a greater number of families in Toronto. As Toronto must address the rapidly growing need of family housing in its downtown areas, the propositions outlined in the design portion of this thesis aim to demonstrate the lost potential of a multitude of pockets of land found throughout the city.

Fig. 4.43. A comparison of two potential development types on the same lot: single family homes, as common in this residential zone, and proposed mid-rise building.

CONCLUSION

A Soft Form of Densification

As Toronto grows and its urban form struggles to respond to the pressures imposed by an increasing population, it is essential that the city maintain a balance in all of its aspects. For the last several decades, Toronto can be seen to have been drifting to the extremes both in its architectural typologies and urban forms, as well as the economics of its housing tenures. The city's neighbourhoods are highly segregated into low-density single-family home zones and very dense high-rise condominium clusters. The housing choices found throughout the city vary slightly in their form, primarily consisting of detached or semi-detached houses or small condominium units in buildings of either a slab or point-tower typology. Housing tenure is no more diverse, with the choice of either ownership or rental available to most households, and a small percentage of subsidized rental units available to low income households.

This thesis takes the position that these extremes severely limit the amount of choice that residents of Toronto have when looking for housing. It thus attempts to find the middle ground in each situation, assuming that in doing so it can create a more diverse housing environment and consequently provide families with options which

are currently unavailable to them. The design proposal takes the form of mid-density housing located in a neighbourhood saturated with single-family homes. In this way, it addresses the monotony of urban form in the present neighbourhood and simultaneously provides a housing typology which has been missing in a lot of the development projects throughout Toronto – the mid-rise building. The chosen tenure type is a further attempt to diversify the current options and it does this by considering co-operative housing, a model which delivers the benefits of ownership without its associated unaffordable price tag.

In continuously striving to find balance and a middle ground with regards to questions of urban form, architectural typology, and economic models, this thesis provides an array of possibilities in creating greater diversity of housing types and options in Toronto.

Overcoming Challenges

This thesis began with a seemingly straightforward goal of designing a multi-unit home for families in any one of Toronto's vibrant urban neighbourhoods. As the design process progressed through the finding of a site to the design of the individual units, questions regarding the viability of such a project in Toronto began to emerge:

Who would be the actors in developing such a project?

How would the land be acquired, and its cost financed?

What type of tenure would the building present its residents, and how would it maintain affordability?

How would the project fit into the current framework of intensification envisioned for Toronto's neighbourhoods?

How would the building present an innovative housing typology, while adhering to the codes governing construction in Toronto?

These questions formed the basis of the research framework which was developed in this thesis.

The lack of affordable housing in Toronto was seen to be heavily influenced by the political environment and the decisions made at the different levels of government in response to social and economic conditions. While the municipality is responsible for administering solutions to provide affordable housing, it is limited in doing so by a lack of funding from the upper levels of government. The conclusion reached in this regard was that government investment in housing can significantly improve the predicament of affordability which Toronto currently finds itself in. The Canadian federal government and the provincial government of Ontario have been generally absent from providing assistance to any housing programs since the 1990's – a period of more than 20 years.

This has created a situation in which residents of Canada's largest and least affordable cities must rely exclusively on the market to meet their housing needs, thus making the market the main driver of housing in Toronto and other major cities in Canada. With rapidly rising land values and increasing demand for housing in downtown areas, the expected response of the market has been

a surge in home prices and a drastic decrease in unit sizes. Both of these aspects have inevitably led to the expulsion of families from downtown areas, as the price of owning a home suitable in size for a family has become much more than an average family can afford.

It is the position of this thesis that government intervention has the ability to recalibrate the adverse effects of a purely market-driven housing supply, by placing emphasis on the social needs of families. The outlined strategies of community land trusts and co-operative housing on city-owned land all work together to create perpetually affordable housing options for families living in downtown Toronto. Furthermore, a greater focus on social concerns has implications for prioritizing innovation in design over factors such as branding for commercial purposes and increasing a developer's return on their investment, which have been a common priority of market housing. Such action on the part of the different levels of government has the potential to shift the current priorities of the market to include the particular needs of families and employ innovative architectural elements and typologies to address those needs.

In this thesis, the design of the Home for Urban Families attempts to offer an architectural vision of the possibilities currently present in Toronto and showcase how the prospect of political action towards housing has the potential to achieve these possibilities.

A City for Everyone

Toronto is one of the most diverse cities in the world in regard to its residents. Unfortunately, this diversity is rarely reflected in the city's urban environment, particularly in the housing sector. Successful city building involves the participation of a variety of actors, able to provide a wide range of options and address the diverse needs of the city's residents. Current practices in Toronto show that domination of the housing sector by the private market has led to a lack of choice and subsequent exclusion of families from the urban environment.

This thesis calls for an alternative approach to housing in Toronto – one which recognizes the diversity required in both the housing market and the city fabric, and in this way is able to create complete communities and an inclusive urban environment capable of accommodating people of all ages and at any stage in their life, including the time they embark on the journey of starting a family.

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APPENDIX

MID-RISE & BUILDING IN WOOD

A Potential Combination

In 2010, the City of Toronto Planning Department released a study of the potential benefits of a mid-rise building typology along the city’s avenues – defined as important corridors along major streets. The study, together with encouragement by the city for developers to pursue mid-rise buildings, is an attempt to stimulate the development of more diverse building forms in Toronto. Sequentially, in 2014, the Ontario Building Code was amended to allow for the construction of six-storey wood frame buildings of residential or office occupancies, increasing the permitted height from four storeys.¹ This can be seen as part of a broader global movement to allow wood to be used in building higher structures than previously permitted as a response to

¹ “CodeNews Issue 232 - Amendments to Ontario’s Building Code Allowing Mid-Rise Wood Frame Buildings.” Ministry of Municipal Affairs; Ministry of Housing. September 30, 2014. Accessed November 15, 2016. <http://www.mah.gov.on.ca/Page10816.aspx>.

emerging innovative technologies which make it safe to do so. Countries such as Norway and the UK do not impose any height restrictions on wood buildings, rather assessing each project using a performance-based design approach.² In Canada, the federal government has been collaborating with the National Research Council (NRC) and the Canada Wood Council (CWC) to research the viability of wood buildings over ten storeys in height. They are currently working on the *TallWood Building Initiative*, which began in 2013 and is engaged in testing the use of wood in larger and taller buildings.³ As the initiative already assisted in raising the height limit in provincial building codes, it can be expected to provide assistance in the future as well. Currently, projects attempting to surpass the six-storey height limit require special exemption, as was the case with an 18-storey student residence Brock Commons in British Columbia.⁴ The possibility of wood buildings higher than six storeys is probable for the future for the construction industry in Ontario. In the meantime, five- and six-storey wood buildings would constitute the lower-density portion of the mid-rise building typology, defined as buildings between five and eleven storeys in height. The combination of the mid-rise and wood-construction incentives creates the ideal conditions for gentle, sustainable, and affordable densification of Toronto's neighbourhoods.

2 Tesfamariam, Solomon. "Raising the Ceiling on Wood Buildings." *Innovation: Journal of the Association of Professional Engineers and Geoscientists of BC*, July/August 2016, 15-16.

3 "Spotlight: Pushing the Heights of Building with Wood." Natural Resources Canada. February 04, 2016. Accessed November 15, 2016. <http://www.nrcan.gc.ca/forests/industry/products-applications/16834>.

4 Brown, Chris. "Wood Highrises Designed in B.C. Are Sustainable and Safe." CBCnews | British Columbia. March 01, 2016. Accessed November 15, 2016. <http://www.cbc.ca/news/canada/british-columbia/b-c-wood-highrises-1.3469605>.

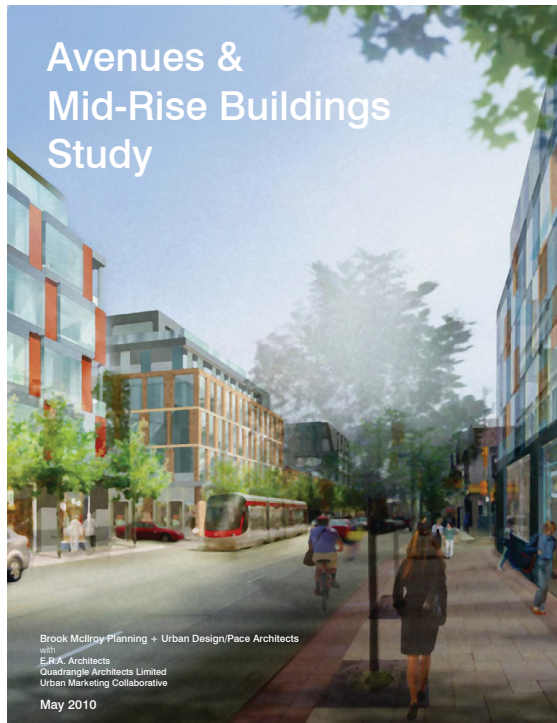


Fig. 5.01. Front page of the Avenues & Mid-Rise Buildings Study, released by the City of Toronto Planning department in May of 2010.

Mid-Rise and the Avenues

“Mid-rise redevelopment of the Avenues has the ability to address a significant portion of the City’s anticipated growth needs over the next twenty years.”⁵

The *Avenues & Mid-Rise Buildings Study* outlines the advantages of urban development in vibrant areas of the city and envisions the potential for accommodating population growth, as well as improving the urban environment where it occurs. The avenues are located in areas with large amounts of existing infrastructure, such as transit, retail, and community services, therefore presenting themselves as beneficial areas for the city to encourage development.⁶ Furthermore, building mid-rise typologies in the city diversifies its housing stock, which currently consists primarily of single family homes and condominiums in high-rise towers. The type of development which is presented in the study could be considered as the optimal choice for family-oriented housing, as the mid-rise typology would offer an alternative for families unable to afford a single family home and unsatisfied with the typical high-rise condominium.

However, despite the many advantages of mid-rise buildings along avenues outlined in the study, developers have been reluctant to committedly pursue this type of building typology. Julian Battison, president of the development company Oben Flats, has noted two main reasons for this reluctance:

⁵ Brook McIlroy Planning + Urban Design/Pace Architects. *Avenues & Mid-Rise Buildings Study*. May 2010. Toronto.

⁶ Brook McIlroy Planning + Urban Design. *Avenues & Mid-Rise Buildings Study*.

- 1) The planning and municipal approval departments have failed to put in place a mechanism which would expedite the review and approval process of mid-rise building applications. This makes the costs of reports and consultants equal to that of a high rise building, which significantly drives up the cost per unit of mid-rise buildings when compared with high-rise.
- 2) Due to the nature of the neighbourhoods where the avenues are located, development normally would occur immediately adjacent to low-density residential zones. Community opposition is often high in these areas and leads to the project requiring many revisions and consultations, thus significantly extending its timelines.⁷

This lends itself to the thought that mid-rise development could be an undertaking pursued by the public sector, in partnership with community-based organizations. Whereas the private sector perceives it as ineffective in terms of a providing a profit return on a developer's investment, a non-profit organization, such as a co-operative, would not have the same goals. The mid-rise typology thus becomes a possibility when considered within the framework of a public-social partnership for the development of co-operative housing on government-owned land along the avenues.

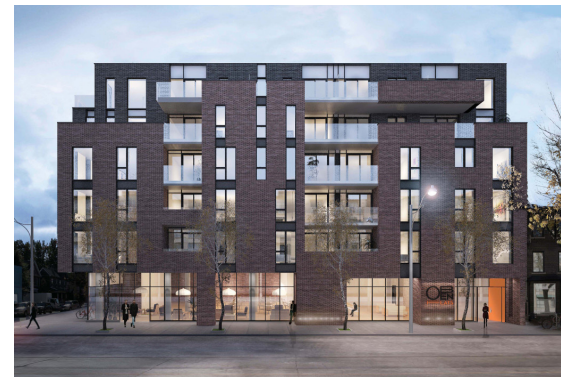


Fig. 5.02. Rendering of Oben Flats Leslieville, a project by superkül for the developer Oben Flats, expected to be completed in early 2017. This is one of the few mid-rise buildings being built since the Avenues and Mid-Rise Buildings Study was published.

⁷ Battiston, Julian. "Meg Graham, Superkül, and Julian Battiston, Oben Flats." Lecture, Standard of Dwelling Symposium, University of Toronto, John H. Daniels Faculty of Architecture, Landscape, and Design, Toronto, February 26, 2016.

Six-Storey Wood Construction

Amendment of the Ontario Building Code to allow wood frame buildings to be built up to a height of six storeys has created the ideal conditions for the exploration of new opportunities for the construction of sustainable and affordable buildings in Toronto. When compared to steel and concrete, wood is considered a sustainable building material choice, especially in Canada, where it can be sourced locally. Other advantages include the cost of the material and the timeframe of construction.

Wood is generally less expensive than concrete or steel, with industry analysts estimating a price advantage of 10-15% for wood over other materials.⁸ Although many in the design and construction industry have noted that the overall project costs are often the same, or even higher; this can be attributed to the current lack of experience and construction standards with this particular material. As it gains wider acceptance and recognition, wood is likely to be at the forefront of sustainable and economic material choices, making it especially suitable for low-budget projects, such as affordable housing.

Furthermore, building in wood would shorten the construction timeframe by four to six months, while also diminishing the amount of disruptive construction which occurs on site.⁹ This is particularly

⁸ Lewington, Jennifer. "Six-storey Wood Buildings 'a Game-changer'" The Globe and Mail. December 01, 2014. Accessed November 03, 2016. <http://www.theglobeandmail.com/report-on-business/industry-news/property-report/six-storey-wood-buildings-a-game-changer/article21850652/>.

⁹ Ervin, Michelle. "T.O.'s Debut Six-storey Wood-frame Development." Ontario Building Officials Association. January 22, 2016. Accessed November 03, 2016. <http://www.oboa.on.ca/news/article/?id=701>.

beneficial for building on sites in close proximity to residential neighbourhoods, as a prolonged and disruptive construction process can significantly impact the lives of those living near the site and create community opposition to such projects.

Toronto's first six-storey wood building is currently under construction and is projected to be completed in the spring of 2017. Heartwood condominium in the Beaches was designed by Quadrangle Architects and is to be constructed of glulam and cross-laminated timber. Although innovative in the use of building material, this project still falls into a similar price, unit type, and building typology category as most condominium developments in the city.

A Future for Mid-Rise Wood Construction

In the present state of the Toronto housing market, mid-rise buildings constitute a small percentage of available housing options, while the use of wood in multi-unit residential construction is lower still. Although the possibility for both has been available and encouraged for several years, developers have been slow to pursue these options. This can be partly attributed to the fact that large portions of most projects' costs are allocated towards the location and branding for marketing purposes, leaving few resources available for elements such as design and innovation in the use of materials and building typologies. A shift in consumer preferences and innovative approaches used by the non-profit sector can begin to alter this disproportionate allocation of resources. As more projects are built in a sustainable, affordable, socially-conscious, and



Fig. 5.03. Rendering of Heartwood the Beach condominium, a project by Quadrangle for the developers Fieldgate Urban and Hullmark Development, expected to be completed in spring of 2017. This is one of the first six-storey wood building to be built in Toronto since the Building Code amendment.

design-oriented manner, appreciation and demand for these types of projects can be expected to rise. This thesis suggests that the public sector has the potential to play an active role in propagating and encouraging these types of housing projects in the city of Toronto.