The Suburban Neighborhood Redefined:

Establishing Diverse and Socially Connected 21st Century Housing

by

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A thesis submitted in partial fulfillment
of the requirements for the degree of
Masters of Architecture (M.Arch)

The Faculty of Graduate Studies
Laurentian University
Sudbury, Ontario, Canada

Fig. 1. Collage of Research Process

THESIS DEFENCE COMMITTEE/COMITÉ DE SOUTENANCE DE THÈSE
Laurentian Université/Université Laurentienne
Faculty of Graduate Studies/Faculté des études supérieures

Title of Thesis — **The Suburban Neighborhood Redefined: Establishing Diverse and Socially Connected 21st Century Housing**

Titre de la thèse

Name of Candidate / Nom du candidat — Aleong, Kristen

Degree / Diplôme — **Master of Architecture (M.Arch)**

Department/Program: / Département/Programme — Architecture

Date of Defence: 12 April 2021
Date de la soutenance

APPROVED/APPROUVÉ

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Abstract

This thesis examines how 21st century suburban housing can influence the creation of diverse social community. Extensive research, community engagement, multi-disciplinary interviews, and in-field site analysis of 21st century Milton neighborhoods has revealed the need for integration of social and cultural expression of identity within new housing development models and has highlighted possible solutions. The suburbs are historically known for low density housing, and occupancy by middle-class nuclear families.[1] Today it can be said that the 'image' or perception of the 'typical suburban resident' hardly exists.[2] Residential suburban towns and cities have continually evolved to respond to the shift in suburban demographics. They now attempt to include smaller and higher density housing for lower- income households and diverse occupant populations. In order to accommodate the current housing demands new suburban residential development models have been created. Local officials, urban planners, architects, and developers have each contributed to the redesign of suburban neighborhood housing to meet the diverse demographical needs. Within this redesign a primary element of historic suburban neighborhoods has been overlooked. This is the consideration for social community integration and culturally diverse inclusivity.

Through a multidisciplinary exploration the search for reality and responsibility of today's suburban residential social structure and demographic trends will be discovered. The suburban site analyzed for this study is Milton Ontario Canada, my hometown, the place that has shaped my view of suburban life. Across the several disciplines and jurisdictions that contribute to this town's development of suburban neighborhoods, the analysis of community identity is observed. Through community engagement survey research, the sense of community within Milton's residential neighborhoods is explored. This exploration of social and demographic foundations are analyzed to understand what type of community is being produced specifically within Milton's new suburban neighborhoods. Historically, change in residential housing typology was based on a combination of social, cultural, functional, and economic factors.[3] These principles, re-imagined and integrated, will discover a new suburban social community structure. This thesis will look at the possibility of a new suburbia, one that acknowledges diverse cultural appeal and focuses on the needs of our current social, economic, and demographic conditions. The research composition consists of both geographical, and statistical analysis. Ultimately this study has been informed by the local's knowledge and perspective to build upon the community's set needs. The goal is to conceive a means of accommodating shifting housing needs and create architectural, ethical, and urban integrity within suburbia.

1 Mark Baldassare. "Chapter one: National Trends," In Trouble in Paradise: The Suburban Transformation in America, 1-45. (New York: Columbia University Press, 1986), 2.

2 Mark Baldassare, Trouble in Paradise, 31.

3 Lewis Mumford. The City in History: Its Origins, Its Transformations, and Its Prospects (London: Secker & Warburg, 1961)

Acknowledgements

In completing this thesis many people have assisted me along the way. I would like to take this moment to thank all those who have contributed to this success.

This thesis and the research behind it would not have been possible without the exceptional educational support and guidance of my advisor, Dr. Kai Wood Mah. I would like to also express my gratitude to my second reader, Professor Shannon Bassett for providing me with excellent resources and sharing her personal experiential knowledge. I had the opportunity to learn from them both to develop foundational elements to create a strong thesis argument. They guided me through the process to acquiring the skills for further discovery of the significance architecture has upon social community connectivity.

I would also like to extend my heartfelt thanks to my friends, family and community members who have contributed to my study, because without their help this project would not have been as successful as it was. Finally, I would like to thank my loving mother, father and brother who have continuously encouraged me and have been by my side throughout my entire educational career.

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Question

Can a new suburban neighborhood housing framework meet the demographic needs and support a robust and inclusive social community structure?

Introduction

Growing up as a resident of one of Milton's many suburban neighborhoods I have had the opportunity to witness urban sprawl and its many affects. For Milton, this sprawl meant opportunities for growth as a town, introduction of new resident diversities in cultures and races and the possibility to create a new perspective of suburban housing and its life all together. When I first moved to Milton in 2001, it was a small municipality and the first phase of new housing development had just started construction. The town was welcoming; ready to integrate and support the new residents with the core community amenities it had, at the time. I moved into a detached dwelling with my family in a neighborhood that encompassed many of the same features that the "typical" residential suburb would. The houses were all the same type, similar sizes, wide streetscapes and housed predominantly white families. Despite cultural differences we knew many of our neighbors very well, had block parties and would socialize with them over frequent backyard barbeques. Over the following years, more residential neighborhoods were developed. These included higher density housing typologies such as townhouses, rowhouses and condominiums. It's occupants were more diverse residents of differing cultures, races and demographics. With this rapid population increase and urban sprawl the sense of community changed as well. Neighbors rarely socialize in these new subdivisions and result in neighborhoods feeling socially divided. My thesis titled *The Suburban Neighborhood Redefined: Establishing Diverse and Socially Connected 21st Century Suburban Housing* will explore why the sense of community has changed in these neighborhoods.

My study was conducted in three main parts;

Part 1: The understanding of Milton as a suburb and the residents who reside within it.
Part 2: A theoretical exploration of community.
Part 3: A multi-disciplinary study of suburban residential design factors influencing neighborhood community.

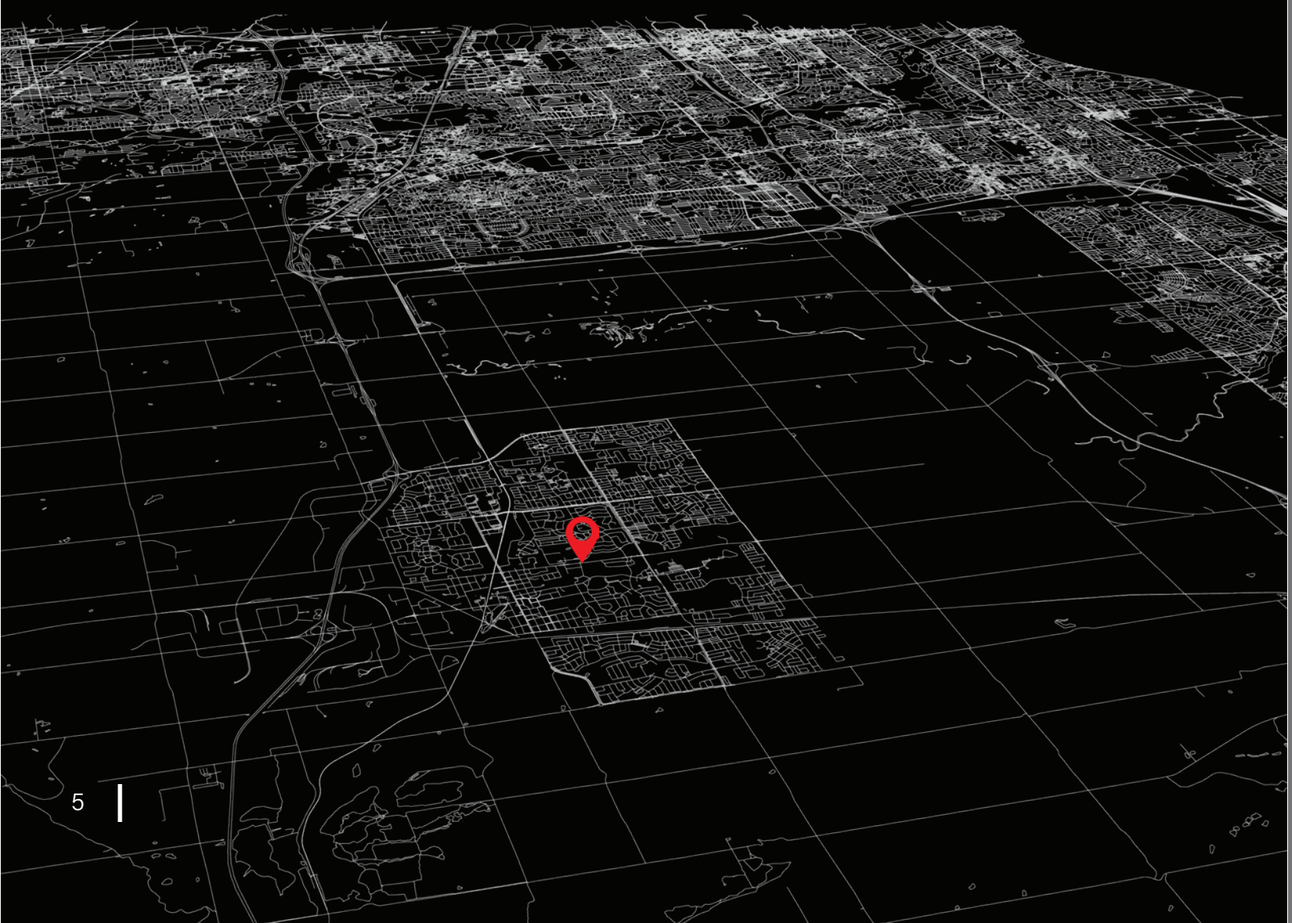
These three parts have collectively informed the design proposal of a new suburban neighborhood housing framework. One that is demographically diverse and socially connected. With Milton's high standing suburban growth reputation, this new development model can act as a precedent for similar Ontario suburbs if it proves successful.

Through my studies and observations, I have realized that my architectural intervention must be a socially led design implementation that addresses the social community divide. These changes will be in the realms of the neighborhood public spaces, and the semi-private and private spaces that the housing units consists of. This includes a redesign of the larger neighborhood site structure as well as the smaller scale housing units and their immediate sites. Through the several forms of suburban neighborhood analysis and consultation with various professions involved in the design, I have created a neighborhood proposal that provides mixed housing typologies for a socially connected 21st century suburb. With Milton's high standing suburban growth reputation, this new development model can act as a precedent for similar Ontario suburbs if it proves successful.

Fig. 2. (Top) High-density housing streetscape
Fig. 3. (Bottom) Rowhousing front yard

Fig. 4. (Top) Tree-lined Suburban street 1974
Fig. 5. (Bottom) Men standing on front porch of Milton home under construction

Part 1



Milton, a Suburb

In this section I analyze Milton's rapidly increasing immigrant population. Though Milton's these residents accounts for more than half of the town's total population, the municipality is not an ethnoburb for its diversity amongst its ethnic groups. Most of these new residents are moving into high density housing, which have been built under the provincial policy to intensify previously underdeveloped land.

As the immigrant population predominantly resides in the new neighborhoods it makes residents feel like there is an undefined cultural and racial boundary between the old and new parts of town, this outlook could lead to segregation. Not only is there cultural and racial divide amongst the old and new neighborhoods but there is also a generational divide. The problem with this is the lack of intergenerational social interactions that have proven to support healthy social environments for both the young and old. Through mapping the town's statistics, I also observed the geographical divide amongst income levels. This is an element that could also contribute to the social community divided.

Introduction to Milton, Ontario

Milton Ontario, the suburb I have chosen to study, is within the southern region of Ontario and is one of Canada's fastest growing suburbs. From 2001 to 2006, the municipality saw a 71% growth in its population.[1] In the following five years there was another population increase of 56.5%. Between 2011 to 2016 Milton's population has continued to rise by about 30.5%.[2]

I have had the opportunity to watch the process of this town's suburban sprawl and rapid population growth firsthand as a resident of a suburban neighborhood and now an external observer. Today, Milton is part of a network of suburban towns and cities that surround Toronto, making an area known as the Greater Toronto Area (GTA). The town's placement within the GTA makes it a prime location for daily commutes to downtown Toronto and other surrounding cities and towns such as Mississauga, Brampton, Hamilton and Burlington. Milton's residential urban sprawl is currently bound by the McDonald Cartier highway to the north, and the protected Greenbelt area to the northeast and Niagara Escapement to the west. Being one of the most westward suburbs of the GTA, Milton has been included in several transportation infrastructure plans to increase GO train rail lines, bus stations and highways expansions to make transit to the metropolitan downtown core easy, affordable, and timesaving.[3]

When I first moved to Milton, it was a small township with traditional suburban neighborhoods surrounding the municipality's downtown core. Most of the land was agricultural fields and greenbelt area. Today driving around Milton, this history is hard to imagine as the housing development rate is continuously expanding and residential land development is increasingly densified.

1 Canadian Business Journal,"Town of Milton," Canadian Business Journal, Last modified March 18, 2020, Accessed December 1, 2020 https://www.cbj.ca/brochures/2018/Mar/Milton/index.php#2-3.

2 Canadian Business Journal, Town of Milton, 4.

3 GO Transit, "Future System Map," Go Transit. Last modified 2020, Accessed November 11, 2020. https://www.gotransit.com/en/the-future-go/future-system-map.

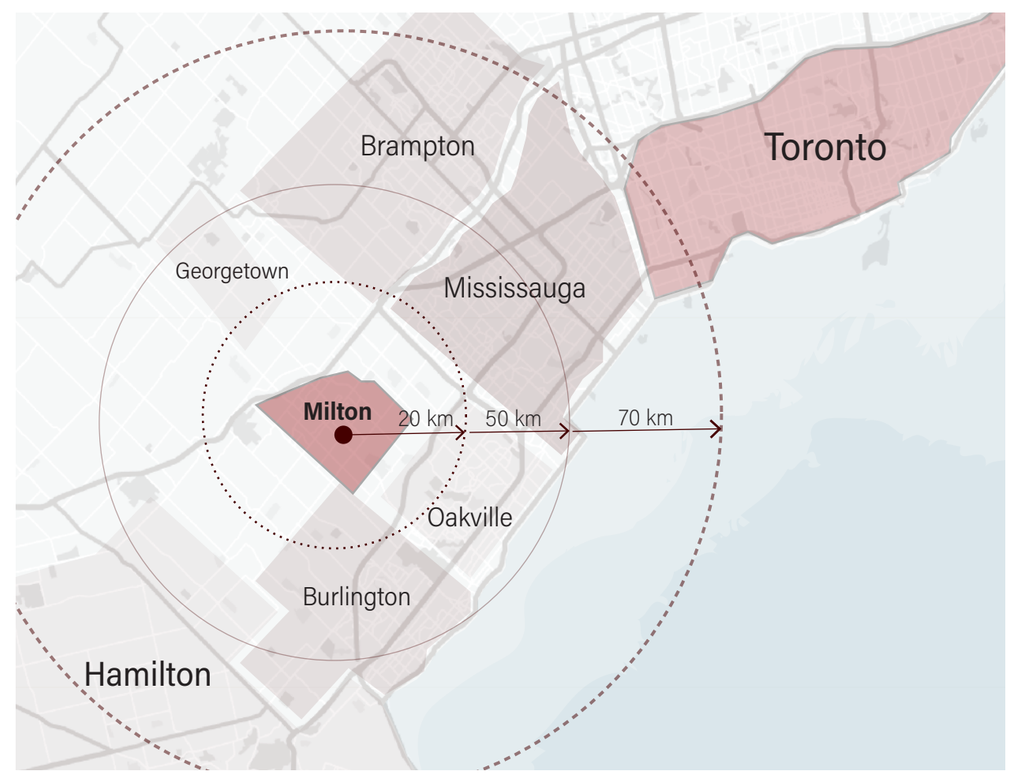


Fig. 6. (Top) Map of Transit routes to Toronto, Ontario.
Fig. 7. (Bottom) Map of Surrounding Suburban Towns and Cities

Fig. 8. (Top Left) View driving into Milton from the Escarpment top
Fig. 9. (Top Right) The Niagara Escarpment from Milton
Fig. 10. (Bottom Left) View of Milton From Above
Fig. 11. (Bottom Right) Driving up the Escarpment

Perspective of Milton

Every project has a perspective. It leads the point and aids the intention. The way that a project is presented often plays a part in contributing to its point of view. My perspective of the suburbs is one that was created as a product of it and an outsider to it. I say this because I grew up having a suburban neighborhood as an identity of home. The traits that I cherish are the sense of belonging, social connectivity, neighborhood pride and community safety. To me these characteristics are what the neighborhoods fostered and, contributed to the community culture.

It was not until I moved out of the suburbs that I was able to acknowledge and fully witness the differences and correlations of community and neighborhood structure. I saw that something was off balance. The housing density and infrastructure rate continued to meet the rapid increased demand, but at the cost of neighborhood social deterioration. I moved to the rural area of Milton, the Niagara Escarpment. This is the most prominent topographical elevation of southern Ontario.[1] This natural landscape ridge creates views as far as Toronto with clear skies, but more importantly provided a cartographic view of Milton's continuous urban sprawl.

Everyday since my family and I moved to our new house we were able to view the suburban patterns and town expansion. This view also has changed my perspective of the town's suburban relation to the urban Toronto core. Seeing the city from the suburb placed Milton's existence and urban growth patterns in perspective. I realized it's location as a commuter destination and definition as a "bedroom community".[2] Milton has become so much more to the residents today. It is home to several diverse ethnicities and cultures. Milton currently has a population of 113,200 and has become increasingly popular as a place for people to escape urban life and for new immigrants to settle.[3] As a town with rising ethnic and cultural diversity I analyzed the immigrant population trend in comparison to other surrounding town's and cities. This was to identify Milton's placement amongst the GTA and possible influences on its social geography as an ethnoburb.[4]

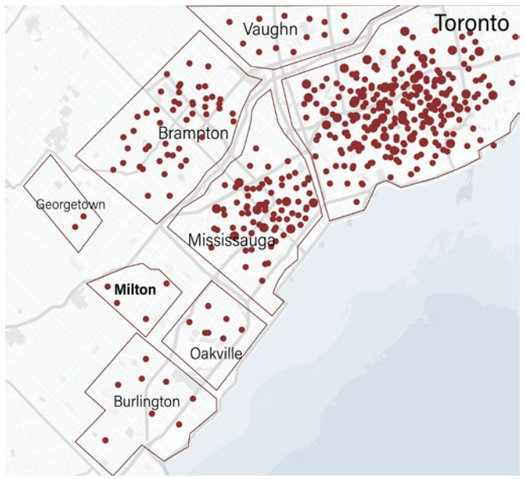
1 Visit Niagara, "Niagara Escarpment," Tourism Niagara Canada. Last modified 2020, https://www.visitniagaracanada.com/do/niagara-escarpment/.

2 Merriam-Webster's Learners Dictionary, s.v. "Bedroom Community," accessed September 17, 2020, http://www.merriam-webster.com/dictionary/bedroom community. *Bedroom Community is a small community that has no major industries and that is lived in by people who go to another town or city to work.

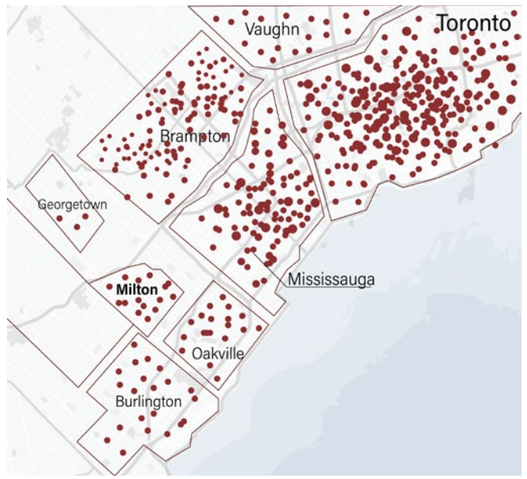
3 Canadian Business Journal, "Town of Milton," Canadian Business Journal. Last modified March 18, 2020, Accessed December 1, 2020, https://www.cbj.ca/brochures/2018/Mar/Milton/index.php#2-3.

4 Wei Li, "Anatomy of a New Ethnic Settlement: The Chinese Ethnoburb in Los Angeles," Urban Studies 35, no. 3 (March 1998): 479–501. https://doi.org/10.1080/0042098984871.*Ethnoburbs are suburban ethnic clusters of residential areas and business districts in large American metropolitan areas. They are multi-ethnic communities, in which one ethnic minority group has a significant concentration but does not necessarily comprise a majority.

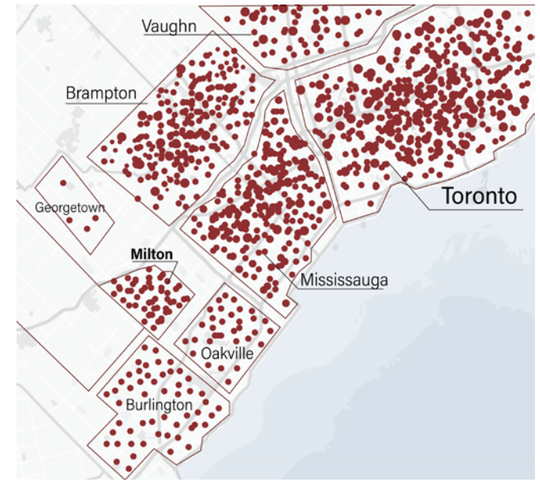
Multi-Cultural Urban Sprawl



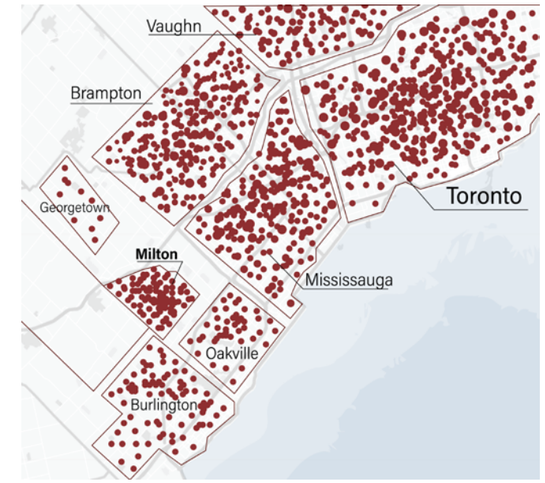
2001



2006



2011



2016

● 1 Dot represents 100 recent immigrants

These maps show the immigrant population in Milton amongst surrounding towns and cities according to Canadian censuses from 2001 to 2016 and the 2011 National Household Survey. Between 2001 to 2006 Milton had a significantly lower immigrant population than Mississauga and Brampton.[1] Mississauga's immigrant population was increasing quite rapidly at this time due to its location in relation to the airport and metropolitan core of Toronto. Similarly, in 2006 Brampton was developing as an ethnoburb to the predominant South Asian immigrant population.[2] In 2011 the immigrant population of Milton rapidly increased to be 24.4 percent of the total population.[3] This was still lower than Ontario's immigrant population percentage of 28.8 percent, but the town caught up to similar immigrant populations of suburbs in closer proximity to Toronto. According to the 2016 census, Milton's population was 110,128 and the immigrant population was 35.9 percent of that, surpassing Ontario's 2016 immigrant population of 29.1 percent.[4] For this small predominantly white town this was a huge increase in ethnic diversity. Majority of these new residents have moved into new-build neighborhoods that are products of the provincial smart growth densification policy.[5] The town covers over 140 square miles, and today has a population density of 596 people per square mile.[6] Though Milton's immigrant population accounts for more than half of the town's total population, the municipality is not an ethnoburb for its diversity amongst its ethnic population. The biggest minority group is South Asians, which only makes up 14 percent of the population. Other minority groups include Filipinos, Chinese, Latin Americans, Arabs, and Caribbean that make up 16 percent of the remaining visible minority.[7] Almost 70% of the population is white which includes various European immigrants such as Polish, Germans, Croatians, and Italians.[8]

1 Statistics Canada 2017, Focus on Geography Series, 2016 Census, Statistics Canada Catalogue no. 98-404-X2016001. Ottawa, Ontario. Data products, 2016 Census, https://www12.statcan.gc.ca/census-recensement/2016/as-sa/fogs-spg/Facts-CSD-Eng.cfm?TOPIC=7&LANG=Eng&GK=CSD&GC=3524009&#fd13

2 Statistics Canada 2017, Brampton, CY [Census subdivision], Ontario and Ontario [Province] (table), Census Profile, 2016 Census, Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017, https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E (accessed December 20, 2020)

3 Statistics Canada 2017, Focus on Geography Series, 2016 Census, Statistics Canada Catalogue no. 98-404-X2016001.

4 World Population, "Milton Population 2020," World Population Review, Last modified 2020, Accessed November 15, 2020, https://worldpopulationreview.com/world-cities/milton-population.

5 Ministry of Municipal Affairs and Housing, "Smart Growth for our Communities Act 2015," Ontario Ministry of Municipal Affairs and Housing, Last modified December 3, 2015, Accessed November 13, 2020. http://www.mah.gov.on.ca/AssetFactory.aspx?did=15071.

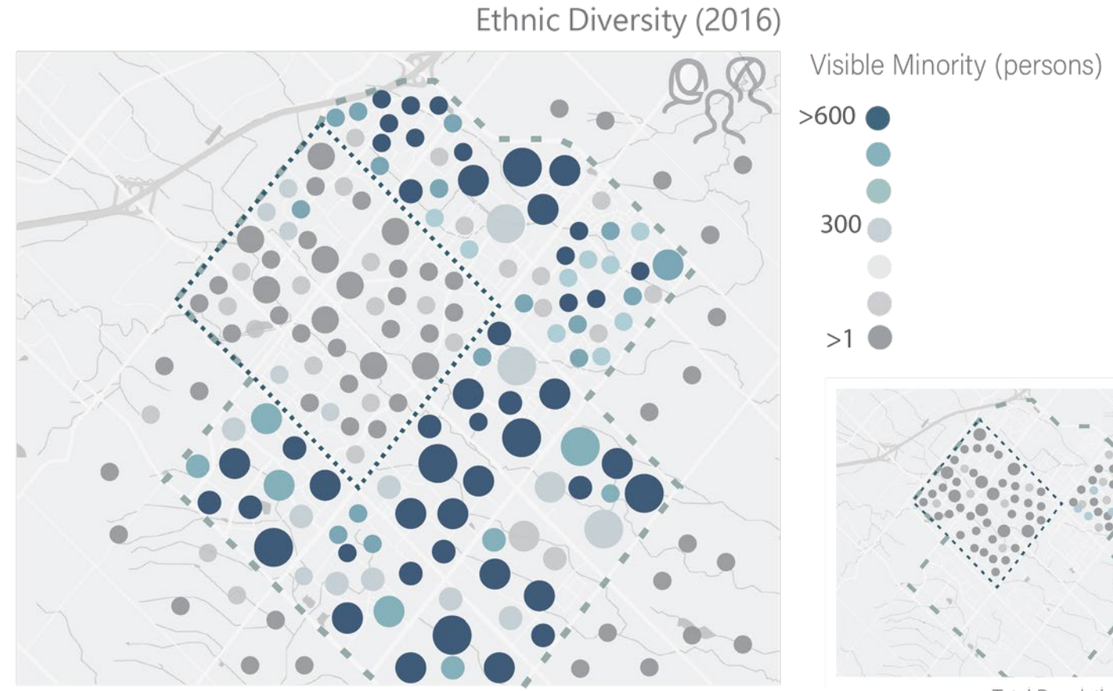
6"Milton Population 2020." World Population Review.

7 Ibid.

8 Ibid.

Fig. 12-15 (Left to Right) Map of Miltons immigrant population in 2001- 2016

Community Identity and Integration



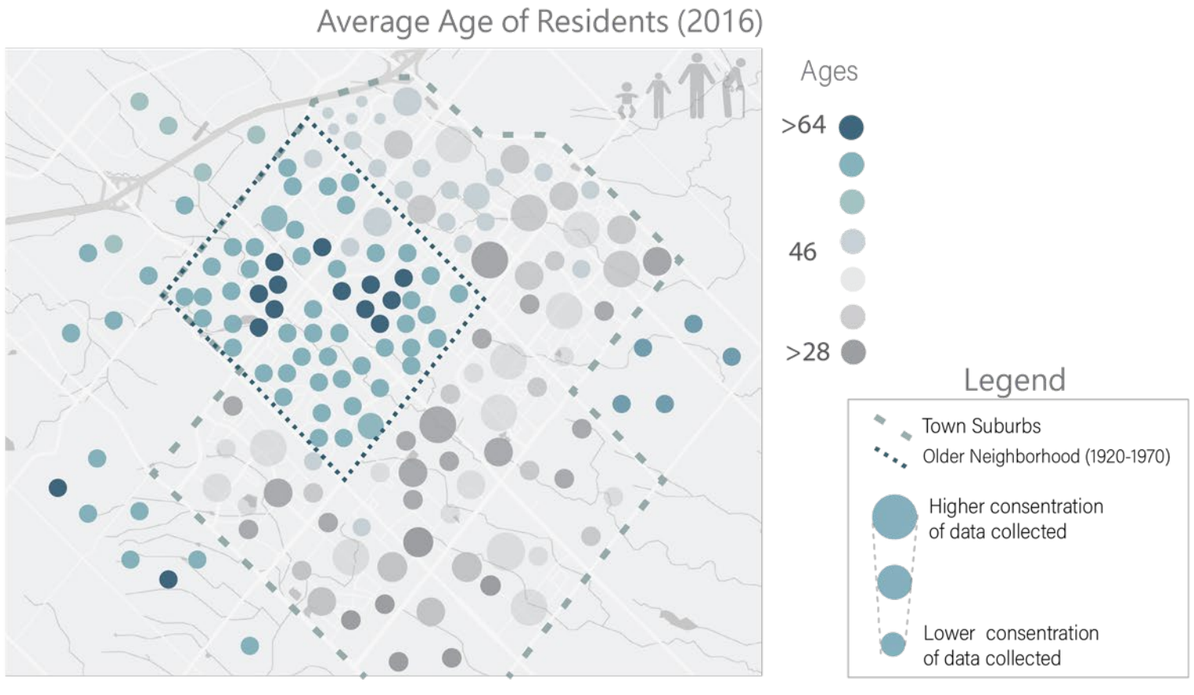
Total Population- 31,000
Visible Minorty - 1,030

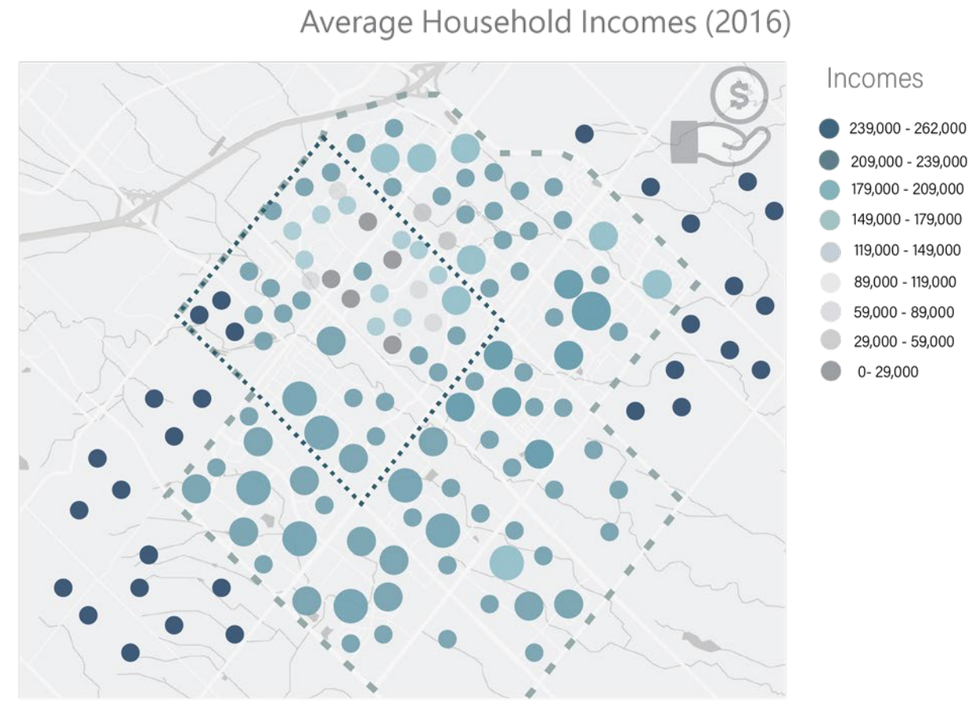
Visible Minority

From a larger geographical perspective, we see that Milton's ethnic population has diversified. A closer look at how this diversity is integrated throughout the suburb tells another story of Milton's residential identity. This map displays Milton's large ethnic population, but it also exhibits Milton's lack of social integration. Milton was originally a town populated predominantly by Irish, Scottish and British Christians.[1] We can see that these families have remained in the older parts of Milton, likely passing these houses down from one generation to the next. Milton's rapid population increase of recent immigrants seem to all reside within the new parts of Milton. This could be because there is no real resident image to fit into within these new-build neighborhoods. The new neighborhoods offer residents the opportunity to paint a new picture of the suburb where they are culturally and racially accepted and are original residents. The division amongst the newer diverse neighborhoods and older less ethnically diverse neighborhoods creates problems of perspectives within the suburb. It makes residents feel like there is an undefined culture and racial boundary that could lead to segregation.

1 Town of Milton,"The Town of Milton Official Plan," Town of Milton, Last modified August 2008, Accessed December 1, 2020, https://www.milton.ca/en/business-and-development/resources/FINAL-VERSION-TEXT-ONLY---OP-Consolidation---Aug2008.pdf.

Fig. 16. Milton's Visible Minority Population 2016
Fig. 17. Milton's Visible Minority Population 2001





Ages of Residents

The age differences of residents is another demographic that we see following a prominent divide. This separation can be clearly seen between the town's old and new neighborhoods. Milton has a young population, with over 26% of its residents aged 19 and younger. Just 10.5% of the population are 65 years old and older.[2] The newer neighborhoods are home to the younger residents living in higher density areas while the older residents generally reside in the older neighborhoods. This partially due to many of Milton's elderly residents still residing in their family homes within the older neighborhoods. It also has to do with the housing typologies being built within the new neighborhoods. These houses are generally smaller and utilize vertical square footage resulting in multilevel homes with many stairs. In the older parts of Milton, it is also easier to find bungalows that are more accommodating to the aging population. The problem with this divide is the lack of intergenerational social interactions that have proven to support healthy social environments for both the young and old.[3]

2 World Population Review, "Milton Population 2020," World Population Review, Last modified 2020, Accessed November 15, 2020, https://worldpopulationreview.com/world-cities/milton-population.

3 Dorit Fromm, "Seeding Community: Collaborative Housing as a Strategy for Social and Neighbourhood Repair," Built Environment (1978-) 38, no. 3 (2012): 364-94, Accessed December 21, 2020, http://www.jstor.org/stable/23290269.

Household Income

This map presents the household income trends. The divide between the new and old neighborhoods is present once again as the higher incomes are seen in the newer subdivisions and lower incomes in the older ones. The lowest income rates are in the older neighborhoods where the houses were more affordable in 1950's to 1980's when they were first purchased. Many of the original residents still reside in these homes and are also retired and are now on pension income. The largest incomes are in the newer neighborhoods where the housing price is significantly higher today because of increased housing demands, which require higher incomes to purchase them.[4] The imbalance of varying income levels is something that could also contribute to a divided social community. This is similarly occurring on a neighborhood level where housing typologies of varying prices are being grouped, which results in the grouping of income levels as well.

4 Statistics Canada. 2017. Focus on Geography Series, 2016 Census. Statistics Canada Catalogue no. 98-404-X2016001. Ottawa, Ontario. Data products, 2016 Census. https://www12.statcan.gc.ca/census-recensement/2016/as-sa/fogs-spg/Facts-CSD-Eng.cfm?TOPIC=7&LANG=Eng&GK=CSD&GC=3524009&#fd13

Fig. 18. Milton's Resident Ages Mapped 2016

Fig. 19. Milton's Household Incomes Mapped

Tony and his two Daughters, Kayla and Sarah

Tony and his daughters moved to Milton in **2003** to be closer to Tony's work. They live in a **detached single family house** in newer Milton. Recently his eldest daughter got married and moved out.

The Renn Family

The Renn's moved to Milton's first new development phase back in **2001**. They decided to move out to the suburban town because of **good house prices.**

The Serrano Family

The Serrano's moved to Milton to escape the busy Toronto city life in **2012**. They first moved into an **apartment** in Milton's **old neighborhood** and then moved to a **detached house** in the same neighborhood to start a family.

Jack and his son Stewart

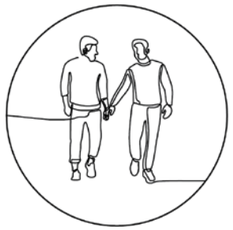
Jack and his late wife came to live in Milton in **1960**. They raised their children in a neighborhood that is now considered the **historic town core**. Jack and Stewart now take care of each other in that same house.

Retired couple Joe and Zena

Zena moved to Milton in **1970** to be a **teacher**, shortly after Joe moved to Milton to marry Zena and start their family. The couple's children have all grown up and moved out now. Joe and Zena have both **retired** and enjoy the quiet **old Milton** neighborhood.

Jack and his son Stewart

Jack and his late wife came to live in Milton in **1960**. They raised their children in a neighborhood that is now considered the **historic town core**. Jack and Stewart now take care of each other in that same house.



Jameel and Michael

The couple moved to Milton in **2012** to be closer to Jameel's hair salon **business**. The salon is located in the heart of historic **downtown Milton**. The two now live in a **townhouse** in one of Milton's newer subdivisions.

Hidi and her dog

Hidi has been a resident of Milton for **44 years**. She first moved her art business to the town and soon after decided to reside there as well. Hidi lives in a **mixed use building** where she lives in an apartment and operates her art store.

Fig. 20. Milton's Resident Survey Profiles

Resident Surveys

Through my resident surveys I state the importance of residential suburban semi-private spaces for their social characteristics. Residents informed me of their geographical social divide as a result of their neighborhood housing typology layouts. During my survey analysis I also evaluated the lack of privacy stated by residents within their outdoor spaces. Due to the deprivation of private space, I concluded that residents resort to not wanting to speak to their neighbors as they

Intensive field work to gather data was a primary mode of research. As a former resident myself, I have walked these neighborhoods several times to take extensive notes and talk to the inhabitants to hear their perspective of the community. I have also recorded my own personal accounts of life in the suburbs and observation of the urban sprawl from an outsider perspective. Along with my analysis of population growth trends and demographic data as described above, I also conducted a community survey. This is considered a less common method for use in urban sociology, but I thought it would be best suited to record the experiences and opinions of the residents.[1] The surveys add to the demographic analysis providing an understanding of timing. Most of the demographic analyses relied on census data, which is collected every five years, leaving large gaps on the recent trends. The surveys are used to update information from the last census in 2016. The surveys answer many of the unknown questions about social trends that the demographic analysis cannot. Surveys can collect information about social attitudes, recollections, satisfactions, and preferences that can better explain and place in perspective the community's current trends.[2]

1 Mark Baldassare, "Chapter one: National Trends," In Trouble in Paradise, 1-45. (New York: Columbia University Press, 1986)

2 Mark Baldassare, "Chapter one: National Trends," Trouble in Paradise, 33.

Surveys		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Visible Minority		○	○	○	○	○	●		●			●		●				
Neighborhood Age	1900-1990						●				●				●	●	●	
	2000-2020	○	○	○	○	○		●	●	●		●	●	●				●
Household Size (persons)	1	○																
	2					○					●		●		●		●	
	3													●				
	4		○	○	○			●	●			●				●		
	5						●			●								●
House Unit Type	Apartment	○															●	
	Townhouse		○			○												
	Semi-Detached				○													
	Detached			○			●	●	●	●	●	●	●	●	●	●		●
Household Age Groups (years)	0-15						●	●		●				●				●
	16-29		○	○	○				●	●		●	●			●		
	30-59	○	○	○	○	○	●	●	●	●		●	●	●	●	●		●
	60 & up										●				●	●	●	

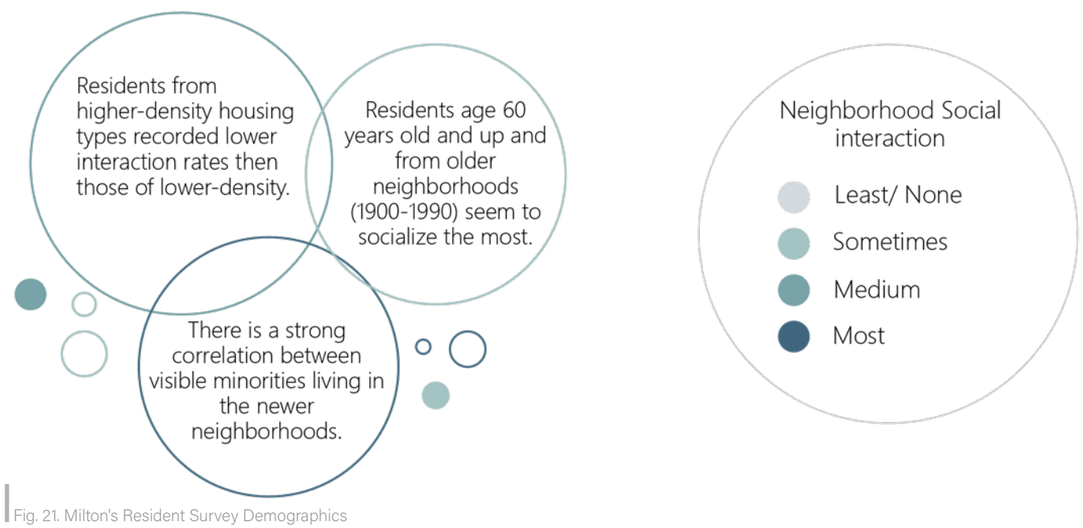
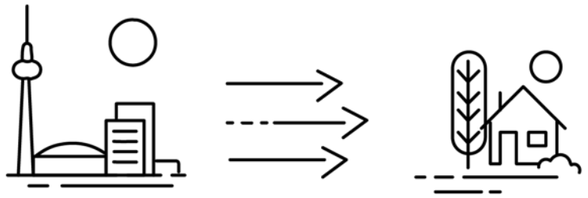


Fig. 21. Milton's Resident Survey Demographics

Surveyed Resident's Demographics

The surveys were conducted in the form of a physical questionnaire consisting of eleven simple questions. These questions were aimed to discover how various demographics and residents in differing housing typologies and neighborhoods socialize, and where these social interactions occur. To ensure that residents answered these questions without any bias towards or against my other research findings or arguments, I led my introduction with simply stating that I am an architecture student conducting a survey on Milton's residents. My first few questions pertained to gathering personal information on the participants. They were asked to fill in their household information such as postal code or nearest intersection to find out the neighborhood that they belong to. They were also asked the year that they moved to Milton, their household size, ages of the residents in their household, cultural background, and the residential typology that they live in (apartment, townhouse, semi-detached dwelling, detached dwelling etc.). This data was collected to ensure that the survey information is sourced from a wide range of different demographics and perspectives. Another foundational question that residents were asked to answer in the survey was the reason for their move to the suburbs of Milton. Many residents moved to the town as an escape from a busier city or for work purposes. This data was consistent in surveys collected from residents who moved to Milton in 1960 all the way to 2019. Milton has grown from a small town and along the way has provided many business opportunities. As the town rapidly increased in population, so did the need for doctors, teachers, trades etc. to support the residents.



Milton's central proximity to industrious towns and cities has also contributed to many residents' decision to choose the town. Its location provides many short commute work opportunities. This question was important to my study as it informed the personal motives of residents moving to the town and provided understanding to what they seek in suburban living.

In the next section of the survey, I start to question who socializes most within today's neighborhoods. I do this by asking residents a series of questions such as: How often they converse with their neighbors?; Where do they usually socialize with neighbors?; and, How many neighbors do they know? The data collected shows that residents who are over 60 years old or residents with young children under the age 14 talk to their neighbors more frequently. The older population explained that they enjoy spending their time walking the neighborhood to specifically converse with neighbors. They also stated that they often sit out on their front porch to observe the community activity and interact with neighbors passing by. Similarly, households with children tend to socialize with other neighbors who have young children, as they play together in front yards, driveways, or sidewalks. Across the data collected majority of the residents stated that they talk to their neighbors in their front yard or driveway. This was an interesting discovery as I noticed from my field observations that many of the newer and higher density neighborhood houses do not have a front porch and the neighborhood layouts have significantly reduced or eliminated driveway and front yard space. This segment of the survey information shows the importance of these semi-private spaces of the suburban home for their social characteristics.

My next questions were focused on social activity between residents of different housing typologies. I asked if the neighbors who the residents socialize with reside in the same housing typology as them. Almost all the surveys from residents within the new neighborhoods confirmed that social interactions are always with residents of the same housing typology. When I analyzed the structure of the housing typology layouts, I saw a pattern of grouping the different residential typologies together. This makes it difficult for residents to socialize and interact with neighbors of different housing typologies on a regular basis.

Within my survey I also asked residents how they use their outdoor spaces and their preference of them. This was done to help learn the priorities of neighborhood places from the resident's perspective. With this I asked the participants to give a privacy atmosphere scaling of their 'private' outdoor space weather it was a balcony or backyard. Generally, the research presented that residents within the older (1850's- 1970's) neighborhoods enjoy sitting out on their front porch to talk to neighbors and enjoy the quite streetscape. While new (2001-2019) neighborhood residents prefer the backyard or balcony for the privacy and enclosure for children or pets. Some other observations that I gathered from the collected data was a correlation between residents who marked their backyard being rated higher than 5 on a scale of 1-10 for privacy (1 being not private, 10 being very private), seemed to coincide with a higher rating of social interactions with their neighbors. This was interesting as the residents who said that they see neighbors from their backyard or balcony due to lack of privacy, have higher opportunities to speak to their neighbors but choose not to. It seems like this intrusion of privacy that they feel, makes residents revert to not wanting to speak to their neighbors as they seek privacy from them. This was an important observation for me going forward in analyzing neighborhood layouts as I realized that their must be a balance of public, private and semi-private space for social interacts to be desired.

Fig. 22. Illustrations of Survey Data Collected

Community History

A useful analysis approach for my study concerning community is through a longitudinal exploration. This allowed a comparison between the origins of community life on the Native land and the history of the town's first european setter's community development by versus recent trends of Milton's suburban community development.

Iroquios Six Nations

The Longhouse

Martin's Saw Mill

Churches & Community gathering halls

Downtown Milton

Community amenities, businesses and social core

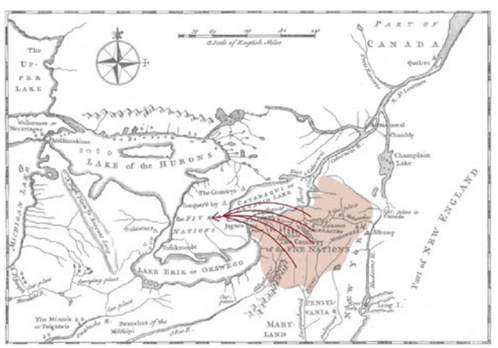
1820

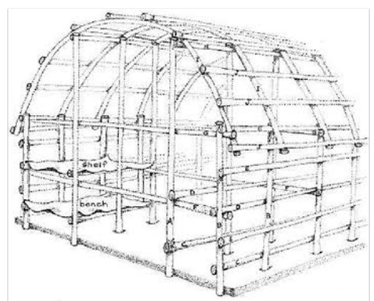
1860

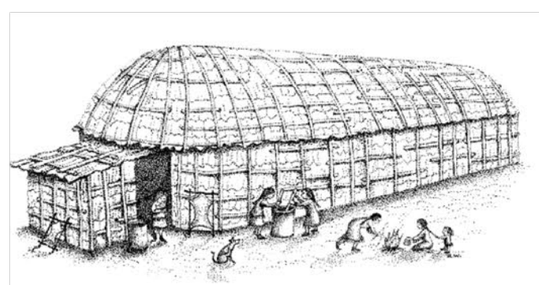
c. 1700's

1850

1900







Indigenous community practice and housing structures unique to the six nation's land that Milton was built on, is analyzed for integration of cultural principals to achieve collaborative community. The Iroquios people referred to themselves as "Haudenosaunee" meaning "people of the longhouse". This title that follows their housing form examplifies the pride that they carried in their community housing structures.[1]

1 "The Iroquios League," Native American Net Roots, Last modified January 31, 2016, Accessed November 25, 2020, http://nativeamericannetroots.net/diary/2081.

Fig. 23. (Top Left) Map of Six Nations Land Territories c. 1 700
Fig. 24. (Top Right) Inside the Longhouse
Fig. 25. (Bottom Left) Map of Six Nations Iroquios Confederacy
Fig. 26. Bottom Middle) Longhouse Structure
Fig. 27. (Bottom Right) Longhouse illustrations

The Fairgrounds

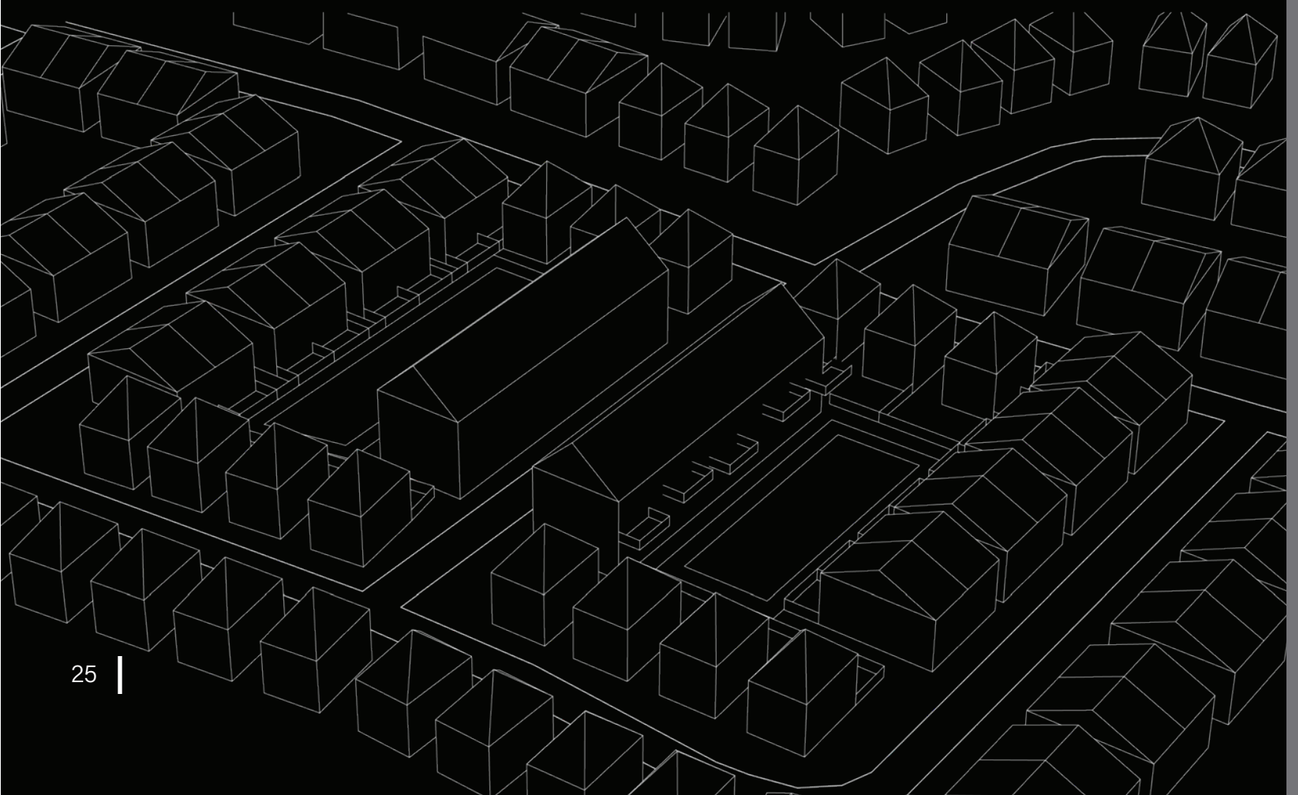
Residential housing Development

Successful urban sprawl often developed by expanding and learning from its historic settlement origins, allowing the foundational land structures and development to be a directive for further urban design. Milton's historic housing is studied for its success as a neighborhood built around the core community gathering place that established an economic structure and promoted community socialization.[2]

1 Pere Vall-Casas, Julia Koschinsky, Carmen Mendoza-Arroyo, and Marta Benages-Albert, "Retrofitting Suburbia Through Systemic Densification: The Case of The Metropolitan Region of Barcelona," Journal of Architectural and Planning Research 33, no. 1 (2016): 45-70, Accessed October 12, 2020, http://www.jstor.org/stable/44113127.

Fig. 28. (Top Left) Aerial photo of Martin's Mill 1950
Fig. 29. (Top Middle) Downtown Milton 1966
Fig. 30. (Top Right) Residents of Milton standing outside brick building 1920
Fig. 31. (Bottom Left) Milton Fairgrounds
Fig. 32. (Bottom Right) Men standing on porch of house under construction

Part 2



Theoretical Exploration of Community

What is Community?

In this section of my study, I explored the theoretical framework to achieving a sense of community. It allowed me to become informed on possibility for architectural intervention to establish a sense of community within suburban neighborhoods. Through this study I discover a new meaning to community and the elements required to build strong community identity, security, and values.

There are two types of community; one based on ***territory and geography*** the other based on ***social relationships***.[1] Usually geographically defined communities are neighborhoods, towns, or cities, and membership is determined on location commonality. Community based on social relations are usually communities established without reference to location, but rather are social communities where membership is initiated by choice.[2] Community based on geographic location is one that is often automatic, when one moves to the location. Whereas the community through relation may require initial action to realize the common connection and act upon it to join the community. In the journal Sense of Community: A Definition and Theory by David W. McMillan and David M. Chavis the authors dissect the psychological theoretical framework of how both types of community are established. These findings have aided my search for a sense of community that exhibits both foundations of location and relation to apply this theory architecturally to a new suburban housing framework. The authors discuss four defining elements that contribute to a sense of community. These elements are membership to a community, the influence one has on a community and the community has on the individual, the integration and fulfillment of needs and a shared emotional connection common to other members of the community.

Membership is a feeling that one has invested part of oneself to become a member, a right to belonging to the community.[3] There are four prominent attributes of membership. The first is emotional safety, which is the **security** that the members feel from being in the community. [4]This could be a sense of economic, physical, or emotional security. The second is the **Sense of belonging and identification**, this is the belief and pride of belonging to the community and the community being yours.[5] This feeling is often a result of one's **personal investment** to join the community.[6] When one must work towards attaining membership within a community, it makes the sense of belonging more meaningful and valued. To visually represent this sense of pride, many communities use a common symbol system.[7] The **Common symbol system** connects back to **boundaries** in how it creates and maintains visual boundaries of the community. We identify these symbol systems as things such as cultural wear, or an architectural style or typology.[8]

The second defining element of a sense of community is one's **influence** on the community and the community's influence on the members. This is the possibility for an individual to influence a group and its correlation to the individual's interest in joining the group. Similarly, the relationship between the cohesiveness and community's influence on

1 David W. McMillan and David M. Chavis, "Sense of Community: A Definition and Theory," Journal of Community Psychology 14 (January 1986): 6-23. https://doi.org/10.1002/1520-6629(198601)14:13.0.CO;2-I.

2 David W. McMillan and David M. Chavis, "Sense of Community", 9.

3 Ibid.

4 Ibid.

5 David W. McMillan and David M. Chavis, "Sense of Community",10.

6 Ibid.

7 Ibid.

8 David W. McMillan and David M. Chavis, "Sense of Community",11.

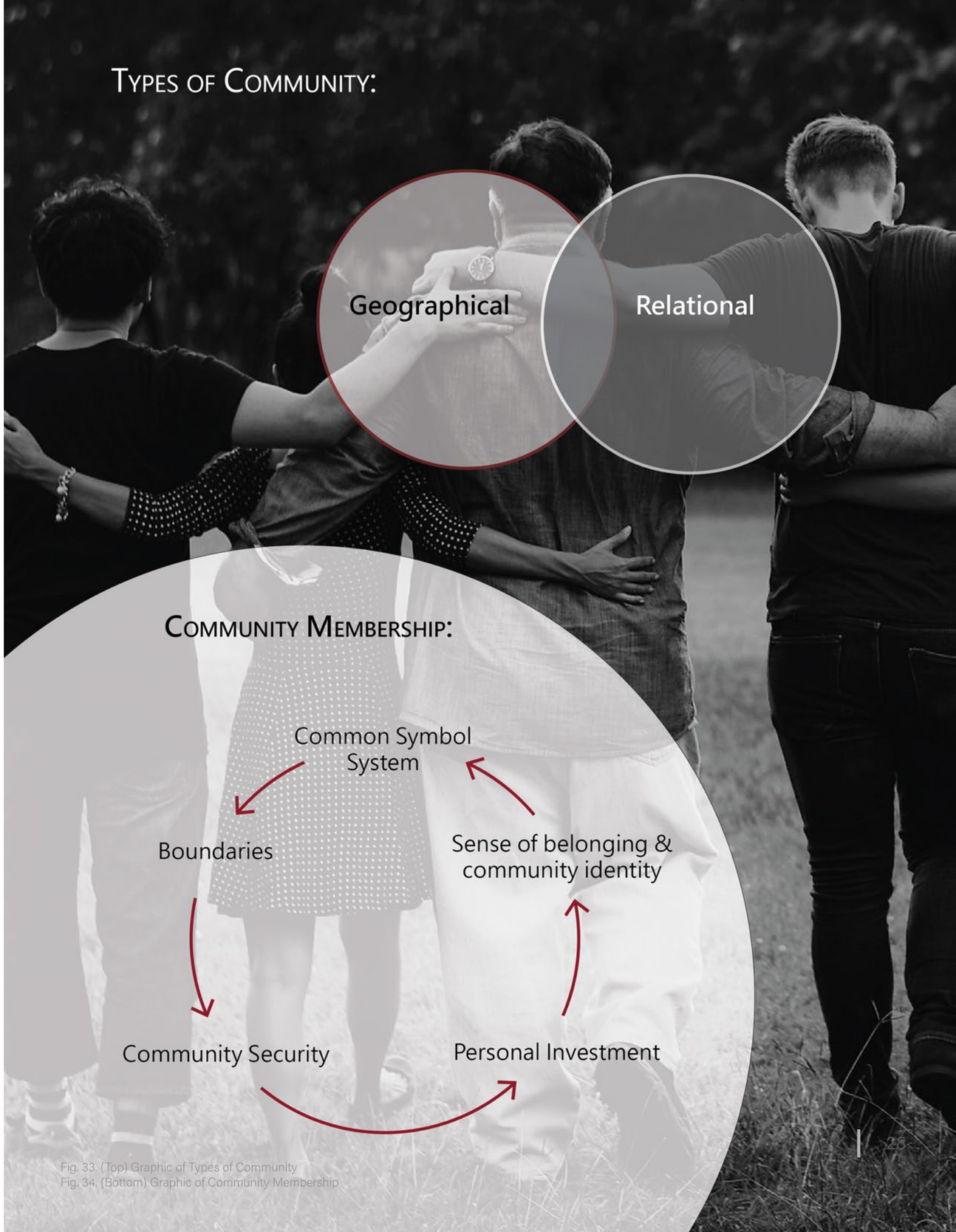


Fig. 33. (Top) Graphic of Types of Community
Fig. 34. (Bottom) Graphic of Community Membership

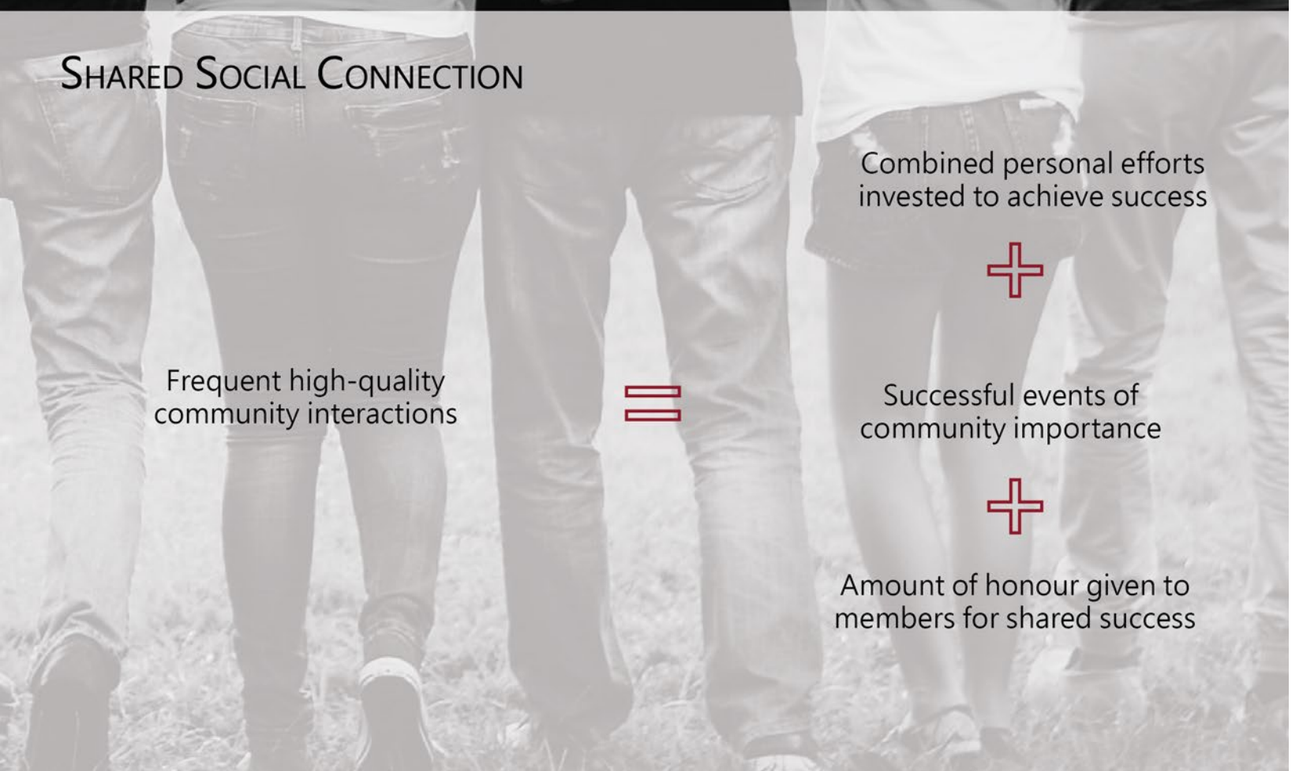


Fig. 35. (Top) Graphic of Community Influence
Fig. 36. (Bottom) Graphic of CommunityShared Social Connections

individuals to conform correlates to the community's strength and bond.[9] In this same way, the pressure to conform to a group's norms and ideologies comes from the need for consensual validation with other members.[10] This theory supports the reasoning behind visual minority residents choosing to live in new build neighborhoods where there is no pressure to conform to pre-existing norms.

Touched upon briefly through the idea of consensual validation amongst members, is the Integration and fulfillment of needs. These are reinforcements that bind the community members to the continued participation in a community.[11] Some of these reinforcements are present in the form of shared group status of success, beneficial competence of members for the community to help each other, and shared values that lead to working together as a community to set common priorities and goals.[12] Today in the new neighborhoods there is no common neighborhood goal amongst the residents for the aspect of community to fulfill residents needs. In older neighborhoods, community is sometimes strengthened when the residents must come together to fight for preservation of their neighborhood or changes that they want to collectively argue for.

The concept of **shared values** leads to the fourth element in defining the theoretical framework of a sense of community, this is a shared emotional connection. Some primary principles that have allowed me to better understand this element was through the assessments of; the amount of interaction within a community, the quality of these interactions, the magnitude of the events and tasks accomplished by the community, the importance of these events and tasks to the members, the extent of the effort that the members invested to contribute to the community's success, and finally assessing the bond that the community members share.[13]

Through my interdisciplinary analysis of the components to planning a suburb I realized that the future residents of new build neighborhoods are not involved in the design process of their community, which limits the initiation of shared values. In my thesis research, the theory of a sense of community has introduced new concepts of architecture's place in initiating the development and maintenance of community. I achieved this through the examination of the inhabitant's psychological process of a sense of community.

Referring to my initial theory related thesis question, I understand now that the lack of participatory development of the new neighborhoods contributes to the lack of community. The differing housing typologies and architectural styles set boundaries/memberships that primarily exclude and lack neighborhood-based inclusion, creating housing type-based divisions. In these new neighborhoods, residents have no influence on the urban planning or architectural features of their community. This eliminates the possibility for influential exchange needed for community conformity and cohesiveness. These residents do not see direct fulfillment of needs or reward for the creation or participation in a neighborhood community. They are placed in an already developed and planned neighborhood where no communal interaction is required to contribute to the success of the neighborhood, which results in the lack of emotional connection. The explanations of these elements toward the theory of a sense of community, lead me to the understanding that community can be initiated around relation and location encompassed through architecture. The architecture must foundationally incorporate the interaction and influences of potential members just as it would to achieve a cohesive design and structural foundations.

9 David W. McMillan and David M. Chavis, "Sense of Community", 12.
10 Ibid.
11 David W. McMillan and David M. Chavis, "Sense of Community",13.
12 Ibid.
13 Ibid.

Interdisciplinary Design Evaluation

Through my study of the various disciplines involved in suburban housing development I examine the oversights within their planning methods. The municipality focuses on overall town growth. It is understood that growth of the town requires densification, but the town's official plan looks at implementing this from a wider perspective and ignores the rigid social divide amongst their zoning layouts. The goal of the urban planners is to create a 'vision' for the town to become a socially conducive public environment. The official plan helps paint the picture of a socially connected and aesthetically purified public places but often disregards the inequalities of access to these public places, within current neighborhood layouts. Looking to a magnified scale of the neighborhood development, I discover the role and priorities of the housing developers. From my research of this discipline, I realize their design focuses on providing the residents with infrastructure and the investors with profits. This narrow focus disregards the resident's social satisfaction and connectivity as a community.

Suburban Development

"People may come here for a small-town feel but they are definitely looking for amenities of a growing municipality,"

••• Barb Koopmans

(Milton's Commissoner of Planning and Development)

Quote: Canadian Business Journal, "Town of Milton," Canadian Business Journal. Last modified March 18, 2020, Accessed December 1, 2020, https://www.cbj.ca/brochures/2018/Mar/Milton/index.php#2-3.

Milton's Suburban Structure

Fig. 37. Map of the Suburban Development Structural Elements

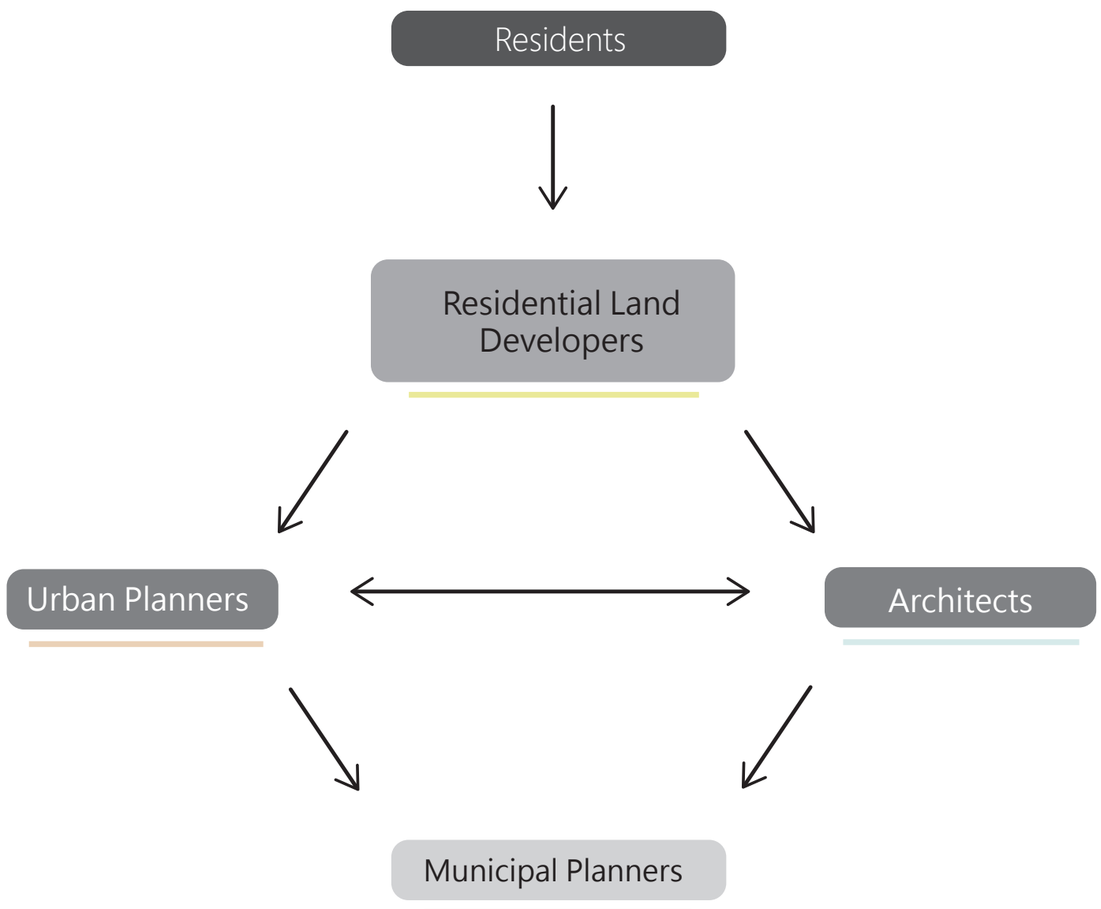


Fig. 38. Diagram of Multi-Disciplinary Suburban Analysis Approach

Multi- Disciplinary Analysis of Suburban Residential Design

The town of Milton's suburban development planning process was examined through several different methodologies that are broken down into categories of this multidisciplinary design plan. The focus of these investigations is informed by the resident's perspective in relation to their unique social and demographic experience of neighborhood life within the suburbs. The disciplines involved in the design of the current suburban neighborhood model that I have chosen to analyze, are the land development, urban planning, and municipal zoning.

The expansion of the suburbs from the role of the developer has been investigated through infield site documentation and a series of interviews with residential land developers. The municipal zoning division was analyzed through a study of the current and planned zoning by-laws, the official plan and an interview with a city zoning official. These revealed the town's priorities of population density, land use permittance and supporting public infrastructure. This discipline encompasses consideration for overall political, economical, and social functionality of the suburb as a whole. Different perspectives toward suburban development have been collectively analyzed through a series of mapping forms as a visual analytical mode. These cartographic representations display the distribution of community social, economic, and cultural structures. Priorities of residents, developers, and the municipality have also been addressed to inform the design proposal. This allowed the design proposal to be led by the voices of the community to ensure that their concerns were accurately addressed.[1] This was done through discoveries of; site development patterns, mixed housing typology analysis, and publicly informed social, cultural, and demographic trends within Milton's suburbs. These factors created foundations for the architectural intervention proposal. Within new housing developments, we witness attempts to maintain the fundamentals of suburbia.[2] This process has reshaped the historical housing model to meet new needs. Ultimately, this study has been informed by the local's knowledge and perspective to build upon the community's set needs.

1 Michelle M. Thompson, and Brittany N. Arceneaux, "Public Participation Geographic Information Systems: A Model of Citizen Science to Promote Equitable Public Engagement," In Advancing Equity Planning Now, ed. by Krumholz Norman and Hexter Kathryn Wertheim, 243-62, (ITHACA; LONDON: Cornell University Press, 2018,) Accessed October 14, 2020, http://www.jstor.org/stable/10.7591/j.ctv43vr3d.16.

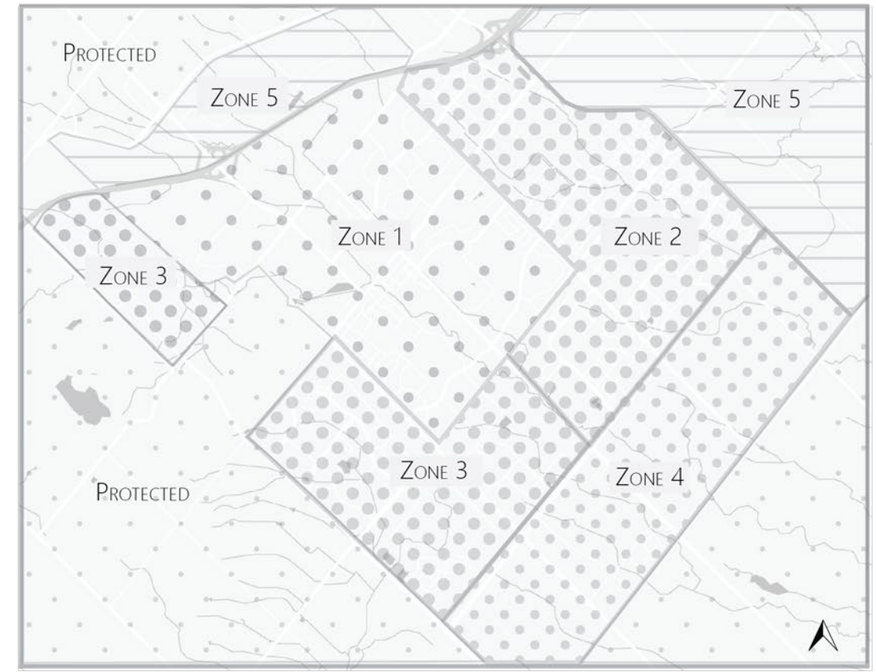
2 Nico Larco, "Suburbia Shifted: Overlooked Trends and Opportunities" In Suburban Multifamily Housing, Journal of Architectural and Planning Research 27, no. 1 (2010): 69-87. Accessed December 7, 2020, http://www.jstor.org/stable/43030893.

Municipal Planning

Land use zoning is an integral part of the design of our suburbs today. It affects the location of every building in our communities. It guides where parks and schools should be located and where roads, sewers and other essential services should be provided for residents.[1] It also sets a model to reach community growth goals in social, economic and environmental preservation. The effect of a strong land use planning model is a balance between the interests of the residents with the wider interests and objectives of developers, urban planners and architects considered for the successful design of the community. Milton's official plan follows the provincial growth plan that aims to densify where possible, as well as the strategic community economic development plan, that sets a vision for the community's future.[2] The municipality is responsible for the density requirements that are set for residential developers, but there is a gap in the study of the implications of increased densities on the social fabric of the new neighborhoods. The structure of Milton's zoning is distinctly divided in and radial pattern with low-density within the town's historic core neighborhoods and then increases as it expands to the new neighborhoods surrounding. Further out the density is reduced as it falls within the protected Greenbelt areas and the Niagara Escarpment region. It is understood that growth of the town requires densification of future housing, but the town's official plan zoning looks at the town from a wider perspective and ignores the rigid social divide amongst the zones. This misses the analysis of social interaction and integration opportunities that are reduced and eliminated within the neighborhood scale, due to imbalanced priorities in economic and urban land growth.

1 Ministry of Municipal Affairs and Housing "Citizen's Guide Zoning By-Laws," Ontario Ministry of Municipal Affairs and Housing, Last modified November 3, 2010, Accessed December 10, 2020. http://www.mah.gov.on.ca/AssetFactory.aspx?did=11156.

2 Town of Milton, "The Town of Milton Official Plan," Town of Milton, Last modified August, 2008, Accessed December 1, 2020. https://www.milton.ca/en/business-and-development/resources/FINAL-VERSION-TEXT-ONLY---OP-Consolidation---Aug2008.pdf.



Municipal Zoning Map

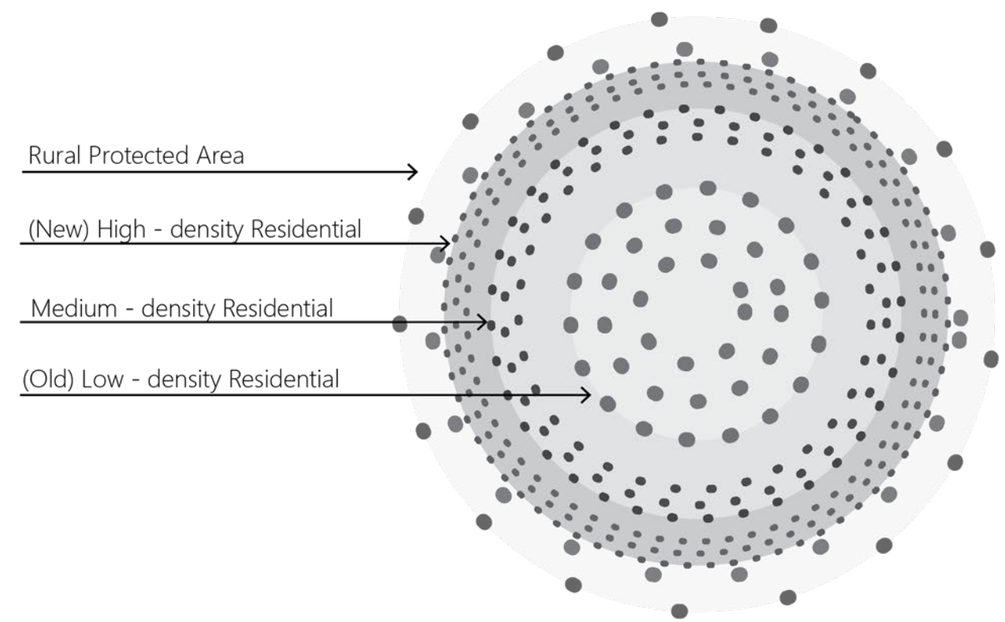
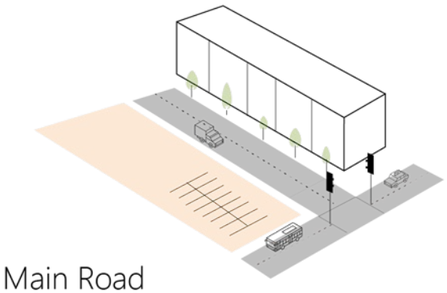


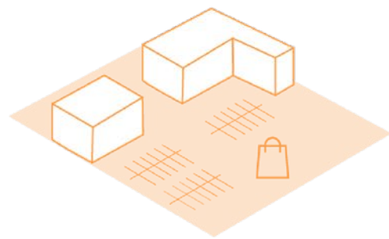
Fig. 39. Map of Municipal Zoning
Fig. 40. Diagram of Suburban Residential Density Structure

Municipal Roads

Community Amenities



Main Road Networks



Plazas

Schools & Community Centers

Parks

Walking Trails

Fig. 41. (Left Top) Map of Municipal Roads
Fig. 42. (Left Bottom) Map of Community Amenities and Parks

Fig. 43-47 (Top to Bottom) Illustrations of Urban Planning Municipal Design Elements

Urban Planning

Representatives of the design professions such as architects, landscape architects, urban planners, and other urban designers must all work together with the same goal of initiating social community. Urban planners are responsible for designing the places in between private and public realms. They can blur the lines between the disciplines and influence the locations within the community for social activity. Recently, urban planner's designs have been limited and structured to the guidelines of the municipality. These guidelines prioritize the car-centric suburb with large plazas and other resident amenities such as schools and community centers, located along major roadways.[1] These guidelines lose focus of the human experience within the suburban neighborhood. To achieve design that is for the people and their social integration, the planners must also listen to the residents and observe their social activity.[2] The 'vision' of the official plan approved by urban planners, must have the goal of designing a socially conducive public environment. The official plan paints a picture of a socially connected and aesthetically purified public places, and fails to portray the inequalities of access to these public places of community. Urban planners can change these accepted realities amongst the design professions and implemented by municipal and government policy.[3]

1 Bolton Anthony, Reimagining Your Neighborhood: Transforming Car-centric Housing Development into Vibrant, Verdant, Sustainable Communities, (Chapel Hill, NC: Second Journey Publications, 2015)

2 Margaret Crawford, "From the 'Feel Good' City to the Just City," posted October 13, 2015, YouTube video, 32:10, https://www.youtube.com/watch?v=IEGliu4P-Mk.

3 Margaret Crawford, "From the 'Feel Good' City to the Just City," YouTube video, 15:10,

Land Development Planning

Typological studies of suburban housing have tended to focus exclusively on the single-family home's placement within the suburbs.[1] While the single-family house is still prominent in the suburban landscape and continues to be an identity of the American Dream, there are several other residential unit types to be studied and developed to address changing demographics and increased density.[2] The developers primary roles in the design of the suburban neighborhood is to deliver the housing infrastructure that meets the official plan zoning regulations as well as best profitable margins for land investors.[3]

Within the neighborhood structure another radial density pattern is identified. This pattern starts with the highest density housing typologies such as rowhouses and apartments being on the outer edges of the neighborhood, as a boarder between the major municipal roads and the interior residential area. These smaller housing units are used as a buffer to protect the lower-density and larger houses located in the core of the neighborhood, from the traffic noise and less desired atmospheres of adjacent commercial or industrial zones.[4] Developers structure the neighborhoods in this formation to maintain an elitist status of the single-family detached homes to obtain their highest profitability.[5] The lower-density neighborhood cores are usually where parks and schools are located to make this area of the neighborhood even more desirable but also elicits inequality. When discussing the socioeconomic divide of the housing typologies with a subdivision land use planner, they acknowledged that the higher density residential units are being stripped of the fundamental spaces, where social activity would usually occur.

1 Peter Rowe, "Houses in Gardens," In Making a Middle Landscape, (Cambridge, MA: MIT Press, 1991),67-95.

2 Ellen Dunham-Jones and June Pauline. Williamson. Retrofitting Suburbia: Urban Design Solutions for Redesigning Suburbs, (Hoboken: John Wiley & Sons, 2011)

3 Interview with Land Use Planner, in conversation with the author, November 2020.

4 Ellen Dunham-Jones and June Pauline, Williamson. *Retrofitting Suburbia*, 29.

5 Interview with Land Use Planner, in conversation with the author, November 2020.

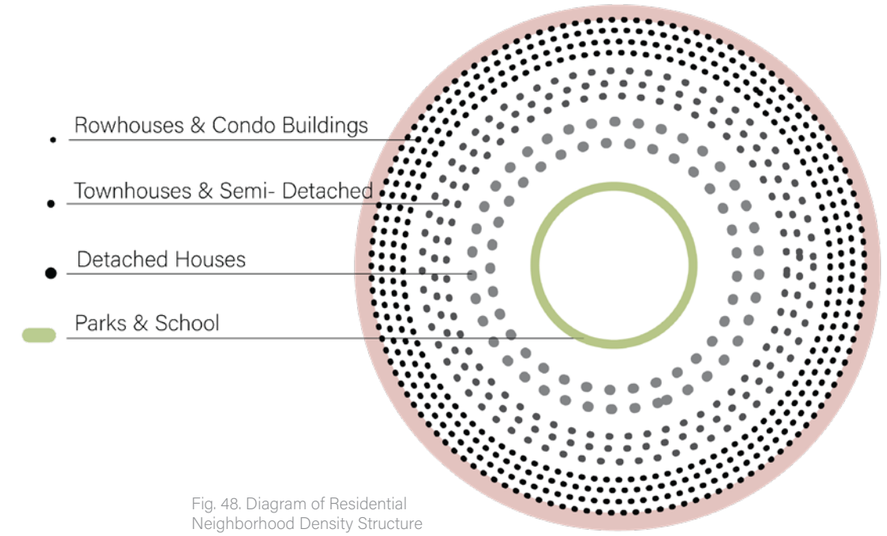


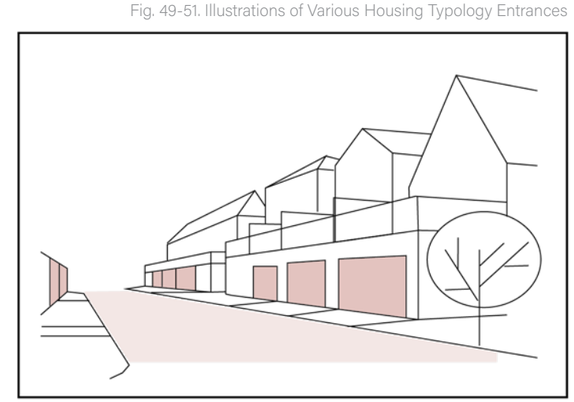
Fig. 48. Diagram of Residential Neighborhood Density Structure

I posed the question to the land use specialist on the feasibility and requirements to blend and integrate the unit typologies for a more socially diverse community neighborhood. Their response informed me on two key components that must be met for this concept to be achieved. The first was that there would need to be well designed transitions between differing typologies, to create a blend of the associated demographics. The second was that the neighborhood and housing layouts and geometry would have to be designed in a way that is still profitable to the real estate investors.[6]

Fig. 49-51. Illustrations of Various Housing Typology Entrances

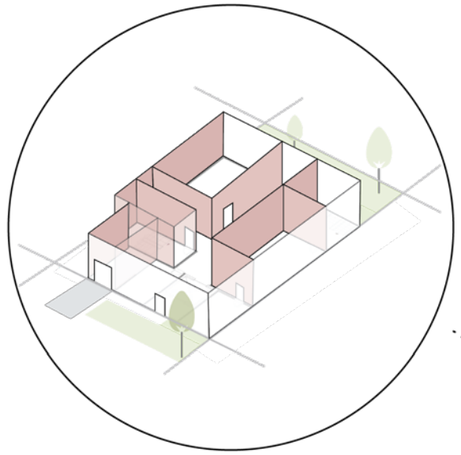
Opportunity for Social Interaction

Balance of Public & Private Space

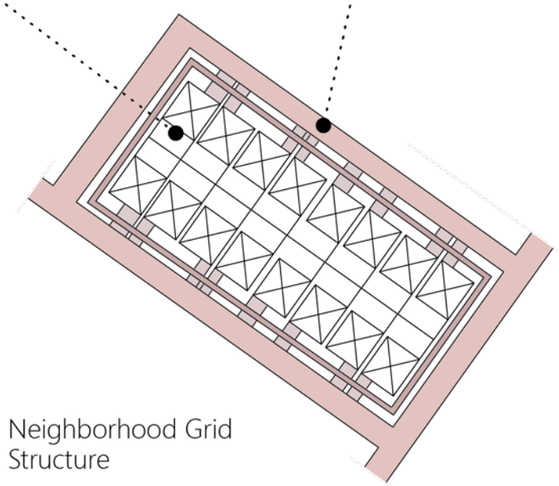


Private to Public Threshold

6 Interview with Land Use Planner, in conversation with the author, November 2020.

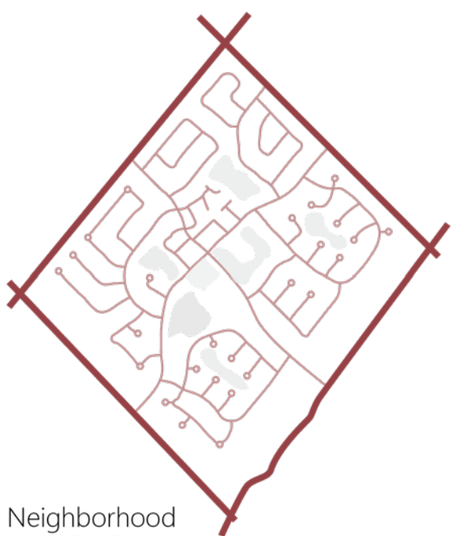


House Site Plans Configured to match to Roadway Grid



Neighborhood Grid Structure

Fig. 52. Illustrations of Suburban Detached House within Grid-like Structure
Fig. 53. Map of Residential Roadways 2020
Fig. 54. Illustration of Residential Grid Block Configuration
Fig. 55. (Bottom Left) Illustrations of Old (1960-1970) Neighborhood Road Structure
Fig. 56. Illustration of New (2001-2019) Neighborhood Road Structure



Old Neighborhood (1960 - 1970) Road Structure

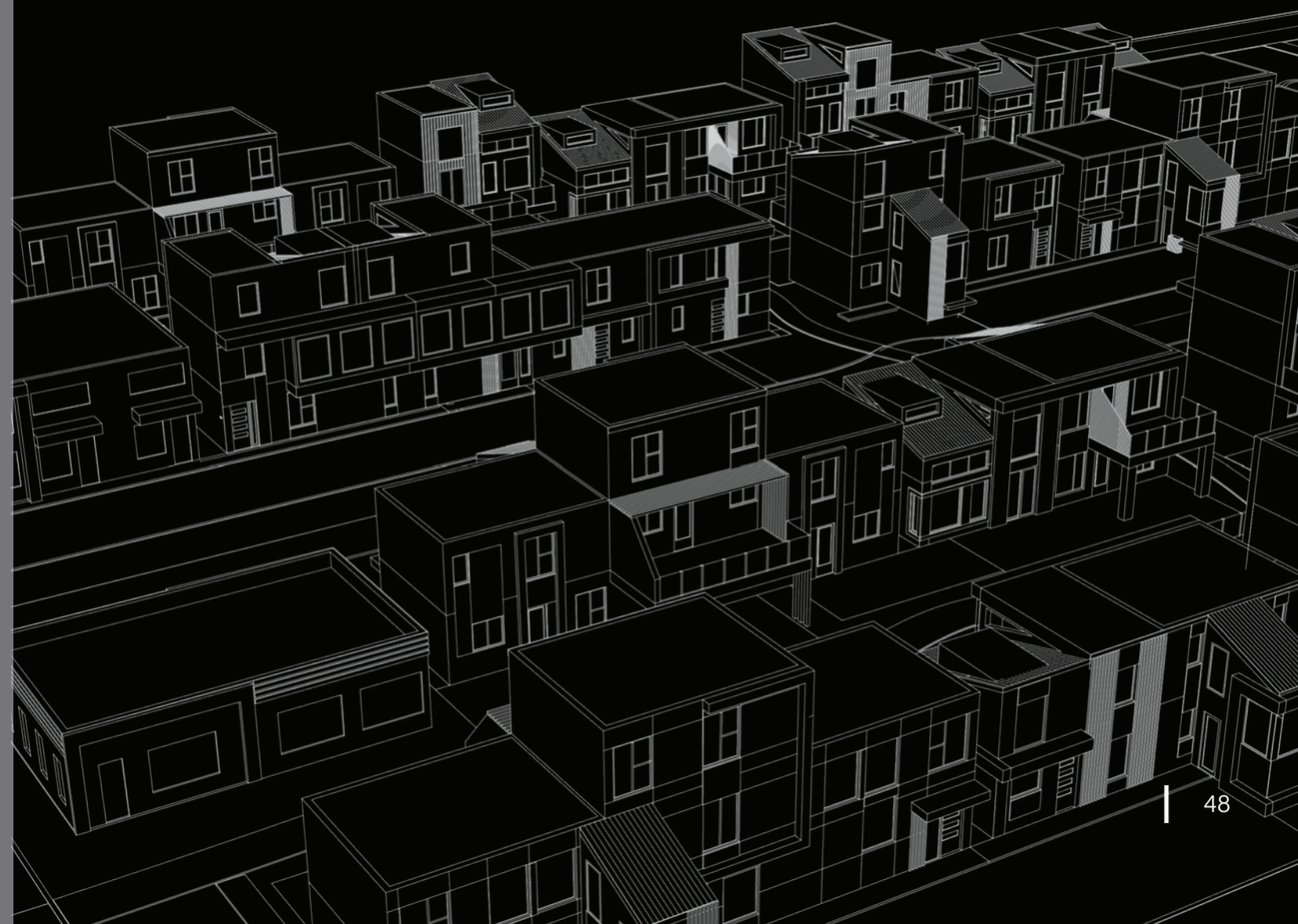
New Neighborhood (2001 -2019)Road Structure

A second structural pattern was realized through a comparative analysis of the old and the new neighborhoods. These features were explanated by the residents as the social conditions. In the old neighborhoods, residents recorded a higher rate of social interaction and higher privacy ratings then those within the new neighborhoods.

A contributing factor to these social connectivity differences is the road structures. The older neighborhoods (1960-1970) tend to include cul-de-sac street assemblies. These road layouts reduce street traffic as dead ends and create a communal center. This structure also results in backyard layouts that are more private for their offset configuration. The downfall to this structure is its less efficient use of space compared to the grid-like structure seen in the new neighborhood road networks. This formation is continued to the housing site plan layouts. The problem with the grid orientation is higher traffic circulation as the roads are straight and continuous. This structure also creates backyards that directly mirror each other, limiting privacy. The grid structure is a more efficient layout for reaching the targeted densities for today's housing demands and regulations, but the consequences are becoming detrimental to the neighborhood's social structure. The suburban housing patterns that I have analyzed have led to further understand the roles that architectural design could play in the initiation and integration of social diversity within suburban neighborhood communities.

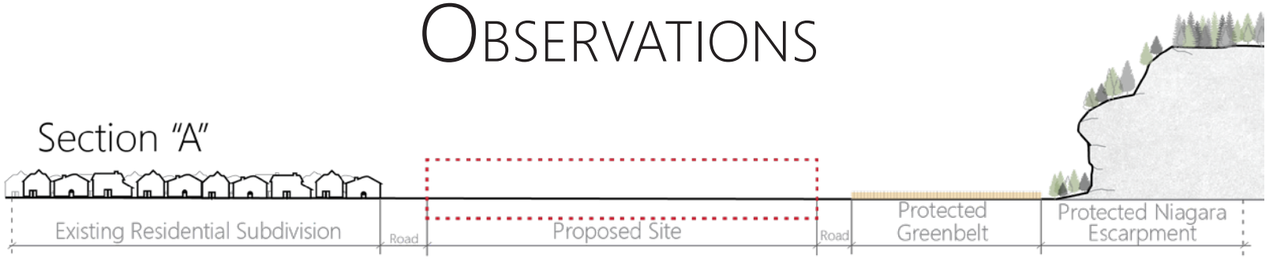
Part 4

Housing Design Propsal



Site Selection & Observations

Section "A"



Section "B"

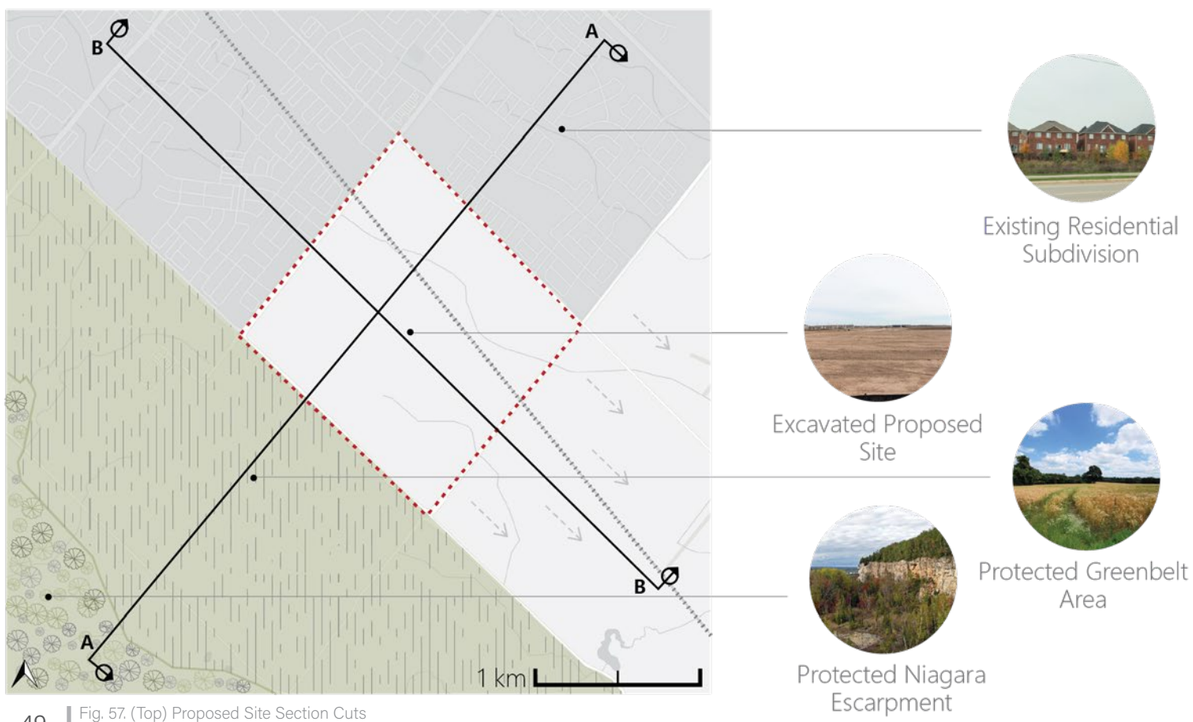


Fig. 57. (Top) Proposed Site Section Cuts
Fig. 58. (Bottom) Proposed Site Map with Site Images

The site that I have chosen to propose my architectural intervention is an undeveloped plot of land located at the edge of Milton's suburban sprawl. I have chosen this newbuild site for the potential that it poses as an influential neighborhood development within the projected suburban expansion boundaries. I believe that this design could act as a catalyst for further growth beyond this site. The site is adjacent to community amenities and unique land topography features that could create opportunities for the design to also act as a transition piece on the municipal scale. To the north of the site there is a large commercial plaza, located to the northeast is a high school and elementary school and bordering the site in the southwest direction is protected Agricultural Greenbelt area that leads to the Niagara Escarpment ridge. The proposed site is included in the official plan as a densification zoning, similar to existing neighborhood sites studied thus far.[1] This allows for further comparisons of between the existing residential developments and my proposed site.

Fig. 59. (Top) Proposed Site Location Map

1 Town of Milton,"The Town of Milton Official Plan," Town of Milton, Last modified August 2008, Accessed December 1, 2020, https://www.milton.ca/en/business-and-development/resources/FINAL-VERSION-TEXT-ONLY---OP-Consolidation---Aug2008.pdf.

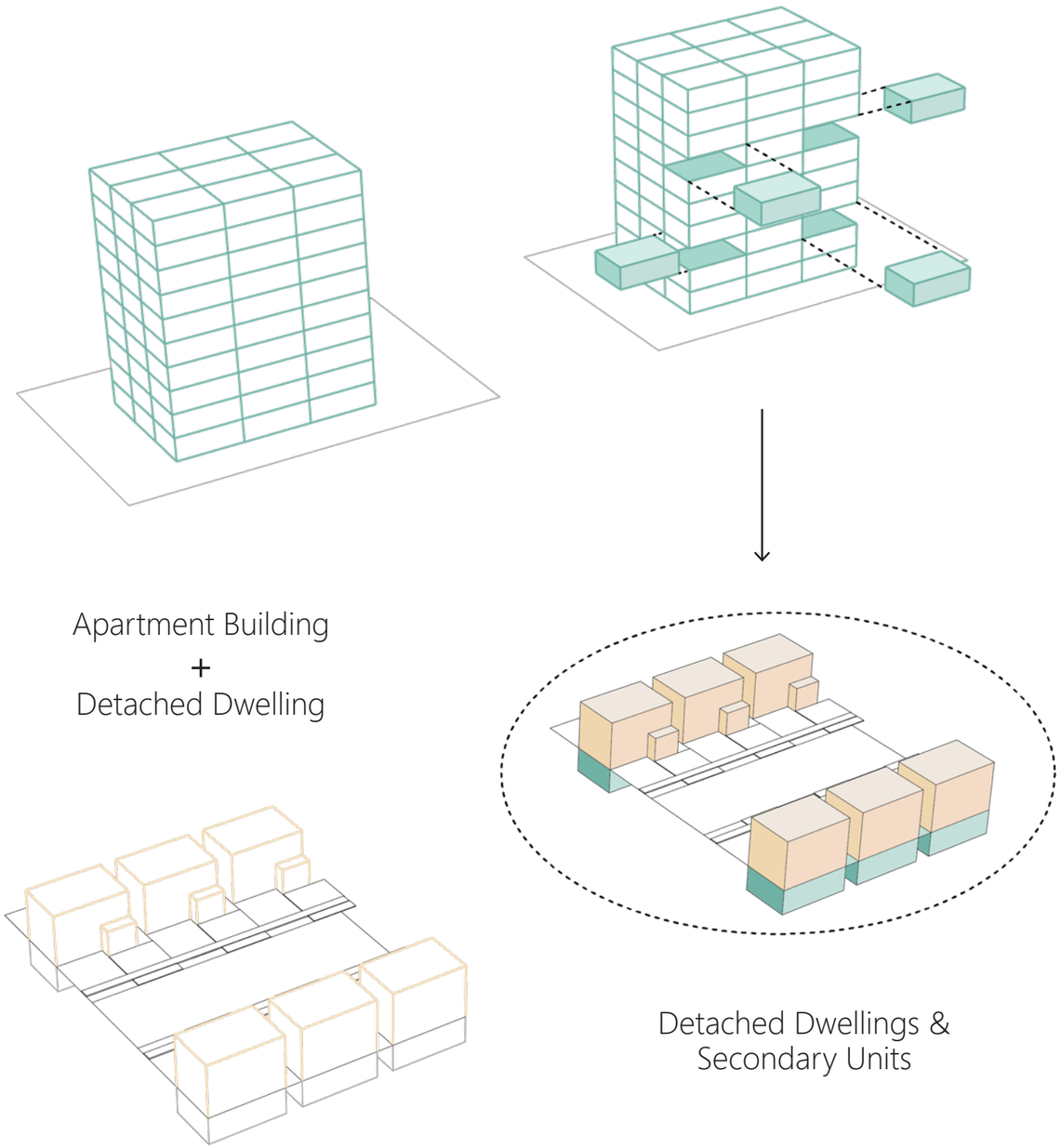


Fig. 60. Informal Housing Relationship Diagram

Housing Typology Relationships

Over the course of the site analysis phase of this thesis, I observed the suburban housing from the perspective of the land developer, municipal planner, architect, and resident. Across the different professional positions, I noticed trends in the way that housing typologies were grouped and associated based on statistical resident demographics.

Generally, across the disciplines, these professionals believed in the common development of suburban housing in typology-based groupings. This method prioritizes the detached dwellings to quieter and more desirable parts of the neighborhood, and positions lower cost units, such as, apartments and rowhouses on busier roads to act as neighborhood buffers.

From further research on the effects that this development pattern has on residents, my research indicates that individuals from various socioeconomic classes, cultures, and age groups no longer favour the housing typology segregation. This concept that has been followed for the past 40 years in subdivision design has resulted in social community demographic divides.

Through extensive site observations and survey research, I noticed a recent emergence in a new housing typology relationship. This is the development of secondary apartment units within detached dwelling units. This informal housing relationship has been created by residents and has become extremely popular recently for its economic benefits.

Modular Unit Design

In the analysis of this informal relationship, I began to think of how this concept could start to develop a new suburban housing model, one that encourages diverse and unique social community while also being a more sustainable and economic housing development.

Modular

The unit design concept was formalized to be an arrangement of diverse housing typologies within a singular dwelling units. This housing concept would initiate diverse demographic interactions and develop a more inclusive neighborhood model. Throughout my experimentation with the massing of these unit arrangements, I realized that each unit requires unified dimensions to be the most cost efficient and have the most effective use of space.

Considering these predetermining design parameters, I evaluated that it would be beneficial for this concept to utilize a modular unit design. This design also provides the opportunity for majority of the unit construction to be prefabricated at an off-site location.

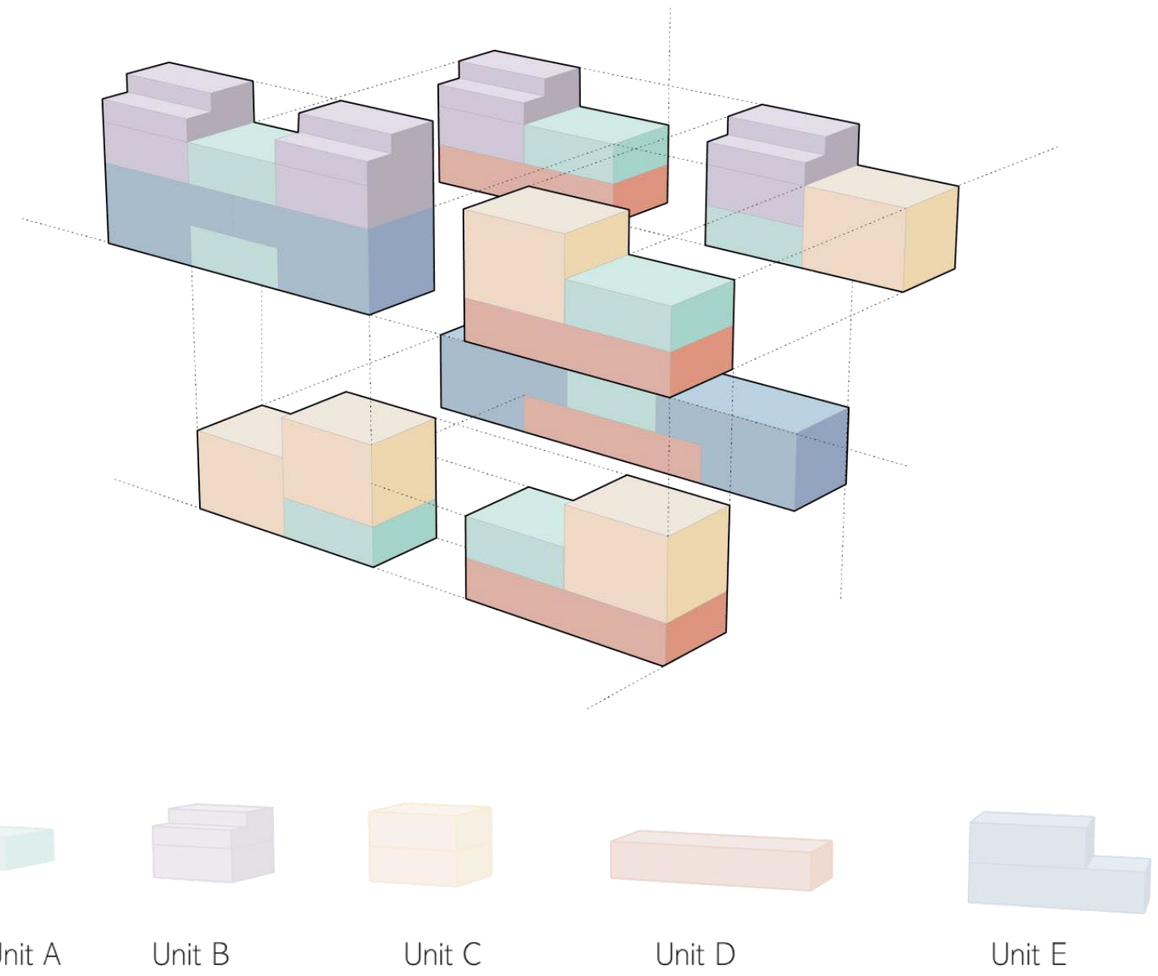


Fig. 61. Modular Unit Massing Diagram

Cost Efficient

One of the most significant benefits to the units being modular and prefabricated is the economic advantages, while maintaining high quality standards. Construction will be significantly faster and cheaper than typical onsite construction that increases in temperate climate conditions.[1] The units will be constructed using typical timber framing construction methods for faster assembly, as well as easier transportation to the site.

Sustainability

Prefabricated construction methods are a more sustainable choice as they reduce the amount of invasive work done onsite that could affect surrounding environments.[2] This process also reduces the need for heavy traffic to the site for material delivery and reduces material waste due to the modular design dimensions.[3]

Safety

Prefabrication warehouses allow for a controlled construction environment, removing natural effects such as snow, rain, or extreme temperatures.[4] This ensures a much safer workplace by taking away possibility for hazards such as, slips and falls.

Versatility

Majority of each unit's construction will be completed off-site, with minimal work left to be done on-site. Majority of the on-site work will be assembling the different units together to create the larger dwelling. The modular design allows for several different site-to-unit relationships as well as unit-to-unit relationships encouraging diverse social interactions.

Expanding in the Community

These modular units of varying sizes are designed to be joined to allow for expanded floor areas within the dwelling. The units are designed with consideration for easy amalgamation, to offer residents the option to purchase a neighboring unit if the opportunity presents itself and expand their existing home to fit their needs. This gives residents the opportunity to have their existing homes grow with their households rather then move to a new neighborhood. This design feature not only gives flexibility and diversity to unit sizes within the neighborhood, but it also allows residents to live in their unit's original location where they have built social and emotional connections to the neighborhood community. This acts on the theoretical notion that people feel more willing to create and be part of social connection when they have invested time in the development of the community together and see a future within the community.[5]

Benefits to Long term Residency:

1. Allows for long-term and meaningful connections to develop, amongst the community members and to the neighborhood.
2. Studies also show that people feel more connected to a community and are more willing to engage in social relations when they see long-term outcomes of their interactions and contributions to the community.[6]

1 John A. Flannery, and Karen M. Smith. Lavarack Barracks, In Eco-Urban Design. (London: Springer, 2011) 130-133.

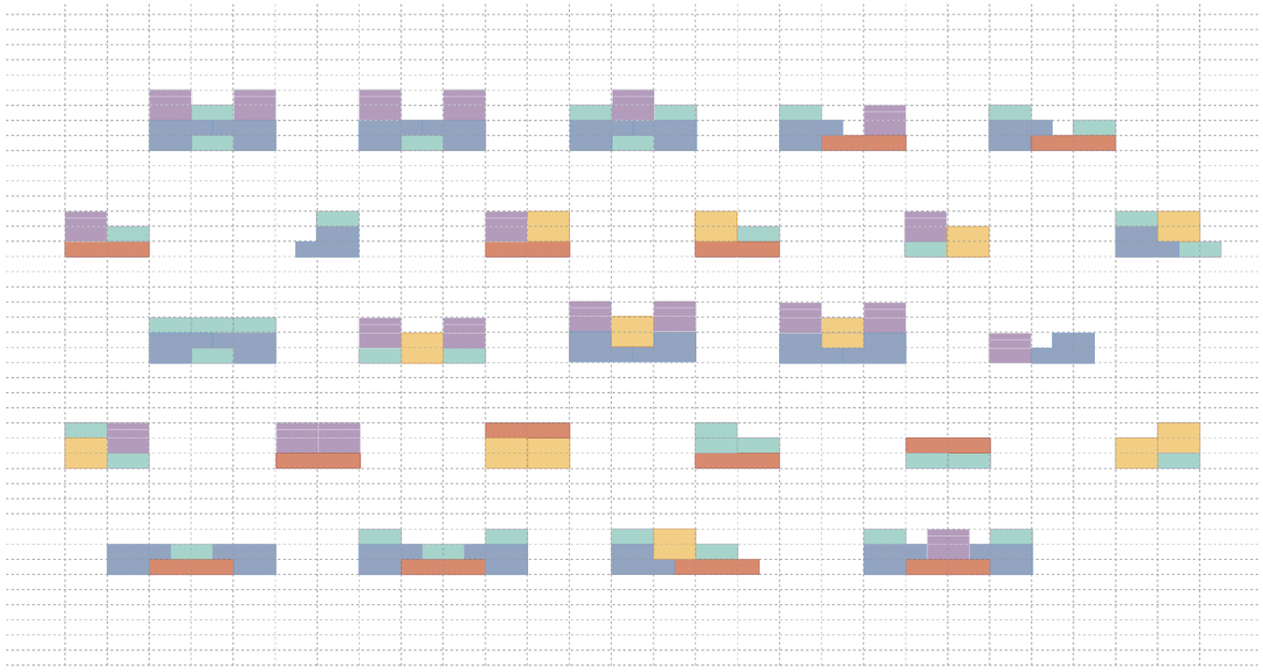
2 Ibid.

3 "6 Advantages and Disadvantages of Modern Modular Homes," BONE structure, Last modified April 2016, https://bonestructure.ca/en/articles/modern-modular-home-6-advantages-disadvantages/.

4 Ibid.

5 David W. McMillan and David M. Chavis, "Sense of Community: A Definition and Theory," Journal of Community Psychology 14 (January 1986): 6-23. https://doi.org/10.1002/1520-6629(198601)14:13.0.CO;2-I,

6 Ibid.



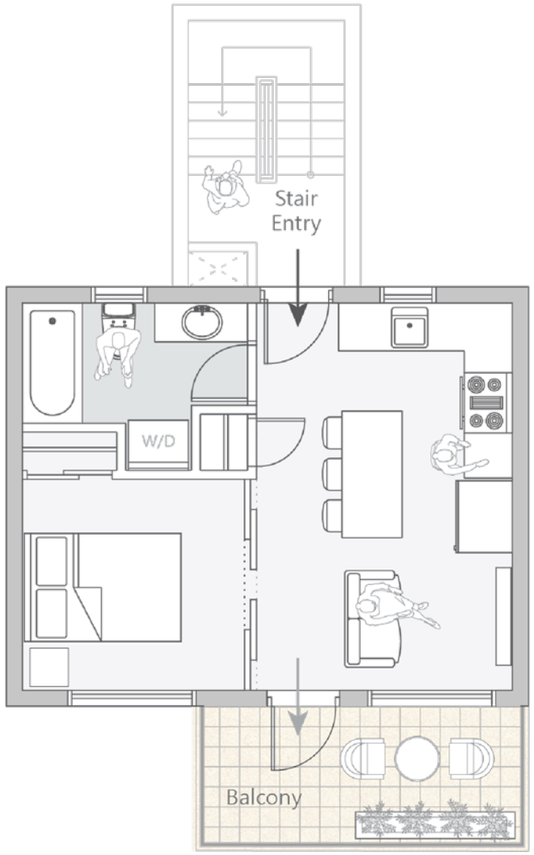
Massing Elevations

Unit A Unit B Unit C Unit D Unit E

Unit Layouts

I have designed five modular units that each follow specific unified dimensions to easily be arranged together to be part of a larger dwelling structure. Each unit would be privately owned with shared stairwell entrances for upper units and rear yard or balcony spaces for each unit. I designed each layout with consideration for the needs and requirements of the various households and residents surveyed.

Fig. 62. Modular Unit Massing Elevations



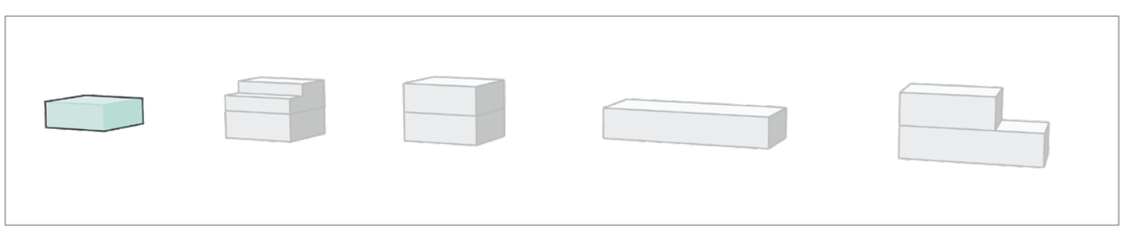
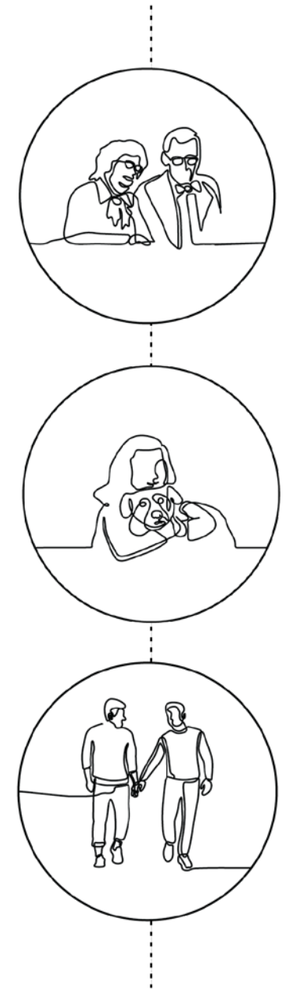


Fig. 63. Unit 'A' Floor Plans



Unit A - Studio

The sample unit "A" shown in figure-63 is a second storey unit with entrance accessibility through a shared stairwell and a rear outdoor patio space. All units have the flexibility to be located on the ground floor or second floor depending on the unit assemblies. Every unit is designed to have 4 primary spaces on the main floor, those being the; bathroom, kitchen, lounge area, and a flexible room.

Components of the Unit

The heart of each unit is a hybrid living communal space. This is where families and residents could gather within the household to socialize and would most likely spend most of their time. This space also has the function of the kitchen and lounge area. The other area that each unit is comprised of is the sleeping quarters which are located on the main floor and/or second floor of each unit.

Size: 375 sq.ft.

Bedrooms: 1

Bathrooms: 1

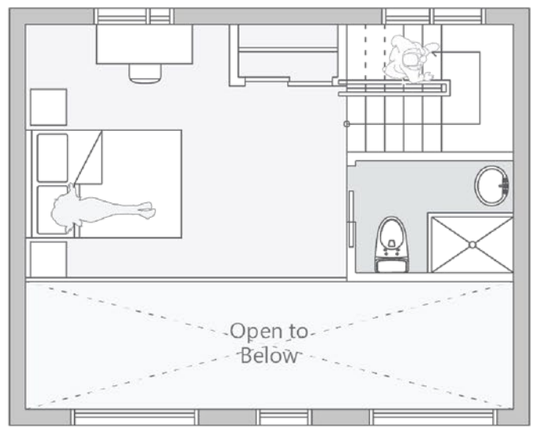
Parking: 1 Spot

Elevation Example

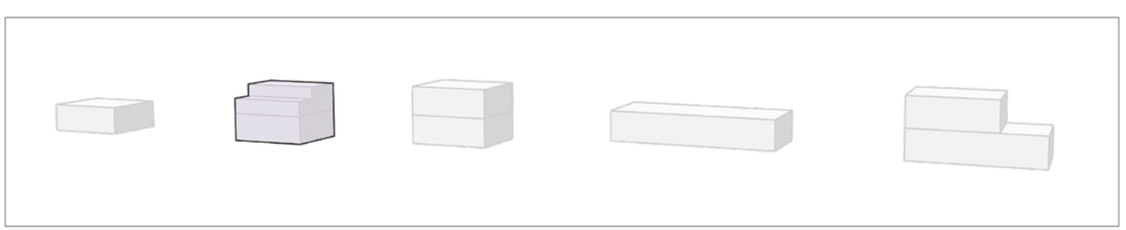
Fig. 64. Unit 'A' Elevation Example

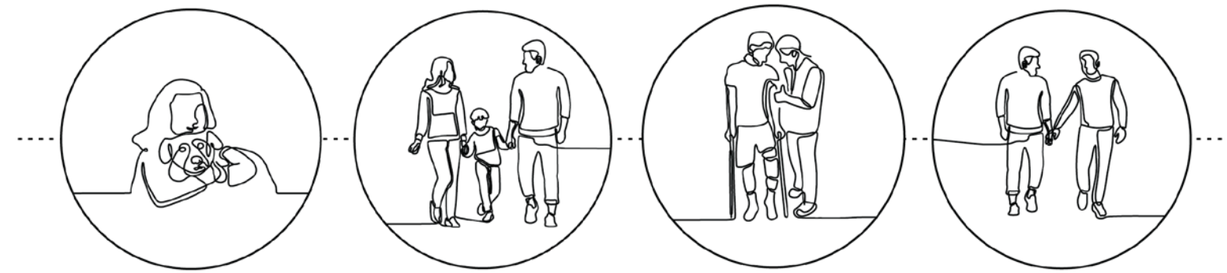
Unit B - Loft

Main Level-
Ground



Upper Level





Sample unit "B" shown in figure-65 &66 is a ground level unit with an entrance at grade level, making it suitable for wheelchair accessibility. This unit has an upper loft area on the second floor. This loft space is open to below, providing double height ceilings for the kitchen and lounge area on the lower level.

Parking & Pathway Connection
Parking for all units is located directly at the front of the individual dwelling with visitor parking dispersed throughout the site. All units that are located on the ground level such as this example in figure-65, have a rear private yard that backs onto a community pathway.

Size: 625 sq.ft.

Bedrooms: 2

Bathrooms: 2

Parking: 1 Spot

Elevation Example

Fig. 65. Unit 'B' Floor Plans

Fig. 66. Unit 'B' Elevation Example

Unit C - Stacked 1

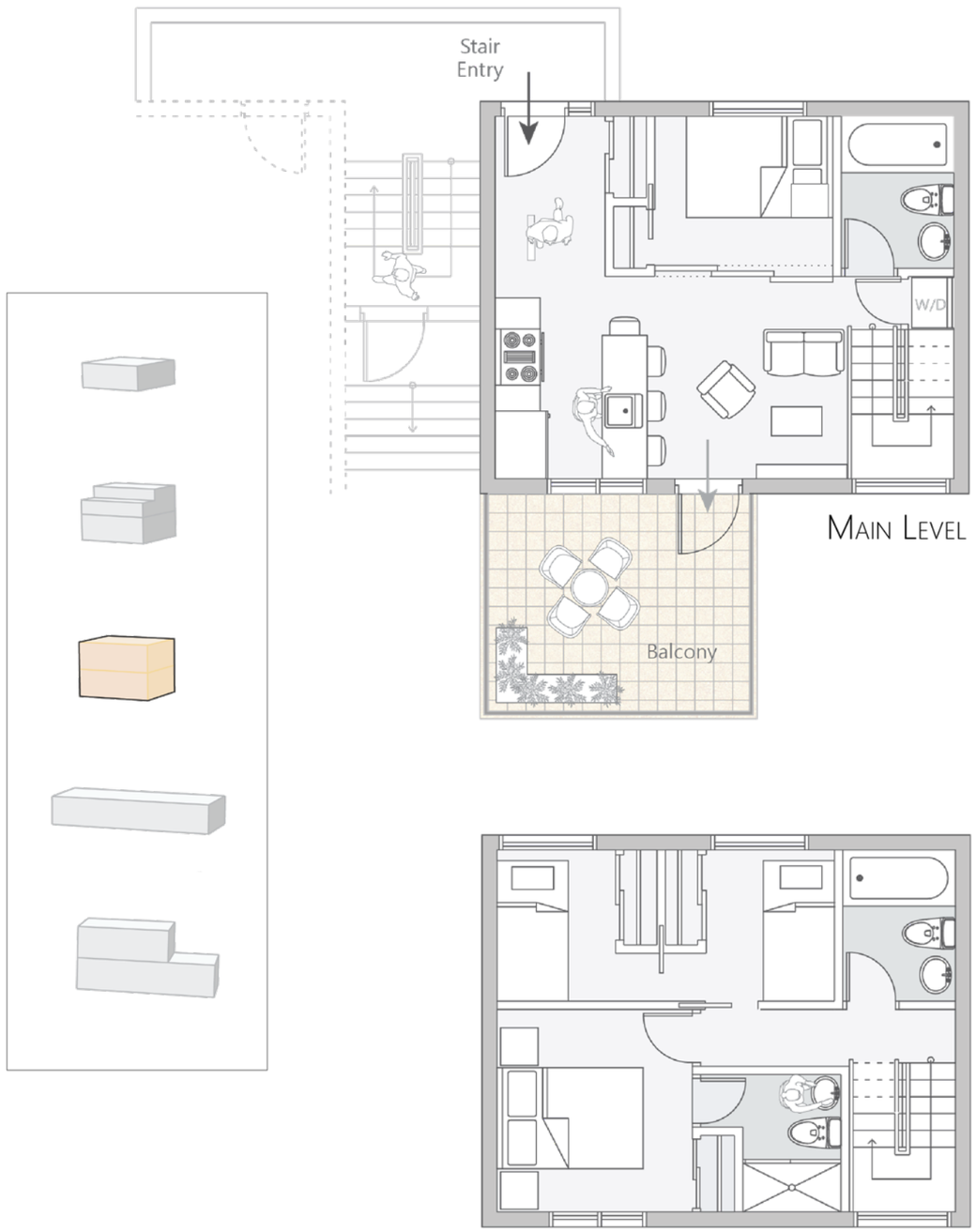
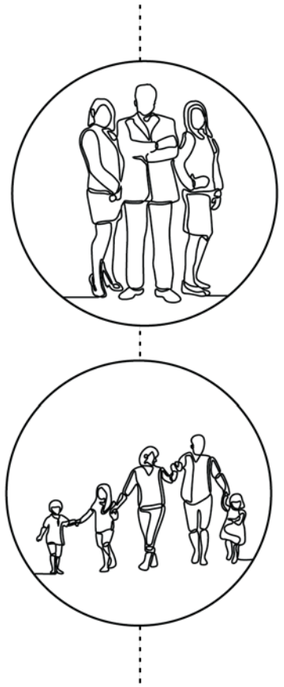


Fig. 67. Unit 'C' Floor Plans

Unit "C" shown here in figure-67 has a second level stair entrance including an outdoor rear patio space with views into the community pathway. This unit has 3.5 bedrooms with 2.5 on the upper level and an optional one on the main level.

Unit Height
This unit maximizes the height of the overall three storey dwelling (see figure-68). I maintained all dwelling assemblies to a maximum height of three storeys to allow sunlight infiltration through all areas of the site. This was also done to comply with current zoning by-laws for similar sites in the area.



Size: 750 sq.ft.

Bedrooms: 3.5

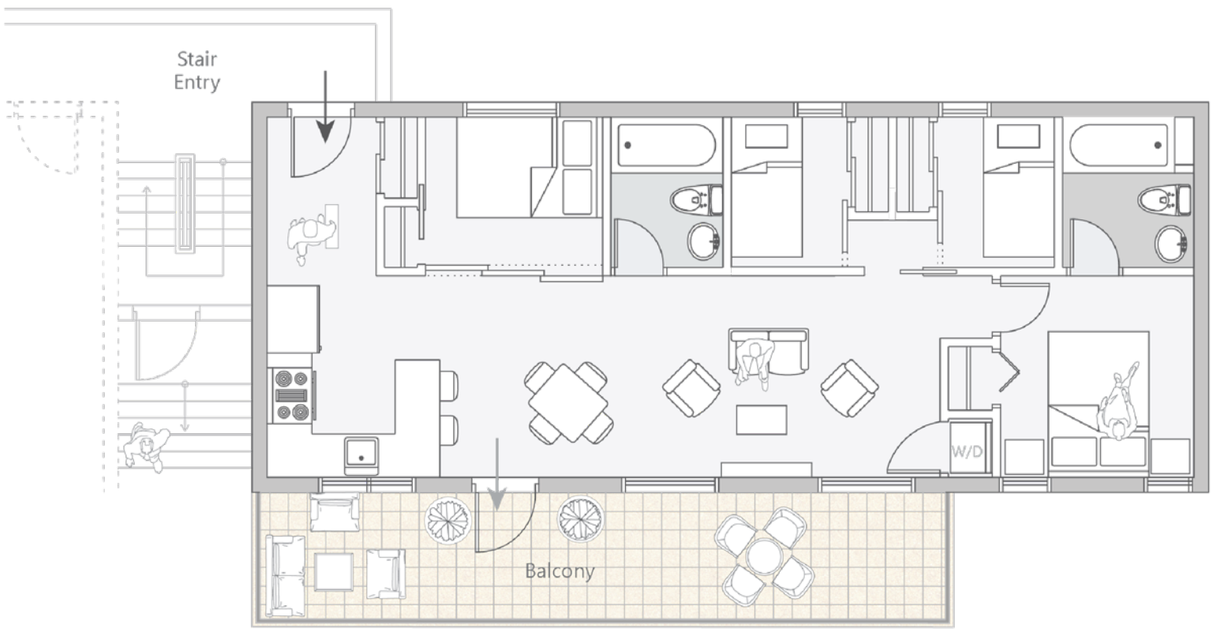
Bathrooms: 3

Parking: 2 Spot

Elevation Example

Fig. 68. Unit 'C' Elevation Example

Unit D - Single Level



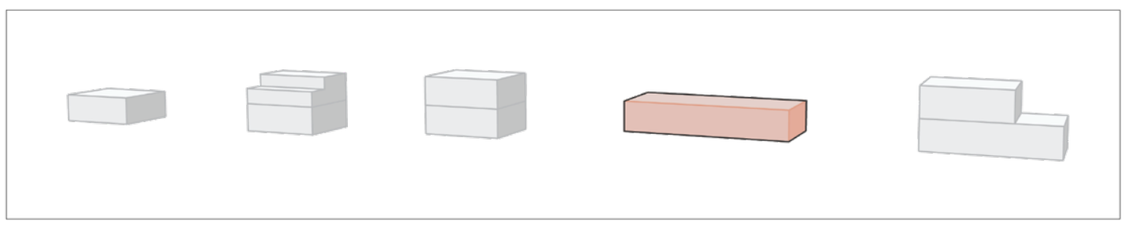
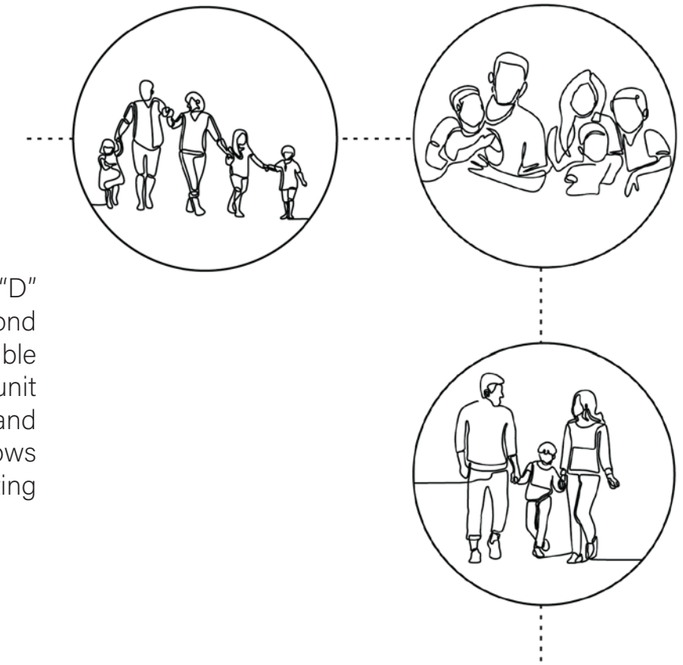


Fig. 69. Unit 'D' Floor Plans



The example of unit "D" displayed in figure-69 is a second level unit with an entrance accessible through a shared stairwell. This unit has a generous kitchen, eating, and lounge area, with large windows to allow ample natural lighting throughout the space.

Size: 750 sq.ft.

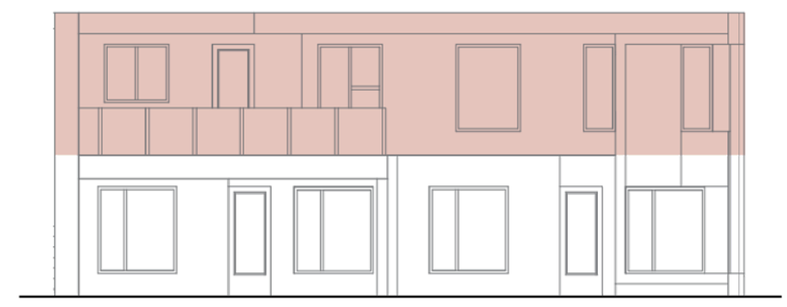
Bedrooms: 3.5

Bathrooms: 3

Parking: 2 Spot

Natural Lighting

The unit layouts, window locations, and sizes, were all designed with natural cross lighting considered. It was important to have these layouts be compact in size but create spacious and bright atmospheres despite the conservative square footage. All unit windows are also the same three sizes to further reduce building costs and reduce design complexity.



Elevation Example

Fig. 70. Unit 'D' Elevation Example

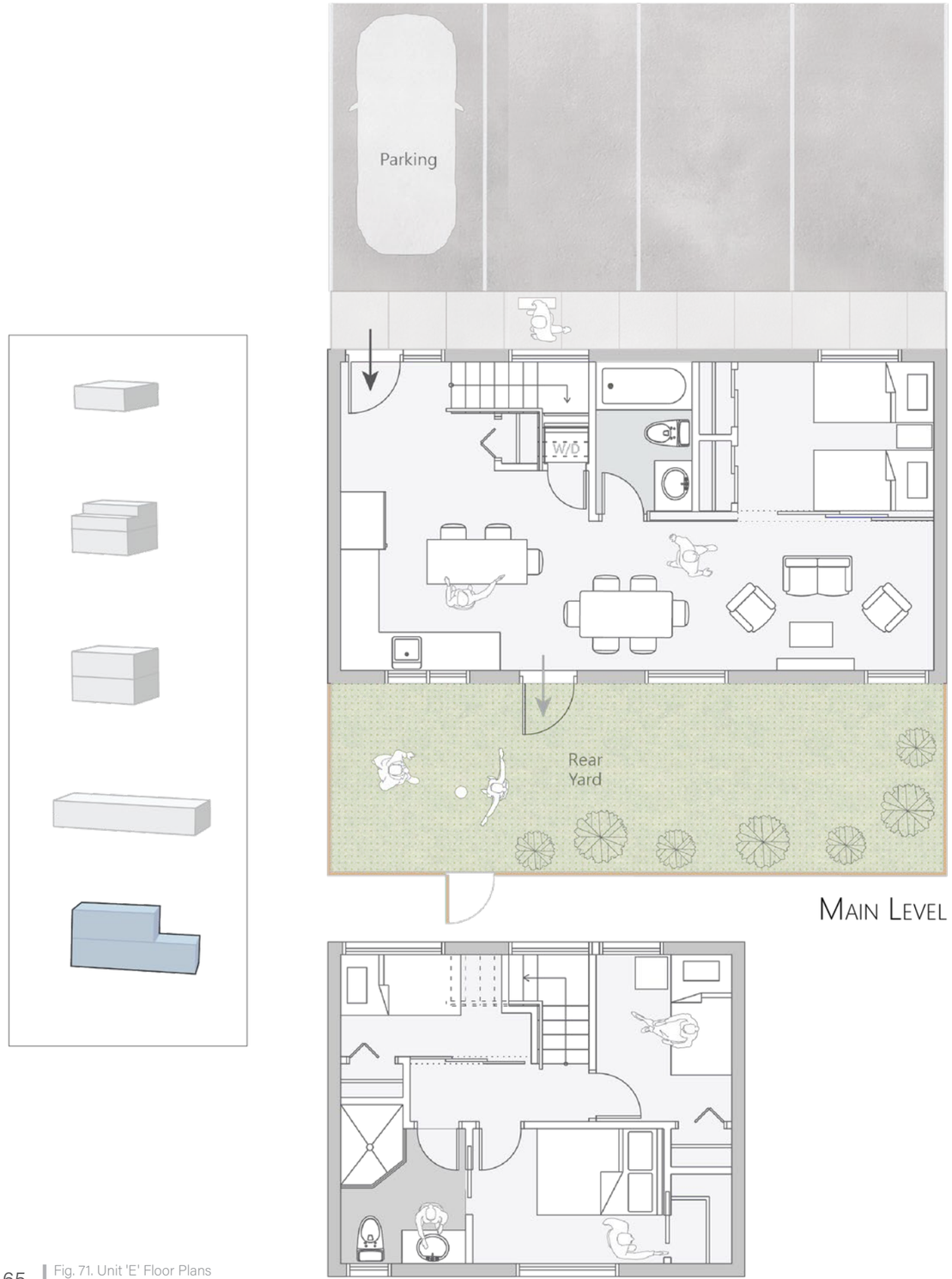


Fig. 71. Unit 'E' Floor Plans

Unit E - Stacked Split

Unit "E" displayed here in figure-71 & 72 is a ground level unit with a large rear private yard space. This unit is the largest option with 3.5 bedrooms and 2 bathrooms, making it ideal for larger families. The upper level bathroom also serves as a shared ensuite, saving space and providing the master bedroom easy access.

Size: 937.5 sq.ft.

Bedrooms: 4

Bathrooms: 2

Parking: 2 Spot

Unique Family Structures

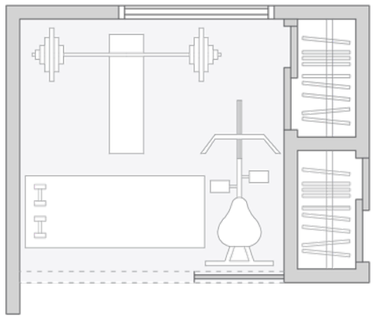
The typical Canadian two storey family home usually consists of the main living space, kitchen, and small powder room on the main level, with all bedrooms and 3-piece bathrooms residing on the upper level.[1] In all the unit layouts I took into consideration the possibility for accessible living as an option for all residents. From my analysis of diverse family structures and the challenges they face in the existing housing structure, I saw a need for sleeping quarters on the main level of the units. This space could be used for elderly parents living with their children or a family member with restricted mobility. Every unit's main level is also designed with a 3-piece bathroom to further eliminate stair use.

Elevation Example

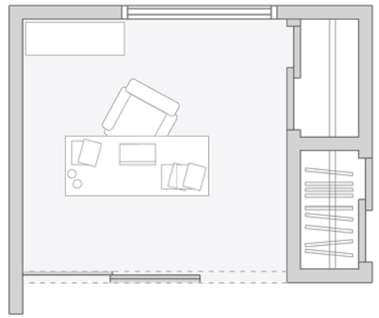
1 "Features of Canadian House Designs," Canadian House Plans & Home Designs, Last modified, 2021, Accessed March 20, 2021, https://www.theplancollection.com/canadian-house-plans.

Fig. 72. Unit 'E' Elevation Example

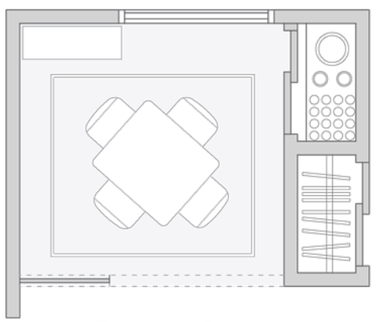
Unit Flex Space



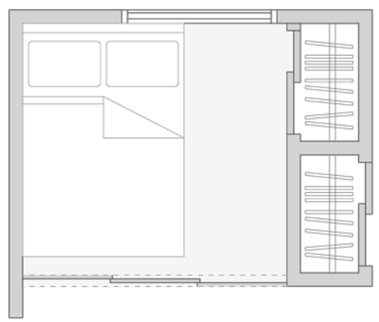
Home Gym



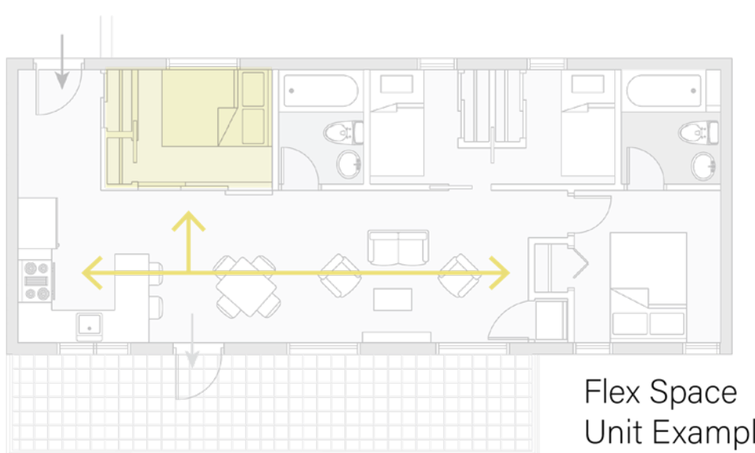
Home Office



Formal Dining Space



Additional Bedroom



Flex Space Unit Example

Fig. 73. Flex Rooms Floor Plan Examples

Flex Space as an Office

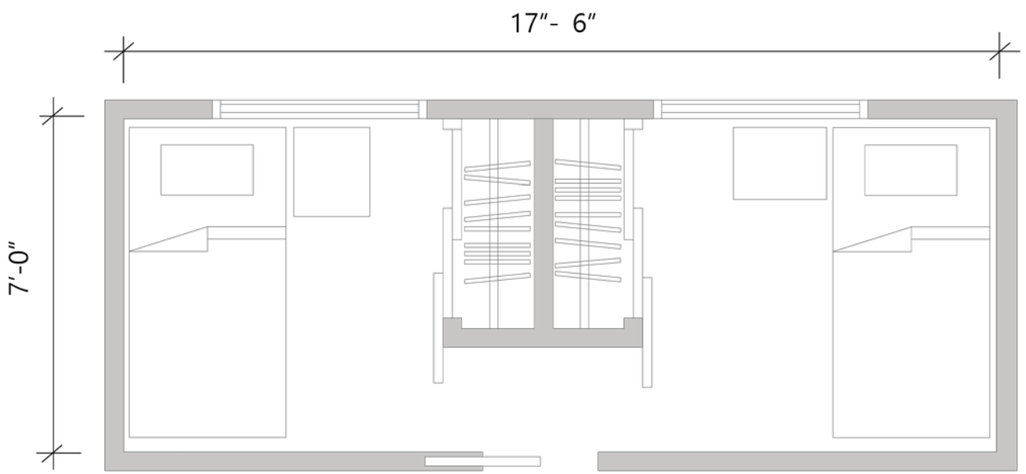
As previously mentioned, I have designed each unit to have one room on the main level that could be used as an extra sleeping accommodation. In all units this room is located on the main floor adjacent to the communal space for easy accessibility, or the option to lend itself as an extension of the main living area.

These undefined rooms are, what I have called, flex spaces. They each have a large window for ample natural lighting, a small closet for additional storage, and can be enclosed with frosted sliding panel doors. The room plans in figure-- show a few of the many ways that this space can be transformed to fit any program the residents require for their lifestyle and needs.

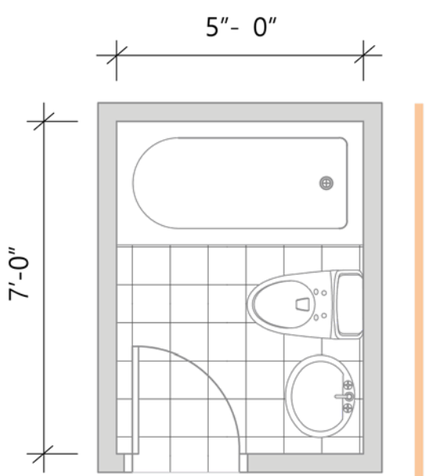
Flex Space as an Art Studio

Fig. 74 & 75. Interior Flex Rooms Perspectives

Compact Unit Spaces



Share Room Plan



Modular Bathroom Plan

Share Rooms

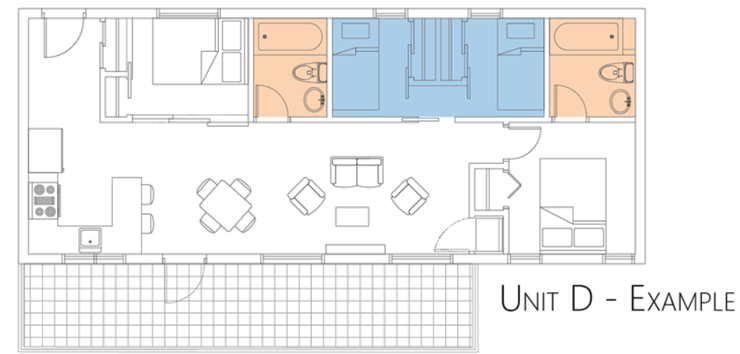
In some of the larger units that have 3-4 bedrooms, I have designed compact room layouts to maximize space while utilizing functionality. This concept is seen through the design of the condensed bathroom space, hidden stacked washer/dryer closets and layout of shared rooms. See plans in figure-76 for shared room layouts, and modular bathroom plans. The concept of the shared room is that it follows similar concept of a shared dorm room where there is one entrance to the space, but each occupant has their own side of the room with closets in the center for storage. These rooms also utilize the sliding panel door system that the flex rooms use to provide privacy barriers between the two room sections. These shared rooms are a great option for families with children, or could easily be converted into one large space instead if the residents desired. This would be done with the simple removal of the center closet.

Fig. 76. Share Room Plan
Fig. 77. Modular Bathroom Plan

Modular Bathrooms

The entire unit designs themselves are modular, but I have also designed interior components of the units to be modular/universal as well. One of those components are the bathrooms. Most of the units are equipped with these standardized compact washrooms that allow for faster and simplified construction.

Designing various components of the units to be the same dimensions not only makes the construction process faster, but it also made the design process straightforward with spatial allocations already established for all units.



Unit D - Example

Unit C - Example

Fig. 78. Share Room and Modular Bathroom Floor Plan Examples

Dwelling Spaces

Each dwelling unit and property is comprised of 3 main spaces;

1. Stacked housing units (highlighted in red and purple)

2. Private outdoor Space (yard or balcony)

3. Storage below-grade

Each space works together with another to create spatial relationships that in turn initiate social community connectivity. This housing development model includes a variety of private, semi-private, and public spaces for residents to converge within. Some of these spaces include the private units, shared entrance stairwells at the front of the dwelling, the storage area below-grade, and the stacked private outdoor spaces which look onto the public Park Lane pathway at the rear of the dwelling.

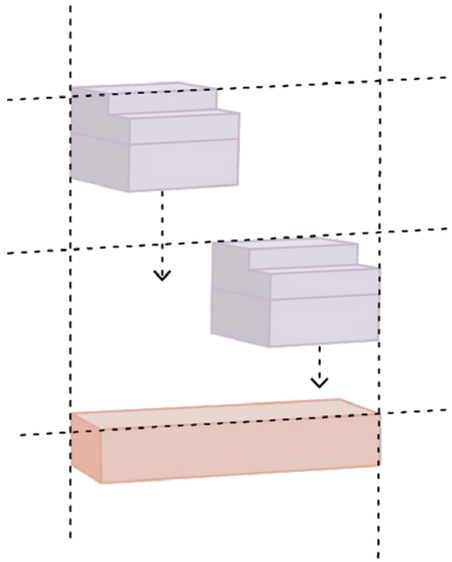


Fig. 79. Stacked Modular Units Diagram

The transition spaces and relationships between private to public were an important aspect for me to focus on when creating these spaces. For the design to encourage rather than force community engagement, I had to consider the boundaries of the various dwelling areas as well as how they merge and overlap in a subtle manner. Though the individual residential units are private, the shared spaces that lead to and surround their functionality contribute to the communal feel of the buildings, while still providing residents a place to retreat to for private living.

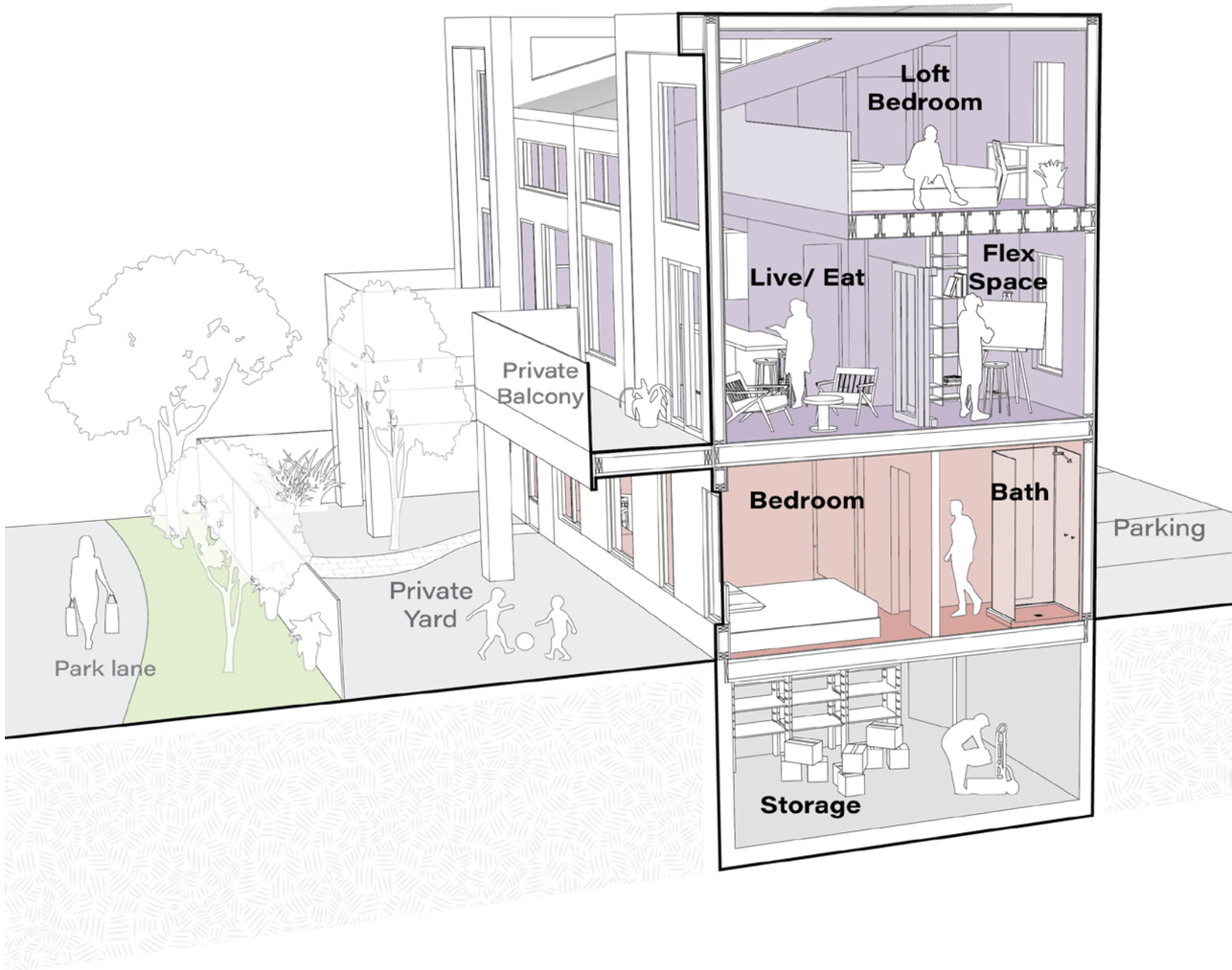


Fig. 80. Dwelling Spaces Perspective Section Diagram

Unit Versatility

The modular units are designed to have simple basic exterior cladding chosen from a selection by the residents. With various material selections such as brick, siding, and aluminum cladding, it offers each unit a differentiating identity within the dwelling composition. When assembled to create the singular dwelling, architectural cladding features are added to blend the individual unit identities to appear as a cohesive design. Similarly, I want the residents to have a sense of pride in their unique cultural identity within the neighborhood but also acknowledge the benefit and reward of community.

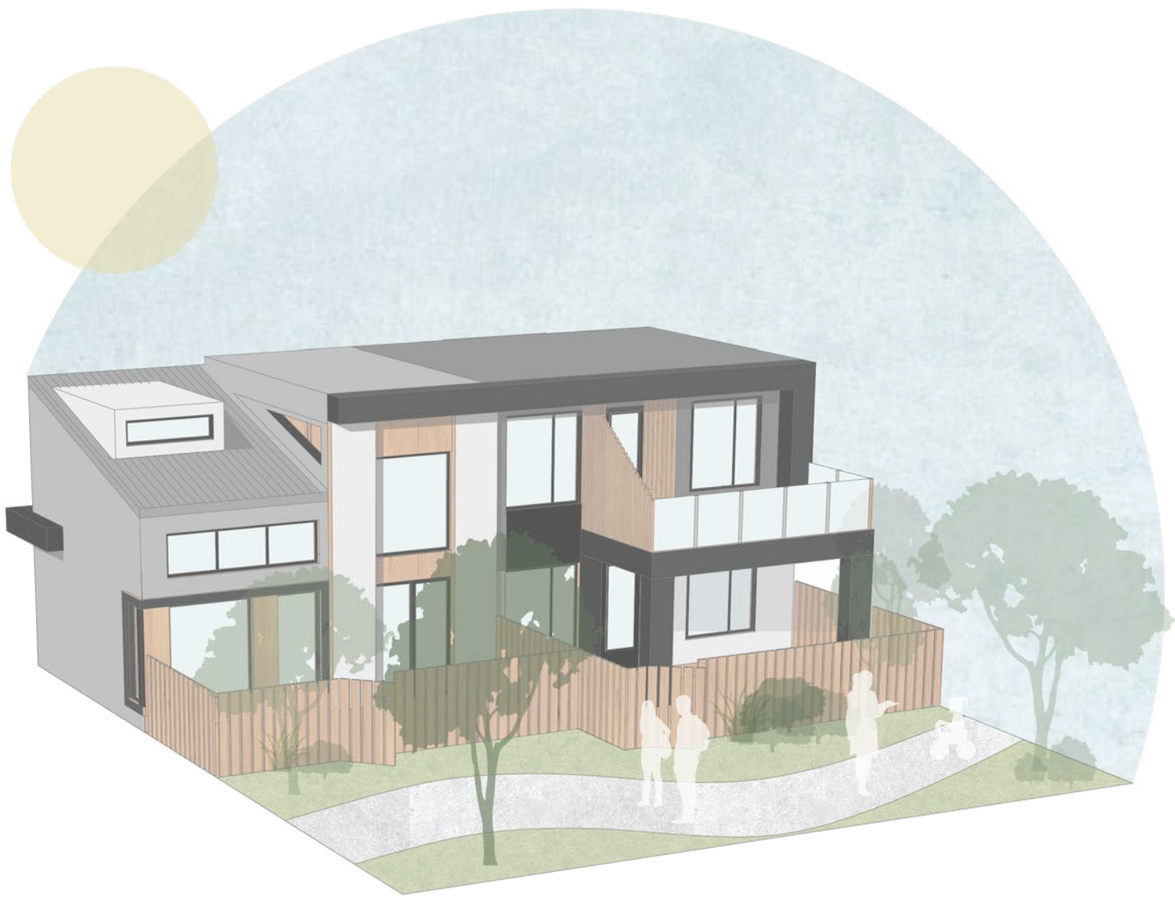
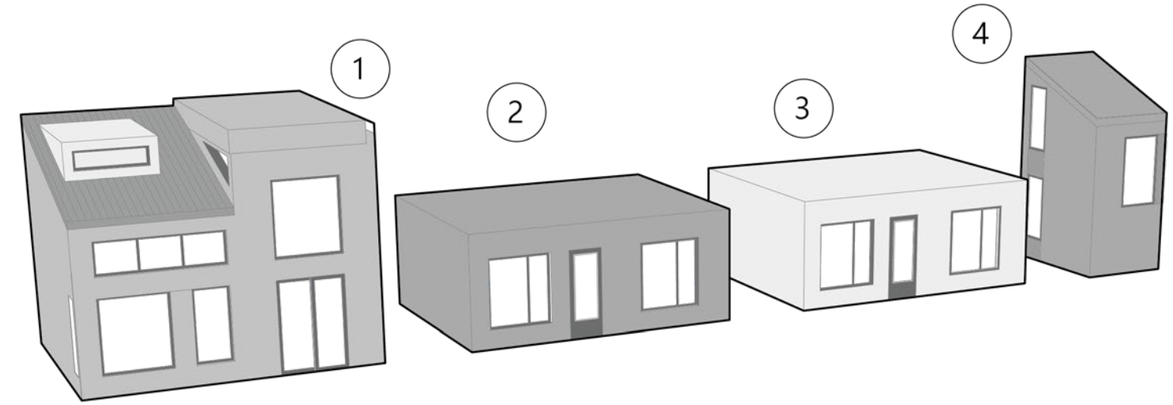
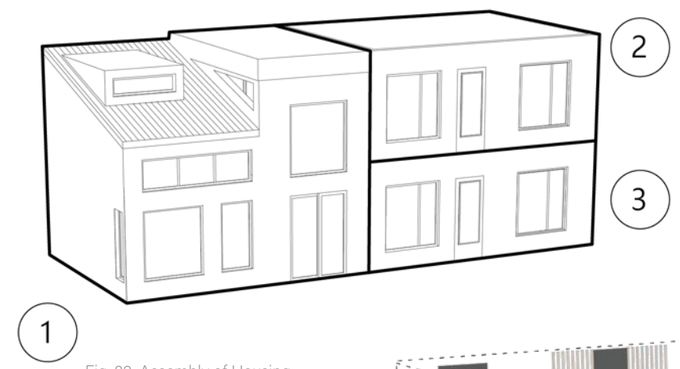


Fig. 81. Assembled Housing Dwelling





1. Unit 'B'
2. Unit 'A'
3. Unit 'A'
4. Modular Stairwell Entry

Fig. 82. Assembly of Housing Units to Dwelling Form

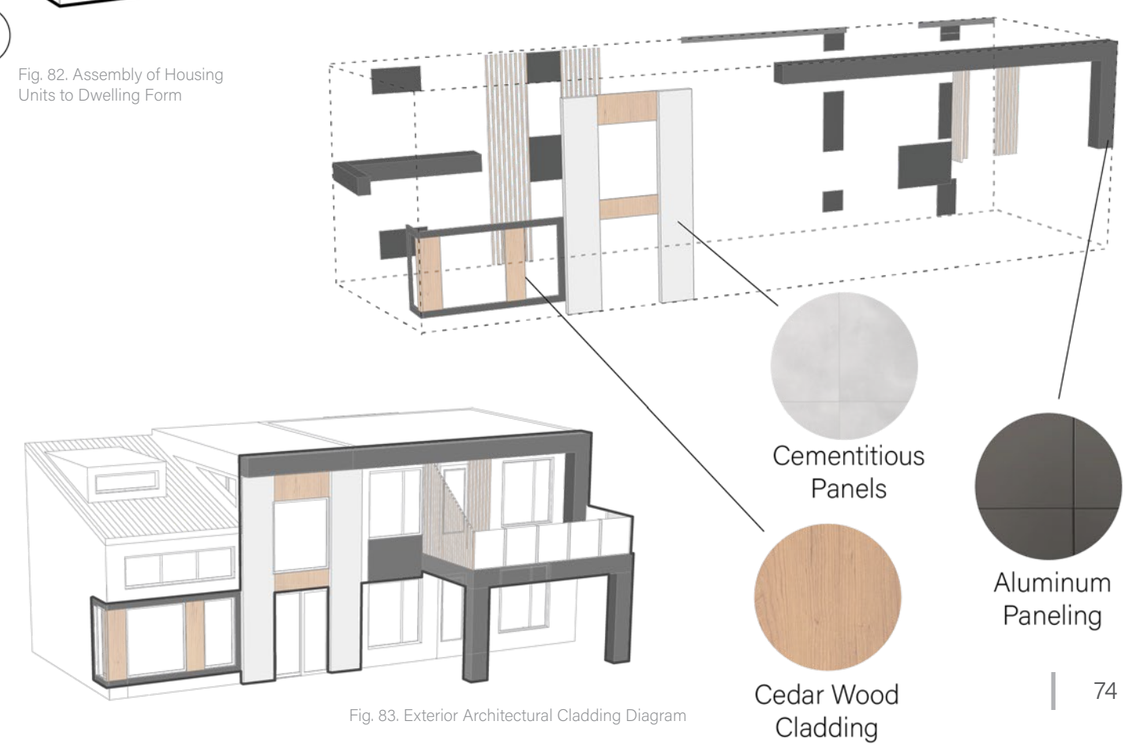


Fig. 83. Exterior Architectural Cladding Diagram

Unit Versatility
Outdoor Spaces

Designing the units to have flexible outdoor spaces was another goal to providing residents a home that meets their specific needs. These unique housing compositions allow residents to have the outdoor spaces that match their household's needs, rather then a predetermined yard or balcony size restriction based on their unit size. Another significant factor that I considered when designing these private outdoor spaces was their relationship to the public spaces of the site. Each rear yard is enclosed by a wooden fence with access gate, for privacy and security, but allows residents easy access to the Park Lane pathway that runs between the rear yards. This relationship for the upper units is a visual one as each balcony has a direct view into the Park Lane providing community security of this public area as well. The location of the Park Lane to the surrounding dwellings encourages neighbors to utilize the shared space as an extension of their own outdoor space. This provides a place for community socialization and neighborhood cultures to be celebrated and shared.

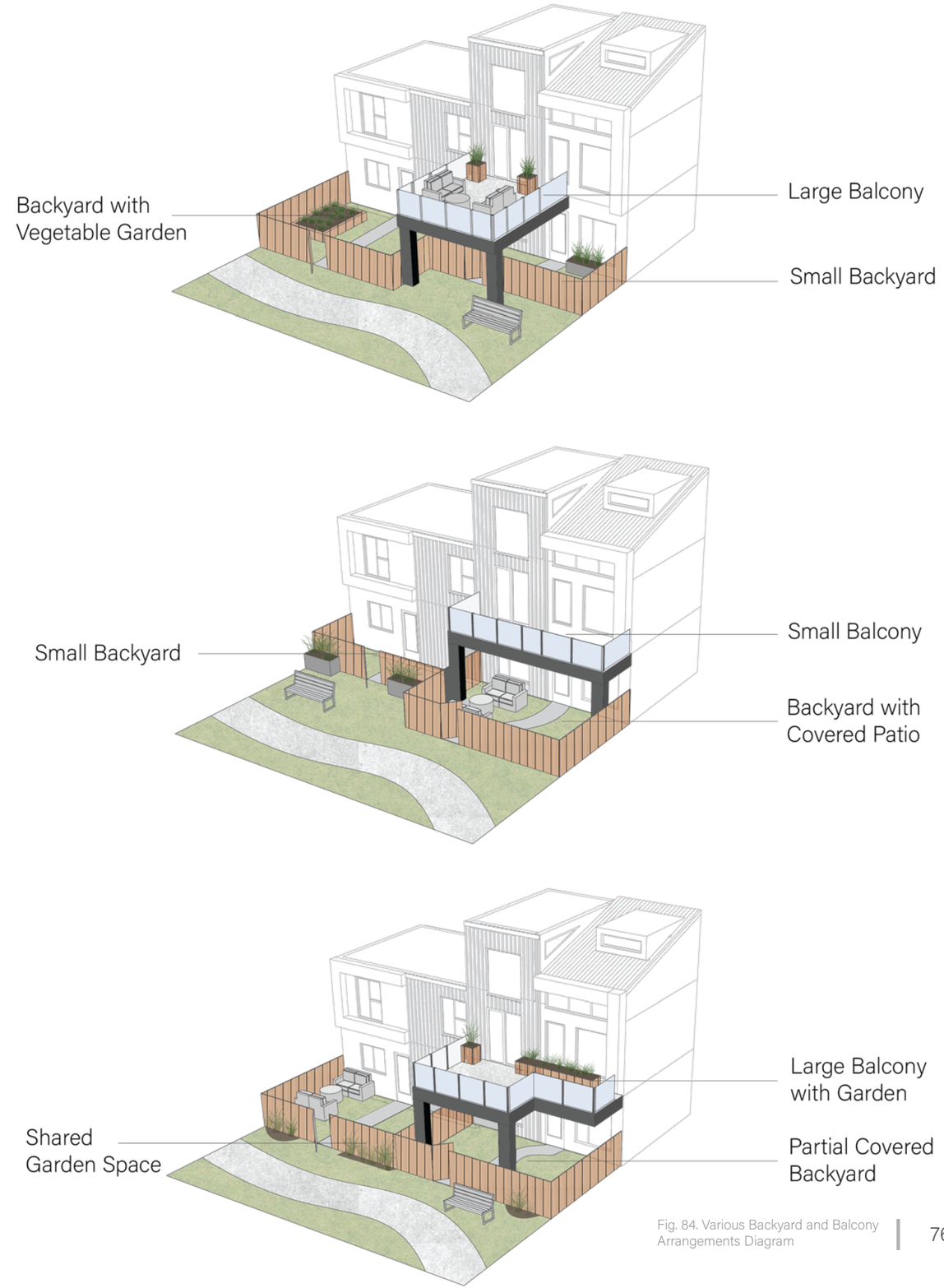
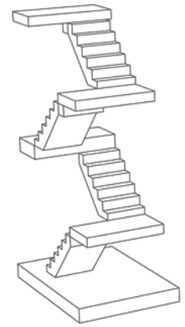


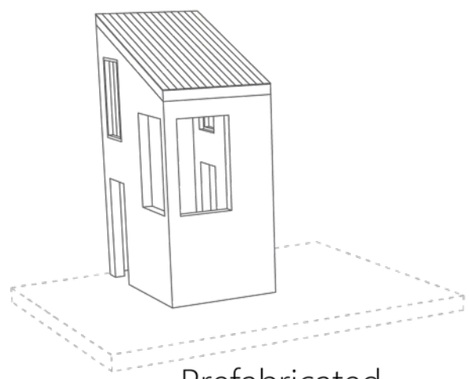
Fig. 84. Various Backyard and Balcony Arrangements Diagram

Unit Access
Modular Stairwells

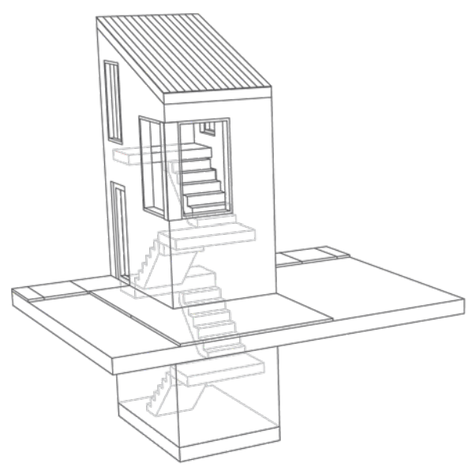
Similar to the modular housing unit design, the stairwell entrances will be modular and prefabricated. These stairs provide access to second level units, ground level units, and the below-grade storage space. These modular components will be assembled onsite from two components; the concrete stairs, and the stairwell enclosure. Once they are attached to the dwelling unit, the exterior cladding will be added to suit the rest of the dwelling's architectural cladding.



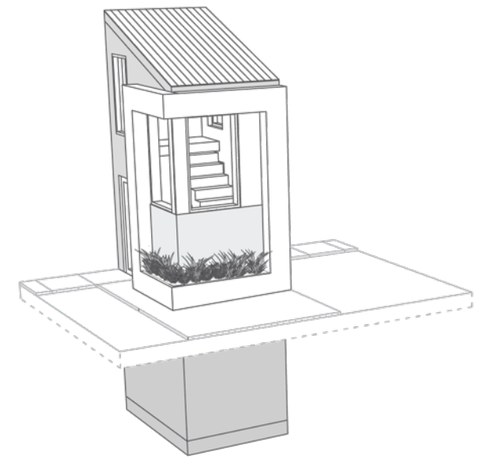
Prefabricated Stairs



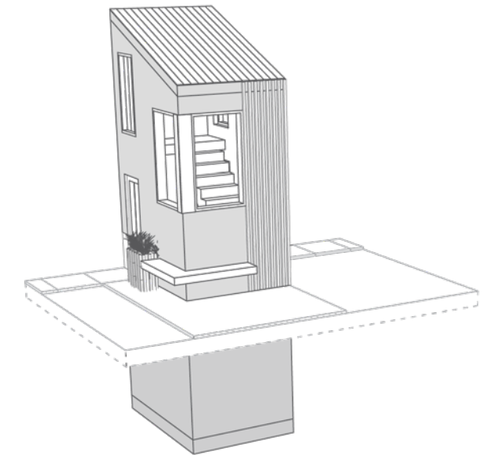
Prefabricated Stairwell Shell



Modular Stair Access Unit



Style Option #1



Style Option #2

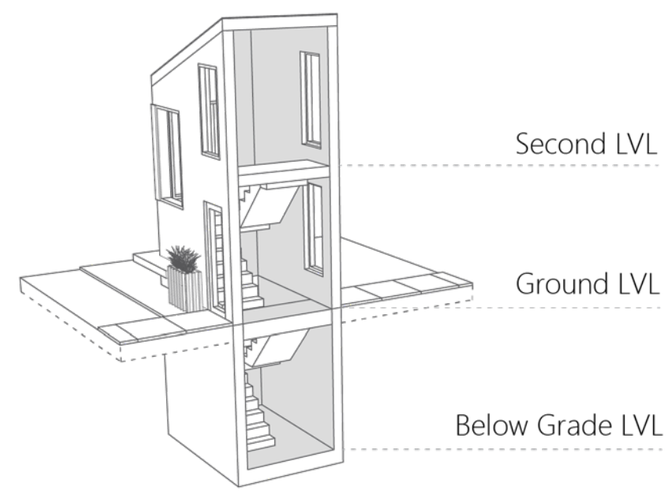
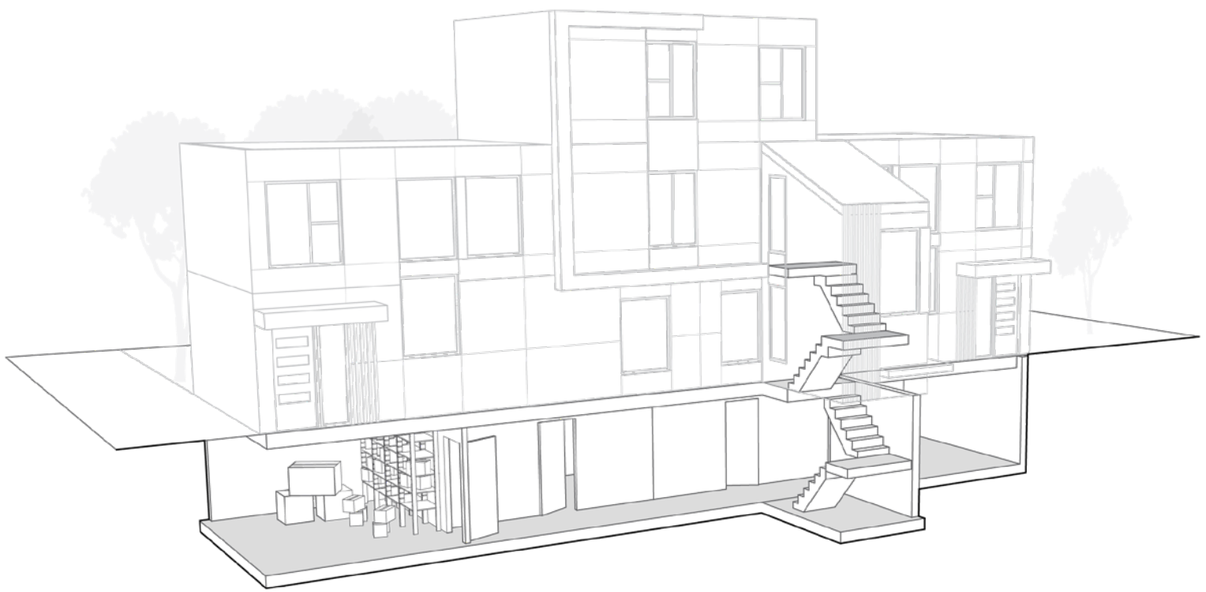


Fig. 85. Modular Stair Assembly Diagram

Fig. 86. Modular Stair Exterior Options and Perspective Section

Unit Storage



Below Gade- Unit Storage

Functionality of the housing model has been a primary element throughout the entire design, in following this principal, I needed to consider all aspects of living in these residential units. One of these elements was additional storage for residents. A common suburban home consists of a garage space for residents to utilize for their storage needs. Without the typical garage space for residents to store items, an alternative spaceis required.
Due to the proposed site being in a temperate climate, the building's foundation would be required to extend below-grade by at least 4 feet. Like many temperate climate buildings, I decided to utilize and expand this below-grade space to create a storage area for residents.

The storage space would be accessed by the shared stairwell located at the front of the building. Each unit will be provided with their own private storage space. The storage space sizes will be proportioned to the associated unit size to allow larger units more storage space.

Ownership and Shared Fees

As each dwelling consists of communal spaces and shared elements such as the exterior building components, shared stairwells, common storage areas, and parking, each individual unit owner will be required to pay annual fees. These fees will be used for the maintenance of the shared dwelling areas.

Fig. 87. Below Grade Unit Storage Diagram

Neighborhood Site Plan

The public landscaping throughout the site provides a third space for residents to socialize. Each neighborhood block consists of a pattern of Park Lane at the rear of the dwelling units and a Street Lane at the front of the dwellings. This is where the parking and unit entrances are also located. The Street Lanes are designed to prioritize the vehicular traffic and functions. Rather than having this area's complete landscape be hard surface, permeable pavers are used for the parking surface. This semi-hard surface is a combination of grass and concrete pavers. The pavers provide site drainage with their high porosity that allows the rainwater to pass through into the ground below.[1] Seen in figure-88, the pavers are installed with layers of varying-sized stone and aggregate underneath to filter and direct stormwater to underground drainage systems. These pavers also provide greenery to the Street Lane where soft landscaping space is limited.

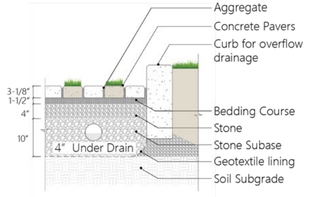


Fig. 88. Permeable Pavers Section Detail

Street Lane

1 "Permeable Pavers." Pavers Outlet. Last modified , 2015. Accessed March 15, 2021. https://paveroutlet.com/pavers/permeablepavers

Fig. 89. Perspective of Street Lane and Main Road Connection

Spatial Division and Transition Spaces

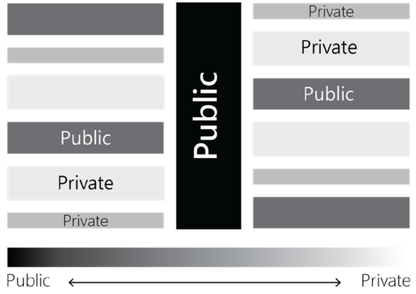


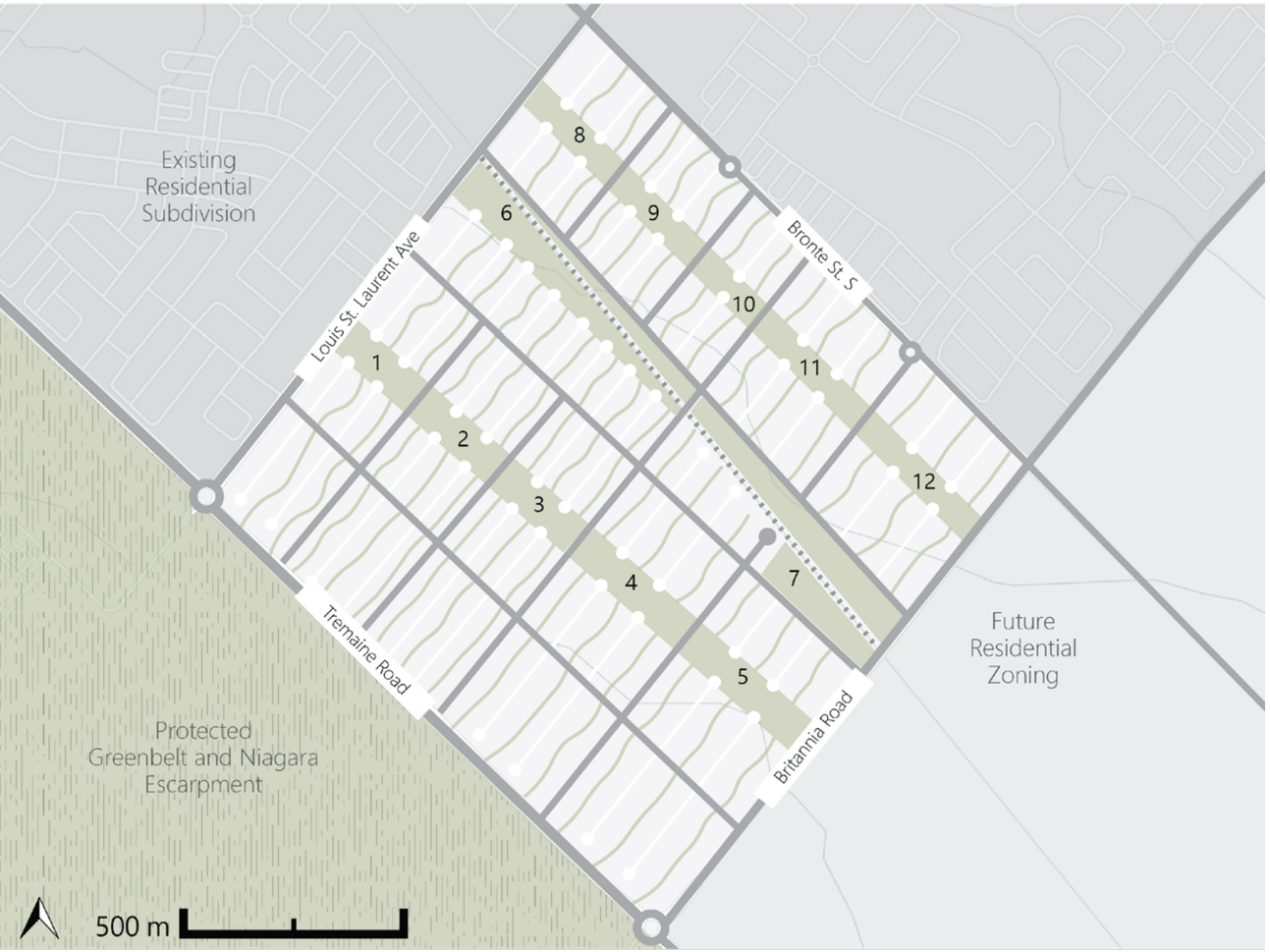
Fig. 90. Public to Private Spatial Division Diagram

Site Programs

1. Housing Dwellings
2. Resident Parking
3. Park Lane
4. Street Lane
5. Mixed Use; Small retail, mail room, garbage collection area, etc.
6. Mixed Use; Large retail, restaurant, market, etc.
7. Community Park
8. Community Park Recreational Program

Fig. 91. Neighborhood Block Site Plan

Community Development Overview



Legend

Train Tracks		Turnarounds	
Main Roads		Park Lanes	
Street Lanes		Community Parks	

Fig. 92. Proposed Site Plan Neighborhood Layout

The full site will be comprised of a total of 12 neighborhood blocks. These blocks are divided up by the main neighborhood road network. Rather then fighting the inevitable division that the residential neighborhood road network creates, the site layout works with this aspect as the basis for the neighborhood unit structures. The arrangement of the neighborhood is based on the grid-like structure, following the existing municipal road arrangement. This formation is the most efficient for simple navigation through the site and provides the best option to meet the targeted densities mandated by the province, municipality, and real estate investors. Each neighborhood block consists of 4 main areas; the housing units, the Park Lanes for pedestrian accessibility, the Street Lanes for vehicular circulation, and a large community park for recreational activities. Creating these smaller neighborhood connection spaces will give residents an increased opportunity to create social community that will overlap and expand throughout the larger community congregation areas. The Park Lanes that each unit backs onto creates a more intimate public space that acts as a neighborhood unit core and transition space for community social interaction to commence.

A unique and challenging feature to this site's design was the existing train track that passes through the neighborhood. I utilized the Community Park space landscaping to act as a buffer from the housing to reduce noise and safety concern for residents.

Park Lane

Fig. 93. Perspective of Community Interaction between Park Lane and Rear Yards

Community Connectivity

Neighborhood Section

The section displayed here cuts through a typical neighborhood block. This captures the relationships and community activities within the street lane, the park lane, and residential dwellings.

In the social interaction section diagram (figure-95), the possibility for overlapping of community exchange throughout the neighborhood is highlighted. The neighborhood layout was designed to influence and encourage interaction with neighbors who share a common Park Lane, Street Lane, or larger central Community Park. The goal is for these small overlapping social connections to further expand to the entire neighborhood site. These initial spatial community relationships are designed to act as links connecting and influencing the social framework of the site.

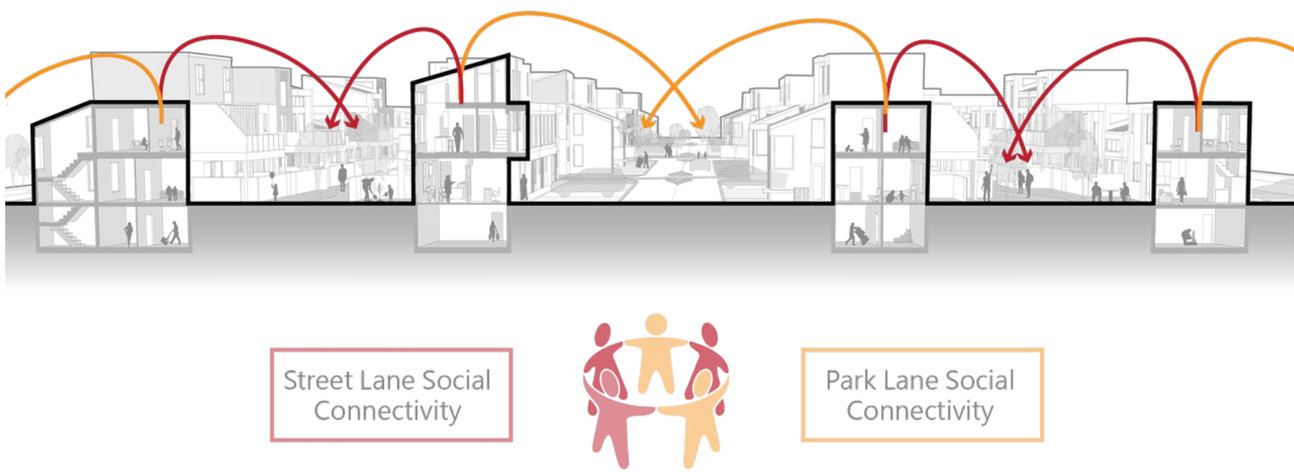
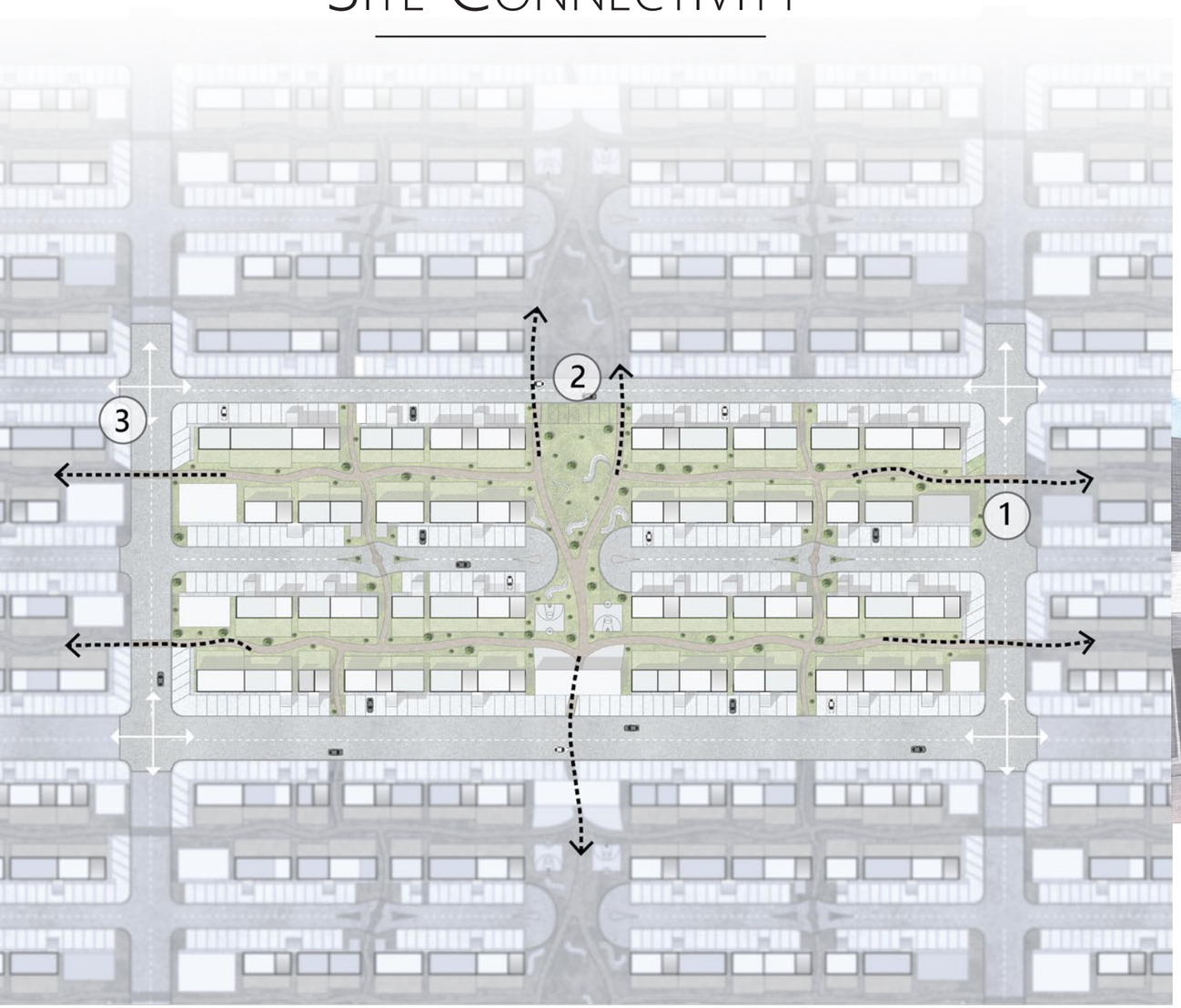


Fig. 94. (Top) Neighborhood Block Perspective Section

Fig. 95. (Bottom) Social Connectivity Section Diagram

Site Connectivity



Neighborhood Networks

1 Park Lane Network

2 Community Park Connections

3 Vehicular Road Network

Fig. 96. (Top) Neighborhood Network Diagram

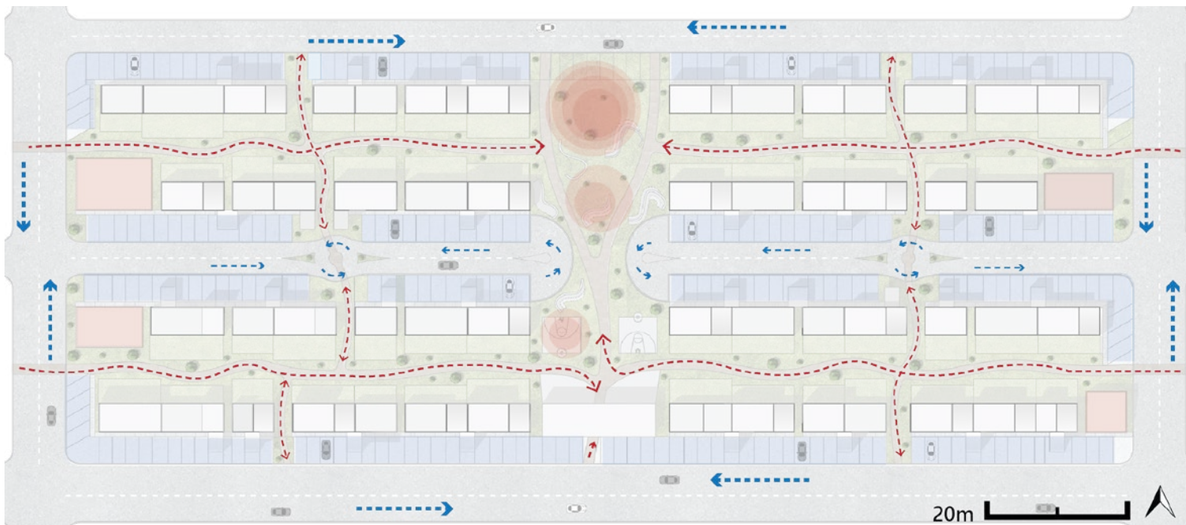
The Park Lanes located between the dwellings provide pedestrian and cyclist pathway networks linking the neighborhood blocks together. The pathways through the various neighborhood blocks are designed to act as a welcoming gateway towards the Community Park areas. These spaces are the thresholds between the private outdoor spaces and the large public gathering areas of the site.

The Community Park offers a space for residents of different neighborhood blocks to converge. These community parks also contain mixed use commercial space such as small-scale markets and cafés. These programs merge within the open recreational park space to lend itself as an area for the activities and participants to create a unique community supported atmosphere.

The Street Lanes and main roads of the neighborhoods are unlike typical subdivision roads where they are lined by pedestrian sidewalks. In this neighborhood design the Street Lanes are solely used for vehicular traffic and are lined with resident parking. The main roads of the neighborhoods are used to link the neighborhoods together for vehicular circulation within the subdivision site and connect to the municipal roads.

Fig. 97. (Top) Perspective of Park Lane
Fig. 98. (Middle) Perspective of Community Park
Fig. 99. (Bottom) Perspective of Street Lane

Pedestrian & Vehicular Relationship



In the design of the pedestrian and vehicular circulation of the site, I had to design with specific consideration of the social interaction atmospheres based on the resident survey information. This design also needed to solve some of the major challenges that are prevalent in these areas of existing neighborhoods. From my surveys, I discovered that many residents prefer not to use their front yards and front porches to socialize due to the noise from vehicular traffic, and for those with young children road safety was a concern. Considering these factors, I knew I wanted to create a neighborhood layout that would provide residents with a place to safely socialize with their community members in a more comfortable setting. In response ,I separated the main pedestrian network from the vehicular network. Though the two systems are separated they are kept close enough to be easily accessed from all areas of the site. These two systems can be seen in figure-- on the left page, the pedestrian network in red and the vehicular network in blue.

The pedestrian pathway consists of the Park Lanes and paths throughout the community park. These pathways provide connections between the Street Lanes as well as a link between the neighborhood blocks and community park recreation programs. Historically, the suburbs were designed with a focus on vehicular transportation.[1] It was important to me to have the site equally accessible for pedestrian transportation as much as vehicular. Pedestrian activity and vehicle traffic are separated throughout the site, yet easy enough to access either network through pathway intersections where the traffic is slowed for pedestrian safety with speed bumps and change in surface material.

Residents who live on dead-end roads or cul-de-sacs recorded a higher use of their front yard space as well as an increased interaction rate with neighbors in these spaces. This was mainly due to the elimination of through traffic as well as a sense of a tighter community that these road structures create. Following the same method to reduce unnecessary traffic on the Street Lanes, each one is designed to be a dead-end with a roundabout halfway down the lane, and a turn-around at the end of the street.

Legend

- Commercial/ Mixed Use
- Community Park
- Pedestrian Pathway
- Street Lane Roads
- Main Neighborhood Roads
- Parking

The municipal roads surrounding the site follow a simple grid-like structure that is easy and efficient to navigate. Rather then following the maze-like road structure of the surrounding subdivisions, this neighborhood adopts the same grid-like structure of the municipal roads that boarder the site.

Fig. 101. Perspective of Unit to Vehicular Relationship

Fig. 100. (Top) Pedestrian and Vehicular Site Relationship Diagram

1 Bolton Anthony, Reimagining Your Neighborhood: Transforming Car-centric Housing Development into Vibrant, Verdant, Sustainable Communities, (Chapel Hill, NC: Second Journey Publications, 2015)

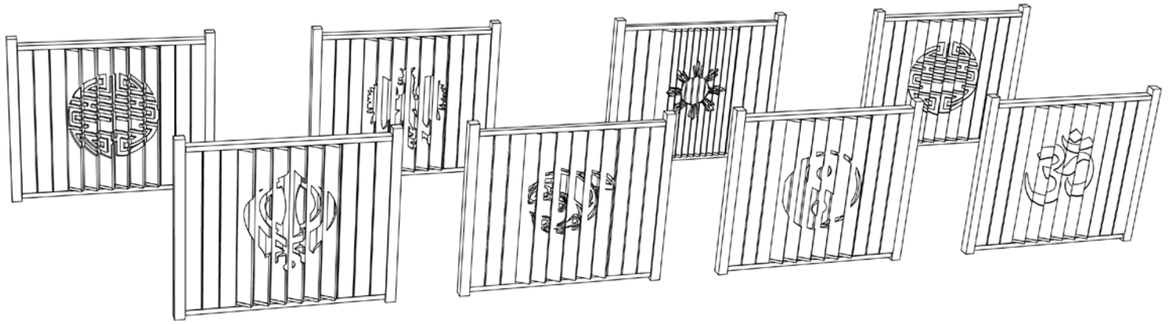
Cultural Connectivity & Celebration of Diversity

Throughout the design development of this new suburban neighborhood model, I knew that I wanted to integrate multi-cultural representation in a unique way through a design aspect. I have chosen to represent this through the fencing that encloses the private unit backyards and backs onto the shared Park Lane. These 5 foot high fences define the boundary between the public and private realms of the neighborhood landscaping. This was an important aspect to maintain and balance throughout the site. During my research, residents emphasized the importance of adequate privacy and security within their yard and balcony spaces.

I chose to display the various cultural identities through the fence design for its communal location and public exposure. These fences not only need to serve the purpose of cultural representation and defining a physical boundary, but they were also designed to emphasize perspective within the community. The cultural symbols will be CNC engraved on the public side of the fence boards and mounted on a 45-degree angle to allow for transmittance between the two spaces. These angled boards with partial visibility between the backyard and Park Lane, also symbolize connecting diversities. The symbols on the boards are a glimpse of the many identities of the residents who live within the neighborhood. These landscape features are intended to influence the social fabric of the neighborhood and initiate diverse and inclusive community socialization.

Cultural Fence- Angled Boards

Cultural Fence



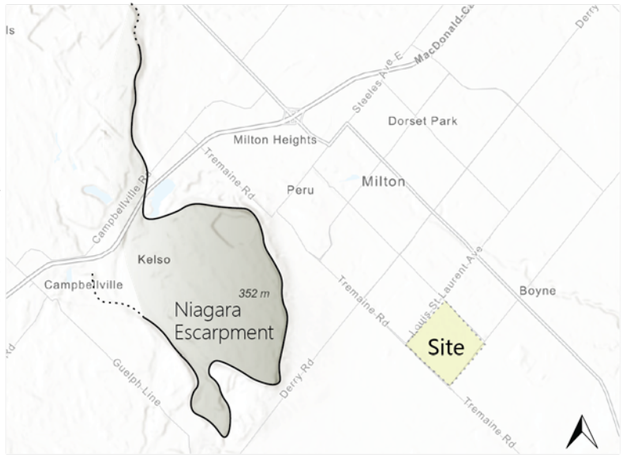
Cultural Symbols Engraved into Wooden Fence

Fig. 102. (Top & Left bottom) Renders of Cultural Fencing
Fig. 103. (Bottom) Examples of Various Cultural Symbols Engraved on Fences

Landcape Connectivity

The Niagara Escarpment is one of the most significant and unique natural landmarks of Milton. I wanted this landscape to be identified and connected/captured within the site's built landscape. This is done through the local materials used throughout the site and landscape design features.

Fig. 104. Image of Niagara Escapment Ridge



The most visible characteristic of the Milton's Niagara Escapement is the drastic topography elevation changes that create a rock ridge feature. This can be seen from almost any part of Milton.

The Niagara escarpment is also a rich resource for limestone and granite that create a unique layering when exposed. These landscape features will be created to replicate the variations in escarpment topography and stone layering. This will be done with concrete retention walls that have layers of local crushed limestone and granite within it to resemble the layering in the stone ridge of the Niagara Escarpment. These landscape features will act as a visual connection to the greater site, provide garden beds and create seating for social activity.

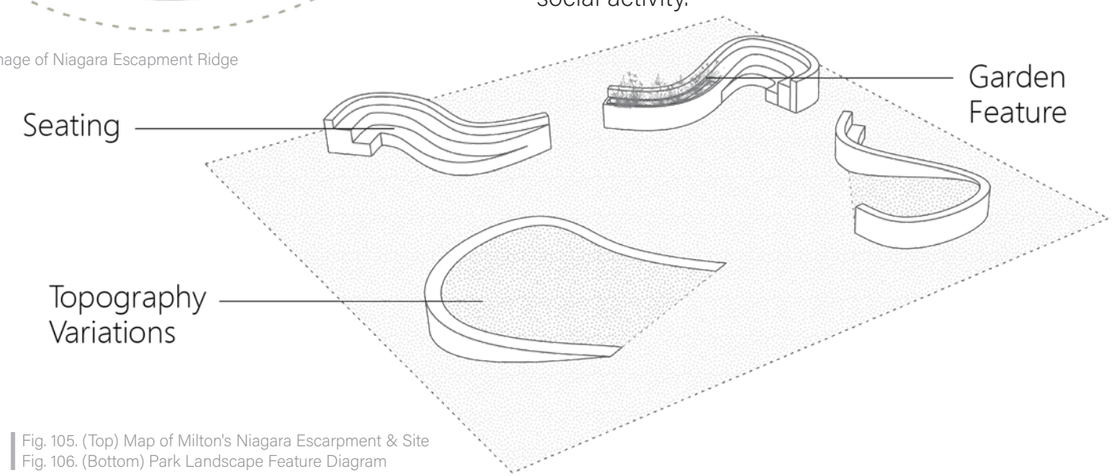


Fig. 105. (Top) Map of Milton's Niagara Escarpment & Site
Fig. 106. (Bottom) Park Landscape Feature Diagram

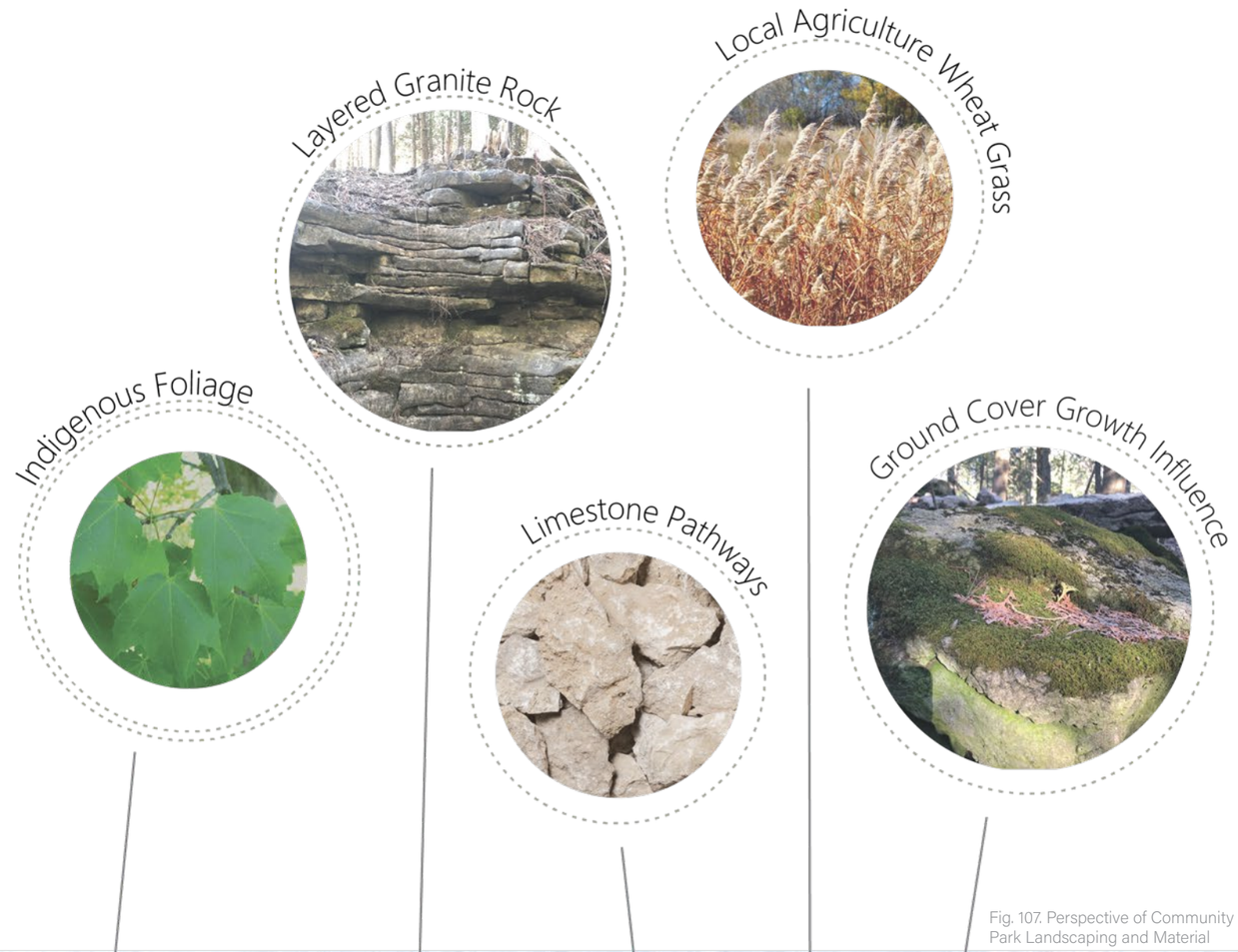


Fig. 107. Perspective of Community Park Landscaping and Material

Site Space Allocation

Just as the spatial divisions within each unit were analyzed consciously for optimal functionality and cost efficiency, this method and perspective was extended to the entire site design. For this design to be feasible for development, it needs to be feasible for funding. During my research studies, I interviewed a land use developer to discuss the requirements for ideal financial profit to be considered while dividing the site between private, semi-private, and public areas. These percentages totalled to roughly 45% of the site being allocated to semi-private and private spaces, with 55% of the site accounting for public and municipal property. See site spatial breakdown on next page.

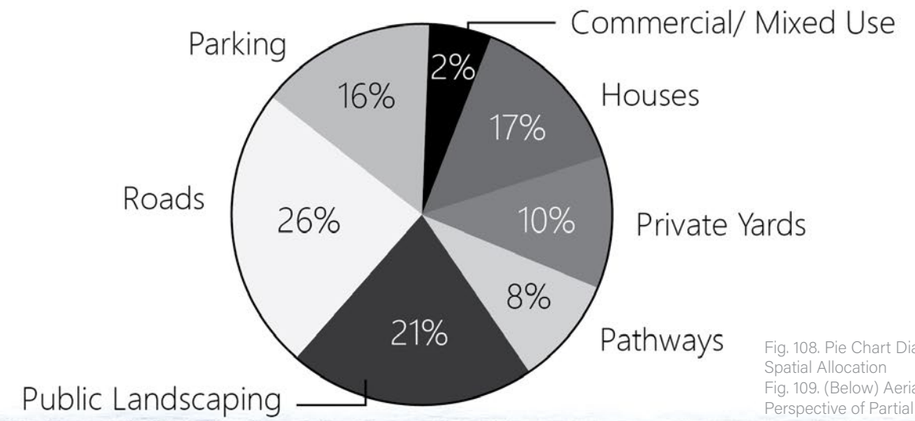
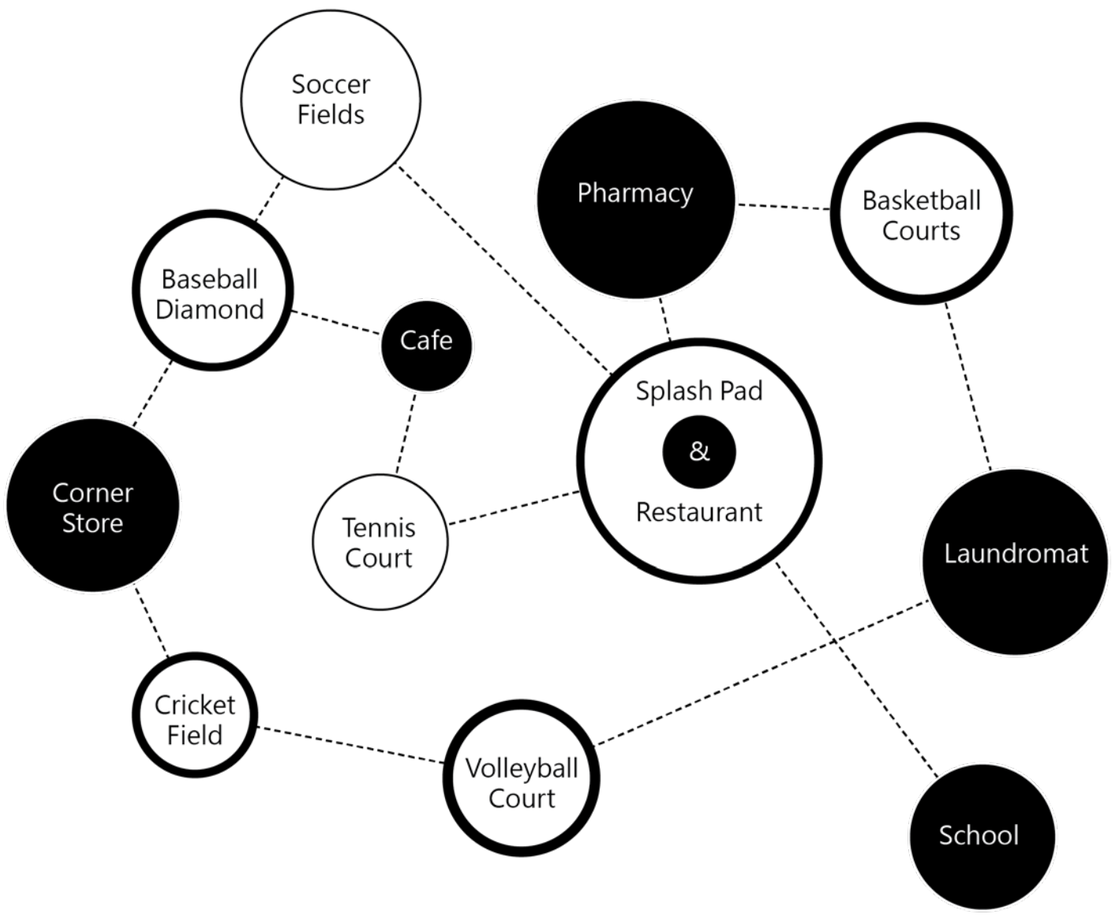


Fig. 108. Pie Chart Diagram of Site Spatial Allocation
Fig. 109. (Below) Aerial Perspective of Partial Housing

Park Programs

The Community Parks are connection nodes that link the entire site's social structure together. These parks provide various recreational activities and settings for residents to benefit from. Each of the 12 Community Parks offer a unique primary program to encourage community circulation throughout the site to use the different various recreational facilities provided. The main program of each park will be established before residents purchase their unit.

This allows prospective buyers to factor in their proximity to desired recreational programs. An example of this would be a family with young children purchasing a unit in a neighborhood block that has a splashpad and playground for the recreational program. The mixed-use commercial buildings will offer complementary programs suited to each individual neighborhood's needs and park program. The diagram in figure-100 displays a few of the possible park program relationships. The image below depicts an example of a park with basketball courts for recreational facilities and a market and café that extends into the unprogrammed park space, creating a diverse community setting.



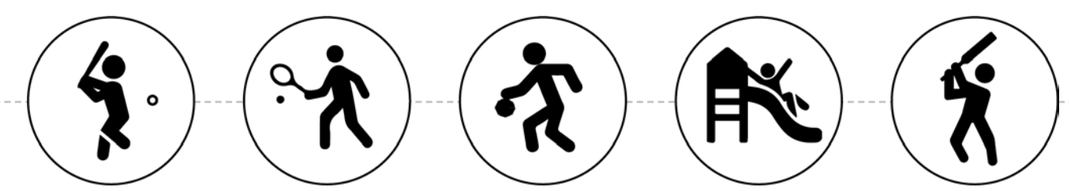


Fig. 110. Park Program Connectivity Diagram

Fig. 111. Perspective of Community Park with mixed programs

Community Elevation

Fig. 112. Rear Elevations of Housing Development

A place to Live...

A place to Grow...

A place to be Aknowledged...

A place to create Diverse Social Connections...

Fig. 113. Full Neighborhood Aerial Perspective

Conclusion

Kenneth T. Jackson defined the suburbs as a low-density residential area, with affluent and middle-class residents, who were predominantly white.[1] My neighborhood housing proposal attempts to change this stereo type for Milton's suburbs. From my analysis of today's shifting demographic and new housing needs, this design aims to re-establish and promote a diverse sense of community. This proposal was set to prove that the theory of community within the context of the suburban neighborhood can be more then simply geographic commonality, but rather, one where people of all races, cultures and demographics choose to interact and assemble socially. While Milton's census results appear to show a high level of diversity, when it is viewed from a closer perspective the diversity becomes segmented. The development of this architectural intervention has been led by the unique perspectives and demographic preferences, to form a cohesive neighborhood unit. The resident focused design addresses the socioeconomic divide present in the layout of housing typologies today. The design attempts to bridge the concerning disjoin amongst the residential design professions. From my research it is evident that the source of the socially and demographically divided suburb is within the outdated framework of the different disciplinary design fields. I believe that architecture is the starting point and collaborator for a new approach towards a connected design process that achieves a unified social housing community. I have looked upon the multiple disciplines to discover the current design principals, and through my proposal, I have redirected the designs to focus on the various private, public, and semi-private residential scales. This was done through the introduction of enhanced social interaction spaces and adoption of historic traits of community that have been proven to encourage social connectivity.

The residents of Milton do want to socialize with diverse demographics but, the current design of their neighborhoods and housing do not encourage and initiation this diverse social setting. The residents desire a sense of community that many of them grew up with in the older suburban neighborhoods.

People need new forms of housing that are flexible to meet their family's unique structures and routines.

Older suburban demographics accepted the social, economic, and cultural division, but today in a world where we are continually striving to remove segregation and barriers, we need to reflect this initiative through to the foundational fabric of where and how we choose to live. As designers of physical community and living standards we have a role to play in setting a precedent to create and promote diverse and socially connected community through our work. My housing community model was designed to celebrate and identify all demographics regardless of age, race, religion, gender, or income, and integrate these diversities to create a unique social network through neighborhood and housing design.

Thank You

1 Kenneth T. Jackson, "Suburb as a Substandard," In Crabgrass Frontier: The Suburbanization of America, (New York: Oxford University Press,1985)

Appendix A

Resident Survey Examples

Kristen Aleong _ Architecture Thesis Survey

Milton Residents Survey

What year did you move to Milton?

2001

Why did you move to Milton? (circle one)

Proximity to family	Work local	Proximity to work	Good Housing price	Grew up in Milton	Good Community amenities	Other

What is your postal code or closest intersection to your home?

L9T 5M5

How many people live within your household?

3

What are the age groups of the people in your household? (Please mark quantity of people in household within the applicable the age groups)

0-14 years	15-24 years	25-39 years	40-64 years	65 years and over
	1		2	

Housing type in Milton (check one)

Apartment		Townhouse		Semi-detach		Detached (suburb)		Detached (rural)	

How often do you talk to your neighbors?

Several times a week

Where do you talk to your neighbors?

On the street

How many neighbors do you know? (households)

10

Do these neighbors live in the same type of house as you? | Yes | No |

If you have a front porch and backyard, which one do you use more? Why?

Lately we have used the front porch more often due to social distancing visits from friends and family during COVID-19. Otherwise, we use the backyard more often to entertain friends and family as it is more private (especially in the summer when the pool is open).

On a scale of 1-10 how private do you feel your backyard is from your neighbors?

8/10 (very private)

Kristen Aleong _ Architecture Thesis Survey

Milton Residents Survey

What year did you move to Milton?

2012 (moved apartment)

Why did you move to Milton? (circle one)

Proximity to family	Work local	Proximity to work	Good Housing price	Grew up in Milton	Good Community amenities	Other suburbs from toronto.

What is your postal code or closest intersection to your home?

L9T 3G5

How many people live within your household?

5

What are the age groups of the people in your household? (Please mark quantity of people in household within the applicable the age groups)

0-14 years	15-24 years	25-39 years	40-64 years	65 years and over
3		1	1	

Housing type in Milton (check one)

Apartment		Townhouse		Semi-detach		Detached (suburb)		Detached (rural)	

How often do you talk to your neighbors?

daily

Where do you talk to your neighbors?

street, backyard, driveway

How many neighbors do you know? (households)

4

Do these neighbors live in the same type of house as you? | Yes | No |

If you have a front porch and backyard, which one do you use more? Why?

backyard, small kids & fenced in.

On a scale of 1-10 how private do you feel your backyard is from your neighbors?

9

Milton Residents Survey

What year did you move to Milton?

1970 - 1975 apartment (bronte st)
2ina

Why did you move to Milton?

Proximity to family	Work local ✓	Proximity to work	Good Housing price	Grew up in Milton	Good Community amenities	Other

(age) 2 + 65year

What is your postal code or closest intersection to your home?

L9T 1G1

How many people live within your household?

2

Housing type in Milton (circle one)

Apartment		Townhouse		Semi-detach		Detached (suburb)	✓	Detached (rural)	

old milton
1920

Neighborhood

How often do you talk to your neighbors?

1 a week

Where do you talk to your neighbors?

front yard

How many neighbors do you know? (households)

6

Do these neighbors live in the same type of house as you? Yes ✓ | No

If you have a front porch and backyard, which one do you use more? Why?

Pre covid front porch to talk to people.
Covid backyard - safer elderly

(if applicable)

On a scale of 1-10 how private do you feel your backyard is from your neighbors?

5 - 7

Milton Residents Survey

What year did you move to Milton?

2009

Why did you move to Milton?

Proximity to family ✓	Work local ✓	Proximity to work	Good Housing price	Grew up in Milton	Good Community amenities	Other

What is your postal code or closest intersection to your home?

Thompson + Yates.

How many people live within your household?

4.

Housing type in Milton (circle one)

Apartment		Townhouse		Semi-detach	✓	Detached (suburb)		Detached (rural)	

Neighborhood

How often do you talk to your neighbors?

Not very often.

Where do you talk to your neighbors?

driveway / front yard.

How many neighbors do you know? (households)

2.

Do these neighbors live in the same type of house as you? Yes ✓ | No

If you have a front porch and backyard, which one do you use more? Why?

Front porch on busy road so I hardly use it.
Back yard @ times just to do BBQ, and for my dog :).

(if applicable)

On a scale of 1-10 how private do you feel your backyard is from your neighbors?

4 - It's not too private.

Appendix B

Urban Planner Interview

1. How are residential zoning allocations determined? (e.g. Low-density, medium density, high density)

- Planning Policies: Provincial Policy Statement, Official Plan Policies + Secondary Plans
- Growth areas + growth boundaries
- Compatible uses + connectivities
- How land may be used (permitted uses)
- Heights + building types (single-detached, semi-detached, townhouse, apartments)
- Historically determined based on the growth of rural areas that have become suburban areas.
- Rezoning applications

Resource: http://www.mah.gov.on.ca/AssetFactory.aspx?did=111ww56

2. Is it feasible from a municipal zoning perspective to introduce more mixed use districts within residential communities? (E.g. commercial ground level and residential above throughout a neighborhood rather than along a main road?)

- Depends on the vision of the municipalities Official Plan + Secondary Plan
- Mixed-use developments in existing /mature residential communities are a type of infill development, that is more suitable for municipalities than urban sprawl.
- Explore Markham's Cornell's New Urbanism Community (the pros + cons): https://www.visualizingdensity.ca/cornell#:text=Planned%20on%20a%20greenfield%2C%20Cornell,density%2C%20mixed%2Duse%20area.
- Shops at Done Mills Case Study: https://www.wzmh.com/projects/shops-at-don-mills/
- Explore: Intersection of Burnhamthorpe Drive and Hurontario Road in Mississauga, Camrost Felcorp's three-acre Exchange District is proposing another mega-mixed-use project, combining more than 2,000 condo units with approximately 100,000 square feet of retail and office space.
- Explore the benefits of pitfalls of mixed-use developments: https://renx.ca/mixed-use-developments-evolve-learn-successes-failures/

"Intricate minglings of different uses in cities are not a form of chaos, but rather, represent a complex and highly developed form of order."

– Jane Jacobs, Urban theorist

3. Is density diversity considered when allocating residential housing zones?

- The municipalities Official Plan will state the vision for built form: single-family dwelling, semi-detached, townhouse, apartment etc., for residential areas for permitted development.
- The municipalities zoning by-law will state permitted uses for residential areas - for permitted development

4. Within zoning by-laws are there any regulations for pedestrian accessibility to commercial plazas in neighborhoods? Would this be something regulated by the municipality if not already?

- This would be regulated by the municipality's Urban Design Guidelines (site plan approval etc).
- This would be regulated by the Ontario Building Code Accessibility Standards: https://www.ontario.ca/page/accessibility-ontarios-building-code

Land Use Developer Interview

1. How do you determine what type of housing will be best suited for a neighborhood? Do you study the demographics of the neighborhood? Or does this rely of the land zoning?

- This is driven by the official plan and density zoning for the land.
- There must also be consideration for what the existing public sewers and community amenities can sustain.
- There is an option to amend the official plan if what the developer is proposing is not currently permitted. This would be a process of presenting the alternative proposal to public council with studies to support it.
- When following the existing zoning for the land there are development standards that must be followed. These stipulate the required amenity spaces, private yard spaces, etc,
- There are also provincial policies to follow, currently for Milton the provincial policy states to intensify underdeveloped land.

2. How do you determine where a park or plaza should go when designing a suburban neighborhood? Could corner stores be reintegrated into suburban neighborhoods?

- For determining where parks will be located and how many parks for the neighborhood the developer consults; conservation authorities, the municipality and landscape architects
- They also consider the proximity of the park to schools, trail networks and a central location within the neighborhood.
- Plazas are usually located near main intersections to keep traffic to larger roads.
- They are located where there is higher density to support them and where they can be accessed by public transit.
- Municipality would have to agree to integrating small scale business areas throughout a neighborhood development

3. I noticed that many developers are building townhouses or rowhouses without rear yards. Are people not wanting these private outdoor spaces today?

- Land is expensive today and the developer has higher profits on selling building square footage opposed to private outdoor space square footage.
- The development must financially work for both the developer and the residents.
- Some people would rather have interior square footage to eliminate the maintenance obligations of yard space.
- It comes down to reaching density and financial targets

4. What are the biggest selling features for builders to consider?

- Maximize interior square footage
- Modern layout of homes (open concept living areas)
- Modern exterior architectural styles
- Transit access and commercial amenities within established neighborhood

5. From my field work I see that new residential developments follow a housing typology grouping method to their layouts. Why is this? Would it be feasible to have housing typologies more mixed throughout a neighborhood?

- This is often the case for easier arrangement of housing geometry
- Higher density housing such as townhouses, rowhouses and condo building are often used as visual and sound buffers from neighboring commercial zoning or main roads.
- Integration of different housing typologies is feasible, but it would require more time to design the neighborhood layout.
- There might need to be gradual transitions between the scales of the housing typologies. This would be to blend the social and income difference in demographics associated with the housing type.

6. Is their value to the builder in providing a socially connected neighborhood?

- The builder and developer solely focus on the delivery of developing the land and infrastructure.
- It is up to the municipality to review the success of the neighborhood as a social community.

7. Is there any importance to the developer to create homes that residence live in long-term? I noticed from my surveys that many residents use housing typologies such as townhouses and rowhouses as transitional living, rather then lifelong houses. Do builders or developers think about this aspect when designing them?

- Many of the higher density housing options are 3-4 stories. The stairs limit the residents to a younger demographic, often this demographic is still in the stage where their families or households are growing, meaning they often outgrow the unit size.
- In the last 6-10 years there has been such a high demand for housing that people will buy what they can get their hands on at the time and do not purchase for the long-term needs.
- Due to the housing demand investors are purchasing units and turning them into rental properties which also increases the resident turnover rate within these neighborhoods. Renting has become increasing popular because of the high prices for real estate, people are willing to live in smaller units to gain ownership of their units. Later they move into a larger housing typology.

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