

City of London
Cohousing Review




Abode Consulting


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City of London
Cohousing Review Final Report

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Executive Summary

The City of London's new Official Plan sets out clear goals to support intensification in many different forms and provides policies to address affordable housing and homelessness prevention. The City has been working to address the affordable housing issue and has recently completed an update to its Homeless Prevention and Housing Plan, and has prepared a draft "Affordable Housing Development Toolkit". The City is seeking ways to increase the supply of affordable housing units specifically through intensification. The City identified cohousing as a possible way through which to provide for additional housing.

Cohousing is generally described as housing development that is led by residents and managed by residents, and is designed to facilitate social interactions. There are a wide variety of approaches to cohousing, which include varied approaches to development, size, density, physical form, the values of the community, and supportive organizations. This study explores cohousing as a model of housing accommodation that may provide for a feasible option for the City to further consider as part of its housing and intensification strategy.

In order to determine if cohousing is a suitable model for the City to explore as part of its housing and intensification strategy, this study has been completed in three phases to provide a comprehensive assessment of cohousing for the City.

As cohousing is relatively unknown and unrepresented in Ontario and in Canada, the study necessitated research into understanding and definition of what cohousing is and how it is relevant. The first phase of this study provides background research on cohousing in terms of its benefits, how cohousing is generally developed within municipalities and the challenges to develop cohousing in communities.

The Study also provides an overview of the City of London context that examines London's current physical and social setting as well as the applicable policy framework within which the City would need to incorporate cohousing.

The Study explored four case studies for cohousing in North America and assessed the history, physical and planning context as well as financial and ownership elements for each. These case studies provided insight into the issues and challenges of each and the successes of each model.

Drawing from the background research and case study analysis, as well as the City of London context, the Study introduced five relevant models of cohousing: Organic Retrofit, Urban Project, Industrial Retrofit, Suburban Neighborhood Cohousing, and Seniors Cohousing. Each of these models was defined and assessed against a number of criteria established with the City.

The findings of the model evaluations was then summarized and led to key recommendations for the City in relation to the provision of cohousing as a form of housing intensification.

Based on the study research and analysis, it is recommended that the City of London further consider the provision of cohousing as an alternative form of housing. This will require a number of changes to the City's Official Plan and Zoning By-law as well as additional considerations in relation to financing, resources and engagement, all of which are justified as provided in the study findings.

1 Introduction

The City of London is seeking ways to support intensification, address housing affordability, and support the diverse communities and neighborhoods of London through housing. The current planning paradigm is to encourage inward growth so that new developments can take advantage of more efficient transportation, increased social cohesion, synergies associated with proximity of uses, and more desirable urban spaces. The anticipated indirect benefits would be to health, sustainability, and a more competitive economy.

Cohousing has been identified as a potential new form of housing that may be able to achieve many of London's housing goals. The objective of cohousing is to create closely spaced housing that facilitates community and supports residents through shared access to amenities. While there is not much currently known about cohousing from the perspective of the municipality, this report is intended to provide background research on cohousing and understand how cohousing could fit within the City of London through an evaluation of its feasibility. Could cohousing help the city support intensification, address housing affordability, and support a sustainable community and built form?

To be able to evaluate the feasibility of this new form of housing, it was first necessary to understand cohousing itself. The concept of cohousing was researched in relation to its history, intention, benefits, and barriers. In addition, several case studies were assessed to illustrate the possible characteristics of cohousing. A full review of London's context was also completed to gain an understanding of the social, physical, legal and policy context of the City. A search for resources or features in London that are synergistic or discordant with cohousing was also provided.

Based on the background research, further work was done to establish a method to evaluate cohousing in the London context. In order to compare the various cohousing models in the London context, each models of cohousing were created and compared to each other using criteria informed both by the RFP, and by the needs of cohousing. From this evaluation, observations and recommendations were produced to inform possible future actions by the City of London.

2 Background on Cohousing and Research

2.1 What is Cohousing?

Cohousing, as used in this report, is based on the general model put forward by McCamant and Durett[1]. This type of cohousing is fundamentally focused on building a strong sense of community and incorporates this in every aspect of its design, development, and operation. At its simplest, cohousing consists of private dwelling units that are oriented towards each other to promote community connections and a common amenity space or common house. In addition to this, the members/residents have explicit intentions to live as a small community and share many amenities such as laundry, workshops, parking, and shared meals and utilities typically provided in private dwellings.

McCamant and Durett identify six common characteristics of all cohousing: a participatory process, physical designs that facilitate community, extensive common facilities, complete resident management, non-hierarchical structure, and separate income sources.

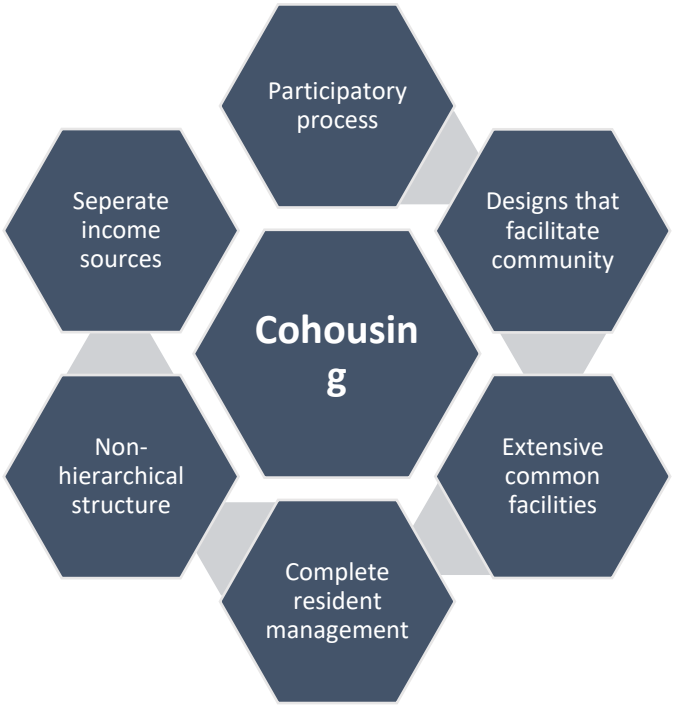

Figure 1 Six common characteristics of cohousing

[1] McCamant and Durrett, (2011). Creating Cohousing: Building Sustainable Communities. Gabriola Island, BC: New Society Publishers.

Participatory process: the people who wish to live in cohousing are part of the process in designing, planning, and developing it. There are varying degrees of participation, but the group must be the motivation and central in the design process. Groups often incorporate in order to pay bills and then they can be their own developer, they can hire consultants and developers, they can partner with non-profits, or other alternatives. The process of working together towards the development of housing helps develop a sense of community which is key to cohousing.

A Brief History of Cohousing

Cohousing began in Denmark in the 1960s and was called, loosely translated to, "living communities". The original rationale was to pair the strong community feel of a small village with the opportunities of the big city. It also addressed the concerns of Danish women, who believed that this design would keep children safe and reduce crime and juvenile delinquency because of the communal surveillance by neighbors.

In the 1970s, the Danish Building Research Institute held a design competition for low-rise, clustered housing and the result was Tinggarden: 79 units in six cohousing communities, all rental and subsidized, and it remains one of the best examples of government subsidized nonprofit housing in the world and influenced future subsidized housing design in Denmark.

In 1981, Danish legislation provided an ideal method of financing cohousing, the Cooperative Housing Associations Law, which also helped by forcing cohousing groups to clarify their priorities and diversify household composition. Since then, many Danish cohousing communities are structured as limited-equity cooperatives financed through the government. By 1980, there were 12 living communities in Denmark and by 1982, there were 22 with 10 more in the planning phase.

When McCamant and Durrett brought the concept to North America in 1988, they translated the name from Danish and gave it the English name, 'Cohousing'. The first cohousing community in North America, Muir Commons, was developed in Davis, California in 1991. In 2011, there were more than 120 living communities across Canada and the United States.

Designs that facilitate community: The physical design elements of cohousing communities are arranged to encourage social interaction. Front doors are close to each other, and inner pathways are made with soft-edges where people can informally gather, such as porches or gardens. Cohousing designs attempt to blur the lines between purely public space and purely private space.

Extensive common facilities: a common house is often the heart of a cohousing community, where shared meals are prepared and eaten. Shared facilities could also include laundry, a garden, parking, a workshop, library, music rooms, gym, or any number of other things. Since many amenities can be provided in common, individual units are often smaller than in non-cohousing neighborhoods because they do not need to incorporate these features.

Complete Resident Management: following the development, residents retain authority over all aspects of the community. Instead of hiring a contractor, maintenance and group responsibilities are divided among residents. The result is that resident sweat equity keeps costs down but collectively residents feel a greater sense of connection/community.

Non-hierarchical structure: there is no specified leader in the cohousing community. Everyone is roughly equal and able to participate in discussions about the community.

Separate income sources: unlike in communes, every resident of cohousing has their own incomes and their own private unit.

What distinguishes cohousing from other forms of housing, or perhaps what disqualifies communities from being classified as cohousing, according to McCamant and Durrett, is "if the resident group does not participate in a meaningful way to building the community; if the common house is poorly designed and thwarts community; if cars creep into spaces that should be reserved for people; if cars creep into the houses themselves; if residents don't have anything real in common; and if the residents don't have regular common dinners." Any of these things can undermine the concept of cohousing and make it unsuccessful.

Aside from what all cohousing has in common, cohousing is remarkably flexible and dynamic. It can suit the needs of a diverse range of people, in different places, and for various purposes. Cohousing can develop organically over time in existing neighborhoods by adding units and removing backyard fences. It can occur as dense, mixed use development or redevelopment, or it can be a retrofit in an existing non-residential building. Communities can also develop in suburban or rural areas, and they can be built to incorporate ecological considerations or be built with agricultural intentions. They can also be built for senior's care.

The result of this diversity of form and function means that there are many variables for implementing cohousing, and the distinction between cohousing and other forms of housing can be subtle. For instance, many cohousing communities may resemble condo corporations in that condos share amenities and have a democratic condo board. However, the typical condo corporation lacks a participatory process when formed or provides for complete resident management. Another example is cooperative housing, which is incorporated as a non-profit and is managed by residents. Yet the size, formal structure, and development process are not always resident driven. While cooperatives, condominiums, and others form of dwelling tenure may resemble cohousing, they are not always implemented as cohousing.

Size plays an important role in cohousing communities. If there are too many people in the community it can become hard to know everyone personally, discouraging engagement and making it impersonal. McCamant and Durett[2] mark 50 adults or 35 households as being the upper limit of successful cohousing communities. A smaller community, from about 8 to 15 households, is easier to organize, manage and find a site, but interpersonal tension becomes more difficult to manage. Additionally, fixed costs of development are more difficult to support among fewer members. The optimal size is from 16 to 25 households. This size is large enough to support extensive shared facilities, but small enough to know everyone and engage in direct democratic management of the community.

[2] McCamant and Durrett, (2011). Creating Cohousing: Building Sustainable Communities. Gabriola Island, BC: New Society Publishers.

2.2 Benefits of Cohousing

Social

- Cohousing addresses the rising issue of isolation faced by individuals. Members of a cohousing community engage in various communal activities which take place in the common house.
- People are able to establish social connections amongst themselves and also help out with attending to each other's needs.
- For example, in a multigenerational cohousing community seniors and/or other members can help provide child care for each other's children. Also, seniors can have energetic young adults help them out in shoveling snow.
- Individuals are also tasked in taking turns in the preparation of the shared meals which are done regularly, thus, time which would have been spent in preparing individual daily meals become opportunities for members to network and strengthen social bonds among themselves.

Economical

- Aside from the initial expense of development, the shared amenities and other communal aspects save time, resources, and money in the long run.
- Members of a cohousing community share meals regularly and food is bought in bulk which cuts down costs.
- Cohousing projects are built to be eco-friendly to save water and energy.
- Strong community also enables sharing childcare responsibilities, giving parents more time to do other things.
- Cohousing also help to increase environmental efficiencies as people are likely to share vehicles, tools, and equipment (like lawnmowers), thereby reducing carbon footprints.
- Have sustainability features (solar panels, rain water collection, landscaping, natural made construction materials, facilitate electric vehicles and encourage walkability and cycling.

Environmental

- Cohousing also help to increase environmental efficiencies as people are likely to share vehicles, tools, and equipment (like lawnmowers), thereby reducing carbon footprints.
- Have sustainability features (solar panels, rain water collection, landscaping, natural made construction materials, facilitate electric vehicles and encourage walkability and cycling.

Policy & Governmental

- Cohousing can help achieve local governmental goals. These include achieving density targets, intensification and infill goals, and the revitalization of neighborhoods.

Figure 2 Benefits of cohousing[3]

[3] McCamant and Durrett, (2011). Creating Cohousing: Building Sustainable Communities. Gabriola Island, BC: New Society Publishers.

2.3 Barriers

Despite the numerous benefits associated with cohousing, it is fraught with challenges. Challenges emerge right from the conception of the idea to create a cohousing community by a group of people to the construction of the community. The development of a cohousing community can be a lengthy process, in some cases over eight years, and it can be quite challenging sustaining the initial desire of people to be involved in the creation of the cohousing community. Interpersonal conflicts are likely to occur especially in terms of deciding location, design and other aspects of the cohousing community. The lengthy nature, achieving group consensus among other things can affect the ability to sustain the group's desire in creating cohousing.

The expense of developing cohousing is often comparable to that of conventional housing projects. In exchange for extensive shared facilities, individual units in cohousing are often smaller than average. Financing cohousing projects can also be a challenge, whereby lending institutions are unwilling to lend funds for projects due to the perceived risk that accompanies this poorly understood and uncommon form of housing. The long and intensive development process is also a challenge for residents. Cohousing may also pose large barriers for specific demographics, such as seniors. For retired seniors, their home is often their retirement savings. To invest in developing cohousing while maintaining their residence is a challenge.

The regulations and processes of governments related to development can be a barrier to the cohousing concept. Governments have not been proactive in acting as facilitators for the growth of cohousing. Governments may not be aware of the value of cohousing. As a result, not a lot of policies and incentives to facilitate the growth of cohousing have been enacted by government representatives. For example, changes may have to be made with regards to the zoning and/or land use issues.

2.4 Cohousing's Development Process

There are a number of steps taken to initiate and implement the Cohousing. McCamant and Durrett provide an illustration that summarizes the process of establishing a cohousing community. The summary illustrates the complexity of the process for residents which can be lengthy and challenging depending on the geographical context. The development process varies between communities but the illustration below captures the general phases of establishing a cohousing community. Each of the main phases comprises of a number of activities and residents are involved in these activities.

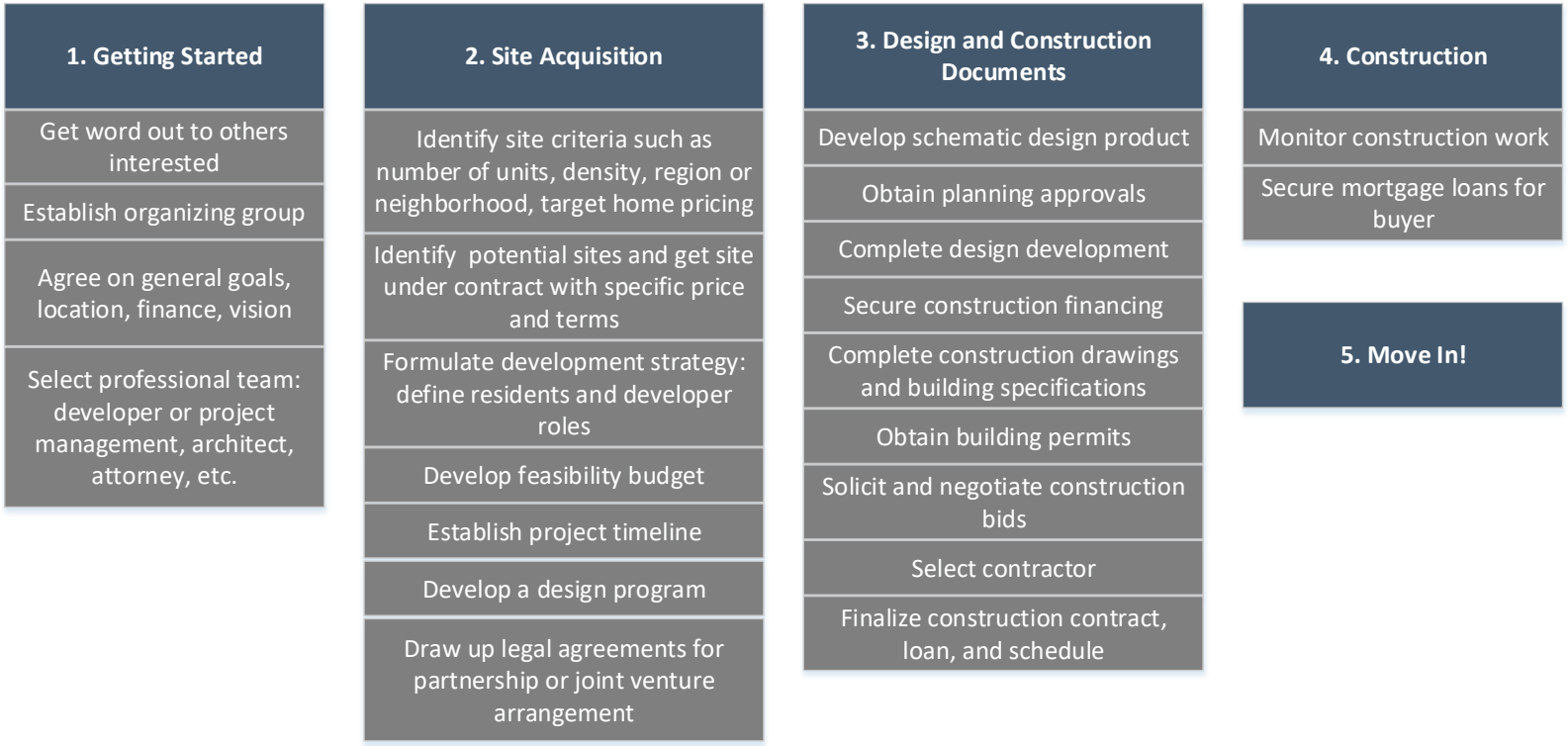

Figure 3 Cohousing development process[4]

[4] McCamant and Durrett, (2011). Creating Cohousing: Building Sustainable Communities. Gabriola Island, BC: New Society Publishers.

3 London's Context

The purpose of this section is to provide an overall context for the city of London in terms of housing.

3.1 Physical Context

The City of London is located in southwestern Ontario and is described as the "Forest City". It is described as such because it started and developed in the center of a forest of trees. London is still living up to this name as it continually plants and respects the history of trees. Aside from historical trees, the City of London contains several Heritage Conservation Districts (HCDs) and many different architectural building styles.

The urban fabric can be described as a mixed-use downtown area surrounded by residential neighborhoods. Highway 401 passes close to the City to the south, and the main arterial roads have car-oriented businesses (refer Figure 14**,** Appendix 1 Maps**).** There are car-oriented shopping areas dispersed throughout the suburban areas of the city. There are also two post-secondary school institutions in the City.

Additionally, there are employment lands clustered near the highway to the south and to the east, which is also near the airport. There are several significant ecological corridors that traverse the City that contain the Thames River, and there are several rail lines that carry passenger and freight transport.

3.2 Social Context

3.2.1 Demographics

The demographics in London, as described in census data and in the London Plan, are changing and the City is expected to continue to grow, age, and become more diverse. The City of London expects that, by 2035, London will attract 77,000 more residents and 43,000 jobs. These new residents will need new houses, and thus development is being directed into already built-up areas. The aging population is also increasing. In 1996, one in five Londoners were identified as being aged 55 and older, in 2011, this had increased to one in four, and the City projects this to increase to one in three by 2035. London is attracting migrants and thereby making it culturally diverse. Currently over

100 languages are spoken in the city, and based on census data, one in five Londoners is a new Canadian.

In terms of income, many Londoners are lower and middle-income earners (Appendix 2 Census Tables). Almost 15% of Londoners earn less than $10,000 a year, meaning they earn only $833 a month, of which only $250 can be put towards housing for it to be considered affordable. Nearly 70% of Londoners earn less than $50,000 a year, meaning that affordable housing is equal to $1,250 a month. 87% of Londoners make less than $80,000 a year. In terms of households, the average total household income is $83,246 (after tax $69,903), for one-person households it is $43,774 (after tax $36,961). What this data does not show is that different demographics will have different expenses. For instance, seniors who have paid off their mortgage will have fewer monthly expenses, but may also have very low and fixed income. Additionally, this data does not capture households with multiple income earners. The data shows that 30% of households are individuals, 26% are couples without children in a census family, and 38% are census families with children.

The median total income of households in London is $64,743, and the average was $83,246. 30% of households in London are individuals, 35% of households are composed of two people, and 35% of households have 3 or more people.

3.2.2 Housing Need

The available housing stock and its associated costs are not currently aligned with the needs of those who live in London. London forecasts about 41,350 new housing units to be built by 2035. Currently, only 14% of units, according to 2016 census data, is one bedroom, and 24% has two bedrooms. Most housing is relatively low-density, with almost 56% of homes being single detached dwellings. Approximately 17% of homes are either semi-detached, row houses, or apartments or flats in a duplex. The remaining 27% of dwellings are apartments in apartment buildings.

The changing demographics pose complex challenges to housing needs. The aging population is likely to own single detached houses in established and well-connected neighborhoods. Close to 44% of household's primary maintainer is aged 55 and older. Concurrent with this, these households are becoming smaller while maintaining the same size lot and house, and this decreases the population density in the areas that should be intensifying. This can result in a loss of neighborhood character, and large cost burdens on seniors with limited incomes. Additionally, this

means that often the only housing that is available to new families is outside of established neighborhoods. Available housing is further from downtown areas and further from accessible transit.

The cost of housing is also increasing much faster than residents' incomes. According to 2016 census data, the average monthly shelter cost for owned dwellings is $1,219/month and the average monthly shelter cost for rented dwellings is $930/month. At the time, the median value of a dwelling was $260,000, and currently the average selling price in London is above $400,000. Additionally, while 64% of households own their dwelling, meaning that 36% of households are rental tenure. As well, 13.8% of Londoners are in core housing need.[5]

Based on the understanding of the needs addressed by cohousing and London's demographics, the target demographic for cohousing would be those earning with median income range. Most average housing are becoming unattainable for the average resident of London, meaning that some are forced to find houses that would have been occupied other affordable housing options. The result is that there is not enough affordable housing. The target of this project are those who do not require affordable housing, but who might be at risk of requiring it due to increasing home values, or change in income. This target demographic might include new families, seniors, and middle-income earners. Figure 4 portrays the target demographic of the study:

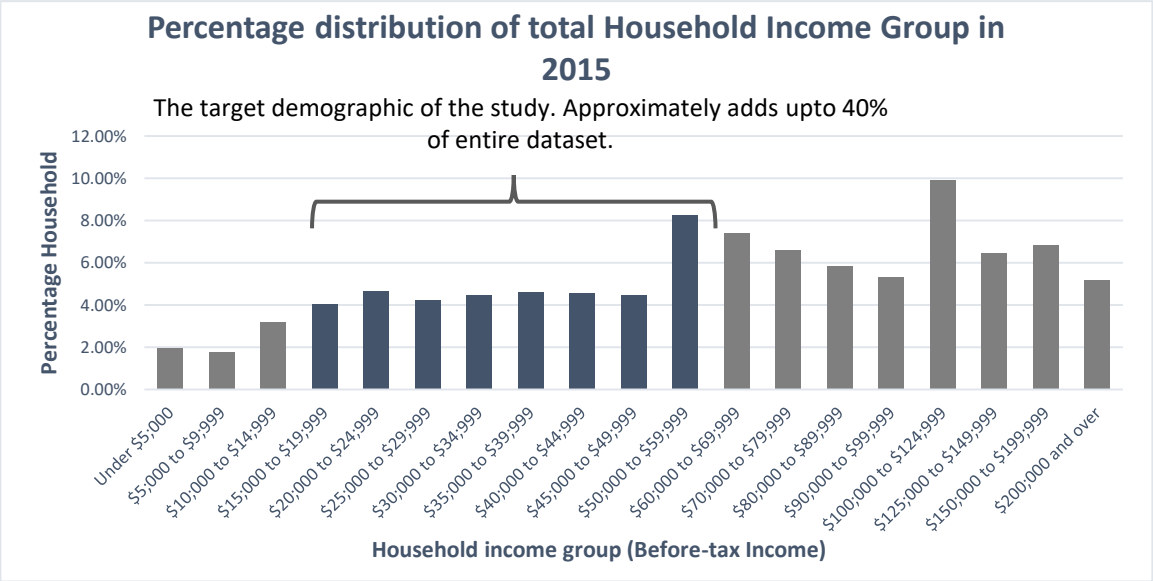

Figure 4 Percentage distribution of total household income group in 2015

[5] Statistics Canada. 2017. London, CY [Census subdivision], Ontario and Ontario [Province] (table). Census Profile. 2016 Census. Statistics Canada

3.3 Policy Context

This section of the report provides an overview of the policy context within which the city of London would consider and implement Cohousing. London's Official Plan, The London Plan, and London's Zoning Bylaw were reviewed.

3.3.1 The London Plan

The London Plan was adopted on June 23, 2016. The goal of the London Plan for housing development is to grow inward and upward, increasing density and intensification in urban areas. This is part of a strategy that sees prosperity for Londoners as more than just wealth, but as a holistic perspective that touches on the issues of housing from many angles: high quality infrastructure, great neighborhoods, active mobility, affordable housing, a healthy natural environment and ecosystem, recreational opportunities, health care services, age friendly and universally accessible public facilities, cleaning of contaminated lands and water, and air quality.[6]

The vision of the London Plan has eight directions many of which relate to housing and to an extent cohousing. These visions cut across a number of themes such as revitalization of urban neighborhoods, enhancing accessibility by improving mobility and transit services, amongst others.

The London Plan emphasizes accomplishing its goals through intensification (Section 79 of the Plan). It will accomplish this through the addition of secondary units, expansion of existing buildings, adaptive re-use of existing non-residential buildings for residential use, infill on vacant and underdeveloped lots, severance of existing lots, and redevelopment at higher than existing densities. This type of intensification is intended in every place that allows for residential uses.

3.3.2 Zoning

The Zoning By-law for the City of London is quite complex and came into effect in 1993. There are 11 residential zones which are further defined by variants to each zone. However, and importantly for cohousing, many of the important features of cohousing are not defined in the by-law. Sometimes this means that it may ambiguously fit an existing definition, or it might not align with existing zoning. For instance, the R1 zone, which allows single-detached dwellings, specifies that only single detached dwellings are allowed, up to two dwelling units per lot. Cohousing, however, includes shared amenity uses that may or may not be captured in the definition of dwelling unit.

[6] *The London Plan*. (2019). City of London.

Zoning for uses more likely to accommodate seniors is another example where the definitions are not intended for cohousing.[7]

In many of the London Zoning By-law zones, the zones are more permissive in areas intended for mixed use and intensification. Downtown zones and main street zones usually allow for some form of dwelling units, some of which may be suitable for cohousing. Additionally, provincial legislation allows the construction of secondary dwelling units up to three units in many cases.

3.4 Resources and Non-governmental cohousing synergies

There are several resources available that can facilitate the development of cohousing communities in the City of London and Canada. These resources come in the form of organizations, non-profits and government policies. These resources are not made purposely for cohousing communities, however, the expertise, skills and services provided can be tapped into facilitating the growth of cohousing communities. The Housing Development Corporation (HDC), London is an organization that engages in supporting sustainable housing development in London. The HDC is willing to partner with other organizations such as non-profit corporations and government agencies in providing supportive forms of living to the people of London.

The City of London is also taking steps and initiatives which can be tapped into to facilitate the implementation of cohousing communities. For instance, Closed Schools Strategy and Undertake Ongoing Surplus Site Evaluations is an initiative that the City of London to make sites available for the construction of houses. These sites can be sites made readily available for the development and creation of cohousing communities.

There are a number of non-profit organizations with express interest in promoting the growth and creation of cohousing communities in Canada. These organizations are willing to educate, inform, equip and provide assistance even in terms of site acquisition to persons interested in creating cohousing communities. The Cohousing Network of Canada and Coliving Canada London Cohousing Initiative were launched in 2017 with the goal of establishing a cohousing community within the City of London, Ontario.

[7] Zoning Resources. (2019). Retrieved from https://www.london.ca/business/Planning-Development/zoning-by-law/Pages/default.aspxp

4 Case Studies

Selection of case studies from the North American context has been chosen to illustrate the various aspects including history, physical and planning context, finance and ownership. History section explains the conception behind each case study and how the people came together and form a group in order to develop cohousing community for them. Physical and planning context talks about planning details such as any zoning changes in order to facilitate cohousing project construction and development. Lastly, finance and ownership section illustrate that how groups have arranged finances, secured a site for construction and other details related to ownership structure in each case study.

4.1 Sunward: Ann Arbor, Michigan

This Cohousing community, initiated in 1995, is an intentional community which was all built at once. It is located on 20 acres (8 Hectares) of land on the edge of town. The structure consists of common house and 40 housing units which are architecturally unique townhomes and privately owned, however the private ownership ends at the interior walls, and the rest is communally owned. The privacy gradient increases as going towards the back of the house. For instance, sitting on front porch is an invitation to socialize, while sitting on the back porch does not. Kitchen windows are in the front of every house. Each is complete with full kitchens, one or two full baths, living room, and bedroom.[8]

The community is completely pedestrianized with car facilities on the edge of what they call the campus, and units are designed to facilitate both social interaction and privacy. Central to this community is a common house that is over 7,000 square feet (650 Square meter) in area that includes a dining room, kitchen, games room, meeting rooms, children's play room, an office, guest bedrooms for overnight guests, a workshop, a movie theatre, a large workshop, and an exercise room (Refer Figure 5).

[8] Sunward Cohousing. (n.d.). Retrieved from http://www.sunward.org/

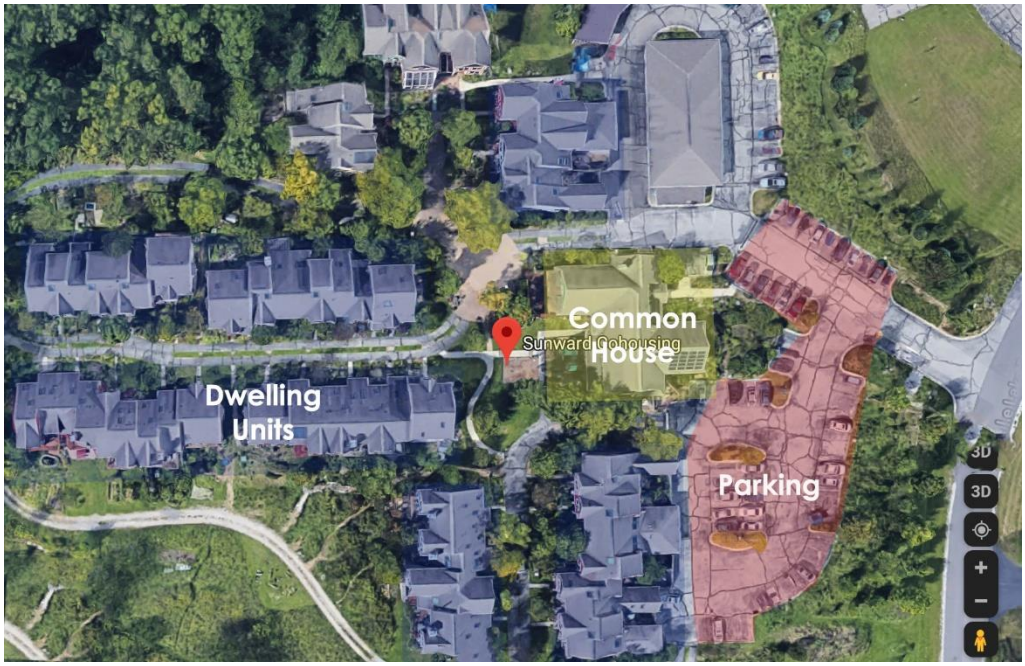

Figure 5 Sunward Ann Arbor community layout map[9]

4.1.1 History

Interest was first expressed by a group of members in 1993, and in 1994 the group invited Kathryn McCamant, a major proponent of cohousing in North America, to conduct a workshop for the group. A first offer for the present site was turned down by the owner on grounds that the owner didn't like the ownership ideas of the community. The second offer was accepted in 1995 and members became developers by forming a limited liability corporation called Ann Arbor Alpha. An architectural firm, Sunstructures Architects, was hired in 1996, and McCamant and Durrett were hired as consultants to help lead design workshops with the group. Members took a major role in the initial design of this project. The land sale closed in 1996, and by December of 1996, there were 22 member households that were participating. The site plan was approved in January, 1997, at which time membership grew to 28. February of the same year, a builder was selected. By May, membership had grown to 36 households and construction began. Construction was fully complete by November, 1998.

[9] https://www.google.ca/maps/@42.2815964,-83.8180307,134m/data=!3m1!1e3

4.1.2 Physical and Planning Context

Sunward is built on a former gravel pit on the edge of Ann Arbor and is currently zoned as Multi-Residential DM 1. This zone permits the construction or conversion of structures for multiple dwellings, which may be developed at a net density to 19.8 dwelling units per acre (48.9 units/hectare). It is adjacent to an area of industrial malls, a bus stop, and a highway. Since the construction of Sunward, two other cohousing projects have been completed nearby.

4.1.3 Finance and Ownership

Funds were provided by the future residents for design and initial building phase. The cost of development was minimized due to the hands-on contributions of the members. Also, construction loan was provided by National Bank of Detroit (NBD). Recently, a 3 bedroom, 3 bath, 1775 square foot (164 square meter) unit sold for $329,000 US in 2016, a 2-3 bedroom, 2 bath, 1256 square foot (117sq. m) home sold for $225,000 US in 2018, and a 2 bedroom, 1 bath, 950 square foot (88.25 Square meter) unit is renting for $1800/month. The median property value in Ann Arbor is $271,000 US.

4.2 Terra Firma: Ottawa, Ontario

This cohousing community is a smaller urban development that creates infill in the neighborhood of Old Ottawa East. It is comprised of two existing units, street-oriented townhouses that have been joined by a common house with an additional unit and several nearby units which are owned by members, or simply rented (Refer Figure 6). Common amenities include a dining room, living room, bike storage, and outdoor facilities. Currently, there are 12 member households with about 20 total individuals.[10]

Figure 6 Terra Firma cohousing community

[10] Davletyarova, D. (2014). Creating a Community: Cohousing at Terra Firma. Retrieved from https://www.ottawalife.com/article/creating-a-community-cohousing-at-terra-firma?c=1

4.2.1 History

In the late 1990s, an Ottawa architect familiar with the concept, publicized his plan to pursue cohousing. The group initially purchased two townhouses which they subsequently renovated on a shared mortgage, on which all members were listed. An infill between those two buildings was built to house a seventh residential unit and a common space (Refer Figure 6). Following this, the group changed the ownership model to a condo corporation to allow individual ownership of units and shared ownership of common spaces. The group constructed a common house with a seventh unit that joined the existing structures.

Terra Firma has both condominium and fee simple ownership. Individual households own their units, and a common element condo corporation owns and manages the shared spaces.

4.2.2 Physical and Planning Context

This project is geographically located in 162 Drummond Street in Ottawa, ON. The Zoning bylaws division was amended from R3P to R4Z. The provisions under both of these zoning divisions has facilitates conversions altering existing residential to build linkages between the two buildings and establish a rooming common house. However, the amendment allowed the accommodation density to shift from a medium density to a high density, whereas the subzone change has enhanced accessibility to the lot by permitting access by means of rear lane.

4.2.3 Finance and Ownership

For financing the initial co-ownership tenure, members had one mortgage for the combined properties and on which the names of all members were listed. After the completion of this project, the tenure arrangement was revisited and lots were divided among residents under a condominium corporation.

4.3 Harbourside: Sooke, British Columbia

Harbourside is a senior's community on 0.8 acres (3237.5 Square meters) in the center of Sooke, a small town near Victoria, which consists of a converted resort and seven new buildings that includes duplexes, a triplex, and fourplexes. It was a purpose-built cohousing community and its aim was to

create an environment that would enable the people living there to flourish through mutual support as they age in place and in community. [11]

There are 31 units total in 6 buildings with an average unit size of 850 sq. ft. (79 Square meter), and the common space, housed in the renovated building, containing dining and kitchen spaces, two guest rooms, a library, multipurpose rooms and studio apartments which serve as a “care unit” to support members as they age (Refer Figure 7). Other common amenities include a workshop, an exercise room, an art room, and other facilities that supplement the private units and the common house. The ages of the residents range from 40s to late 80s.

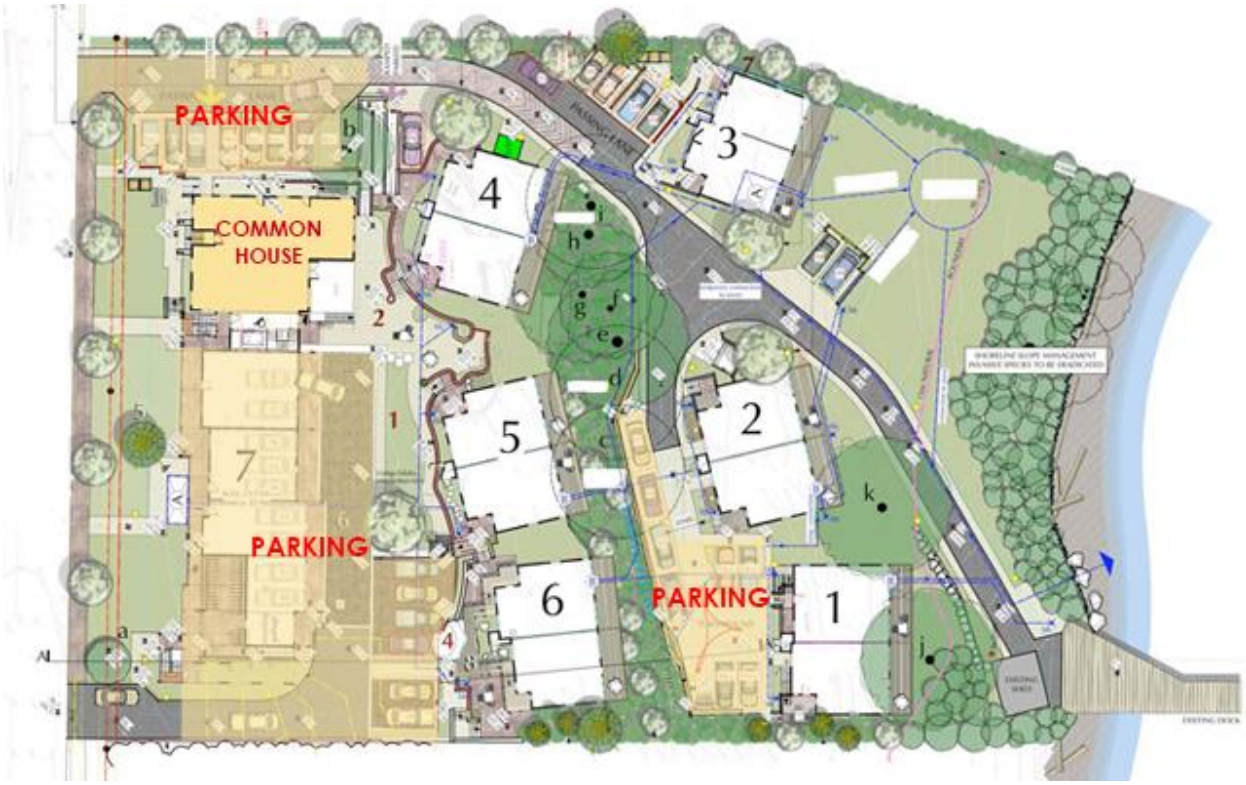

Figure 7 Harbourside: Sooke cohousing community layout[12]

4.3.1 History

The first informal meeting was held in 2010 and a subsequent meeting was held in May, 2011 to gauge interest. Study groups were initiated that summer and fall called “Active Aging in Community”, and 25 participants went on to search for a site. By the fall of 2012, the group had

[11] *Innovations in Senior Housing: The Complete Guide to Cohousing*. (2016).
[12] https://harbourside.ca/

formed an LLC and entered into a purchase and sale agreement for a site subject to feasibility studies and rezoning. Ralph Hull, the owner of the property under contract for the sale, also joined the group as a founding director.

Ronaye Matthew provided a feasibility study in January 2013, and he was hired as the project manager. At this time the group chose the name “Harbourside” for the project and also agreed on the membership structure with eight founding equity member households who each pledged $20,000 as required shareholder loans. They contracted an architectural firm, Mobius Architecture for the design. Harbourside also required group member’s time to take a two-weekend course at Royal Read University called “Aging Well in Community”. Mobius Architecture ran several design workshops with the group members, and 19 new associate members were welcomed by March 2013. By May, five had become equity members.

The application for zoning by-law amendment was filed in April and approved in October, 2013. At this time, equity membership had increased to 17.

In the summer of 2013, the group defined their affordable housing policy, which was to provide two below market rate units. By the end of 2013, the group closed on the property and they chose a contractor. In early 2014, the group held several more design workshops, and they worked to get the required development approvals from the District of Sooke and to dedicate parkland. By May, 2014, the group was comprised of 28 members. Construction started in September of 2014, and Harbourside was completed in February, 2016.

4.3.2 Physical and Planning Context

The property is located in the heart of Sooke on the waterfront with shopping, groceries, and recreation all within walking distance. The property is within the Official Community Plan land use designation “Town Centre” and has been rezoned from “Large Lot residential Zone (R1)” to “Harbourside Cohousing Comprehensive Development Zone (CD13)”. The purpose of this zone is to provide for residential cohousing in the Town Centre.

The major changes that were made in the zone to support cohousing community project are as follows:

- Apartments, townhouse, stacked townhouse and assisted living facility were added as the permitted principal uses in the zone.
- A minimum amenity area requirement was set at a minimum of 5% of the lot area which earlier was not there.
- Maximum height of the principle buildings is increased to accommodate more units in the buildings.

4.3.3 Finance and Ownership

The group formed an LLC in the fall of 2012 and equity members were required to invest $20,000. Building costs were slightly higher than average because they were building to Build Green Canada/Energuide 80 standards, or the equivalent of LEED Gold. Later, the LLC would change to strata title. However, ongoing operating costs are lower, with strata fees being roughly $250 a month. These costs are reduced through volunteer participation and bottom-up governance, which also increase quality of life.

Individual units at Harbourside cost about 15% less than the average waterfront condo in the area, and owners benefit from generous shared spaces, including common areas, guest rooms and a dock.

Residents own their individual units through strata (condo) title, and collectively own the common areas through the strata corporation, with minimal monthly fees. The group had received a funding of $70,000 from Canada Mortgage and Housing Corporation in the form of grants and loans in 2013.

4.4 N Street Cohousing, Davis, California

N Street Cohousing has grown organically over time into an existing neighborhood such that it is almost indistinguishable from neighboring houses. It was not a purpose-built cohousing community as most of the people residing in the houses were not really interested in the cohousing model and did not want to participate in the community beyond their house. Monthly meetings were held to map out plans for the future and to resolve different opinions among the residents of N street and ultimately, the residents agreed to form a cohousing community.[13]

There are currently 19 single detached houses that comprise the N Street Cohousing project with about 60 adults and 5-10 children (Refer Figure 8). Tenure is a mixture of freehold ownership and

[13] Meltzer, Graham. (2005). Sustainable Community: Learning from the cohousing model. Victoria, BC: Trafford Publishing

rentals and all the backyards have been joined through removing the fence. The common house contains a four-bedroom unit, a dining room (sitting 50 for dinner and 70-80 for concerts), a large kitchen, a TV/meeting room, a bathroom, and a shared laundry room. It demonstrates an affordable development strategy, one that evolves at an unforced pace and permits members to remain within their neighborhood.

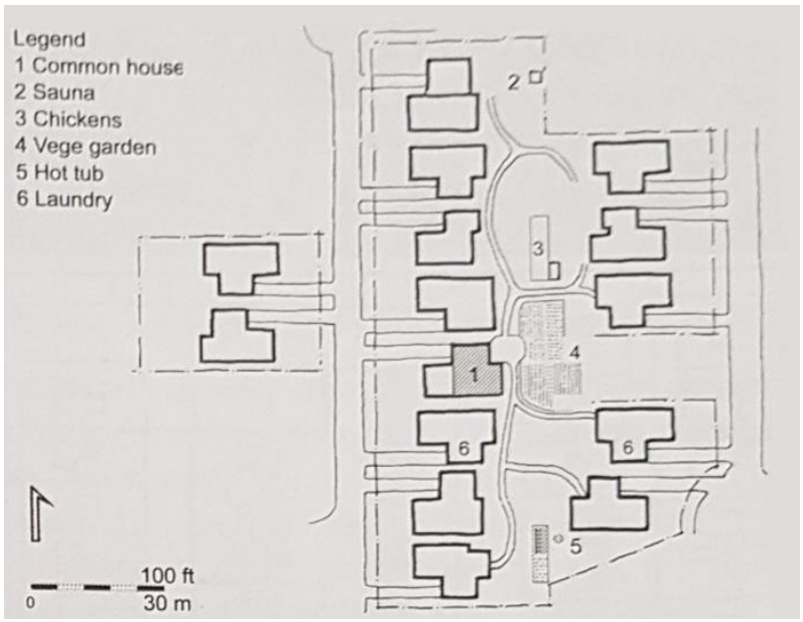

Figure 8 N Street cohousing community layout

4.4.1 History

The N Street Cohousing community began as standard subdivision units that were built in the mid-1950's consisting mostly of 3 bedroom-2-bathroom houses separated by fences in Davis, California. In 1986, the first two houses were joined when Kevin Wolf bought the co-op house he was living in that is now the common house (716 N Street) and his wife, Linda Cloud, purchased the house next door (724 N Street) with a view to remove the side fence and expanding the garden (Refer Figure 9). With a view to ever-expanding community, they both spoke to owners and renters of the adjacent properties

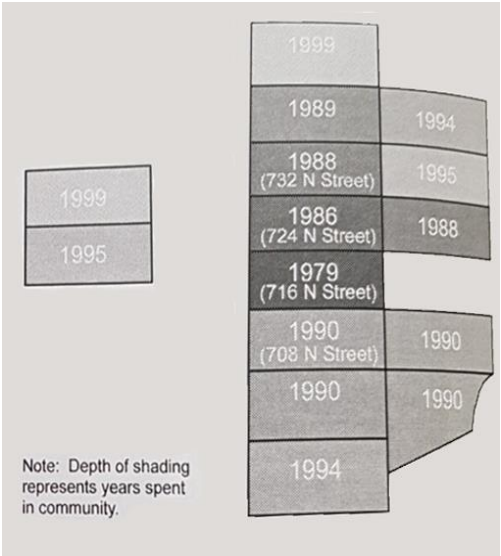

Figure 9 Development of N Street cohousing community over time

with a view to inducting new members and securing new properties. This led to the acquisition of a third house, one that shared its back fence with 724 N Street. Another quickly followed when Wolf and Cloud purchased 732 N Street (Refer Figure 9).

In 1999 the community was recognized as a planned development (PD) from Residential-1 by the City Council. In 2005, after many years of planning, the original common house building was torn down and a new common house was built. In addition to shared facilities and a family apartment, a wheelchair accessible suite was added to the front of the common house with a big porch.

4.4.2 Physical and Planning Context

In 1999 the community was rezoned as a planned development (PD) from Residential-1 by the City Council. It recognized the development as a single legal entity and significantly loosened regulations governing further expansion. As a PD, side yard setback easements were slightly more relaxed while the backyard setback was extended from ten feet to 30 feet. Construction of larger second unit apartments was allowed. Also, under this guideline, the northernmost house in the community has been remodeled as a duplex with the cost of the land being shared by the two owners.

4.4.3 Finance and Ownership

The houses in N Street Cohousing do not share a common ownership, or even a formal rental strategy. Instead, each house was added piecemeal as they came available. Some of them are owner occupied, some rented by landlords residing in the community and others are still owned by absentee landlords. The community had made do with what was available, based on the simultaneous coming together of needs, opportunities and finances.

To supplement the mortgage payments, or to meet the monthly rental costs, all 10 of the N Street units are shared homes, in which all unrelated individuals participate as one household. Groceries, phones, utilities, living area, etc., are shared by all residents of any particular house. Economic factors play a large role in why singles or families would choose to home with unrelated persons.

5 Models, Criteria and Evaluation

5.1 Models of Cohousing

Based on the background research on cohousing and case studies, five models were devised for this review to help understand the diversity of cohousing. These models each attempt to describe forms of cohousing that have a distinct attribute, development process, or target demographic. They were created to illustrate and compare the possible forms which cohousing could take in the City of London.

The models are described as follows:

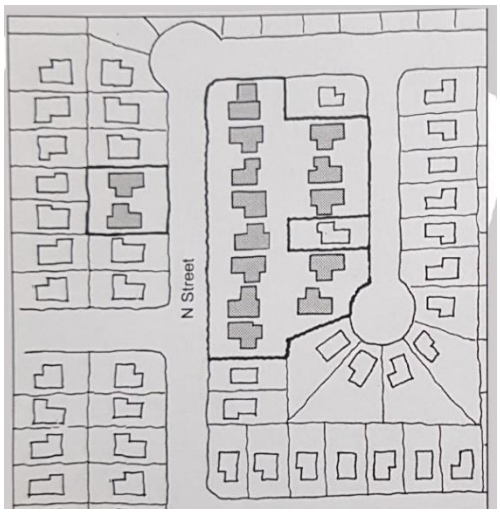

Figure 10 N Street cohousing community layout

Organic Retrofit: This model forms and develops organically over time in an established neighborhood with little initial group outlay. Existing homes are occupied by a group with mixed tenure. Houses, units, and members are added over time, and there is shared space, such as the backyards and a common house, which are improved and expanded as needed. An example of this model is N street cohousing which developed organically in the existing neighborhood. The units were added one by one and the first unit from where it started was made common house of this cohousing community Figure 10[14].

Urban Project: This model is infill in a dense neighborhood. The residents are of mixed income levels and tenure, though likely condo, and there are one or more buildings, some of which may be retrofit. The development happens all at once. There may be commercial or public services incorporated into the

Figure 11 Casa Malta cohousing building, Helsinki

[14] Meltzer, Graham. (2005). Sustainable Community: Learning from the cohousing model. Victoria, BC: Trafford Publishing

development such as a convenience store or daycare. Casa Malta cohousing in Helsinki, Finland is a good example of urban project which is developed under one building. This nine storey building consists of 61 family units. All the community facilities are located on the ground and top floor Figure 11[15].

Figure 12 Doyle street cohousing community in Emeryville

Industrial Retrofit: Adopts an existing building which had prior, non-residential uses, and the community is redeveloped all at once. The community is contained predominantly in one building, which may also contain mixed uses. Doyle Street cohousing in Emeryville, California is a good example of industrial retrofit where community is nestled in a charming neighborhood of renovated warehouse building and residences which consists of 12 units plus a common house Figure 12[16].

Suburban Neighborhood Cohousing: This model establishes in a low-density urban area and builds new residential units all at once. The common house can be new or a partial retrofit, and the residents are multi-generational. There are no commercial or mixed-use aspects.

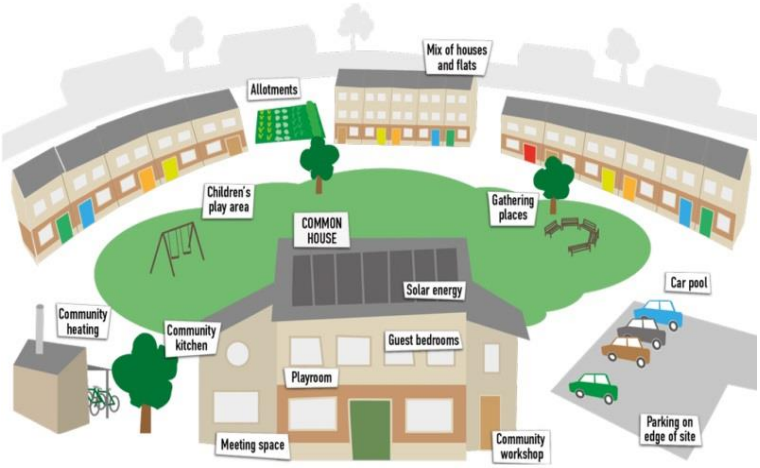

Figure 13 Suburban neighborhood cohousing model

This type of cohousing model generally has different designated common spaces and common house with separate individual units around those common facilities Figure 13[17].

[15] Chau, T. (2018). Self Build Cohousing: A guide to common success factors across 16 case studies
[16] https://www.calcoho.org/ebcoho_doyle_jul31

Seniors Cohousing: This model is targeted for seniors. Special considerations are given for accessibility and seniors services. It could resemble any of the other models.

5.2 Evaluation Criteria

The following criteria were developed according to the needs of the project and the goals of the City related to housing. The assessment considers each of the cohousing models in relation to these criteria.

The criteria are as follows:

Infill and intensification goals of the OP: This criterion evaluates how well the model meets the goals of the City in terms of infill and intensification. It includes: the goals in the Official Plan, a consideration of heritage preservation, and neighborhood character and context.

Affordability for target demographic: This criterion evaluates how well the model meets the needs and affordability for the target demographic. The target demographic is those with middle income and those at risk of being unable to afford housing: new families, seniors on retirement pensions, lower income earners. It does not include those in core housing need.

Accessibility: This criterion evaluates how physically accessible the model is likely to be in terms of location. This includes accessibility to transit, proximity to commercial, social, and public services, schools, and jobs. It also includes consideration of senior's accessibility. It does not include consideration of zoning or building guidelines.

Aging in Place, Caring for Seniors: This criterion evaluates how well the model addresses the needs of seniors. This includes social isolation, financing for seniors, physical accessibility, suitability, ability to stay in the same neighborhood, senior care/health services, ability for seniors to connect/access community and services outside of cohousing.

Conformity with OP in terms of housing: This criterion evaluates how well the model conforms with the goals and vision of the OP relating to housing.

Compliance with Zoning Bylaw: This criterion evaluates how well the model can be implemented with existing zoning bylaws.

[17] UK Cohousing Network 2019

Financing: Includes loans, subsidies, resources from the government. Includes financial concerns, for the residents. Includes financing from other sources (such as NGOs, non-profits, Housing associations), Includes financing from the bank institutions. Ease of access for financing. Financing concerns for specific groups.

Other resources and Synergies: This includes the housing toolkit and other development toolkits, government resources for similar housing forms, site availability, and whether there are similar groups or interested non-profits in the area.

5.3 Application and Results

Table 1 Evaluation criteria matrix

Sr No	Criteria	Organic Retrofit	Urban Project	Industrial Retrofit	Suburban Neighbourhood Cohousing	Seniors Cohousing.
1	**Infill and Intensification**	Aligns with London's infill and intensification goals Focus on secondary units and infill within existing neighbourhoods.	Strongly aligns with London's infill and intensification goal Supports higher density development Focus on mix of uses in central areas and dense infill Allows retrofit of existing buildings and creation of new ones	Strongly Aligns with London's infill and intensification goal. It adapts existing industrial building to accommodate residents from various multigenerational and multicultural backgrounds. This model offers relatively cheaper units than the average market price due to the partial incremental work that is done to incorporate residential needs into existing abundant buildings	Weakly aligns with London's infill and intensification goals Predominantly new development in suburban areas Supports more density than similar, non-cohousing residential development Likely Greenfield development	May or may not align with London's infill and intensification goals. Can behave like the urban project model, industrial Retrofit Model, or the Suburban Neighbourhood model.
2	**Affordability for target demographic**	Is suitable for the target demographic. Additional and secondary units reduces overall costs of housing for individual households Range of options and tenures addresses rental and ownership demographics	Is suitable for target demographic proximity to services, retail, and transit reduce costs Increased density reduces cost Large initial capital investment	Suitability for target demographic depends on context and other factors Large initial capital investment Unknown cost variables in terms of retrofit process and standards	Is suitable for target demographic. Large initial capital investments Lower cost for site Higher transportation costs	Suitability to target demographics depends on model chosen. Factors such as development cost, type of tenure and location affect affordability to the target demographics
3	**Accessibility, (transit oriented development, services, proximity)**	Accessibility depends on the location	Strongly aligns with accessibility principles. Tendency to locate in mixed-use and dense areas with transit	Aligns with accessibility principles Tendency for worthwhile retrofit buildings to be within urban area	Does not align with accessibility principles Tendency to locate in car-centric areas Might locate in redeveloped inner-suburb	Aligns with accessibility principles can be developed as urban project, industrial retrofit, or suburban neighbourhood cohousing models
4	**Aging in Place, caring for seniors**	Can support an aging population and seniors Allows Seniors in oversized dwellings to add units and build community Retrofit homes may not have accessible designs.	Can support an aging population and seniors Tendency to locate in familiar neighbourhoods Large initial investment and development timeframes may deter seniors Can incorporates seniors-care into the shared amenities	Weakly supports an aging population and seniors The retrofit process may not be conducive to seniors accessibility needs Tendency to locate in unfamiliar areas.	Can support an aging population and seniors Can be built for accessibility for seniors Can accommodate senior-care services Tendency to locate in car-centric areas may reduce mobility for seniors	Strongly supports an aging population and seniors. Cohousing community members all in the same age cohort. The choice of location and the incorporation of different services affects the accessibility parameter. Seniors will have the opportunity to age within a social circle built by the same cohort.

Sr No	Criteria	Organic Retrofit	Urban Project	Industrial Retrofit	Suburban Neighbourhood Cohousing	Seniors Cohousing.
5	**Conformity with OP in terms of Housing**	Conforms with the Official Plan. Conforms completely with Direction #7: build strong, healthy, and attractive neighbourhoods for everyone Increase usage of existing housing stock Promotes social cohesion Supports all ages and adapts to aging residents over time Produces neighbourhood gathering spaces	Conforms with Official Plan Conforms completely with Direction #5: Build a mixed-use, compact city. Directs growth to built-up areas through infill and intensification Supports a mix of uses and mix of residential units Promotes the pedestrian realms and improves existing character	Conforms with Official Plan redevelops non-residential uses. Facilitates Urban Regeneration and adaptive reuse of existing structures Supports the remediation of brownfield sites	Conforms with Official Plan Conforms with direction #7: build strong, healthy, and attractive neighbourhoods for everyone More sustainable than conventional suburban residences	Conforms with Official Plan Supports the goal of aging in place Conforms completely with Direction #5: Build a mixed-use, compact city Conforms completely with Direction #7: Build strong, healthy, and attractive neighbourhoods for everyone.
6	**Compliance with Zoning By-law**	May comply with existing zoning by-laws in low density residential zones. Common House building not a permitted use Restrictions on secondary units, and limit of one per lot Slow development and separate lots allows piecemeal zoning variances	Complies with existing zoning by-laws in Medium and High density residential zones and some mixed use zones. Likely compliance in many zones with residential permitted uses Heritage zones restrict number of dwelling units Complies with commercial zones given a permitted non-residential use of ground floor	May comply with existing zoning by-laws following rezoning application Can be defined as Apartment Building Non-residential buildings must be rezoned to be retrofitted for Cohousing Heritage designations may pose challenge for some redevelopment	May comply with existing zoning by-laws R1 to R6. Common house is not a permitted use Parking requirements for provisioning parking on the same lot as the use, and parking minimums, Urban Reserve zone may be rezoned for Cohousing. Definition of 'Lanes' discourages units that are not oriented to the street.	May comply with all residential zones, many mixed use zones, and possibly several institutional zones May be built in any zones that allow urban project, industrial retrofit, and suburban neighbourhood Cohousing. Senior's apartment buildings can accommodate this Cohousing Continuum of care facilities and retirement lodges may accommodate this form of Cohousing Senior's uses have lower parking requirements
7	**Financing**	Is financially feasible. Financing will be made for retrofits on existing buildings/housing stock Existing government initiatives that support the retrofitting of existing buildings by seniors and people with disability	Is financially feasible May be capital intensive if it is not retrofitting of existing buildings in dense neighbourhoods First home buyers incentive by the government can be a source of financing to new home buyers.	Less likely to be financially feasible May require huge capital outlay in changing the use of existing building Potential hidden costs in renovating old buildings Financing will have to be done by residents. No financing available from external source	Less likely to be financially feasible Requires huge capital outlay as new residential buildings are constructed at once Financing will have to be done by residents as developers are not interested in developing cohousing communities yet. This model requires large initial capital outlay. Potential first time home buyers can take advantage of the First Time Home Buyers incentive by the government.	Financial feasibility depends on the type of model adapted. There are government initiatives available for seniors to modify, alter and make existing structures accessible Finances of seniors may be tied to their current homes and properties

* Dependency on Location - Based on the City of London's framework and City's Mobility framework, the accessibility is broadly defined as the distance from rapid transit corridors and the urban corridors. It is divided in three parts as mentioned below:

- Near Rapid Transit Corridors and Urban Corridors - These places will have good accessibility as the city is planning to improve and invest the transit facilities and public amenities in these regions, to strengthen the Downtown and the transit villages.

- Farther from Rapid Transit corridor or urban corridor but inside the Urban Growth Boundary - These places will have good accessibility but will be lesser compared to the places in the vicinity of corridors.

- Places not in the Urban Growth Boundary - These places might find it difficult in terms of accessibility to the public transit systems because of the distance from the Urban Growth Boundary where majority of development is targeted for City of London

5.4 Discussion

Based on the evaluation, all models of cohousing are feasible and align with the City of London's goals. Summaries of the evaluation are provided regarding each criterion as follows:

5.4.1 Infill and intensification

Most models of cohousing are in line with the infill and intensification goals of London. All models can support higher densities than contemporary suburban development and many of them redevelop, repurpose, and increase the residential intensity of existing residential areas. Similarly, all models tend to develop within the urban boundary. The retrofit models enable increased density while conserving structure and neighborhood character. However, due to limitations in size for cohousing communities, current examples of cohousing would be unsuitable for the highest densities such as contemporary condo towers.

The model most aligned with infill and intensification goals is be the Urban Project Model, which significantly increases residential density, adds infill buildings and expands existing structures. These tend to locate in the urban centers. The Organic Retrofit model supports very gentle intensification through the addition of secondary units and piecemeal additions in existing neighborhoods. The Industrial Retrofit model contributes to infill and intensification in that it redevelops former non-residential buildings. These sites may be underutilized or vacant as well and are located within the urban boundary. The Suburban Neighborhood model may develop on vacant land within the built-up area, it may also develop on a greenfield site, and it may conflict with the character of surrounding suburban development.

5.4.2 Affordability for target demographic

In general, the affordability of the cohousing models compares well with other forms of housing. For models that have a development plan, a large initial investment is balanced by reduced ongoing costs. Smaller individual units may also offset the added costs of extensive shared facilities for all models, an added benefit. A broad mix of dwelling sizes and costs within individual cohousing developments is also beneficial for the target demographic. However, a long development process for prospective residents and up-front costs may discourage some who would otherwise pursue cohousing.

How well cohousing addresses the needs of the target demographic vary across the models. The most cost-efficient model is Organic Retrofit because it requires very little initial development costs, and these can be dispersed over time. The least is the Suburban Neighbourhood or Industrial Retrofit models because they have large and sometimes uncertain development costs. The Seniors Cohousing model may be more affordable for seniors who own a house than other senior care facilities.

5.4.3 Accessibility

The Urban Project Model provides the most accessibility due to its tendency to locate in dense, well-serviced areas. The Suburban Neighborhood model provides the least accessibility because it requires large lots or greenfield lots, sites which are likely to be near the urban boundary and car centric. The other models are highly dependent on opportunity. The Organic Retrofit can develop within central neighborhoods as well as in distant suburbs. The Industrial Retrofit Model depends entirely on the location of the site. Seniors Cohousing depends on the situation and may be implemented as any of the other models.

5.4.4 Aging in place, caring for seniors

All cohousing models can support an aging population and seniors. The strong focus on community can alleviate social isolation for seniors, and multi-generational models can facilitate two-way support. The mix of unit types and sizes can accommodate the different needs of seniors, and the resident participation can ensure units are designed to be physically accessible. Most cohousing can be built into existing neighborhoods, allowing seniors to remain part of the wider community. Seniors who have investment equity can afford initial investments, and the reduced ongoing housing costs are conducive for low and fixed pension incomes. However, for seniors who own their home, using their present residence as equity to fund the long development process may pose challenges.

The Seniors Cohousing Model most strongly supports an aging population and seniors. With its focus on seniors, it can include amenities such as senior-care facilities and design considerations for seniors starting from the design stages. Resident management can further allow this model to meet their needs. Whereas the Suburban Neighborhood Model and the Industrial Retrofit model may be less supportive, if only because they are less likely to be near accessible transit.

5.4.5 Official Plan

All the models align with many of the City's Official Plan directions and housing goals and objectives mentioned in the Plan. For instance, neighborhood revitalization is one of the directions and objectives of the London Plan. Several of the models achieve that objective by supporting the remediation of brownfield sites, encouraging the adaptive reuse of industrial buildings closed school sites in the existing neighborhoods to create new spaces for new uses. Also, revitalizing London's downtown, urban main streets and their surrounding neighborhoods will reduce the need to grow outwards and will take advantage of existing services and facilities.

All the models and cohousing in general will promote the joint use of facilities and community infrastructure and collaboration across the different inter-generational and inter-cultural groups to achieve London's objective to serve as a culturally rich, creative and diverse city. Moreover, the Organic Retrofit and Industrial Retrofit models can support the conservation of existing built heritage of the city and preservation of existing neighborhood character by retrofitting the existing structures and creating places that promote social connectedness in the existing neighborhoods.

The Urban Project model aligns with the 'inward and upward' pattern of growth specified by the London Plan. Supporting higher density this model can be directed towards downtowns, transit villages and at stations along the rapid transit corridors which will achieve the objectives of the London Plan.

5.4.6 Finance

Cohousing is typically financed through private means, no different to other forms of housing. Persons interested in being a part of a cohousing community often finance the acquisition of property individually, and they can finance either through equity (personal funds) or debt sources (loans and grants from financial institutions and government initiatives).

There are several social and affordable housing initiatives and financial incentives being provided by both the provincial and federal governments for housing. Some of these might be taken advantage of for certain cohousing models. "Ontario Renovates" is funding provided by the Federal and Provincial Governments for seniors and people with disabilities to assist in the modification, repairs and making existing homes more accessible. This would be accessible for the Organic Retrofit and for some cases of the Urban Project model. The First Time Home Buyer Incentive offered by the

Federal and Provincial Governments provides assistance for people acquiring their first home and can work in any cohousing model.

In some cases, NGOs and non-profits can facilitate the development of cohousing by providing some financing. In the course of this review, no NGOs or non-profits were identified who might do this.

5.4.7 Zoning

Most models of cohousing can be implemented through existing zoning. However, the definitions of permitted uses often exclude cohousing.

There is no definition that includes the use of the common house. This is of particular concern in the low-density zones that only permit single detached dwellings, semi-detached dwellings, and townhouse dwellings. This is not a concern for higher density uses like apartment buildings because they already permit shared amenity spaces contained in the building. This means that the Organic Retrofit and the Suburban Neighborhood Models, in most cases, do not comply with existing zoning.

Another concern is parking. Many cohousing communities prefer their parking grouped together. The zoning by-law requires that parking is provisioned on the same lot as the use, eliminating the possibility of off-site parking, posing a challenge for the Suburban Neighborhood Model. The definition of 'Lane', which may apply to the common path that exists in many cohousing communities, also does not allow for parking within it.

The zoning bylaw, as it applies to seniors cohousing, is equally misaligned. The zones that permit uses for seniors' residence allow the permitted uses of 'retirement lodge', 'seniors citizen apartment building', 'continuum of care facility', 'nursing homes', and 'rest homes.' These uses were not written to accommodate cohousing. The Seniors Cohousing Model may apply to retirement lodges, if individual units could also be defined as Dwelling Units (that is, can have private food preparation areas). Retirement lodges provide for common food preparation areas and amenity space, but it is conflicting if it allows private units to have food preparation areas as well. 'Continuum-of-care facility' uses may accommodate Seniors Cohousing, though the definition of 'continuum-of-care facility' is a conflicting definition such that it 'may' include several other uses associated with seniors. 'Senior citizen apartment building' may allow cohousing, but it is also

defined such that the building is “owned and managed by a public housing authority or non-profit organization or a charitable institution and which may be associated with a place of worship.” If the cohousing corporation could be considered as one of these, this would be a compatible use for seniors cohousing. A nursing home is not compatible with cohousing, and a rest home is provided for under the *Homes for the Aged and Rest Homes Act*, which was not part of this evaluation.

Opportunities also exist to take advantage of the zoning bylaw for cohousing. Cohousing developments may be able to develop across several zones, allowing the residential function to be separate from the common house function. The Urban Reserve zone is compatible with the Suburban Neighborhood Cohousing Model.

Temporary garden suites are extremely limited because they must be on a lot at least 1 acre in size and intended to be temporary. While some cohousing lots may be that large, the garden suite would not be intended for temporary use. Other models, such as the organic retrofit model, which would stand the most to benefit from garden suites, would likely not be able to use them. Additionally, the school zones around the post-secondary institutions in London are restricted to dwelling units with a maximum of 3 bedrooms.

6 Recommendations for London

The result of this study finds that cohousing is feasible and aligns strongly with London's Official Plan. Cohousing has the potential to facilitate gentle intensification, provide housing for middle-income households and seniors, reduce social isolation, and aid in urban regeneration while preserving neighborhood character and strengthening social cohesion.

This report recommends that the City of London adopt cohousing as an important tool to address its strategic goals and the housing needs of the changing population. To this end and based on the background research and evaluation, this report also makes several recommendations to the City towards the goal of encouraging cohousing as a viable housing option. These recommendations come in four areas: amendments to the official plan, provision of financing, zoning bylaw amendments, and providing other resources.

6.1 Official Plan

Define cohousing - the Plan should be amended to define and recognize cohousing as a housing alternative within the residential and mixed-use designations of the Plan.

Incorporate cohousing into the CIP benefits - Section 28 of the Planning Act allows municipalities to develop and implement Community Improvement Plans, under which the City has proposed to provide small, medium, and large loans to the developers creating affordable housing units. The plan can be modified to promote loans to developers or communities who develop cohousing.

Include provisions that address housing need for middle-income households - The London Plan emphasizes making housing available for homeless and the lowest income. It is less direct about promoting housing that is affordable for middle-income and seniors, a group who are at risk of losing housing because of increasing housing costs.

6.2 Financing

Soft development charges for cohousing - The soft development charges or the proposed "Community Benefit Charges" under Bill 108 could also be directed for the facilitation of cohousing projects.

Provision of incentives to encourage cohousing - The City can promote cohousing by provision of tax incentives, development charge incentives, subsidies, and grants.

Provide specific and intentional financing for cohousing - Financial incentives and programs meant specifically for cohousing should be provided. Financial assistance should accommodate the unique needs of cohousing development. These incentives can also be targeted towards seniors who may have equity in their houses and a low-fixed income but cannot afford the long development process before they can occupy the cohousing.

6.3 Zoning

Include common houses as a permitted use in residential zones - A common house is not currently defined in the Zoning By-law and is not a permitted use in most zones.

Define shared or semi-public/semi-private spaces - There is currently only distinction made between private space and public space in the Zoning By-law which does not consider the public benefits of the semi-private spaces of cohousing communities. Defining some form of semi-public or semi-private space may help to fully recognize the benefits of cohousing.

Expand the definition of lanes and increase their use in the Zoning By-law - Cohousing developments often are built to orient the homes towards a pedestrian lane instead of a vehicle road. Some forms of housing, such as Street Townhomes, require orientation to a public street. Allowing lanes to be used more broadly would permit cohousing units that have no frontage on a public street.

Redefine retirement lodges and continuum of care facility to include cohousing - Cohousing would be compatible with the goals of these uses. However, there needs to be several changes to the wording of the Bylaw to allow retirement lodges and continuum of care facilities to take the form of cohousing.

Expedite zoning for cohousing The City could provide permit-ready lands for cohousing, similar to the permit-ready zoning for affordable housing. Also, the City could create a one window expedited process for the planning and development approval of Cohousing projects.

6.4 Resources

Include information about cohousing in the Housing Toolkit: The housing toolkit can provide information about cohousing. This will help provide incentives and initiatives to encourage cohousing and can be used as a tool to prevent homelessness.

Develop a municipal guideline for cohousing development: The guideline will define the typical cohousing development process and be a useful reference. Since cohousing has a unique development approach, favoring residents, a guide could help distinguish cohousing development from conventional development and allow staff and developers to compare them directly. It would provide a baseline for staff or would-be cohousing developers.

Run workshops on cohousing for the public: Lack of knowledge and expertise is a big barrier to initiating cohousing. These workshops will educate cohousing stakeholders about cohousing, and they may inspire prospective cohousing residents to start the process for themselves.

Provide or offer surplus lands as sites for cohousing groups - Provide the sites evacuated under the closed school strategy towards the creation of cohousing units for specific target audience. Also, the City can provide other surplus land for creation of cohousing.

Create a cohousing resource center - This could coordinate cohousing resources, incentives, and support. It may also produce informational material, give legal/planning/development advice and assistance to cohousing groups, and could help connect interested individuals with cohousing groups.

7 Additional notes about cohousing

Develop social housing as cohousing: The City of London could pursue future social housing developments as cohousing. Social housing developments in Europe that are developed and managed as cohousing have been very successful. This comes from the resident engagement during development, resident management, and the strong emphasis on community-focused designs. They have also been shown to increase social cohesion with the surrounding neighborhood and can act as neighborhood resources.

Cohousing communities as part of a larger apartment building: Large apartment or condo towers could be divided into smaller sections that can accommodate cohousing. Several floors could be made with smaller and more flexible units and shared spaces and designed in partnership with a cohousing group.

All of these recommendations could be further considered by the City through its Housing Action Plan update and Official Plan updates.

Appendices

Appendix 1 Maps

City of London's Composite Map

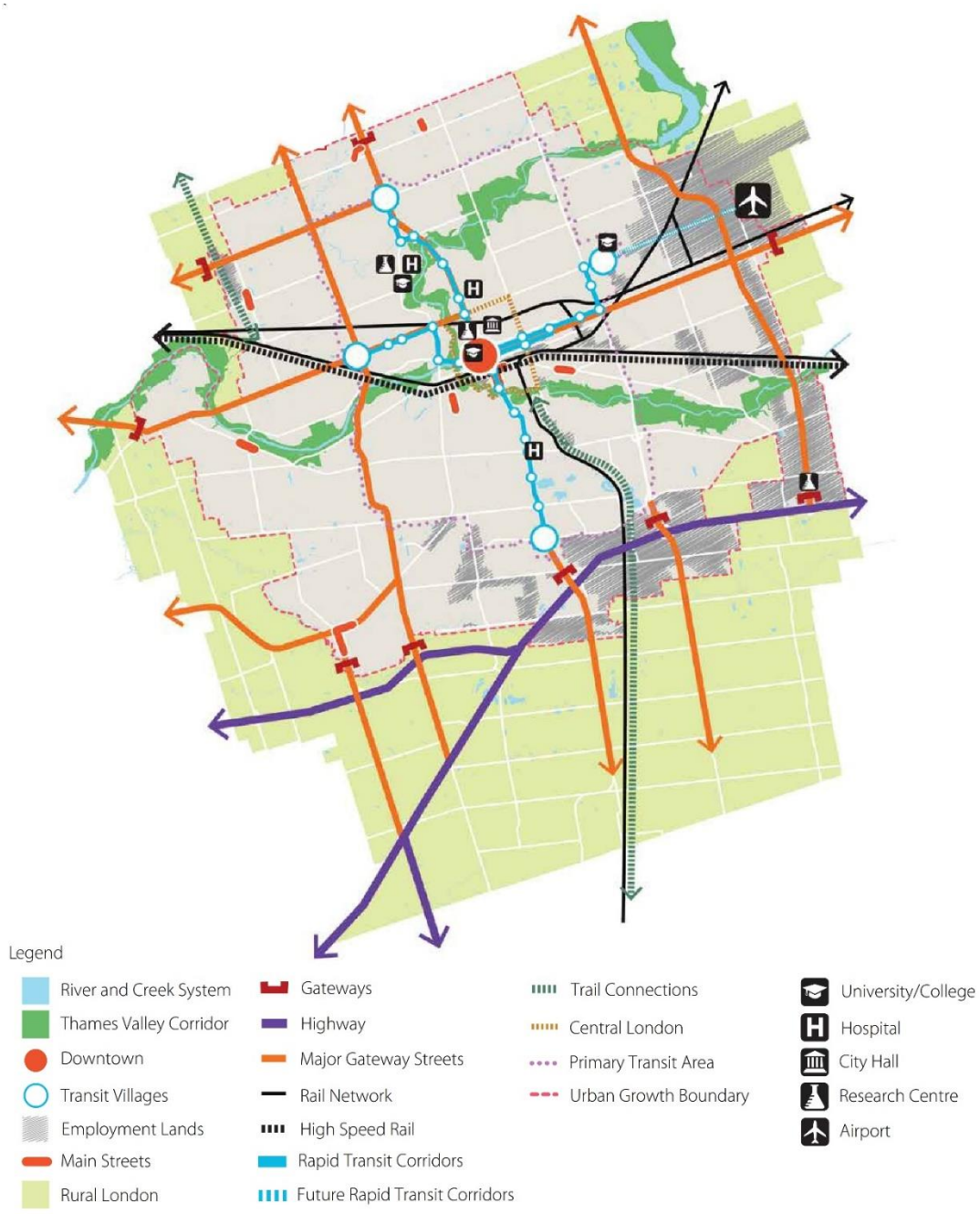

Figure 14 City of London's composite map[18]

[18] *The London Plan*. (2019). City of London.

Appendix 2 Census Tables

Table 1 Age Characteristics

Table 2 Age characteristics for London[19]

Sr No	Age Characterisitcs	Count	Percentage
1	Total	494,070.00	-
2	0 to 14 years	81,240.00	16.44%
3	15 to 64 years	328,470.00	66.48%
4	65 years and over	84,360.00	17.07%
5	Average age of the population	40.90	-
6	Median age of the population	40.70	-

Table 2 Type of structure and number of bedrooms

Table 3 Housing characteristics for London by type of structure and number of bedrooms

Sr No	Characteristics	Count	Percentage
1	Total	206,445.00	-
Occupied private dwelling by structural type of dwelling			
2	Single-detached house	115,415.00	55.91%
3	Apartment in a building that has five or more storeys	34,755.00	16.83%
4	Semi-detached house	7,855.00	3.80%
5	Row house	21,675.00	10.50%
6	Apartment or flat in a duplex	5,080.00	2.46%
7	Apartment in a building that has fewer than five storeys	20,935.00	10.14%
8	Other single-attached house	260.00	0.13%
9	Movable dwelling	475.00	0.23%
Occupied private dwellings by number of bedrooms			
10	No bedrooms	660.00	0.32%
11	1 bedroom	28,025.00	13.58%
12	2 bedrooms	49,825.00	24.13%
13	3 bedrooms	79,125.00	38.33%
14	4 or more bedrooms	48,815.00	23.65%

[19] Statistics Canada. 2017. London, CY [Census subdivision], Ontario and Ontario [Province] (table). Census Profile. 2016 Census. Statistics Canada

Table 3 Number of persons per household

Table 4 Housing characteristics for London by number of persons per household

Sr No	Housing Characteristics: Private Household by household size	Count	Percentage
1	Total	206,450.00	100.00%
2	1 person	62,240.00	30.15%
3	2 persons	71,775.00	34.77%
4	3 persons	30,620.00	14.83%
5	4 persons	27,025.00	13.09%
6	5 or more persons	14,790.00	7.16%

Table 4 Household total income group in 2015 for London

Table 5 Household total income groups in 2015 for London

Sr No	Total - Household total income groups in 2015 for private households - 100% data	Number of Individuals	Percentage	Cumulative Percentage
1	Under $5;000	4,105.00	1.99%	1.99%
2	$5;000 to $9;999	3,700.00	1.79%	3.78%
3	$10;000 to $14;999	6,620.00	3.21%	6.99%
4	$15;000 to $19;999	8,400.00	4.07%	11.06%
5	$20;000 to $24;999	9,670.00	4.68%	15.74%
6	$25;000 to $29;999	8,725.00	4.23%	19.97%
7	$30;000 to $34;999	9,215.00	4.46%	24.43%
8	$35;000 to $39;999	9,475.00	4.59%	29.02%
9	$40;000 to $44;999	9,460.00	4.58%	33.60%
10	$45;000 to $49;999	9,255.00	4.48%	38.09%
11	$50;000 to $59;999	17,080.00	8.27%	46.36%
12	$60;000 to $69;999	15,305.00	7.41%	53.77%
13	$70;000 to $79;999	13,670.00	6.62%	60.39%
14	$80;000 to $89;999	12,090.00	5.86%	66.25%
15	$90;000 to $99;999	10,965.00	5.31%	71.56%
16	$100;000 to $124;999	20,485.00	9.92%	81.48%
17	$125;000 to $149;999	13,370.00	6.48%	87.96%
18	$150;000 to $199;999	14,160.00	6.86%	94.82%
19	$200;000 and over	10,705.00	5.19%	100.00%

Table 5 Owner household and tenant household

Table 6 Housing characteristics for London by owners and tenants

Sr No	Criteria	Total	Percentage
Housing Characteristics			
1	Total - Private households by tenure	206,450.00	100.00%
Total - Owner and tenant households with household total income greater than zero			
2	Spending less than 30% of income on shelter costs	152,455.00	73.85%
3	Spending 30% or more of income on shelter costs	52,400.00	25.38%
Total - Owner households			
4	% of owner households with a mortgage	80,737.54	61.70%
5	% of owner households spending 30% or more of its income on shelter costs	18,581.41	14.20%
6	Median monthly shelter costs for owned dwellings ($)	$ 1,112.00	-
7	Average monthly shelter costs for owned dwellings ($)	$ 1,219.00	-
8	Median value of dwellings ($)	$ 260,080.00	-
9	Average value of dwellings ($)	$ 301,631.00	-
Total - Tenant households			
10	% of tenant households in subsidized housing	8,680.23	11.70%
11	% of tenant households spending 30% or more of its income on shelter costs	33,904.83	45.70%
12	Median monthly shelter costs for rented dwellings ($)	$ 867.00	-
13	Average monthly shelter costs for rented dwellings ($)	$ 930.00	-

Table 6 Tenure, suitability, condominium status and number of persons per room

Table 7 Housing characteristics for London by Tenure, suitability, condominium status and number of persons per room

Sr No	Characteristics	Count	Percentage
1	Total	206,450.00	100.00%
Private households by tenure			
2	Owner	132,170.00	64.02%
3	Renter	74,280.00	35.98%
Occupied private dwellings by condominium status			
4	Condominium	25,385.00	12.30%
5	Not condominium	181,060.00	87.70%
Private households by number of persons per room			
6	One person or fewer per room	204,090.00	98.86%
7	More than 1 person per room	2,355.00	1.14%
Private households by housing suitability			
8	Suitable	198,210.00	96.01%
9	Not suitable	8,240.00	3.99%

Table 7 Period of construction of dwelling units

Table 8 Housing characteristics for London by the period of construction of dwelling units

Sr No	Occupied private dwellings by period of construction	Count	Percentage
1	Total	206,450.00	100.00%
2	1960 or before	54,500.00	26.40%
3	1961 to 1980	62,235.00	30.15%
4	1981 to 1990	28,765.00	13.93%
5	1991 to 2000	23,130.00	11.20%
6	2001 to 2005	13,015.00	6.30%
7	2006 to 2010	14,180.00	6.87%
8	2011 to 2016	10,635.00	5.15%

Table 8 Number of household maintainers and the age of maintainers

Table 9 Housing characteristics for London by number of household maintainers and the age of maintainers

Sr No	Characteristics	Count	Percentage
1	Total	206,450.00	-
Private households by number of household maintainers			
2	1 household maintainer	122,330.00	59.25%
3	2 household maintainers	79,980.00	38.74%
4	3 or more household maintainers	4,135.00	2.00%
Private households by age of primary household maintainers			
5	15 to 24 years	9,225.00	4.47%
6	25 to 34 years	30,875.00	14.96%
7	35 to 44 years	33,115.00	16.04%
8	45 to 54 years	40,765.00	19.75%
9	55 to 64 years	40,090.00	19.42%
10	65 to 74 years	29,215.00	14.15%
11	75 to 84 years	16,815.00	8.14%
12	85 years and over	6,355.00	3.08%

Annexure 3 Zoning By-law Tables

Table 10 Suitability of models based on London zones[20]

Sr No	Models	Organic Retrofit	Urban Project	Industrial Retrofit	Suburban Neighbourhood Cohousing	Seniors Cohousing
1	R1	Y	N	N	Y	Y
2	R2	Y	N	N	Y	Y
3	R3	Y	Y	N	Y	Y
4	R4	Y	Y	N	Maybe	Y
5	R5	Y	Y	N	Maybe	Y
6	R6	Y	Y	Y	Y	Y
7	R7	N	N	N	N	Y
8	R8	N	Y	Y	N	Y
9	R9	N	Y	Y	N	Y
10	R10	N	Y	Y	N	Y
11	R11	N	N	N	N	N
12	Office residential	N	Y	N	N	y
13	Office conversion	Maybe	Y	N	N	N
14	Downtown Area	N	Y	Y	N	Y
15	Neighbourhood Shopping Area	N	Y	Maybe	N	Y
16	Business District Commercial	Maybe	Y	Y	N	Y
17	Arterial Commercial	Maybe	N	N	N	N
18	Convenience commercial	N	Y	Y	N	N
19	Community Facility	N	N	N	N	Y
20	Agricultural	N	N	N	N	N
21	Agricultural Commercial	N	N	N	N	N
22	Rural Settlement Commercial	N	N	N	N	N
23	Temporary Garden Suite	N	Maybe	N	Y	Y
24	Urban Reserve	N	N	N	Y	Y

[20] Zoning Resources. (2019). Retrieved from https://www.london.ca/business/Planning-Development/zoning-by-law/Pages/default.aspx