ON COMMON GROUNDS

An Affordable Alternative Communal Living Typology for Young Professionals In Urban Centers

by

Lisa Chenrong Chen

A thesis
presented to the University of Waterloo
in fulfillment of the
thesis requirement for the degree of
Master of Architecture

Waterloo, Ontario, Canada, 2022
© Lisa Chenrong Chen 2022

Author’s Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

Canada's housing market has been unaffordable, inaccessible, and commodified for a long time. Due to the ever-increasing real-estate prices and critical housing shortages, there has been an elevated need for more alternative amenity-rich housing, which evolves with the competitive nature of the housing market. This thesis explores communal living and proposes an alternative rental typology within the expanding urban centers of Canada geared towards young professionals working to afford their own homes. The design proposal will learn from the historical and modern communal living typologies that show significant community involvement, social benefits, and economic advantages. The design proposal aims to adapt to the growing urban downtown environment as an alternative urban residential option that will be socially and environmentally healthy, affordable, and foster positive, supportive relationships between the residents. By learning from existing communal living models, this design strategy utilizes the concept of cluster communities, a modified version of communal living that includes tiered common spaces servicing designated floors of residents, forming various micro-communities within the apartment tower block. The alternative residential typology can contribute to the residents' success and the community's betterment. It seeks to resolve the tension between the needs and desires of the individuals and the larger community's interests by dissolving the barrier between them. This thesis does not present a solution to the housing crisis; instead, it proposes an alternative option and attitude to approach modern living that has its roots in how people have lived together in history.

Acknowledgments

I respectfully acknowledge that the University of Waterloo is situated on the Haldimand Tract, land granted to the Haudenosaunee of the Six Nations of the Grand River in the Haldimand Treaty of 1784. The Haldimand Tract and the surrounding area, including the School of Architecture on the Cambridge campus, is the traditional territory of the Attawandaron, Anishinaabeg, and Haudenosaunee.

To my supervisor, John McMinn, thank you for your guidance and dedication in working through such a tight guideline. The thoughts you provide from the beginning of the thesis spurred many unexpected developments that made this thesis richer.

To my committee member Marie-Paule Macdonald, thank you so much for the insight into the research parts of my thesis and the thoughtful guidance in the design parts.

I would also like to thank my mother for supporting me all these years and putting up with me during turbulent times. You are fabulous, and I love you so much.

Table of Contents

Author’s Declaration	iii
Abstract	v
Acknowledgements	vii
List of Figures	x
Introduction: Why Don’t We Live Together?	1
Chapter 1: The Housing Crisis and the Birth of New Dynamics	13
Chapter 2: The Evolution of Communal Living	51
Chapter 3: Urban Communal Living Typologies	81
Chapter 4: Cluster Living Typologies	105
Chapter 5: Site Selection	163
Chapter 6: Design Application	221
Bibliography	280

List Of Figures
Figures by author unless otherwise indicated

Introduction

Fig. 0.1 P.6 Co-living Unit at Common
Retrieved from: https://www.common.com/blog/2019/10/common-announced-as-winner-of-sharenyc-hpd/

Fig. 0.2 P.9 Ideal Communal Living Density
Retrieved from: https://www.common.com/blog/2019/10/common-announced-as-winner-of-sharenyc-hpd/

Fig. 0.3 P.9 Typical Rental vs Communal Living Model
Retrieved from: https://www.common.com/blog/2019/10/common-announced-as-winner-of-sharenyc-hpd/

Fig. 0.4 P.11 Research Methodology

Chapter 1

Fig. 1.1 P.19 Canadian Historical Mortgage Rate
Retrieved from: https://www.ratehub.ca/5-year-fixed-mortgage-rate-history

Fig. 1.2 P.19 Canadian Population Growth Projections
Retrieved from: https://www.ctvnews.ca/canada/millions-of-people-will-move-to-canada-in-the-next-20-years-but-where-will-they-live-1.5464205

Fig. 1.3 P.21 Canadian Immigration Numbers 2019
Retrievedfrom:https://www.canada.ca/content/dam/ircc/migration/ircc/english/pdf/ pub/ annual-report-2020-en.pdf

Fig. 1.4 P.23 Rental Vacancy Rate
Retrieved from: RENTAL MARKET REPORT - February 2022 (cmhc-schl.gc.ca)

Fig. 1.5 P.23 Newcomers Per City 2019
Retrieved from: https://www.cicnews.com/2020/02/which-cities-in-canada-attract-the-most-immigrants-0213741.html#gs.3r4fdk

Fig. 1.6 P.25 Average Housing Price per City 2020
Retrieved from: https://www.livingin-canada.com/house-prices-canada.html

Fig. 1.7 P.25 Average Housing Price per Province 2020
Retrieved from: https://www.livingin-canada.com/house-prices-canada.html

Fig. 1.8 P.27 National Rent Averages 2022
Retrieved from: https://rentals.ca/national-rent-report

Fig. 1.9 P.29 National Housing Strategy Funding Stream
Retrieved from: https://www.policynote.ca/national-housing-strategy/

Fig. 1.10 P.33 Canadian Aging Population Projections
Retrieved from: Infographic: Canada's seniors population outlook: Uncharted territory | CIHI

Fig. 1.11 P.33 Seniors Living Alone
Retrieved from: Our Aging Population: Statistics (comfortlife.ca)

Fig. 1.12 P.35 Children vs Seniors Population Projections
Retrieved from:https://www150.statcan.gc.ca/n1/pub/11-402-x/2010000/chap/pop/pop02-eng.htm

Fig. 1.13 P.35 Canadian Household Census 2016
Retrieved from: https://www150.statcan.gc.ca/n1/dailyquotidien/170802/g-a001-eng.htm

Fig. 1.14 P.37 Living Arrangements of Young Adults
Retrieved from: Census in Brief: Young adults living with their parents in Canada in 2016 (statcan.gc.ca)

Fig. 1.15 P.37 Persons Living Alone and Living with Others by Age Group
Retrieved from: https://www150.statcan.gc.ca/n1/pub/75-006-x/2019001/article/00003-eng.htm

Fig. 1.16 P.39 New Immigrant Population 1852-2014
Retrieved from: 150 years of immigration in Canada (statcan.gc.ca)

Fig. 1.17 P.39 New Foreign Population 1852-2014
Retrieved from: 150 years of immigration in Canada (statcan.gc.ca)

Fig. 1.18 P.41 People Living Alone by Age Group
Retrieved from: https://www150.statcan.gc.ca/n1/pub/75-006-x/2019001/article/00003-eng.htm

Fig. 1.19 P.41 Growth in People Living Alone and Living with Others by age Group
Retrieved from: https://www150.statcan.gc.ca/n1/pub/75-006-x/2019001/article/00003-eng.htm

Fig. 1.20 P.43 Proportion of Population age 15 and over Living in Selected Typologies
Retrieved from: https://www150.statcan.gc.ca/n1/pub/75-006-x/2019001/article/00003-eng.htm

Fig. 1.21 P.43 Proportion of people living Alone vs in a Condominium by Age Group
Retrieved from: https://www150.statcan.gc.ca/n1/pub/75-006-x/2019001/article/00003-eng.htm

Chapter 2

Fig. 2.1 P.56 Hunter Gatherer Society
Retrieved from:https://lithub.com/modern-parents-could-learn-a-lot-from-hunter-gatherer-families/

Fig. 2.2 P.57 Medieval Style Living
Retrieved from:https://www.theatlantic.com/business/archive/2016/09/millennial-housing-communal-living-middle-ages/501467/

Fig. 2.3 P.58 Living Conditions in the Industrial revolution
Retrieved from:https://www.historycrunch.com/living-conditions-in-industrial-towns.html#/

Fig. 2.4	P.59	The Nuclear Family Retrieved from: https://www.thebulwark.com/dont-nuke-the-nuclear-family/
Fig. 2.5	P.60	Modern suburban Neighborhood Retrieved from: https://carolinaangles.com/2020/11/04/housing-the-nuclear-family/
Fig. 2.6	P.62	Northwest coast Indigenous Territory Retrieved from:https://www.thecanadianencyclopedia.ca/en/article/aboriginal-people-northwest-coast
Fig. 2.7	P.63	Haida House Retrieved from:https://www.thecanadianencyclopedia.ca/en/article/architectural-history-early-first-nations
Fig. 2.8	P.63	Salish Plank House Retrieved from:https://www.thecanadianencyclopedia.ca/en/article/plank-house
Fig. 2.9	P.64	Fujian Tulou Courtyard Retrieved from: https://whc.unesco.org/en/list/1113/
Fig. 2.10	P.65	Tulou Cluster Plan Retrieved from:https://www.thechinaguide.com/blog/exploring-the-mysterious-tulou-of-fujian-province
Fig. 2.11	P.65	Tulou Cluster Retrieved from: https://www.thechinaguide.com/blog/exploring-the-mysterious-tulou-of-fujian-province
Fig. 2.12	P.66	Cascina at San Marchetto Retrieved from: http://www.storiadimilano.it/repertori/cascine/cascineweb.htm
Fig. 2.13	P.67	Cascina A Corte Plan Retrieved from: https://en.wikipedia.org/wiki/Cascina_a_corte
Fig. 2.14	P.67	Cascina Rural Farmhouse Retrieved from: http://www.bibliolab.it/casa/corte2.htm
Fig. 2.15	P.68	Spanish Print of a Phalanstery Retrieved from: https://publicdomainreview.org/essay/get-thee-to-a-phalanstery-or-how-fourier-can-still-teach-us-to-make-lemonade/
Fig. 2.16	P.69	Phalanstery Plan Retrieved from: https://publicdomainreview.org/essay/get-thee-to-a-phalanstery-or-how-fourier-can-still-teach-us-to-make-lemonade/
Fig. 2.17	P.69	Phalanstery Print Retrieved from: https://publicdomainreview.org/essay/get-thee-to-a-phalanstery-or-how-fourier-can-still-teach-us-to-make-lemonade/
Fig. 2.18	P.71	Boarding House in Tacoma Retrieved from:https://housingsolutions.home.blog/2019/06/15/a-history-of-boarding-houses-ideal-forms-of-affordable-housing/
Fig. 2.19	P.71	Boarding House Communal dinner Retrieved from: https://www.bloomberg.com/news/articles/2016-02-22/a-brief-history-of-co-living-spaces-from-19th-century-boarding-houses-to-millennial-compounds

Fig. 2.20	P.72	Crespi D'Adda Village Houses Retrieved from: https://italics.art/en/tip/the-industrial-village-of-crespi-dadda/
Fig. 2.21	P.73	Crespi D'Adda Aerial View Retrieved from: https://villaggiocrespi.it/en/
Fig. 2.22	P.73	Crespi D'Adda Master Plan Retrieved from: https://www.europeanheritagetimes.eu/2020/05/11/three-company-towns-to-discover-in-northern-italy/
Fig. 2.23	P.74	Kibbutzim Lifestyle Retrieved from: https://www.timesofisrael.com/claiming-to-be-israels-first-startup-ventures-kibbutzim-jump-on-tech-bandwagon/
Fig. 2.24	P.75	Kibbutzim Alonim Retrieved from: https://www.touristisrael.com/what-is-a-kibbutz/6053/
Fig. 2.25	P.75	Kibbutzim Nalhalal Retrieved from: https://www.touristisrael.com/what-is-a-kibbutz/6053/
Fig. 2.26	P.76	Kommunalka Shared Kitchen Retrieved from: https://www.russiancourses.com/blog/co-living-spaces-the-hipster-evolution-of-kommunalka/
Fig. 2.27	P.77	Kommunalka separate Stoves Retrieved from: https://holeinthedonut.com/2015/01/17/kommunalka-living-st-petersburg-russia/
Fig. 2.28	P.77	Kommunalka Private Units Retrieved from: https://holeinthedonut.com/2015/01/17/kommunalka-living-st-petersburg-russia/

Chapter 3

Fig. 3.1	P.89	Windsong Cohousing Internal Street Retrieved from: https://windsong.bc.ca
Fig. 3.2	P.89	Windsong Cohousing Indoor Gathering Space Retrieved from: https://windsong.bc.ca
Fig. 3.3	P.91	Yarrow Ecovillage Retrieved from: https://en.wikipedia.org/wiki/Yarrow_Ecovillage
Fig. 3.4	P.93	Hippies Commune Farming Retrieved from:https://theplaidzebra.com/communes-didnt-die-60s-theyre-modern-substitute-self-centred-city-life/
Fig. 3.5	P.95	60 Richmond Exterior View Retrieved from:https://www.archdaily.com/85762/60-richmond-housing-cooperative-teeple-architect/
Fig. 3.6	P.97	Senior Assisted Living Activities Retrieved from: https://aging.com/assisted-living-homes-vs-home-care-how-to-decide/
Fig. 3.7	P.99	Tietgen Student Dorm Internal Courtyard Retrieved from: https://www.londonnest.com/locations/the-collective-old-oak/
Fig. 3.8	P.99	Tietgen Student Dorm Room Layout Retrieved from: https://www.londonnest.com/locations/the-collective-old-oak/

Fig. 3.9 P.102 Collective Old Oak Exterior
Retrieved from: https://en.wikipedia.org/wiki/Cascina_a_corte

Chapter 4

Fig. 4.1 P.111 Heizenholz Axonometric
Retrieved from: https://www.kraftwerk1.ch/heizenholz/siedlung.html#tab-1

Fig. 4.2 P.111 Heizenholz Terrace Commune
Retrieved from: https://www.kraftwerk1.ch/heizenholz/siedlung.html#tab-1

Fig. 4.3 P.112 Heizenholz Terrace Commune Resident Furnishing
Retrieved from: https://www.kraftwerk1.ch/heizenholz/siedlung.html#tab-1

Fig. 4.4 P.112 Heizenholz Terrace Commune Planters
Retrieved from: https://www.kraftwerk1.ch/heizenholz/siedlung.html#tab-1

Fig. 4.5 P.113 Heizenholz Terrace Commune Public Stairs
Retrieved from: https://www.kraftwerk1.ch/heizenholz/siedlung.html#tab-1

Fig. 4.6 P.113 Heizenholz Courtyard
Retrieved from: https://www.kraftwerk1.ch/heizenholz/siedlung.html#tab-1

Fig. 4.7 P.114 Heizenholz Floorplan Cluster Apartment Unit
Retrieved from:https://divisare.com/projects/415244-adrian-streich-architekten-roland-bernath-roger-frei-kraftwerk
With Edits by Author

Fig. 4.8 P.114 Heizenholz Floor Plan Common Terrace
Retrieved from:https://divisare.com/projects/415244-adrian-streich-architekten-roland-bernath-roger-frei-kraftwerk
With Edits by Author

Fig. 4.9 P.115 Heizenholz Terrace Commune Exterior View
Retrieved from:https://divisare.com/projects/415244-adrian-streich-architekten-roland-bernath-roger-frei-kraftwerk

Fig. 4.10 P.115 Heizenholz Shared Circulation
Retrieved from:https://divisare.com/projects/415244-adrian-streich-architekten-roland-bernath-roger-frei-kraftwerk
With Edits by Author

Fig. 4.11 P.116 Cluster Apartment Private Units
Retrieved from:https://divisare.com/projects/415244-adrian-streich-architekten-roland-bernath-roger-frei-kraftwerk
With Edits by Author

Fig. 4.12 P.116 Cluster Apartment Common Space
Retrieved from:https://divisare.com/projects/415244-adrian-streich-architekten-roland-bernath-roger-frei-kraftwerk
With Edits by Author

Fig. 4.13 P.117 Cluster Apartment Common Space View
Retrieved from:https://divisare.com/projects/415244-adrian-streich-architekten-roland-bernath-roger-frei-kraftwerk

Fig. 4.14 P.119 River Spreefield Exterior View
Retrieved from:https://www.archdaily.com/587590/coop-housing-project-at-the-river-spreefeld-carpaneto-architekten-fatkoehl-architekten-bararchitekten

Fig. 4.15 P.119 River Spreefield River View
Retrieved from:https://www.archdaily.com/587590/coop-housing-project-at-the-river-spreefeld-carpaneto-architekten-fatkoehl-architekten-bararchitekten

Fig. 4.16 P.120 River Spreefield Exterior Programs
Retrieved from:https://www.archdaily.com/587590/coop-housing-project-at-the-river-spreefeld-carpaneto-architekten-fatkoehl-architekten-bararchitekten

Fig. 4.17 P.122 River Spreefield Interior Programs
Retrieved from:https://www.archdaily.com/587590/coop-housing-project-at-the-river-spreefeld-carpaneto-architekten-fatkoehl-architekten-bararchitekten

Fig. 4.18 P.124 River Spreefield Cluster Apartment Layout
Retrieved from:https://www.archdaily.com/587590/coop-housing-project-at-the-river-spreefeld-carpaneto-architekten-fatkoehl-architekten-bararchitekten

Fig. 4.19 P.126 River Spreefield Section 1
Retrieved from:https://www.archdaily.com/587590/coop-housing-project-at-the-river-spreefeld-carpaneto-architekten-fatkoehl-architekten-bararchitekten

Fig. 4.20 P.126 River Spreefield Section 2
Retrieved from:https://www.archdaily.com/587590/coop-housing-project-at-the-river-spreefeld-carpaneto-architekten-fatkoehl-architekten-bararchitekten

Fig. 4.21 P.127 River Spreefield Terrace View
Retrieved from:https://www.archdaily.com/587590/coop-housing-project-at-the-river-spreefeld-carpaneto-architekten-fatkoehl-architekten-bararchitekten

Fig. 4.22 P.129 LT Josay Share House Exterior View
Retrieved from: https://www.archdaily.com/497357/lt-josai-naruse-inokuma-architects

Fig. 4.23 P.129 LT Josay Share House Interior View
Retrieved from: https://www.archdaily.com/497357/lt-josai-naruse-inokuma-architects

Fig. 4.24 P.130 LT Josay Share House Space Diagram
Retrieved from: https://www.archdaily.com/497357/lt-josai-naruse-inokuma-architects

Fig. 4.25 P.132 LT Josay Share House Ground Floor Plan
Retrieved from: https://www.archdaily.com/497357/lt-josai-naruse-inokuma-architects

Fig. 4.26 P.132 LT Josay Share House Ground Floor Interior
Retrieved from: https://www.archdaily.com/497357/lt-josai-naruse-inokuma-architects

Fig. 4.27 P.133 LT Josay Share House First Floor Plan
Retrieved from: https://www.archdaily.com/497357/lt-josai-naruse-inokuma-architects

Fig. 4.28	P.133	LT Josay Share House Second Floor Plan Retrieved from: https://www.archdaily.com/497357/lt-josai-naruse-inokuma-architects
Fig. 4.29	P.134	LT Josay Share House Section Retrieved from: https://www.archdaily.com/497357/lt-josai-naruse-inokuma-architects
Fig. 4.30	P.135	LT Josay Share Common Space Retrieved from: https://www.archdaily.com/497357/lt-josai-naruse-inokuma-architects
Fig. 4.31	P.137	Mehr Als Wohnen Masterplan Retrieved from: https://www.mehralswohnen.ch/hunziker-areal/das-quartier/dialogweg-6/
Fig. 4.32	P.138	Dialogweg 6 Exterior Retrieved from: https://www.archilovers.com/projects/220150/haus-a.html
Fig. 4.33	P.138	Dialogweg 6 Courtyard Retrieved from: https://www.archilovers.com/projects/220150/haus-a.html
Fig. 4.34	P.139	Dialogweg 6 Cluster Apartment Common Area Retrieved from: https://www.archilovers.com/projects/220150/haus-a.html
Fig. 4.35	P.139	Dialogweg 6 Cluster Apartment Common Kitchen Retrieved from: https://www.archilovers.com/projects/220150/haus-a.html
Fig. 4.36	P.140	Dialogweg 6 Floorplan Retrieved from: https://www.mehralswohnen.ch/hunziker-areal/das-quartier/dialogweg-6/ With Edits by Author
Fig. 4.37	P.141	Dialogweg 6 Internal Circulation Retrieved from: https://www.mehralswohnen.ch/hunziker-areal/das-quartier/dialogweg-6/
Fig. 4.38	P.141	Dialogweg 6 Internal Social Stairs Retrieved from: https://www.mehralswohnen.ch/hunziker-areal/das-quartier/dialogweg-6/
Fig. 4.39	P.142	Dialogweg 6 Cluster Apartment Private Units Plan Retrieved from: https://www.mehralswohnen.ch/hunziker-areal/das-quartier/dialogweg-6/ With Edits by Author
Fig. 4.40	P.142	Dialogweg 6 Cluster Apartment Common Space Plan Retrieved from: https://www.mehralswohnen.ch/hunziker-areal/das-quartier/dialogweg-6/ With Edits by Author
Fig. 4.41	P.143	Dialogweg 6 Cluster Apartment Shared Amenities Retrieved from: https://www.archilovers.com/projects/220150/haus-a.html
Fig. 4.42	P.145	Gap House Exterior View Retrieved from: https://www.archdaily.com/771429/gap-house-archihood-wxy

Fig. 4.43	P.146	Gap House Internal Courtyard Retrieved from: https://www.archdaily.com/771429/gap-house-archihood-wxy
Fig. 4.44	P.147	Gap House Gap Balcony Retrieved from: https://www.archdaily.com/771429/gap-house-archihood-wxy
Fig. 4.45	P.148	Gap House Formal Diagram Retrieved from: https://www.archdaily.com/771429/gap-house-archihood-wxy
Fig. 4.46	P.149	Gap House Section Retrieved from: https://www.archdaily.com/771429/gap-house-archihood-wxy
Fig. 4.47	P.150	Gap House Cluster Apartment Plan Retrieved from: https://www.archdaily.com/771429/gap-house-archihood-wxy With Edits by Author
Fig. 4.48	P.151	Gap House Cluster Apartment Interior View Retrieved from: https://www.archdaily.com/771429/gap-house-archihood-wxy
Fig. 4.49	P.153	WagnisART Exterior Complex Entrance Retrieved from: https://www.archdaily.com/889159/cooperative-housing-complex-wagnisart-bogevischs-buero-architekten-stadtplaner-gmbh-plus-shag-schindler-hable
Fig. 4.50	P.154	WagnisART Internal Public Courtyard Retrieved from: https://www.archdaily.com/889159/cooperative-housing-complex-wagnisart-bogevischs-buero-architekten-stadtplaner-gmbh-plus-shag-schindler-hable
Fig. 4.51	P.154	WagnisART Roof Walkway Retrieved from: https://www.archdaily.com/889159/cooperative-housing-complex-wagnisart-bogevischs-buero-architekten-stadtplaner-gmbh-plus-shag-schindler-hable
Fig. 4.52	P.155	WagnisART Roof Terrace Retrieved from: https://www.archdaily.com/889159/cooperative-housing-complex-wagnisart-bogevischs-buero-architekten-stadtplaner-gmbh-plus-shag-schindler-hable
Fig. 4.53	P.155	WagnisART Exterior View Retrieved from: https://www.archdaily.com/889159/cooperative-housing-complex-wagnisart-bogevischs-buero-architekten-stadtplaner-gmbh-plus-shag-schindler-hable
Fig. 4.54	P.156	WagnisART Masterplan Retrieved from: https://www.archdaily.com/889159/cooperative-housing-complex-wagnisart-bogevischs-buero-architekten-stadtplaner-gmbh-plus-shag-schindler-hable
Fig. 4.55	P.158	WagnisART Cluster Apartment Private Unit Plan Retrieved from: https://www.archdaily.com/889159/cooperative-housing-complex-wagnisart-bogevischs-buero-architekten-stadtplaner-gmbh-plus-shag-schindler-hable

Fig. 4.56 P.158 WagnisART Cluster Apartment Common Area Plan
Retrieved from: https://www.archdaily.com/889159/cooperative-housing-complex-wagnisart-bogevischs-buero-architekten-stadtplaner-gmbh-plus-shag-schindler-hable

Fig. 4.57 P.159 WagnisART Interior Walkway
Retrieved from: https://www.archdaily.com/889159/cooperative-housing-complex-wagnisart-bogevischs-buero-architekten-stadtplaner-gmbh-plus-shag-schindler-hable

Chapter 5

Fig. 5.1 P.167 Vancouver City Layout
Retrieved from: https://en.wikipedia.org/wiki/List_of_neighbourhoods_in_Vancouver

Fig. 5.2 P.168 Canadian Vacancy Rates
Retrieved from: https://liv.rent/blog/2020/01/vancouver-rental-vacancy-rate/

Fig. 5.3 P.169 Vancouver Average Sale Prices 1977-2017
Retrieved from: https://www.livabl.com/2018/01/chart-greater-vancouver-prices-climbed-4-decades.html

Fig. 5.4 P.169 Average 1 Bedroom Median Rent Across Canada
Retrieved from: https://blog.padmapper.com/2021/06/16/june-2021-canadian-rent-report

Fig. 5.5 P.170 Detached Home Sale Prices Vancouver
Retrieved from:https://bc.ctvnews.ca/vancouver-real-estate-which-cities-are-seeing-the-biggest-drop-in-home-prices-1.4285643

Fig. 5.6 P.171 Condominium Sale Prices Vancouver
Retrieved from:https://bc.ctvnews.ca/vancouver-real-estate-which-cities-are-seeing-the-biggest-drop-in-home-prices-1.4285643

Fig. 5.7 P.172 Dwellings by Structural Type in Vancouver
Retrieved from:https://vancouver.ca/files/cov/social-indicators-profile-city-of-vancouver.pdf

Fig. 5.8 P.172 Types of Households in Vancouver
Retrieved from:https://vancouver.ca/files/cov/social-indicators-profile-city-of-vancouver.pdf

Fig. 5.9 P.173 Households Spending more than 30% of Income on Housing
Retrieved from:https://vancouver.ca/files/cov/social-indicators-profile-city-of-vancouver.pdf

Fig. 5.10 P.175 Vancouver Population Growth Projections
Retrieved from:https://ibis.geog.ubc.ca/courses/geob479/classof08/vandensify/introduction.html

Fig. 5.11 P.175 Net New Households by Tenure in Vancouver
Retrieved from:https://vancouver.ca/files/cov/social-indicators-profile-city-of-vancouver.pdf

Fig. 5.12 P.176 Vancouver Population Growth Projections
Retrieved from:https://vancouver.ca/files/cov/social-indicators-profile-city-of-vancouver.pdf

Fig. 5.13 P.176 Vancouver Population Growth Projections
Retrieved from:https://vancouver.ca/files/cov/social-indicators-profile-city-of-vancouver.pdf

Fig. 5.14 P.177 Percentage of Population Living Alone
Retrieved from:https://vancouver.ca/files/cov/social-indicators-profile-city-of-vancouver.pdf

Fig. 5.15 P.177 New Housing by Income Groups
Retrieved from:https://vancouver.ca/files/cov/social-indicators-profile-city-of-vancouver.pdf

Fig. 5.16 P.178 Population by National Income Deciles
Retrieved from:https://vancouver.ca/files/cov/social-indicators-profile-city-of-vancouver.pdf

Fig. 5.17 P.179 Distribution of Total Personal Income
Retrieved from:https://vancouver.ca/files/cov/social-indicators-profile-city-of-vancouver.pdf

Fig. 5.18 P.179 Population Estimates by National Income Decile
Retrieved from:https://vancouver.ca/files/cov/social-indicators-profile-city-of-vancouver.pdf

Fig. 5.19 P.180 Rate of Full-time Work by Demographic
Retrieved from:https://vancouver.ca/files/cov/social-indicators-profile-city-of-vancouver.pdf

Fig. 5.20 P.181 Active Commuters by Demographic
Retrieved from:https://vancouver.ca/files/cov/social-indicators-profile-city-of-vancouver.pdf

Fig. 5.21 P.181 Transit Commuters by Demographic
Retrieved from:https://vancouver.ca/files/cov/social-indicators-profile-city-of-vancouver.pdf

Fig. 5.22 P.182 Population by Highest Level Education Vancouver
Retrieved from:https://vancouver.ca/files/cov/social-indicators-profile-city-of-vancouver.pdf

Fig. 5.23 P.182 Population with Post-secondary Credential
Retrieved from:https://vancouver.ca/files/cov/social-indicators-profile-city-of-vancouver.pdf

Fig. 5.24 P.183 Level of Formal Education by Demographic
Retrieved from:https://vancouver.ca/files/cov/social-indicators-profile-city-of-vancouver.pdf

Fig. 5.25 P.186 Site Location in Canada
Base Map Retrieved from: Google Earth

Fig. 5.26 P.187 Site Location in Downtown
Base Map Retrieved from: Google Earth

Fig. 5.27 P.187 Site Location in Neighborhood
Base Map Retrieved from: Google Earth

Fig. 5.28 P.188 Downtown Zoning
Retrieved from: https://censusmapper.ca/maps/2491?index=0#13/49.2822/-123.1258

Fig. 5.29 P.190 Vancouver Downtown District Map
Base Map Retrieved from: Google Earth

Fig. 5.30 P.192 Project Site Photos
Retrieved from: Google Street view

Fig. 5.31 P.194 Site Section 1 1:5000

Fig. 5.32 P.194 Site Section 2 1:5000

Fig. 5.33 P.196 Site Section 1:1500

Fig. 5.34 P.198 Public Parks and Green Spaces

Fig. 5.35 P.198 Public Programs

Fig. 5.36 P.199 Educational Programs

Fig. 5.37 P.199 Parking

Fig. 5.38 P.200 Major Bus Routes

Fig. 5.39 P.200 Skytrain and Public Transit

Fig. 5.40 P.201 Homeless Presence

Fig. 5.41 P.201 Topography

Fig. 5.42 P.202 Programmatic Map of Downtown

Fig. 5.43 P.204 Important Bus Routes

Fig. 5.44 P.205 Skytrain and Bike Stations

Fig. 5.45 P.206 Parks and Green Spaces

Fig. 5.46 P.207 Service Programs

Fig. 5.47 P.208 Food and Entertainment Programs

Fig. 5.48 P.209 Commercial Programs

Fig. 5.49 P.210 Educational Programs

Fig. 5.50 P.211 Residential and Emergency Shelters

Fig. 5.51 P.212 Other Programs

Fig. 5.52 P.213 Parking

Fig. 5.53 P.214 Programmatic Map of Neighborhood

Fig. 5.54 P.216 Neighborhood Activity Concentration

Chapter 6

Fig. 6.1 P.228 Plaza Ramp

Fig. 6.2 P.230 Typical Nuclear Family Functions

Fig. 6.3 P.230 Proposed Cluster Community Functions

Fig. 6.4 P.231 Public Private Shared Resources

Fig. 6.5 P.232 Site Axonometric

Fig. 6.6 P.235 Parti Diagram

Fig. 6.7 P.236 North Elevation 1:500

Fig. 6.8 P.237 South Elevation 1:500

Fig. 6.9 P.238 East Elevation 1:500

Fig. 6.10 P.239 West Elevation 1:500

Fig. 6.11 P.240 Ground Floor Plan 1:500

Fig. 6.12 P.242 Plaza Street View

Fig. 6.13 P.243 Cafe and Restaurant Exterior Seating

Fig. 6.14 P.244 Second Floor Plan 1:500

Fig. 6.15 P.246 Second Floor Library and Reading Lounge

Fig. 6.16 P.247 Second Floor Terrace

Fig. 6.17 P.248 Third Floor Plan 1:500

Fig. 6.18 P.250 Fourth Floor Plan 1:500

Fig. 6.19 P.252 Fourth Floor Semi-Public Shared Terrace

Fig. 6.20 P.253 Fourth Floor Terrace View

Fig. 6.21 P.254 Section 1 1:500

Fig. 6.22 P.255 Section 2 1:500

Fig. 6.23 P.256 2 Bedroom Unit Plan 1:100

Fig. 6.24 P.257 1 Bedroom Unit Plan 1:100

Fig. 6.25 P.258 Cluster Community Floor 1 Plan 1:250

Fig. 6.26 P.259 Cluster Community Floor 1 Lounge 1

Fig. 6.27 P.260 Cluster Community Floor 2 Plan 1:250

Fig. 6.28 P.261 Cluster Community Floor 2 Games Lounge

Fig. 6.29 P.262 Cluster Community Floor 3 Plan 1:250

Fig. 6.30 P.263 Cluster Community Floor 3 Reading Space

Fig. 6.64 P.264 Cluster Community Axonometric

Fig. 6.65 P.265 View from Private Balcony

Fig. 6.33 P.270 Kitchen Usage

Fig. 6.34 P.271 Storage Usage

Fig. 6.35 P.272 Semi-public Amenities Usage

Fig. 6.36 P.276 Public Plaza Garden

Fig. 6.37 P.278 Public Plaza Entrance

Fig. 6.38 P.280 Balcony View

INTRODUCTION

Why Don’t We Live Together?

This thesis began with a desire to understand housing affordability. I have lived in Vancouver for most of my life, and I know that if I wanted to move out once I graduate from university, central Vancouver would not be within my housing price range. I knew that if I were to work in Vancouver, there was a high chance my place of work would be located in the downtown core; however, I would probably be living in a more suburban area and then transiting to work every day. Everything close to the urban core is outside of my price range of affordability, so I would have to find affordable rental housing elsewhere. I have previously lived in three types of dwellings: a typical single-detached suburban housing, a typical rental apartment building, and a co-living apartment. I stayed for at least 8 months in each of these typologies, so the advantages and disadvantages are evident to me. In a typical single-detached suburban housing, the privacy is excellent, and there is security; however, there was very little interaction between the neighbors on the same block. Everyone had close relationships with maybe a few neighbors, but there was no community spirit. In a typical apartment complex, I rented a small studio apartment on the outskirts of Waterloo for my co-op term, and the rent was more than half of my salary, so I needed support from my family to live there. The apartment offered a small range of services like a pool and a gym which is open to the residents, and those services were well used. The most affordable place I have ever lived in was the co-living complex in Shanghai, where I stayed for 8 months on a co-op. The rooms rented out were minimal, and there were some shared amenities such as a kitchen, a media room, and a lounge space shared between all the residents. There were often conflicts between the residents over the common space usage because it could not accommodate everyone who wanted to use it. All these experiences sparked my interest in affordable housing and communal living; it made me wonder if there is a possibility that there be a typology that can help recent graduates and young professionals like me form useful social connections and be affordable at the same time. This typology could combine the proximity of workspace, the community spirit between residents, affordability of units, services in the surrounding urban sphere, and flexibility.

In the modern world, with housing prices hitting a record high, it is evident that Canada is going through a housing crisis. Many people struggle to pay rent, much less afford their own single-family home in the real estate market. The pandemic dragged down the economy but not the housing prices, so people's wages are not keeping up even though the prices remain high. Private-sector condominiums, single-detached housing, and financialized rental apartments fill the current Canadian housing market, which is only suitable for people with a stable financial basis. The recent graduates and young professional population that makes up most of Canada's future workforce are left dangling for a minimal number of affordable units. It would be an excellent time to think outside the house-shaped box and consider living together as an alternative. The idea of living together and sharing resources is not radical, and historically, people have always lived communally; single-family homes are the exception. As a 20th-century phenomenon, nuclear families are stemmed from religious propaganda and are promoted through industrialization. Typical housing has not changed much in the past century, but urban life has evolved, so it makes sense that housing should change to reflect the diversity within urban demographics. According to the 2016 Canadian census, there is a growing mix of household typologies, immigration influx, and other social shifts that shows an increasing need for alternative forms of housing (Lind 2020). It is time to reconsider the urban housing supply that is designed for the past and look for creative solutions to the housing crisis that will benefit the modern population.

Communal living could potentially be a housing solution for a portion of the population, more specifically the educated young professionals. By living together, there are chances to create professional and social connections essential for future growth, and it makes the cost of living lower by sharing resources. In exchange for some private space, a generous number of shared resources will benefit all the residents. In addition, there is the advantage of the built-in community with communal living, providing optimal opportunities for social interaction, the sharing of knowledge, and caregiving. Today, many examples of existing communal living typologies exist, such as cohousing, ecovillages, co-living apartments, and communes. A large amount of personal time can also be saved from living together by rotating chores and communicating on communal decisions. However, humans are innately social creatures, and the urban city is designed against communal collaboration. Therefore, an alternative communal living typology would be an extraordinary way to initiate personal growth alongside the betterment of the surrounding urban landscape.

Fig. 0.1 Co-living Unit at Common

Around the world, some developers are interested in communal living; co-living companies such as Node and Common have built facilities in cities such as Brooklyn, Dublin, and Los Angeles. Websites like Bungalow connect individuals who want to live together and share living expenses (Blonder 2021). By reimagining housing models and presenting alternative options to the housing market, communal living could make the transition of educated young professionals into society much more manageable. Within the typology, space can be used more efficiently by transferring some typically private elements such as kitchens and living rooms to the common area. All the essential needs of the residents are covered, but some private elements are given up in exchange for affordability. This communal living typology may deviate from what people regard as the convention. Still, it is a typology that is being updated to meet the needs and demands of a specific population. It is an alternative housing consideration where educated young professionals can live more accessible, be more socially connected, and do not have to spend half of their income on a roof over their head. . In this thesis project proposal for an alternative communal living model in the Vancouver Downtown Core, the rent rate of the units is calculated to be 1100/month for a 1-bedroom unit and 2100/month for a 2-bedroom unit offered at around 30% of an average annual income of young professionals. The building is 18 stories tall per the official plan of Downtown Vancouver and is a mix of commercial, office, and residential programs. Community building, networking probabilities, and reduced costs from sharing various spaces are benefits of sharing resources and spaces. The give and take in this project is on reducing the size of the private unit, taking some of the typically private elements, and moving those to the common space to share with other residents. Thus this thesis proposes one potential housing solution for a specific demographic group struggling with the housing crisis.

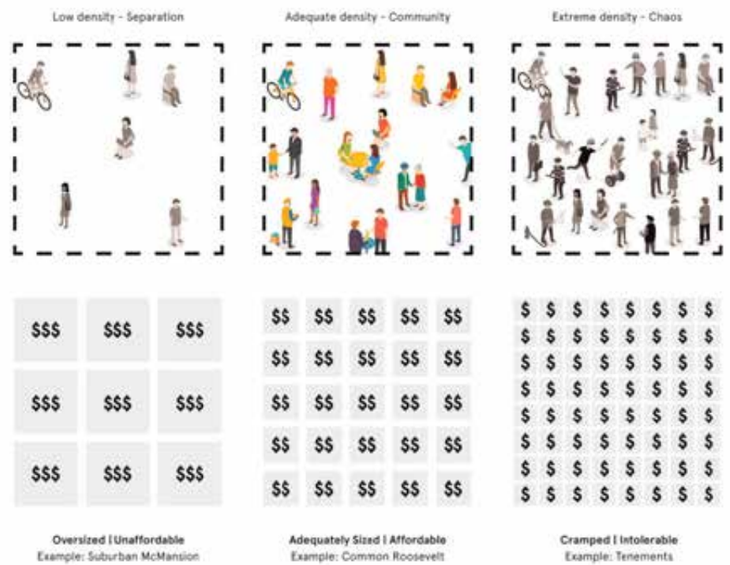


Fig. 0.2 Ideal Communal Living Density

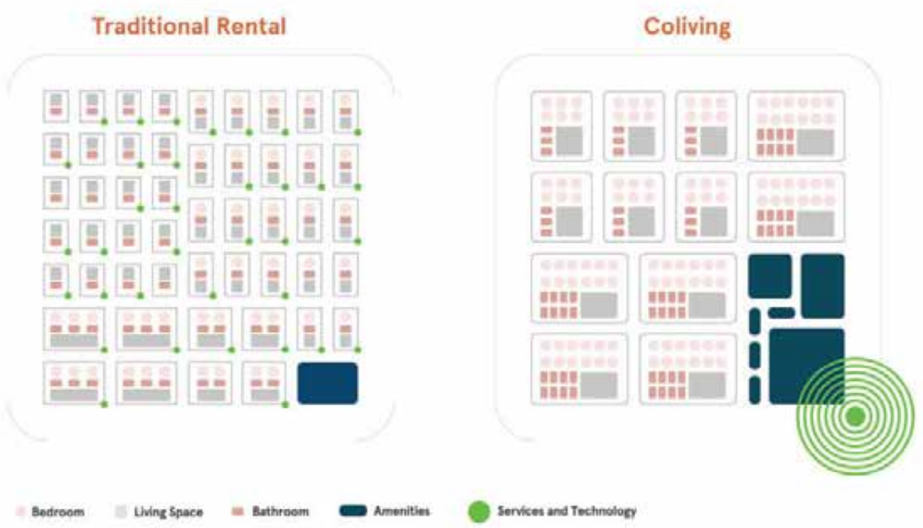


Fig. 0.3 Typical Rental vs Communal Living Model

Methodology

This design will propose a communal living prototype in an urban center dedicated to educating young professionals. First, to understand the need for alternative housing, the first portion of the thesis will examine the Canadian housing crisis and the new socio-demographic dynamics. It is essential to analyze the underlying currents that make housing unaffordable and identify the factors that would potentially drive the investment into alternative forms of accommodation. The investigation would target the formation of the housing crisis in Canada due to low mortgage rates, lack of supply, growing demand, and commodification of housing. Then the thesis will analyze the new dynamics that are brought about by the crisis, such as new family typologies, aging population, immigration influx, and urban loneliness. The next section of the thesis will be an exploration of communal living as a way of living that was the norm for most of history and the nuclear family concept as a historical anomaly. The section will also look at examples of communal living in historical cultures worldwide. The third section will analyze the development of conventional modern communal living typologies and give a complete understanding of the dominant forms. This section will consider the modern communal examples such as cohousing, ecovillages, student housing, housing co-ops, supported living, and communes, all thriving intentional communities. The fourth section is a series of case study analyses of existing communal living typologies worldwide. The analysis of design strategies would help identify what works well and what needs improvement in current communal living models. These factors, such as spatial layout, programming, and density, can be organized and applied to a design strategy that serves the educated young professional population. The following section will be a site analysis of the chosen project site, Vancouver downtown. A thorough sweep of the selected site consists of demographic, programmatic, transportation, and topographic analysis. This will secure all factors that may affect the project's design decisions. The final section of the thesis will be the complete communal living design prototype that is proposed for the chosen site. The design strategies will consider all the lessons learned from the case studies and offer a set of principles that could be replicated in similar situations for similar demographics. The design proposal would address the need for affordable housing options in prime locations for young professionals. The private units are minimal and flexible, changing in usage from day to night and serving the residents' basic needs. The flexible common spaces servicing clusters of residents would accommodate the unique needs of the residents. The public amenities on the project's bottom floors will integrate the project into the existing community and encourage social exchange. The design proposal is here to fill a gap for a sector of the population, and it is not meant to solve the housing crisis. It is an alternative way of living that will serve its purpose for a more sensitive future development.

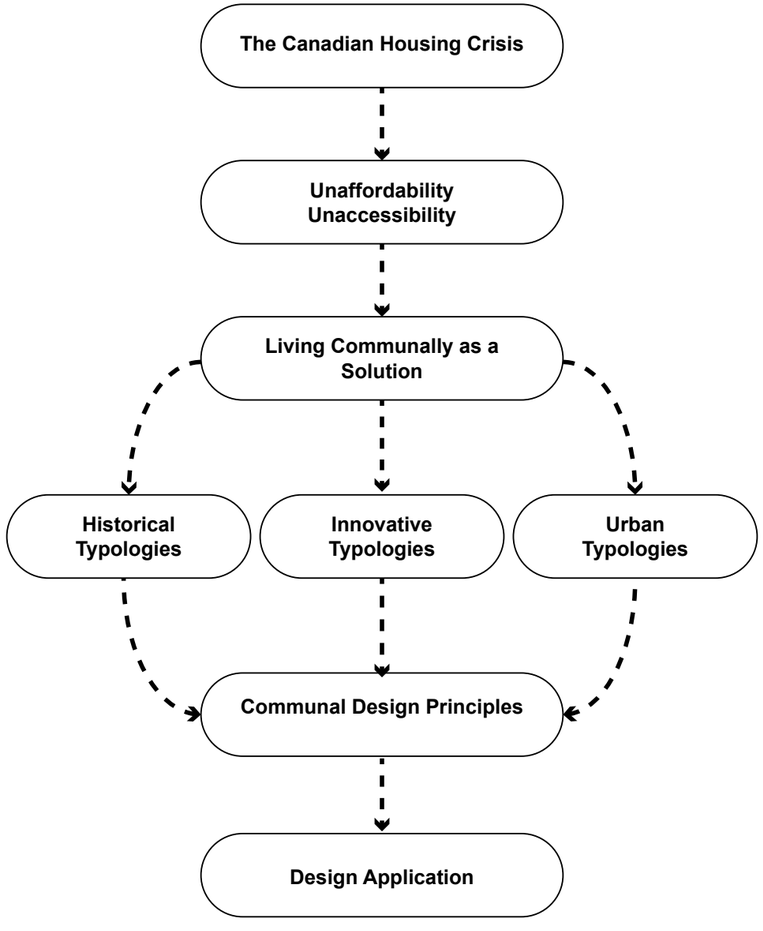


Fig. 0.4 Research Methodology

Endnotes

Blonder, Naama. 2021. “Co-Living Is Currently Illegal in Toronto – What Are We Missing?” STOREYS. July 12, 2021. Accessed May 20, 2022, https://storeys.com/co-living-illegal-toronto-what-are-we-missing/.

Lind, Diana. 2020a. *Brave New Home : Our Future in Smarter, Simpler, Happier Housing*. New York: Bold Type Books.

CHAPTER 1

The Housing Crisis and the Birth of New Dynamics

1.1 A Panoramic View

In all cities around the globe today, the evidence of the housing crisis is prominent. Homelessness steadily rises, people struggle to keep up with the cost of living, displacement, unaffordability, evictions, poverty, and segregation have become a regular part of cities today. Crucial development decisions shaping urban and suburban landscapes are being made in out-of-environment meeting rooms. The existence of a housing crisis is unquestionable; however, there is a lack of understanding as to why this crisis occurs and what to do about it. A dominant view is that the housing crisis is simply a temporary issue that can be resolved through precise measures taken by development experts, such as better construction technology, better urban planning, new management techniques, and building more homes. This observation is only partially correct in that the technical solutions are much needed but what runs deeper is the political-economic problems that have to do with housing. The housing system results from struggles between different groups, and there is a significant conflict between housing as a home and as a real estate, the home as a living social space, or as a tool for profit (Madden and Marcuse 2016).

The current housing crisis in Canada is due to political-economic problems, the critical housing shortage, increased demand through population rises, unprecedented increase in housing prices, the commodification of housing, gentrification, and inequality (Flanagan 2021). In Canada and most of the world, homeownership has always been viewed as a symbol of individual wealth and independence; the idea that one family owns at least one detached house has become a common goal for many individuals struggling in society. However, with this goal drifting further out of reach due to the current housing crisis and high living costs, the younger and older generations face similar struggles. The number of adult populations aged 25 to 64 forced to live with at least one parent has more than doubled, from 5% in 1995 to 9% in 2017. In those populations, around 74% are full-time employed. However, their wages were not sufficient to support these adults in forming an independent households of their own. (Statistics Canada 2019). In order to fully understand the Canadian housing crisis and know what can be done to propose alternative forms to housing, there is a need to look back into how this crisis was formed and what critical factors are in play.

The Crisis Explained

The housing crisis is a term the Liberal, Conservative, and New Democratic Party leaders have used to describe the sharp increases in housing prices, lack of housing options, and homelessness. These issues were once a problem that particularly plagued Canada's larger cities, such as Vancouver and Toronto. Still, it has become more of a national emergency ever since the pandemic hit. Between 2019 and 2021, the average home prices in Canada increased by more than 30% (Canadian Real Estate Association 2021). In addition, the pandemic has witnessed a big problem with the rental market; many low-income renters were affected by job losses in the earlier times of the pandemic and were faced with eviction threats. The quality of low-income rental housing is also a prominent issue. All these factors made many renters feel locked out of homeownership and denied all the delights of having a mainstream, independent household.

So how did Canada's housing crisis come to be? Multiple historical factors have contributed: the Low Mortgage rates that fueled the housing craze, the critical housing shortage, meaning there are not enough affordable homes built for everyone who wants to buy, the population boom, and the aging population that introduced a demand that is not met by supply, The commodification of housing that occurred when some people viewed real estate as an investment rather than a place to live, and housing inequality that gentrifies the population making accessibility to accommodation even harder. All these crucial factors snowballed the Canadian housing market into a downwards spiral.

Low Mortgage Rates

The low mortgage rates are a crucial factor spurring the ever-increasing real estate prices (Drudi 2022). For more than a decade, the mortgage rates for qualified borrowers have been in the single digits, a sharp decrease from the 1980s (Ratehub 2019). The lower interest rate allowed larger mortgages to be taken when people wanted to afford pricier homes. These low-interest rates fuel the housing market, and the high levels of household debt show no sign of slowing down. There was a 0.7 trillion increase in mortgage debt from 1 trillion a decade ago to 1.7 trillion in 2020 (The Bank of Canada 2020). When the pandemic hit, the mortgage rates dropped even lower as Canada tried to stimulate the economy by lowering borrowing costs. There are currently no measures to limit how much people can borrow in terms of debt and how to keep housing more affordable. Homeownership is seen as a symbol of personal wealth in current society, and the low mortgage rates only add to this vision. According to CIBC economist Benjamin Tal, higher interest rates would be necessary to put a damper on the housing craze, and even a slight increase in the interest rates would be sufficient to slow down the market (Tal 2021). It is expected that the current housing craze brought on partially by the pandemic will flatten in the next few years; however, the tight supply and high demand generated by these preceding actions will not be alleviated this way

Housing Shortage

The housing shortage is pointing to the lack of affordable housing supply. The housing crisis in Canada is also a supply chain issue that propels skyrocketing home prices, and there are just not enough houses for everyone who wants to own or rent. As the cities grow, housing prices increase because residences near urban centers are more desirable. Even though increasing efforts exist to provide housing units, not everyone can afford to purchase or rent (Fallis 2022). On the other hand, the Canadian housing market has not kept up with the population growth, which formed an inconsistency in the housing supply chain (Alini 2021). According to the IRCC annual report, 80 percent of Canada's population growth was due to net immigration between 2017 and 2018, and there were nearly 1 million new permanent residents between 2016 and 2019 (Mendicino 2020). The immigration rates

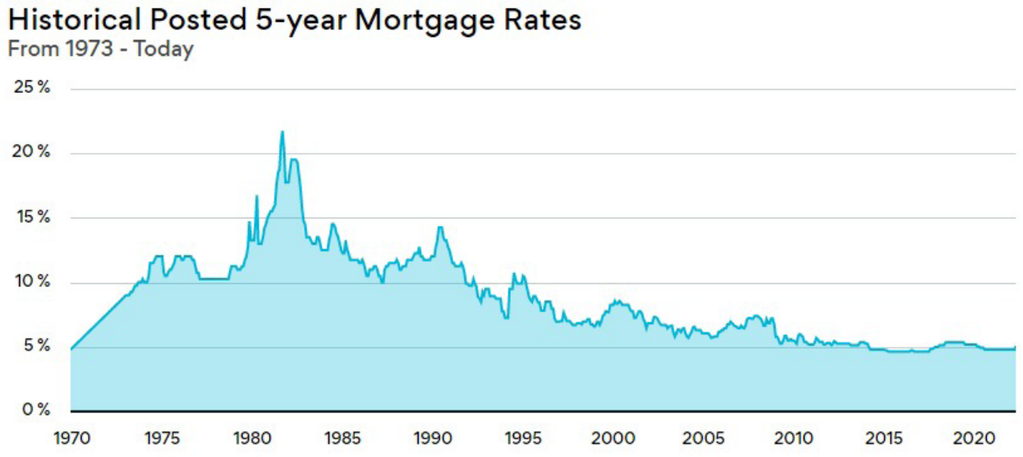


Fig. 1.1 Canadian Historical Mortgage Rate

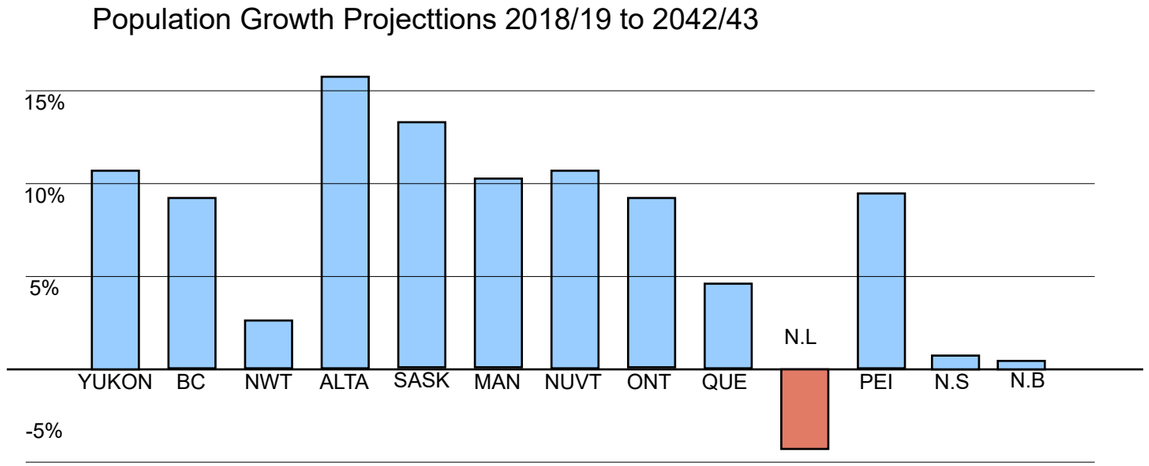


Fig. 1.2 Canadian Population Growth Projections

slowed in 2020 when the national borders closed to limit the pandemic spread; however, the previous increase still fuelled the housing demand. Combined with the low mortgage rates, this housing shortage prompted a rise in housing demand (Thanabalasingam 2021). An acute example of the housing shortage is evident in southern Ontario; the population of the Greater Golden Horseshoe region had an estimated population growth of 780,000 people between 2016 and 2021; however, the region only added around 270,000 new homes in the same five-year period (Hemson Consulting 2020). Housing demand is linked to not only the number of newcomers but also the number of people reaching home-buying ages. The generation of millennials reaching the home purchasing stage also adds to the housing market demand. The rental market supply in Canada has also suffered from shortages; the Canadian national rental vacancy rate was 2 percent in 2019 and only 3.2 percent in 2020 (CMHC 2022). It is a common belief that the rental market shortage was due to rent control policies that make building rental housing less profitable and turn landlords away from spending on upgrades and repairs. The lack of affordable purpose-built rental accommodation is also due to more profitable condominium typologies favorable in high-density developments. Due to the severe housing shortage, prospective buyers and renters are either lowering their expectations and settling for less suitable housing or leaving for a more affordable part of the country; this starts another vicious cycle.

In some cases, the solution to housing demand comes in the form of urban sprawl; build the city out and expand the borders. However, urban sprawl is harmful, cutting into nature's woodlands and farms and consuming massive amounts of natural resources. The expansion of these poorly planned, low-density nuclear home developments that spread over long distances creates segregation between residential and commercial programs (Everything Connects 2014). Another proposal comes in the form of building the city up; redeveloping, densifying, and rebuilding in the inner-city center and limiting the sprawl.

Another aspect of the housing shortage is the lack of housing options that suit various family conditions. Whether Canadians are renting or buying homes, there are not enough of the right kinds of homes, coined as the missing middle issue. The current housing models on the market are split between

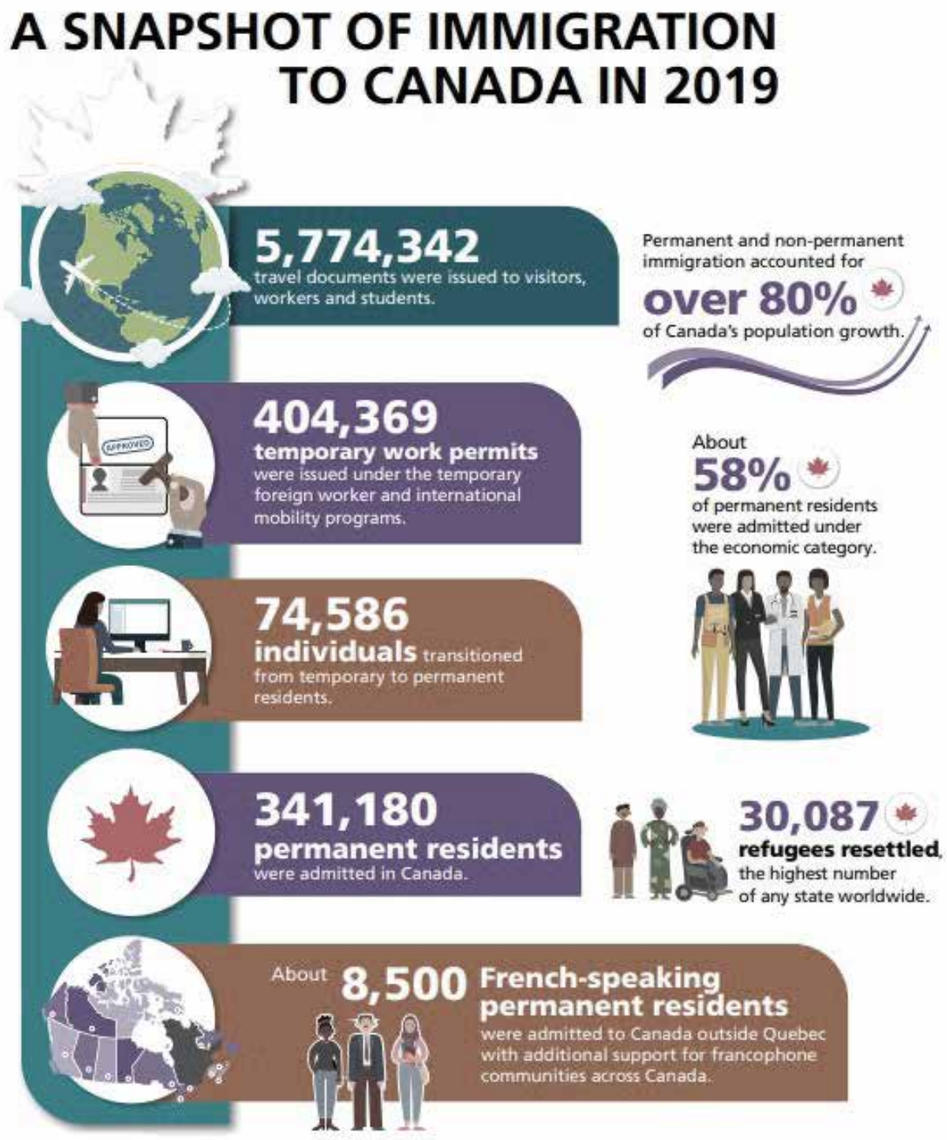


Fig. 1.3 Canadian Immigration Numbers 2019

expensive detached houses and apartments in high-density residential developments with few options available for low to middle-income families that would suit their budget (Canadian Urban Institute 2018). As a result, there is a struggle to broaden housing choices and create alternative forms of housing that would be suitable for different sectors of the population and offer a partial solution to housing inequality.

Rise in Population and Demographic Changes

According to Statistics Canada, the national population numbered just over 38 million at the start of 2021, and it is estimated that the number will hit 46.5 million by 2043 (Government of Canada 2021). The significant additions to Canada's population are not natural growths like babies born into existing households; today, immigration is the main driving force behind Canada's population boom. It is projected that by 2100 Canada will have the world's highest net migration rate (Flanagan 2021), which may bring about economic benefits. Still, it also raises the problem of sheltering these people. The new immigrants are not only settling in larger cities such as Toronto or Vancouver, but they are also making their homes across the country in rural and suburban townships (El-Assal 2020). The combination of the immigrants moving in and the Canadians dealing with unaffordable housing by moving to more rural areas results in a population increase that pressures the housing market and increases the demand. Also, many international students pursuing education in Canada add to the demand for housing; In 2019, Canada issued more than 402,000 study permits. A decent portion of these students settled in Canada permanently due to the accessible applications for long-term residency (Mendicino 2020).

The progressive aging of the population in Canada also creates demand for the housing market. Around the world, there are about 672 million people aged above 65, which is about 9 percent of the total population in 2019. This was a 500 million population increase compared to 1960 when there were around 150 million aging people (FCT 2021). According to the forecast, that number is expected to rise to 2.1 billion by 2050, and there will be a profound imbalance toward older age brackets (United Nations 2019). In Canada, seniors are projected to make up around 24 percent of the population by 2036 and up to 28 percent by 2061 (Statistics Canada 2010). This means there will be a more inactive or retired population

Fig. 1.4 Rental Vacancy Rate

	Newcomers	Population	Newcomer %
Canada total	***341,180***	***37,589,262***	***0.91***
Charlottetown, PEI	1,900	78,568	2.42
Regina, SK	6,140	261,684	2.35
Toronto, ON	117,720	6,471,850	1.82
Saskatoon, SK	5,865	330,674	1.77
Winnipeg, MB	14,745	844,566	1.75
Vancouver, BC	40,020	2,691,351	1.49
Fredericton, NB	1,570	109,883	1.43
Halifax, NS	6,240	440,348	1.42
Calgary, AB	19,625	1,514,723	1.30
Moncton, NB	1,915	155,825	1.23
Edmonton, AB	16,420	1,447,143	1.13
Ottawa – Gatineau, ON Side	10,930	1,095,134	1.00
Windsor, ON	2,990	354,917	0.84
Montreal, QC	34,620	4,318,505	0.80
Saint John, NB	1,035	131,025	0.79
Kitchener – Cambridge – Waterloo, ON	4,585	584,259	0.78
St. John's, NL	1,290	212,433	0.61

Fig. 1.5 Newcomers Per City 2019

every year, and around 42 percent of the aging population live alone or in insufficient accommodations. In addition, the aging population used to often find themselves looking to downsize once they retire and their children move out, but this has become a difficult thing to achieve due to rising housing prices and their children moving back in with them due to struggles to find proper housing of their own. As a result, there is more reason for the aging population to hang on to their current property and delays the timeframe in which some homes are released into the real estate market, shortening the housing supply. Unfortunately, there is a lack of suitable residences that are catered to the needs of the elderly, and there is a gap in the typologies that needs to be closed by introducing more alternative accessible housing (FCT 2021).

Housing as Commodity

When the economic value of housing comes to outweigh all its other uses, the commodification of housing happens; the housing is treated as a vessel for wealth and investment rather than a social good. Housing is commonly viewed as an object with both functional and monetary values; however, a problem occurs when the housing's usefulness as a place to live is taken over by its function as real estate. When this happens, the investment value of housing outweighs all other claims such as need, right, tradition, ethics, and culture. Owning and renting out a second real-estate property as a source of income is nothing new, and in 2021 investors are responsible for 20 percent of property purchases in Canada (Macklem 2021). There is a worldwide conflict between those who view housing as their home and those who wish to exploit housing for profit. This is a significant reason behind today's sky-rocketing real-estate prices on the Canadian market (Madden and Marcuse 2016).

As a rule of thumb, The Royal Bank of Canada stated that acceptable housing costs are no more than 20 percent to 32 percent of a family's annual income should be going towards mortgage expenses, and the total value a household spends on a home should be around 2.5 times the annual income (RBC 2020). The growth in housing costs has far surpassed the growth in average income levels. There are very few places in Canada where this kind of expense is enough to purchase a home, and certainly not in major cities like Toronto or Vancouver. In April 2020, the average price of a home in Canada was 488,000 dollars, going up to 736,000 in

Canadian Cities Average House Prices April 2020

City	Average House Price	12 Month Change
Vancouver, BC	$1,036,000	+ 2.63 %
Toronto, Ont	$870,000	+10.2 %
Ottawa, Ont	$479,000	+ 15.4 %
Calgary, Alb	$410,000	– 1.5 %
Montreal, Que	$435,000	+ 9.3 %
Halifax, NS	$331,000	+ 3.6 %
Regina, Sask	$254,000	– 3.9 %
Fredericton, NB	$198,000	– 4.3 %

Fig. 1.6 Average Housing Price per City 2020

Canadian Provinces Average House Prices April 2020

Province	Average House Price	12 Month Change
British Columbia	$736,000	+ 7.6 %
Ontario	$594,000	– 3.2 %
Alberta	$353,000	– 7.5 %
Quebec	$340,000	+ 7.6 %
Manitoba	$295,000	– 1.4 %
Saskatchewan	$271,000	– 3.8 %
Nova Scotia	$266,000	+ 3.5 %
Prince Edward Island	$243,000	+ 3.0 %
Newfoundland / Labrador	$236,000	– 1.6 %
New Brunswick	$183,000	– 2.2 %
Canadian Average	$488,000	– 1.3 %

Fig. 1.7 Average Housing Price per Province 2020

provinces like BC (Canadian Real estate Association 2020). Even though Canadian wages have been increasing in the past years, hitting a 29.61 average hourly wage in 2020, this translates into about 61,796 annual wages for a full-time worker (Statistics Canada 2021). Theoretically, according to previous statements, if this was a couple earning about average wages trying to purchase a home, they should be spending about 284,261 dollars on a home. The current housing market is unaffordable for most people earning the average salary. The housing prices are also driven up by real-estate investors that pump money into the market. In the case of Vancouver, the average home price went from 369,000 dollars in 2001 to 1.036 million dollars in 2020 (Taylor 2022).

Due to the high expenses of purchasing a home, many people choose to turn to the rental option. This, in turn, drove up demand in the rental market and created more affordability issues by ramping up rental prices. In July 2022, the average rental price for a two-bedroom apartment in Vancouver was 3597 dollars, a 19 percent increase from 2021, and for Toronto was 3115 dollars, a 17.5 percent increase from 2021 (Rentals.ca 2022). Even with the rental market being in demand, there is still a critical shortage of rental structures because they are less profitable to investors. Without proper affordable housing, some people could only either delay their departure from their parental homes or become homeless.

Housing Inequality

Access to housing is more difficult for people lacking intergenerational wealth; these people tend to be racialized, marginalized, and gentrified. Canada's housing policy shifted from welfare-oriented to market-oriented in the past few years. Until the 1980s, Canada's housing policy involved strong pushes in the social housing supply financed and managed by the government. When the 1990s came around, the regime changed so that the housing supply was mainly supported by the private sector rather than the government. The social housing support became core-need targeted to help people with special needs and turned away from those needing affordable housing to the private sector market to compete with others. In the 2000s, the introduction of Bill C-66 turned the Canada Mortgage and Housing Corporation (CMHC) into an insuring mortgage corporation from a home builder corporation. This act encouraged the channeling of wealth into real-estate

RANK*	CITY / AREA	1 BED	M/M	Y/Y	2 BED	M/M	Y/Y
1	Vancouver, BC	$2,412	1.47%	19.17%	$3,597	2.92%	26.48%
2	Toronto, ON	$2,192	2.77%	18.49%	$3,115	3.76%	23.37%
3	Richmond, BC	$2,144	0.19%	21.89%	$2,703	4.44%	23.88%
4	Oakville, ON	$2,073	3.08%	9.57%	$2,467	0.90%	2.45%
5	Burnaby, BC	$2,049	1.84%	NA	$2,717	2.72%	20.06%
6	Burlington, ON	$2,030	2.63%	12.90%	$2,366	1.50%	13.70%
7	Guelph, ON	$1,996	2.36%	18.95%	$2,271	5.33%	15.99%
8	Cambridge, ON	$1,870	6.25%	22.06%	$2,315	-2.85%	-3.22%
9	New Westminster, BC	$1,868	2.47%	17.34%	$2,192	3.94%	2.81%
10	Mississauga, ON	$1,831	-1.29%	5.11%	$2,396	5.00%	14.42%
11	Kitchener, ON	$1,825	-0.76%	20.70%	$2,115	-2.94%	21.55%
12	Victoria, BC	$1,803	-3.58%	10.41%	$2,823	-2.52%	NA
13	London, ON	$1,744	3.93%	NA	$2,059	1.78%	28.05%
14	Barrie, ON	$1,731	3.47%	-0.57%	$2,405	-1.07%	26.45%
15	Vaughan, ON	$1,728	0.47%	15.97%	$2,216	-0.45%	3.36%
16	Halifax, NS	$1,712	2.58%	11.90%	$2,146	5.35%	8.38%

Fig. 1.8 National Rent Averages 2022

markets and promoted housing demand (Zhu 2022). These policies increase housing equality in Canada; the gaps between housing become more expansive with the growth of residential mortgage debt. To find accommodation, 9.4 million Canadians live in below-standard housing, residences that are overcrowded, unaffordable, and require significant upgrades (Public Health Agency of Canada 2019). All signs show that income levels determine the gap in accessing affordable housing. The reduced government support for social housing makes the housing supply more favorable for those with more income. The low to middle-income people are the most brutal hit and are faced with reduced housing supply. The younger prospective homeowners have easier access to mortgage loans but are burdened with slow income improvement, limiting their options. For different gender, racial, and immigrant groups, there is also significant housing inequality impacting the low to middle-income levels within these groups. This points to the systematic barriers that are in place against low-income minority-led households. These issues do not exist within the more established and well-paid portions of the minority group, hence the need for the housing market to address the lack of affordable and accessible housing for low- to middle-income households.

The National Housing Strategy

Launched in 2017, the NHS was introduced as a re-engagement of the federal government on the issue of housing after the cancellation of the co-operative housing program in 1992. The starting point was a commitment of 75 billion to support existing social housing and support of the homeless population. Though little is being done to introduce a new stock of affordable housing, in fact, the NHS is supporting the commodification of housing by emphasizing low-interest mortgages for private developers to build market rental housing (Lee 2022).

Table 1: NHS expenditures ($million) and unit count as of Sep 2021

	Loan	Grant	Total funded amount	Number of units	Number of "affordable" units
National Housing Co-Investment Fund	$ 649.4	$ 221.5	$ 870.9	21,423	3,434
New construction	$ 640.8	$ 215.1	$ 855.8	6,886	3,193
Repairs	$ 8.6	$ 6.4	$ 15.1	14,537	241
Rental Construction Financing Initiative	$ 3,918.6	$ -	$ 3,918.6	14,773	9,546
Indigenous	$ 94.4	$ -	$ 94.4	196	85
Non-profit	$ 361.3	$ 7.9	$ 369.1	1,639	1,226
For-profit	$ 3,462.9	$ -	$ 3,462.9	12,938	8,235
Rapid Housing Initiative	$ 844.7	$ 140.5	$ 985.2	4,503	4,503
Innovation Fund	$ -	$ -	$ 157.8	14,745	0
Federal Lands Initiative	$ -	$ 0.6	$ 0.6	14	14
Total	**$ 5,412.7**	**$ 362.6**	**$ 5,933.1**	**55,458**	**17,497**

Fig. 1.9 National Housing Strategy Funding Stream

The funding from the NHS as of 2021 has mainly gone to 5 areas:

1. The National Housing Co-Investment Fund (NHCI), which supports the non-market housing sector with non-profit organizations and the government granting funding for new constructions and repairs of existing housing. The total funded amount stands at 870.9 million dollars.

2. The rental Construction Financing Initiative (RCFI), this section supports new market rental housing being built. Specifically constructing for Indigenous people, non-profit, and for-profit real estate sectors. The total funded amount stands at 3918.6 million dollars.

3. The Rapid Housing Initiative (RHI), which was a newly added initiative to the NHS that deals with the fast acquisition of social and affordable housing. Born out of the pandemic, this initiative was used to convert hotels into housing shelters for people in need during the outbreak. The total funded amount stands at 985.2 million dollars.

4. The Affordable Housing Innovation Fund is used to develop alternative affordable housing models that have innovative approaches and business models. The total funded amount stands at 157.8 million dollars.

5. The Federal Land Initiative aimed to create housing units by transferring surplus federal land into the housing market at an affordable cost. Unfortunately, the minimal outcome has been taken out of this funding which stands at 0.6 million dollars (Government of Canada 2019).

While all this funding seems to be directed toward solving the housing crisis in Canada, there are areas that are severely lacking. For the NHCI, most of the non-market units were repaired and renovated instead of newly constructed. Most of the funding from NHS is in the form of loans, not grants; 75 percent of NHCI is in loans, and all of RCFI is in loans, with around 75 percent of projects being for-profit developers, which takes the majority over the indigenous and non-profit developments. Only 363 million dollars went to constructing new affordable housing, and 29 percent of these went to the Rapid Housing Initiative, which only started in 2020. All these numbers indicate a stray from the original purpose of the National Housing Strategy to solve the housing affordability crisis. The RCFI was criticized for making it difficult for non-profit developers to access the loans and favoring for-profit developers that built more expensive rental structures (Lee 2022).

The issue lies with the idea of affordability, the National Housing Co-Investment Fund (NHCI) only requires 20 percent of the units to be offered at 80 percent of median rent prices, and there is no reward for providing more affordable units. The Rental Construction Financing Initiative (RCFI) only requires 20 percent of the units to be offered at less than 30 percent of median family income. This makes it clear that the funding programs are more geared toward middle-class people than those in dire need of affordable housing. The NHS programs are still very much dedicated to making a profit rather than viewing housing as a necessity and a right.

1.2 New Dynamics, the sociological and demographic Changes

The unstable housing market is the result of an unstable economy, and out of these disturbances, new dynamics are born that affect society's social and demographic structures. Although all these factors are interrelated and interferential, the birth of these new dynamics calls for alternative typologies of housing that would be suitable for different groups.

Aging Population

One of the biggest in the socio-demographic sphere is the progressive aging of the population. As an estimate, the Canadian Institute of Health Information said that by 2037 the senior population of Canada, those aged 65 and above, will grow by 68 percent. Between 1977 and 1997, the senior population has grown from 2 million to 3.5 million, and over the past 40 years, the population has more than tripled in size. In 2017 the number sat at 6.2 million, and the population is projected to reach 10.4 million in 2037 (CIHI 2018). The working people of Canada are also aging rapidly; the baby boomers born between 1946 and 1965 remain the largest population group in Canada. With every passing year, there will be more people at retirement than at the active working age; this will profoundly affect the work system (Statistics Canada 2006). In addition, there is currently more senior population than the number of children under the age of 15 in Canada. This phenomenon was first observed in the 2006 census; the gap has grown to just over a million people in 2021 (Zimonjic 2022). The aging population will profoundly affect the workforce of Canada. However, it will also have significant social repercussions, 24.6 percent of the senior population aged over 65 years live alone, and for those 85 and older, 36.6% of women live alone, and 21.8% of men live alone (Comfort Life 2018). The seniors are vulnerable and would need assistance in their daily lives, but with the current work environment, they may not have children or spouses to help take care of them.

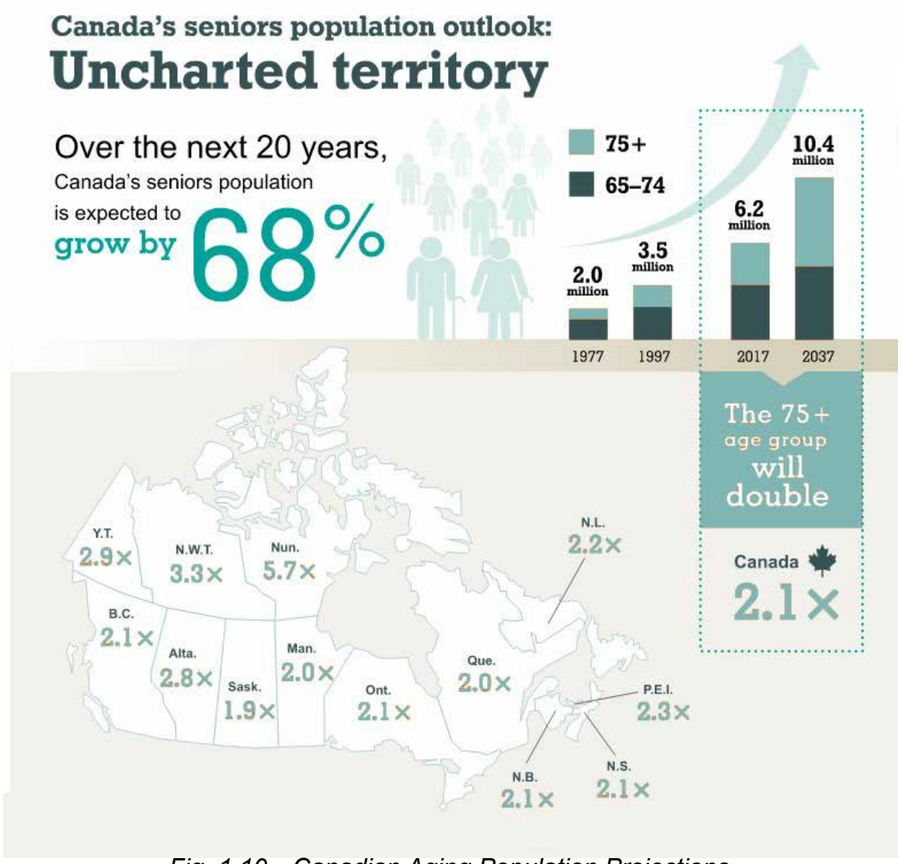


Fig. 1.10 Canadian Aging Population Projections

Fig. 1.11 Seniors Living Alone

New Families

People have fewer children than before, which also contributes to the aging population. The number of births in Canada was at a 15-year low during the pandemic, with only 358,604 births in 2020, 13,434 fewer than in 2019, indicating a 3.6 percent decrease. This decrease was a steady downward trend worldwide, with childbirth rates declining. Even before the pandemic, the number of births in Canada has been falling over the past years. Between 2016 and 2021, the number of Canadians under the age of 15 grew 6 times slower than the 65-plus senior population. The number of children under the age of 5 fell 3.6 percent from 1.9 million in 2016 to 1.83 million in 2021. It is projected that by 2051, there will be 4.6 million more seniors than children under the age of 15 (Zimonjic 2022). This situation is also accompanied by the increased age of entering parenthood if younger couples choose to have children at all. The younger workforce generation is more concerned about finances, housing, and job losses rather than growing their family (Boynton and Lao 2021). During the 1960s, women had their first children in their early to mid-20s, but now they tend to wait until their late 20s to 30s. The families now usually have 1 to 2 children maximum, with some families that struggle financially deciding not to have any children. As of 2016, only 51 percent of couples live with children, and the number of childless couples has grown. The increased educational levels in the younger generation also posed barriers to having children because they do not want to waste their learned degrees, and they are more preoccupied with earning money.

These factors significantly impacted family arrangements and gave way to more family typologies other than the current mainstream nuclear family arrangement. People are getting married later in life; there are more approaches to living and more individualistic ways of personal growth than just settling for a familiar typology. Divorce and separation are common nowadays, with divorced couples starting new families with or without their children, forming a new family unit. The nuclear family model that is consisted of the couple and their children that is the norm may no longer be the Canadian mainstream. In data provided by the government, there are many more mainstream family typologies; the private households can be divided into non-census and census families. The census family households consisted of couples with children, couples without children, single-parent families, multigenerational

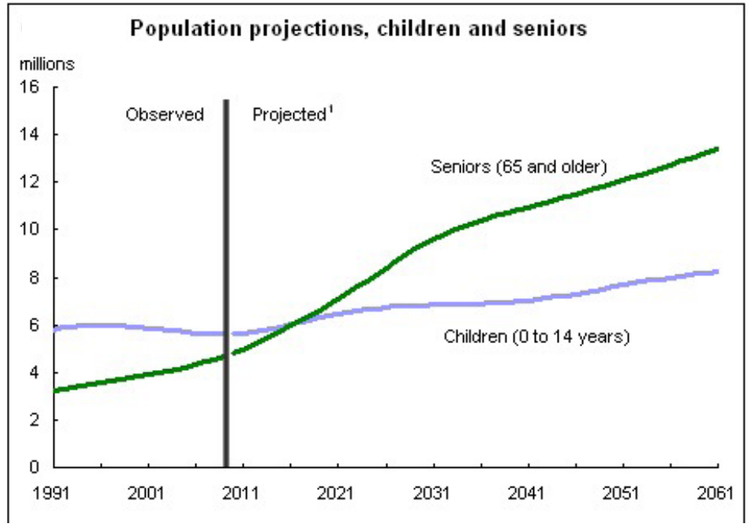


Fig. 1.12 Children vs Seniors Population Projections

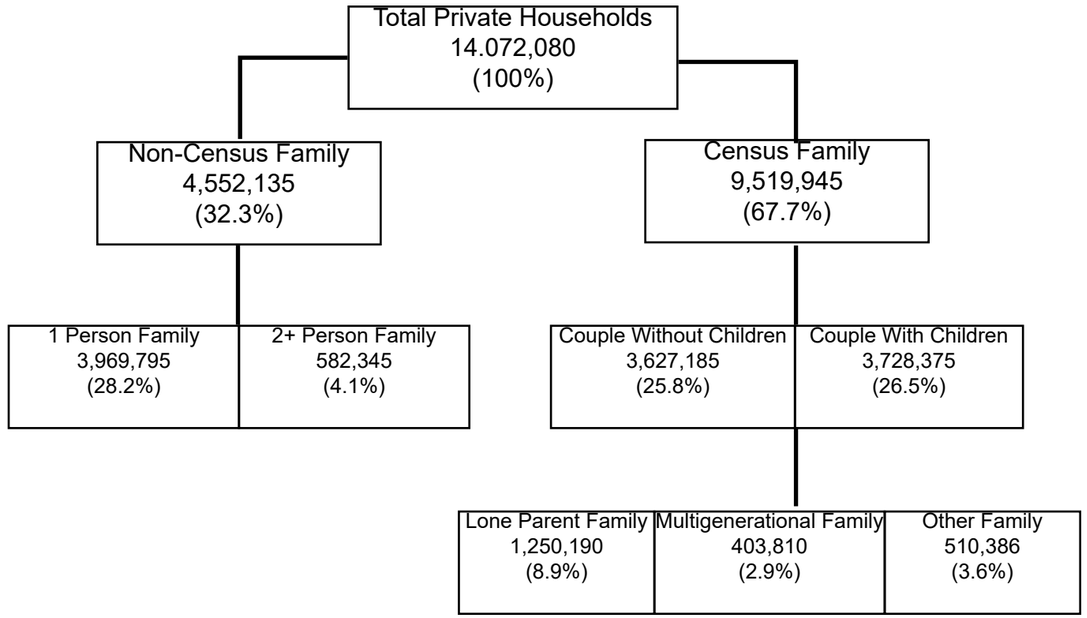


Fig. 1.13 Canadian Household Census 2016

households, and other family households. The non-census families have consisted of single-person households and group living arrangements such as roommates or siblings living together (Government of Canada 2017). Also, the legalization of same-sex marriage in Canada all leads to an increase in family typologies, with some of these households particularly vulnerable regarding finance, housing, and time management. There are higher social risks involved with these new family types, and the residences intended for stabilized nuclear households are not affordable and accessible for these groups.

Longer Transition into Independence

The more extended transition into adulthood for the younger generation is strictly connected to the evolution of family typologies. The housing crisis made it very hard for young adults to afford their own homes without the help of their parents. For many years the number of young adults living with at least one parent has been on the increase; between 2001 and 2016, the portion of young adults between the age of 20 and 34 who lived with at least one parent increased from 30.6 percent to 34.7 percent. Other countries are observing similar trends, with 34.1 percent of young adults living with at least one parent in 2016 and 48 percent in the European Union (Statistics Canada 2017). It is prevalent for young adults to stay with their families until they can be financially independent and afford household expenses. Proportionally, fewer young adults form their own families due to the delayed age of marriage. The sector of young adults living with their own family without their parents dropped from 49.1 percent in 2001 to 41.9 percent in 2016. Other living arrangements are also on the rise; besides staying with parents or forming their own nuclear family, many young adults nowadays live alone, with roommates, or with other relatives (Statistics Canada 2017). The extended transition can be attributed to a few reasons: the housing crisis, the labor market, continuing education, and social policies that make it very hard for independence. The essential steps to adulthood, which are buying a house, starting a family, and finding a stable job, are considerably harder today. More effort must be put into lessening the stress of this transition progress for young adults. One part can be making alternative forms of living available to those moving into society.

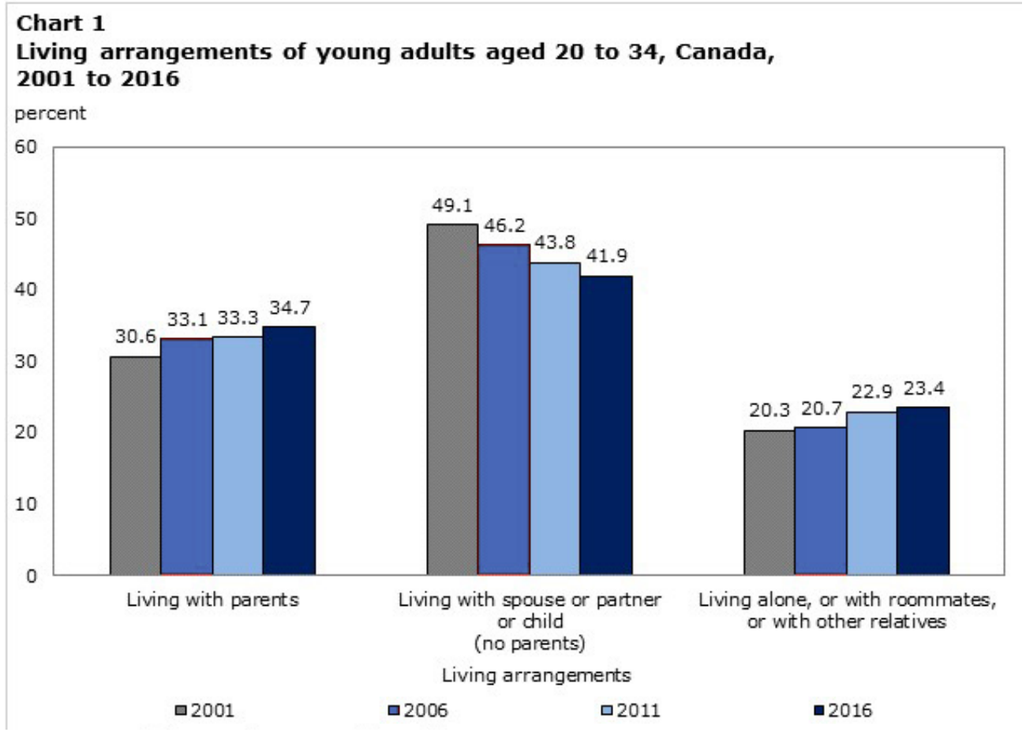


Fig. 1.14 Living Arrangements of Young Adults

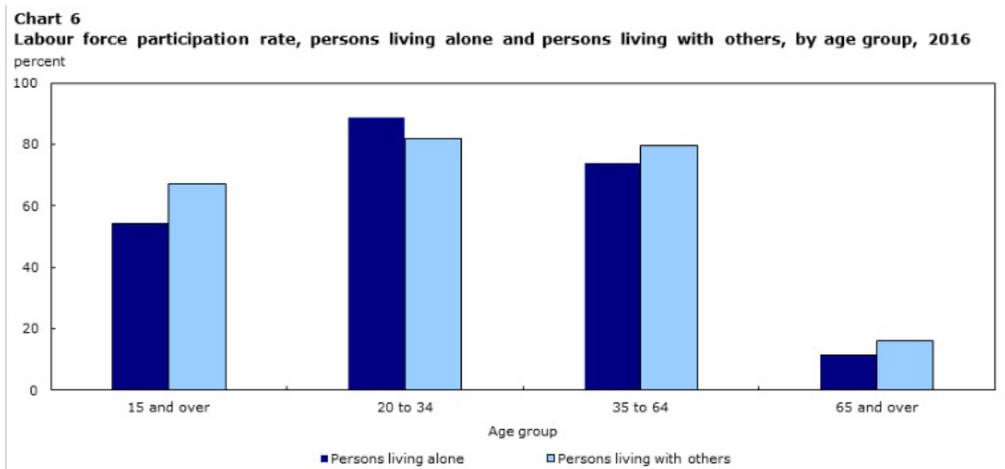


Fig. 1.15 Persons Living Alone and Living with Others by Age Group

Migratory Influx

Canada is dependent on immigration to fuel economic growth and the job market. This phenomenon has workers and investors moving from country to country in search of jobs, bringing them new dynamics and different levels of integration. All Canadians except the Indigenous people came from somewhere else; it is a crucial part of Canada's history. In recent years to support economic recovery from the pandemic, the government has set a target of 401,000 new permanent residents in 2021 and 411,000 new immigrants in 2022 as a part of a 3-year immigration plan. The pandemic saw the launch of new programs to secure essential workers, healthcare professionals, refugees, international students, family reunions, and other recent immigrants as a new population into Canada. Canada relies on immigration to support the economy, workforce, and aging population. As of 2021, 1 in 3 businesses is owned by immigrants, and 1 in 4 healthcare workers is an immigrant. The new Canadians are introduced to create jobs, spur innovation, and fill labor gaps (Immigration 2021). However, this strategy is a double-edged sword because the influx of the immigrant population only adds to the stress of the housing market crisis by introducing new investors and the demand population.

With the pandemic triggering early retirement new immigrant population has become more critical than ever; Canada has also been targeting high-skilled immigrants who can earn more money and compete in the Canadian housing market for desirable housing. With this new influx in demand, housing prices are driven up again. According to statistics in Canada, the capable new immigrants all tend to purchase homes in large urban centers such as Greater Toronto and Vancouver areas. These are the cities where the home prices are driven up above millions, and the population increase only exacerbates the price rise. Nothing could be done for the migratory influx since Canada relies on the new incoming population to drive the economy and fill up the job market, so efforts should be made in the housing market area to respond to this new demand (Scherer and Gordon 2021).

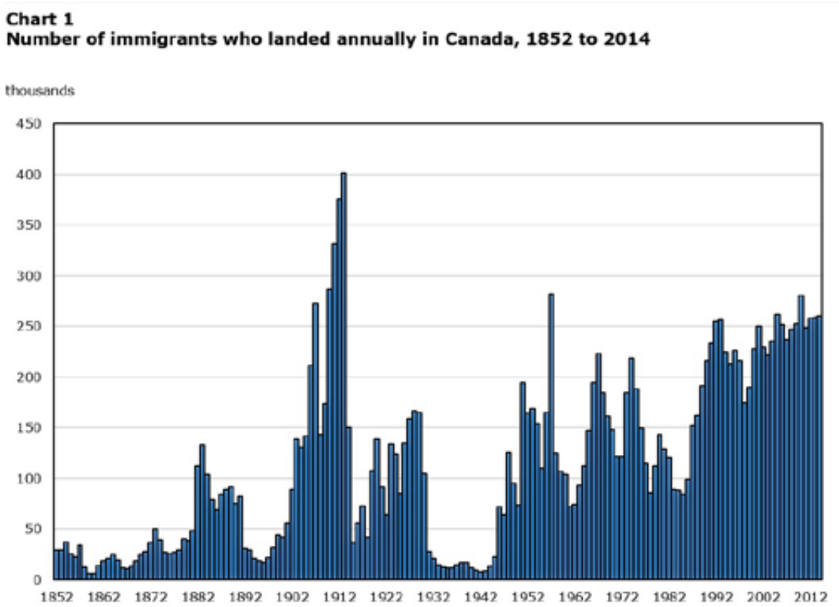


Fig. 1.16 New Immigrant Population 1852-2014

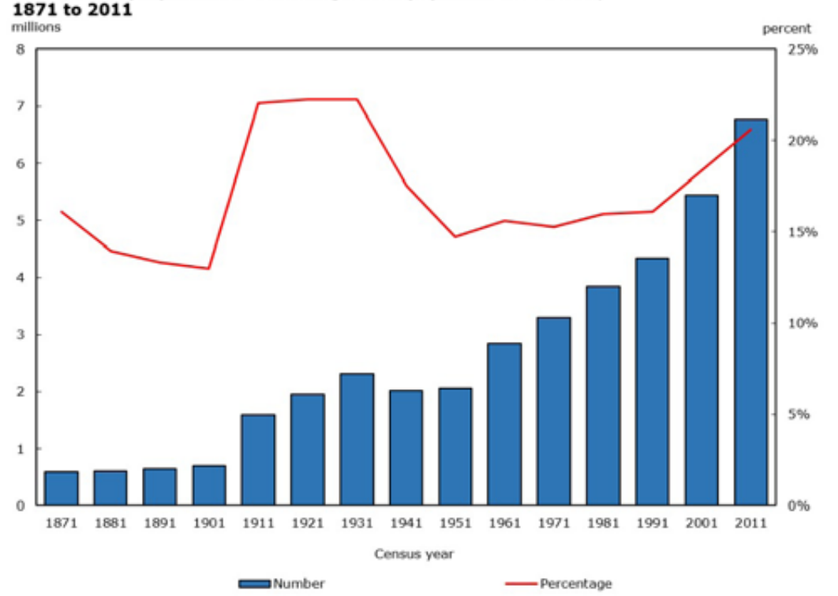


Fig. 1.17 New Foreign Population 1852-2014

Urban Loneliness

A relatively newer concept that affects people today is urban loneliness, which is explained as feeling isolated while living within a larger urban context. The housing market continues to promote nuclear-detached living as the mainstream typology; the idea of owning a single residence with only their partner and immediate children is the by-product of historical and modern economic development. With this fact ingrained in people's minds, even though the cities are becoming denser and technology shortened the distance between people, the emotional distance between the population continues to grow (CBC Radio 2019). Urban loneliness is a virtual pandemic with social, financial, and psychological consequences. In 2016 single-person households were the most common household type, and similar trends have been observed worldwide. Over the past 35 years, the number of people living alone in Canada has more than doubled from 1.7 million in 1981 to 4.0 million recorded in 2016. The increased popularity of living alone has increased demand for smaller, more affordable housing like apartments. According to statistic Canada, young adults that lived alone in 2016 were more likely to have a higher education qualification than their counterparts in the same age group living with others. Particularly for young females, with 77 percent of solo dwellers holding diplomas compared to 67 percent of those who lived with others. Young adults living alone also had higher labor force participation rates than those in the same age group living with others (Galbraith, Truong, and Tang 2019).

People who live alone would have to manage all their expenses on a single income which makes housing costs quite stressful. For the younger working population living alone, around 48 percent of them had housing costs considered unaffordable, meaning more than 30 percent of their monthly income. This situation is attributed to the fact that young adults tend to live in more urban areas where housing costs are significantly higher. People living alone are more likely to live in apartment buildings than single-detached houses, especially the younger generation. They also have a lower homeownership rate, preferring renting to buying due to financial stresses. Apartments tend to be a more economical choice for people living alone due to smaller living quarters and lower prices for locations desirable for work. These characteristics made condominiums popular among young adults. However, the design of these large apartment blocks within urban centers

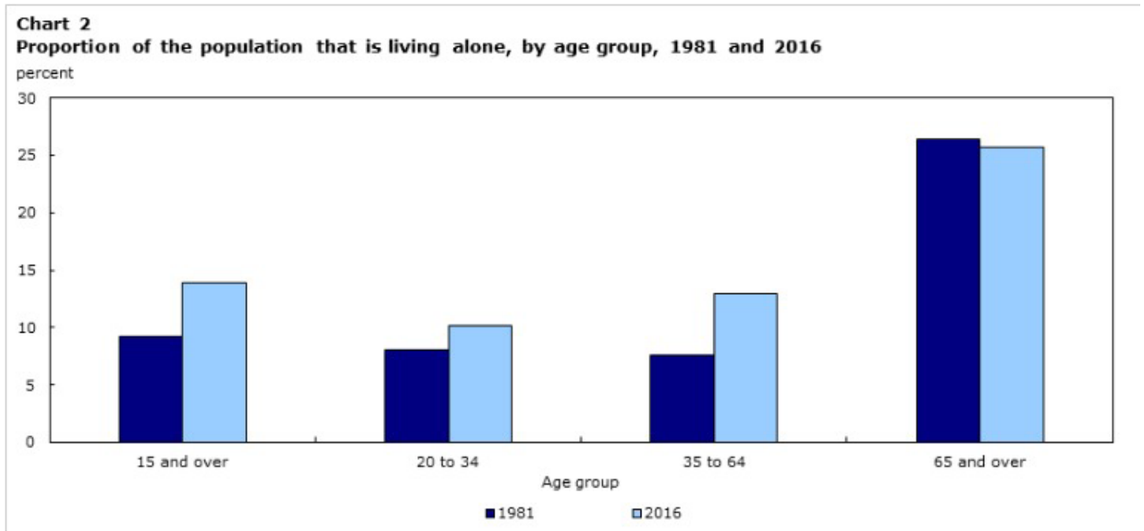


Fig. 1.18 People Living Alone by Age Group

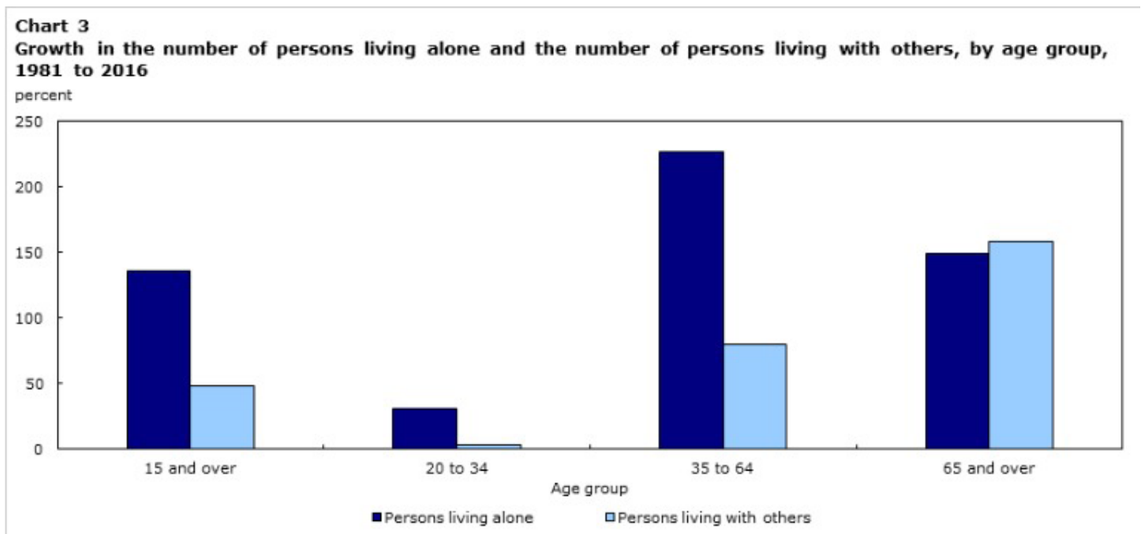


Fig. 1.19 Growth in People Living Alone and Living with Others by age Group

contributes significantly to the pandemic of urban loneliness. Many people go on for years without forming connections with their neighbors, and it is challenging to expand social circles. Urban loneliness is also attributed to immigration, and it is very easy to feel ungrounded when arriving in a new country. The transiency of the urban population makes it hard to form a solid social group due to people moving around all the time. Technology allows people to stay connected over long distances and prevents interaction within the surrounding community. Familiarity drives people to keep in contact with those they know well, and technology promotes out-of-reach superficial connections to other people. The financial stresses and poor work-life balance within urban centers drive everyone into a race for money and success without leeway for socialization. The human race is not adapted to living in isolated environments; humans are intrinsically social creatures who have, for most of history, resided in communal living arrangements (Galbraith, Truong, and Tang 2019). The artificial nuclear family arrangement is a historical anomaly that only appeared in the past few centuries, which is why a growing population is seeking creative alternatives to living that could alleviate urban loneliness.

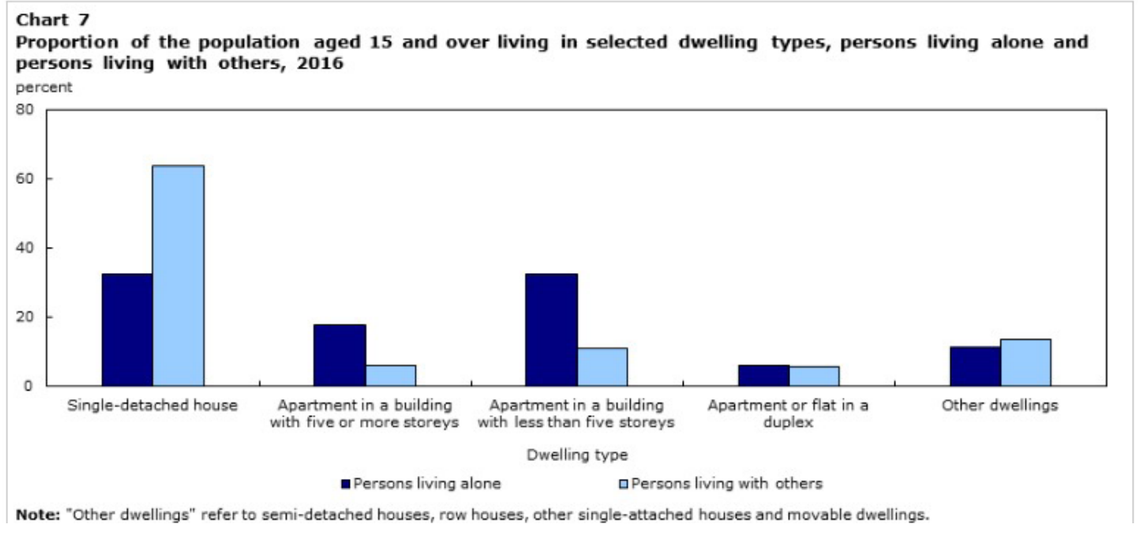


Fig. 1.20 Proportion of Population age 15 and over Living in Selected Typologies

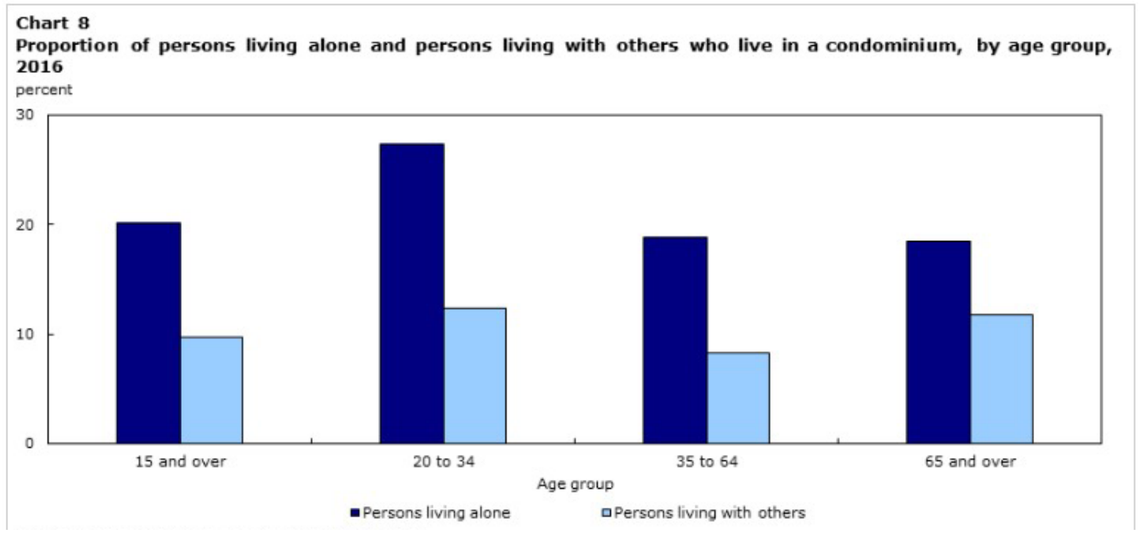


Fig. 1.21 Proportion of people living Alone vs in a Condominium by Age Group

The Need for Alternatives

Significant changes and shifts characterize the modern world today and, with these new dynamics, bring about the need for alternatives. This need is evident not only in the housing market but also in other socio-demographic sectors, including the healthcare, welfare, and educational systems. Within the housing market, the unaffordability. Inaccessibility and shortage of suitable residences call for a range of innovative urban housing solutions that can be both profitable and affordable. The evolvement of alternate family typologies, financial conditions, work situations, and other factors require residences outside the typical single-detached housing or condominium apartment typologies. There is a need for an alternative housing typology that provides some transitioning process between a young professional's graduation phase and when they are financially capable of affording their own house.

The critical affordable housing crisis within Canada's most dynamic cities makes it difficult for the educated younger working population to find proper housing and develop within their area of expertise without stress. Many younger professionals are stifled by the weight of financial stresses and the issue of finding housing closer to work environments. Suitable housing within the urban centers is commodified and impossible to afford, while more affordable housing is in undesirable locations and lacks a developmental atmosphere. An alternative housing solution for these young professionals can come in the form of a centrically located rental co-living apartment targeted toward low-to-middle-income groups who cannot afford their own homes in an urban center yet. The building would provide suitable living environments for the tenants and promote the surrounding neighborhood's development. There can be a positive solution to urban loneliness within a communal living atmosphere, a great work environment, and chances to expand social networks. This alternative urban housing solution could alleviate some of the housing market crisis for young professionals. This new model would offer a combination of communal and private resources designed to promote social interaction and alleviate financial stress in an urban city center. Hopefully, this urban communal living model could become a step in the right direction to make housing stresses easier for parts of the population.

Endnotes

Alini, Erica. 2021. “Cheap Money, Shortages, Investors and Crime: The Making of Canada’s Housing Crisis.” Global News, August 25, 2021. https://globalnews.ca/news/8133853/canada-election-housing-crisis-explained/.

Boynton, Sean, and David Lao. 2021. “The Number of Births in Canada Has Fallen to a 15-Year Low amid COVID-19 Pandemic - National | Globalnews.ca.” Global News. October 2, 2021. Accessed March 20, 2022, https://globalnews.ca/news/8235350/covid-declining-birth-rate-canada/.

Canadian Real estate Association. 2020. “Canadian House Prices – Living in Canada.” Www.livingin-Canada.com. May 2020. Accessed May 20, 2022, https://www.livingin-canada.com/house-prices-canada.html.

Canadian Urban Institute. 2018. “What Is the Missing Middle? A Toronto Housing Challenge Demystified CONTENT.” Accessed February 08, 2022, https://canurb.org//wp-content/uploads/CUIPublication.What_is_the_Missing_Middle_Evergreen_CUI_s2.2018.pd_.pdf.

CBC Radio. 2019. “Lonely Together: The Plight of Urban Isolation | CBC Radio.” CBC. November 7, 2019. Accessed May 20, 2022, https://www.cbc.ca/radio/ideas/lonely-together-the-plight-of-urban-isolation-1.5057995#:~:text=Urban%20loneliness%20is%20a%20virtual%20pandemic.

CIHI. 2018. “Infographic: Canada’s Seniors Population Outlook: Uncharted Territory | CIHI.” Www.cihi.ca. 2018. Accessed May 20, 2022, https://www.cihi.ca/en/infographic-canadas-seniors-population-outlook-uncharted-territory#:~:text=Over%20the%20next%2020%20years.

CMHC. 2022. “RENTAL MARKET REPORT.” https://assets.cmhc-schl.gc.ca/sites/cmhc/professional/housing-markets-data-and-research/market-reports/rental-market-report/rental-market-report-2021-en.pdf?rev=a5a0eaac-6f70-4058-8aa3-e6d307685910.

Comfort Life. 2018. “Our Aging Population: Statistics.” Www.comfortlife.ca. 2018. Accessed May 12, 2022, https://www.comfortlife.ca/retirement-communities/our-aging-population-statistics#:~:text=Many%20older%20people%20live%20alone.

Drudi, Cassandra. 2022. “Canada’s Housing Market Is Breaking Records at an Alarming Rate.” Cpacanada.ca. February 16, 2022. Accessed April 20, 2022,https://www.cpacanada.ca/en/news/pivot-magazine/2022-02-16-housing-market.

El-Assal, Kareem. 2020. “Which Cities in Canada Attract the Most Immigrants? | Canada Immigration News.” Www.cicnews.com. February 17, 2020. Accessed May 20, 2022, https://www.cicnews.com/2020/02/which-cities-in-canada-attract-the-most-immigrants-0213741.html#gs.zhsbx8.

Everything Connects. 2014. “Urban Sprawl.” Everything Connects. 2014. Accessed March 03, 2022, https://www.everythingconnects.org/urban-sprawl.html.

Fallis, George. 2022. “Opinion: A Shortage of Homes Isn’t the Main Reason House Prices Keep Rising.” The Globe and Mail, March 14, 2022. Accessed May 20, 2022, https://www.theglobeandmail.com/opinion/article-a-shortage-of-homes-isnt-the-main-reason-house-prices-keep-rising/.

FCT. 2021. “What Does Canada’s Aging Population Mean for the Real Estate Market?” Dominion Lending Centres. February 5, 2021. Accessed January 10, 2022, https://dominionlending.ca/sponsored/what-does-canadas-aging-population-mean-for-the-real-estate-market.

Flanagan, Ryan. 2020. “Canada Will Have to Rely on Immigration as Global Fertility Rate Plummets: Study.” CTVNews. July 15, 2020. Accessed May 20, 2022, https://www.ctvnews.ca/canada/canada-will-have-to-rely-on-immigration-as-global-fertility-rate-plummets-study-1.5025075.

Flanagan, Ryan. 2021. “Millions of People Will Move to Canada in the next 20 Years, but Where Will They Live?” CTVNews. June 10, 2021. Accessed May 20, 2022, https://www.ctvnews.ca/canada/millions-of-people-will-move-to-canada-in-the-next-20-years-but-where-will-they-live-1.5464205.

Galbraith, Nora, Johnny Truong, and Jackie Tang. 2019. “This Study Uses the Census of Population and the 2017 General Social Survey on Family to Examine the Characteristics of the Population Living Alone in Canada. The Demographic, Socioeconomic and Housing Characteristics of Persons Who Live Alone Are Examined, as Well as Their Conjugal History, Family Relationships, and Well-Being Indicators.” Statcan.gc.ca. Government of Canada, Statistics Canada. March 6, 2019. Accessed May 20, 2022, https://www150.statcan.gc.ca/n1/pub/75-006-x/2019001/article/00003-eng.htm.

Godfrey, Lisa. 2021. “Why Don’t We Live Together? Alternative Housing in a Hot Real Estate Market.” CBC. August 5, 2021. Accessed March 20, 2022, https://www.cbc.ca/radio/ideas/why-don-t-we-live-together-alternative-housing-in-a-hot-real-estate-market-1.5979554.

Government of Canada. 2019. “Canada’s First Ever National Housing Strategy | a Place to Call Home.” A Place to Call Home. 2019. Accessed February 03, 2022, https://www.placetocallhome.ca/.

Government of Canada, Statistics Canada. 2017. “Overview of Household Types, Canada, 2016.” Www150.Statcan.gc.ca. August 2, 2017. Accessed May 20, 2022, https://www150.statcan.gc.ca/n1/daily-quotidien/170802/g-a001-eng.htm.

Grande, Laura. 2020. “What Is Housing Inequality? And What Canadians Can Do about It - HGTV Canada.” HGTV Canada. October 30, 2020. Accessed May 02, 2022, https://www.hgtv.ca/what-is-housing-inequality/.

Hemson Consulting. 2020. “GREATER GOLDEN HORSESHOE: GROWTH FORECASTS to 2051.” Hemson Consulting Ltd. August 26, 2020. Accessed May 10, 2022, https://www.hemson.com/wp-content/uploads/2020/08/HEMSON-GGH-Growth-Outlook-Report-26Aug20.pdf.

Immigration, Refugees and Citizenship Canada. 2021. “Canada Welcomes the Most Immigrants in a Single Year in Its History.” Www.canada.ca. December 23, 2021. Accessed May 20, 2022, https://www.canada.ca/en/immigration-refugees-citizenship/news/2021/12/canada-welcomes-the-most-immigrants-in-a-single-year-in-its-history.html.

Lee, Marc. 2022. “What Happened to the National Housing Strategy?” Policy Note. March 1, 2022. Accessed May 15, 2022, https://www.policynote.ca/national-housing-strategy/.

Lind, Diana. 2020a. *Brave New Home : Our Future in Smarter, Simpler, Happier Housing*. New York: Bold Type Books.

Macklem, Tiff. 2021. “Financial System Review—2021.” Www.bankofcanada.ca. May 17, 2021. Accessed March 20, 2022, https://www.bankofcanada.ca/2021/05/financial-system-review-2021/.

Madden, David, and Peter Marcuse. 2016a. *In Defense of Housing : The Politics of Crisis. London* ; New York (N.Y.): Verso, , Cop.

Mendicino, Marco. 2020. “The Honourable ANNUAL REPORT to Parliament on Immigration.” Accessed May 20, 2022, https://www.canada.ca/content/dam/ircc/migration/ircc/english/pdf/pub/annual-report-2020-en.pdf.

Public Health Agency of Canada. 2019. “Infographic: Inequalities in Housing below Standards in Canada.” Aem. April 24, 2019. Accessed May 20, 2022, https://www.canada.ca/en/public-health/services/publications/science-research-data/inequalities-housing-below-standards-infographic.html.

Ratehub. 2019. “Historical 5-Year Fixed Mortgage Rates in Canada.” Ratehub.ca. Ratehub.ca. 2019. Accessed May 20, 2022, https://www.ratehub.ca/5-year-fixed-mortgage-rate-history.

RBC. 2020. “Know How Much Home You Can Afford.” Www.rbcroyalbank.com. 2020. Accessed March 20, 2022, https://www.rbcroyalbank.com/mortgages/how-much-can-you-afford.html.

Rentals.ca. 2022. “Rentals.ca March 2020 Rent Report.” Rentals.ca. April 2022. Accessed May 02, 2022, https://rentals.ca/national-rent-report.

Richter, Tim. 2021. “CAEH - What Budget 2021 Means for Ending Homelessness.” CAEH. April 20, 2021. Accessed May 20, 2022, https://caeh.ca/budget-2021-analysis/?gclid=Cj0KCQjwpcOTBhCZARIsAEAYLuXI5yYA08LH-WpZrMCBRDiyTxluDjMdFWxdVM49owTK3ggl--lAi54aAvKHEALw_wcB.

Rozworski, Michal. 2019. “The Roots of Our Housing Crisis: Austerity, Debt and Extreme Speculation.” Policy Note. June 14, 2019. Accessed May 20, 2022, https://www.policynote.ca/the-roots-of-our-housing-crisis-austerity-debt-and-extreme-speculation/.

Scherer, Steve, and Julie Gordon. 2021. “Canada Opens Door to Immigrants, Adding Fuel to Hot Housing Market.” Financial Post, December 9, 2021. Accessed February 25, 2022, https://financialpost.com/real-estate/canada-opens-door-to-immigrants-adding-fuel-to-hot-housing-market.

Statistics Canada. 2006. “Canadian Social Trends.” Accessed April 12, 2022, https://www150.statcan.gc.ca/n1/en/pub/11-008-x/2007006/article/10379-eng.pdf?st=Mmoq5fvu.

Statistics Canada 2010. “An Aging Population.” Statcan.gc.ca. October 27, 2010. Accessed April 12, 2022, https://www150.statcan.gc.ca/n1/pub/11-402-x/2010000/chap/pop/pop02-eng.htm.

Statistics Canada 2017. “This Article in the Census in Brief Series Paints a Demographic Picture of Young Adults Living with Their Parents in 2016. It Describes Recent Trends and Differences between Rural Regions and Large Urban Centres.” Statcan.gc.ca. Government of Canada, Statistics Canada. August 2, 2017. Accessed April 12, 2022, https://www12.statcan.gc.ca/census-recensement/2016/as-sa/98-200-x/2016008/98-200-x2016008-eng.cfm.

Statistics Canada 2019. “The Daily — Family Matters: Adults Living with Their Parents.” Www150.Statcan.gc.ca. February 15, 2019. Accessed April 12, 2022, https://www150.statcan.gc.ca/n1/daily-quotidien/190215/dq190215a-eng.htm.

Statistics Canada 2021. “Canada - Average Hourly Wage of All Employees 2020.” Statista. July 6, 2021. Accessed April 12, 2022, https://www.statista.com/statistics/439904/average-hourly-wage-by-occupation-canada/#:~:text=This%20statistic%20shows%20the%20average.

Tal, Benjamin. 2021. "'We've Never Been so Sensitive to the Risk of Higher Interest Rates': CIBC's Tal." Www.bnnbloomberg.ca. March 4, 2021. Accessed May 12, 2022, https://www.bnnbloomberg.ca/economics/video/we-ve-never-been-so-sensitive-to-the-risk-of-higher-interest-rates-cibc-s-tal~2153428.

Taylor, Rupert. 2022. "Housing as a Commodity: The Affordability Crisis in Canada." ToughNickel. January 22, 2022. Accessed April 12, 2022, https://toughnickel.com/real-estate/Housing-as-a-Commodity.

Thanabalasingam, Sri. 2021. "Heat Check: Comparing Canada and US Housing Markets." Economics.td.com. May 13, 2021. Accessed March 15, 2022, https://economics.td.com/housing-heat-check.

The Bank of Canada. 2020. "Historical Selected Credit Measures (Formerly E2)." Www.bankofcanada.ca. September 2020. Accessed April 12, 2022, https://www.bankofcanada.ca/rates/banking-and-financial-statistics/historical-selected-credit-measures-formerly-e2/?page_moved=1.

Tureli, Ipek. 2022. "Canada's Housing Crisis Will Not Be Solved by Building More of the Same." The Conversation. February 23, 2022. Accessed April 12, 2022, https://theconversation.com/canadas-housing-crisis-will-not-be-solved-by-building-more-of-the-same-175221.

United Nations. 2019. "United Nations Maintenance Page." Www.un.org. 2019. Accessed April 12, 2022, https://www.un.org/en/development/desa/population/publications/pdf/ageing/WorldPopulationAgeing2019-Highlights.pdf.

Winters, Patrick. 2016. "Designing Density in Today's Urban Environments." Multifamilyexecutive.com. September 9, 2016. Accessed April 05, 2022, https://www.multifamilyexecutive.com/design-development/designing-density-in-todays-urban-environments_o.

Zhu, Yushu. 2022. "New Study Reveals Intensified Housing Inequality in Canada from 1981 to 2016." YGK News - Your Kingston, Your News. January 2, 2022. Accessed March 20, 2022, https://ygknews.ca/2022/01/01/new-study-reveals-intensified-housing-inequality-in-canada-from-1981-to-2016/#:~:text=Yet%2C%20more%20Canadian%20households%20have.

Zimonjic, Peter. 2022. "Canada's Working-Age Population Is Older than Ever, StatsCan Says." CBC News. April 27, 2022. Accessed May 05, 2022, https://www.cbc.ca/news/politics/canada-working-age-poupulation-census-1.6432398#:~:text=The%20number%20of%20children%20under,more%20than%203.6%20per%20cent.

CHAPTER 2

The Evolution of Communal Living

2.1 Is Communal living New?

Communal living is hardly a deviation from tradition or a new concept; it was not invented. It is not a response to the challenge of rootless modernity; it is how humans have been living and homemaking for thousands of years. The act of sharing spaces and resources while benefiting from community support is a recurring human trend. People were hunter-gatherers for most of known history. Humans lived in large camps, depending on other community members for food, childcare, and security. There used to be no solid boundaries like walls, doors, or picket fences. Today, the number of people living in most households in developed countries is relatively small, and the residences stand isolated from one another. According to census information, fewer than three people occupied the average North American household in 2010. The members of most North American households are so small they can be counted on one hand or even one finger: Single-person households only made up about 13 percent of all North American households in 1960. Now, that figure is up to about 30 percent (Coliving.com 2020).

Smaller households have increasingly become the norm, even though it makes daily life more difficult in many ways. Residential privacy is undoubtedly nice, but doing chores and cooking can be much less time-consuming when they are being shared with several other people. Bills for water, electricity, and internet would also become more bearable when they are divided among multiple residents. Of course, there are social and psychological downsides to living alone as well. Many people nowadays, such as elderly people, young professionals, parents, and singles, routinely spend most of their time at home alone, no matter how lonely they may feel. Even more so, many single parents face the drag of working long hours and paying for childcare because they have no time. Living in isolated households can most certainly be a drain on money, time, and feelings of belongingness for specific demographics (Strauss 2016).

It was not always this way. Living arrangements have been shifting for thousands of years in history, and the concept of the nuclear family only originated recently. Even though the economy has moved away from the kind of agricultural labor that would encourage the development of larger supportive households, people still have an innate need for the support of friends, family, and neighbors (Mccamant, Durrett, and Hertzman 2003). Perhaps that is why so many isolated people today are again returning to and experimenting with communal living, which echoes how homemaking has worked for most of history. This sort of residential experimentation is appropriate currently when the urban environment is evolving so quickly, and there are growing needs for alternative ways of living.

The following section will first go over the general timeline of historical living styles and the emergence of the nuclear family and then examine some historical communal living typologies that emerged in different cultures.

Prehistoric Era

All residences were communal living in the prehistoric era; paleolithic humans were nomadic hunter-gatherers who lived together in mobile camps. Being a hunter-gatherer meant people were freed from the distinctions that govern people's lives today. "There's no division between your social life and your private life," observes Mark Dyble, a University College London postdoctoral researcher. "Your whole life is open to other people. There's no way to be isolated." Their community members frequently changed in the hunter-gatherer camps that Dyble had studied. The camps consist of 5 to 18 highly interdependent households; each household is made up of parents, children, and perhaps some relatives. These households stick together and are deeply involved in the everyday aspects of the members' lives, and they rely on each other for things like protection, food, and childcare (Migliano et al. 2017). Around 10,000 BC, the agricultural revolution made it possible for a long-time occupancy in one place, allowing people to build settlements, giving way to civilization and cities similar to the society we are familiar with today. Though these Neolithic people did not rely on community members for survival as much as in the Paleolithic past, these people continued to live together in communes for support. Humans are intrinsically social creatures, and in ancient times there was safety in numbers. (Dyble et al. 2015).

Fig. 2.1 hunter gatherer Society

The Middle Ages

The medieval residences frequently included friends, relatives, servants, visitors, orphans, other people's children, elderly people, and even poor people in need of help, in addition to the couple and their children. This period is a conceptual midpoint between the living arrangements of the hunter-gatherers and the isolated households commonly seen today. Then, the single-family household was a rare typology. Around the 12th century, Western Europe became one of the first places where households were centered around married couples. However, this arrangement is still a far cry from nuclear households. People moved amongst different houses, marriage was not as defined, and singles sometimes run households. Many children, especially teenagers, lived away from their families with strangers. The local community treated houses like public property while entering and leaving at will. (Gillis 1997). In the 1500s, the idea of the household being consisted of the parents and their biological children began to catch on. This idea stems from the Protestant Reformation, the formation of a godly household with the father as the God figure, the mother as the priest, and the children as congregants. This also symbolizes the rejection of the Catholic Church as the center of life and replaces it with a domestic divine. The nuclear household idea became more popularized with the representation of the nativity scene. It emphasized the role of Jesus as a member of a nuclear household rather than a singular identity. However, the idea of the godly household was entirely unrealistic for the most common folk. It would require a significant amount of time, money, and resources for the people to run a household independently (Strauss 2016).

Fig. 2.2 Medieval Style Living

Industrial Revolution

People started to draw fine distinctions between family and which people the household would consist of in the 1800s. Due to industrialization, the nuclear household began to fully take shape because extended communities were less crucial to earning money. Back when communities were dependent on agriculture, production tended to be centered, and the families would need all the labor they could use so they could run the farm well. However, when industrialization took root, many people left home to go to work, going to factories and offices to earn a living (RSA 2018). This migration away from rural homes, called rural exodus, created a high demand for residences close to the industrialized centers where people worked. Before the Industrial Revolution in Britain, only about 15% of the population lived within cities, and by the 1900s, it spiked to 85%. Thousands of people rushed into cities in dire need of shelter and food, resulting in the construction of ghettos for the poor. The wealthy could afford to build private households of their own while the poor lived in deplorable conditions. This situation transformed the economic landscape and gave rise to social classes that began identifying how people lived. The massive shift in society redefined social propriety, eventually becoming the norm for people to live with others in the same social class. By the early 20th century, traditional communal living was lost, and industrial efficiency produced a lifestyle of domestic privacy. The households morphed and shrank into nuclear families and were closed off from relatives and the rest of the community. People no longer relied on communal living to provide and prosper; therefore, they placed a higher value on individual success and privacy over community needs (Gillis 1997).

Fig. 2.3 Living Conditions in the Industrial revolution

Nuclear Family Model and the Retreat from Communal Living

The nuclear family gained popularity due to economic stimulation from the industrial revolution. The ideal household would consist of two parents and their children, and this typology quickly became the norm as the economic boom made way for higher wages. As people prospered, their wealth was used to buy privacy. The governing bodies also encouraged or, in other words, permitted this retreat from the communal to the private; after all, it is much easier to protect individual property rights than the collective. Families can also afford to support their own private households without relying on support from their extended relatives or the community. Also, with healthcare improvement, older generations lived longer and more independently and freed up their children to leave home and work. The Industrial Revolution also wholly transformed the roles of men and women in society and the household from their roles in an agricultural community. Women's roles retreated into the domestic sphere while men worked outside in factories and offices. These standards continue to be the standard for how modern households are formed and built; though these standards are on the decline, they are still the norm (RSA 2018). In the modern world, people are placing higher values on life experiences and what they want as opposed to simply accepting society's expectations of the norm. This realization propelled investigations into different ways of living. One thing to keep in mind is that the nuclear household model appeared as religious propaganda. In a close examination, it is an anomaly within the historical ways of living people have adopted throughout the times. The nuclear family is the mainstream typology today; however, learning from history, it is only one of the many ways of living.

Fig. 2.4 The Nuclear Family

Urban Communal Living

The ownership of a private home is currently being viewed as a centric part of the American dream. However, some present-day residents are pushing back against the modern nuclear family living arrangements. In some cases, relatives, neighbors, friends, and strangers conform together to live in groups that have working living arrangements, resembling the Medieval European lifestyle. The social psychologist Bella DePaulo observes that “Today, across the nation, Americans are living the new happily ever after,” the so-called “new” part is about that people are sharing their homes and lives not only with spouses or their immediate family. Instead of limiting their households only to their relatives, some people refer to communal living and making homes with friends, neighbors, and even strangers to form intentional communities. People’s households and lifestyles constantly evolve due to factors like urban landscape, economic situations, and many others (Livingston 2022). Today some people are finding the urban and suburban neighborhoods based on an idealized version of home hundreds of years ago to be quite lacking. Even though people may not return entirely to the old ways of having strangers and distant relatives stopping by to reside for extended periods of time, it is evident that a particular group of people is looking into the past like what John Gillis described: “Until well into the nineteenth century, heaven was represented not as a community of families but as one large community of friends.” This observation led to the construction of modern communal living in intentional community typologies, which challenged the nuclear family ideal (Gillis 1997).

Fig. 2.5 Modern suburban Neighborhood

2.2 Historical examples of Communal Living

It is evident that humans have always lived communally in history. There are many examples of such dwellings in history where the residents depend on one another for resources. They are part of a strong community with the same culture, social values, and living styles. Most of these communities directly responded to the surrounding environment, economy, and needs of the time. Some examples, such as the Tulou in China, the Indigenous dwellings in Canada, and the Casina in Italy, are primarily grassroots cultural, communal living examples born out of people’s cultures. In these types, people lived together to share resources out of family relations and habits, and there was no specific political intention behind the formation of these typologies. Some of the other examples of communal living in the following section present political and economic driving factors behind their formation, typologies such as the Phalanstere in France, Crespi D’Adda in Italy, and the Kommunalka in Russia are such examples. These typologies were formed due to the unique ideals and conditions of their time. They were direct responses and attempts to control production, living, and maximize the workforce. Even with the difference in the reason for formation, there is no doubt that collective communal living is a significant form of living, and people instinctively seek out community to survive.

Northwest Coast Indigenous Dwellings - Canada

In Canada, many Indigenous nations reside on the Northwest Coast, such as the Nuu-chah-nulth, Kwakwaka'wakw, Haida, Coast Salish, and Haisla. The coastal area is rich in natural resources from the sea and the coastal forests; however, there is extreme topography, and the indigenous people live communally for support (Kew 2018). The indigenous settlements are grouped in units that share common ancestors. Usually, the core kins and their spouses live together under one roof under the direction of an appointed leader. Furthermore, as the group expands, more housing would be built in clusters. Since the Northwest Coast people had abundant resources, they did not need to migrate, so they settled for more permanent dwellings such as the plank house made of cedar wood. The construction consisted of large cedar lumber dimensions with some variations ranging from different nations, and the houses would be used for dwelling and ceremonial services. The indigenous clans lived as a collective, with the men taking care of hunting and fishing while the women were in charge of preparing food and gathering (Mills and Kalman 2019).

Fig. 2.6 Northwest coast Indigenous Territory

Fig. 2.7 Haida House

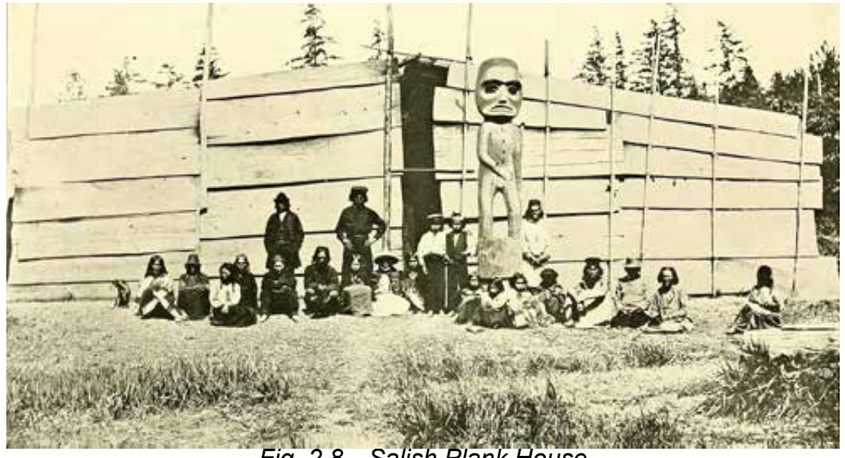


Fig. 2.8 Salish Plank House

Tulou- Southern China (1100)

The Tulou buildings of the Hakka People native to Fujian in Southern China are agricultural villages. These buildings are made of earthen material and are commonly rectangular or circular. A single Tulou houses up to 800 residents and is generally around 3 to 5 stories high. The Tulou is constructed in such a way that it can be self-sustaining and protected from outside attack. The Tulou community is a village all to itself, and its social construct is based upon democracy, with families sharing resources and living quarters with no discrimination or power structures. All the rooms in a Tulou are built the same size, and depending on the family size, they would occupy 2 or 3 sets of rooms per family. The residents in a Tulou are usually family clans, and resources like water wells, washrooms, storage, ceremonial halls, and activity rooms are shared as well as the surrounding agricultural lands that are cultivated communally. The common activities occur in the central open courtyard, and the family clan physically and symbolically lives underneath a single roof, which symbolizes unity and protection of the clan. As the clan expanded in generations, the Tulou expanded by adding another ring to the exterior or building another Tulou nearby in a cluster (UNESCO World Heritage Centre 2008).

Fig. 2.9 Fujian Tulou Courtyard

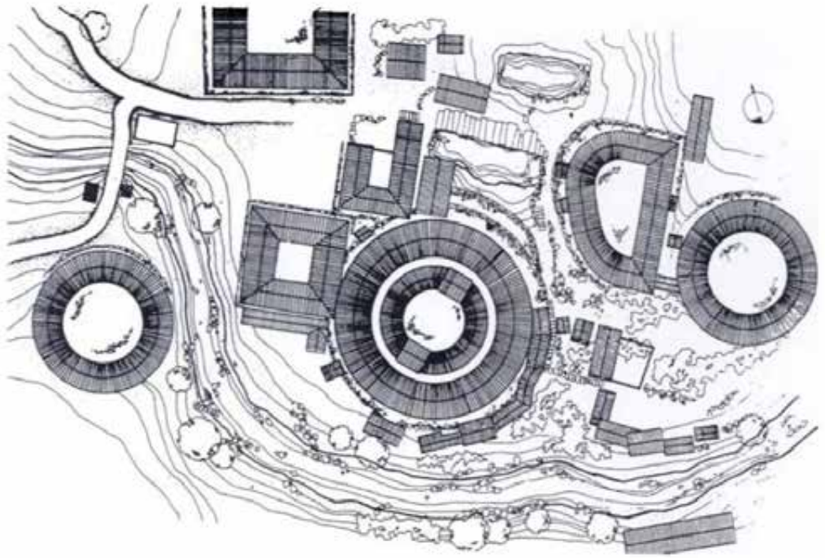


Fig. 2.10 Tulou Cluster Plan

Fig. 2.11 Tulou Cluster

Cascina A Corte – Northern Italy- (1500)

Cascina A Corte or a Cascine is a typology of rural farmhouse traditional to the Po Valley of Northern Italy. This type of community was first recorded in the 16th century but was more popular during the Napoleonic era when church fields and religious buildings were confiscated and transformed into farmlands (Wikipedia 2021). A Cascine is shaped to be a series of structures surrounding square yards located in the middle of a large piece of farmland. The central building is where the living and working activities are done. The Cascine can host anywhere from 10 to 30 families who work on the cultivated land. All the people live within a single area and sleep together except for the owner of the Casine, who has private quarters for their family. Most Cascines are isolated and autonomous communities and have schools, defense systems, and other shared facilities for usage built inside (Colombo 2007).

Fig. 2.12 Cascina at San Marchetto

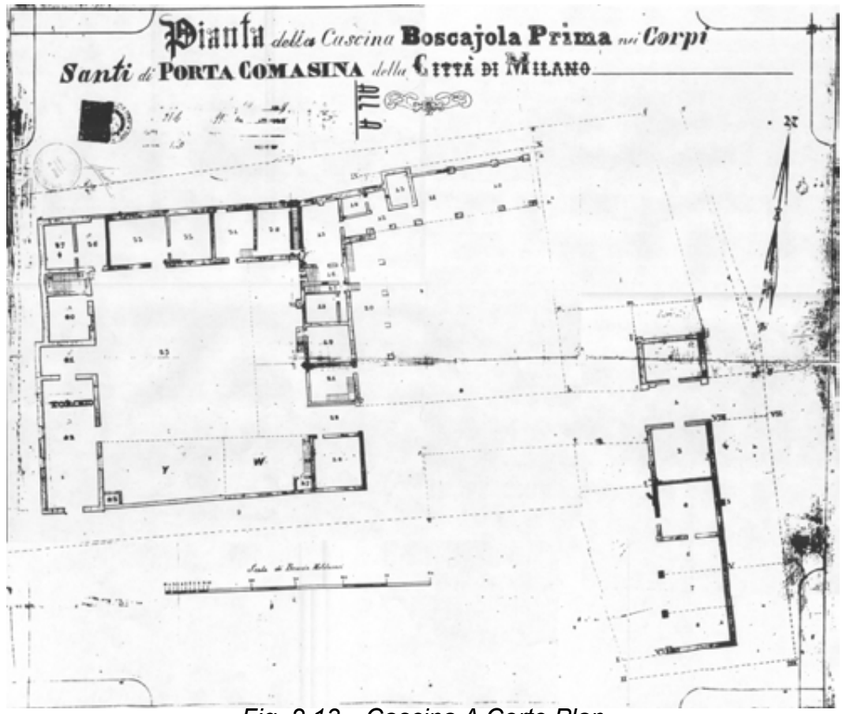


Fig. 2.13 Cascina A Corte Plan

Fig. 2.14 Cascina Rural Farmhouse

Phalanstère- France (1800)

The Phalanstery was a project created by Charles Fourier, a French philosopher. It is a self-contained utopian community project composed of 300 households living and working together for mutual benefit. Although the households within the community all came from different social and economic backgrounds, they are combined into a Phalanx living and operating in a single monumental building. The structure of this building is composed of three parts, two lateral wings, and a central hall. The building is designed to integrate both urban and rural features so that the community could work on the land close to their daily activities. The central part of the building is designated for quiet activities such as dining, libraries, meetings, and quiet studies. The lateral wings are designed for labor and noisy activities such as forging, making, carpentry, ballrooms, and children's play. The Phalanstery enclave was meant to be self-sustaining and has an autonomous economy. The members have private apartments, and their activities take place in the many social halls within the building (Angel 2014).

Fig. 2.15 Spanish Print of a Phalanstery

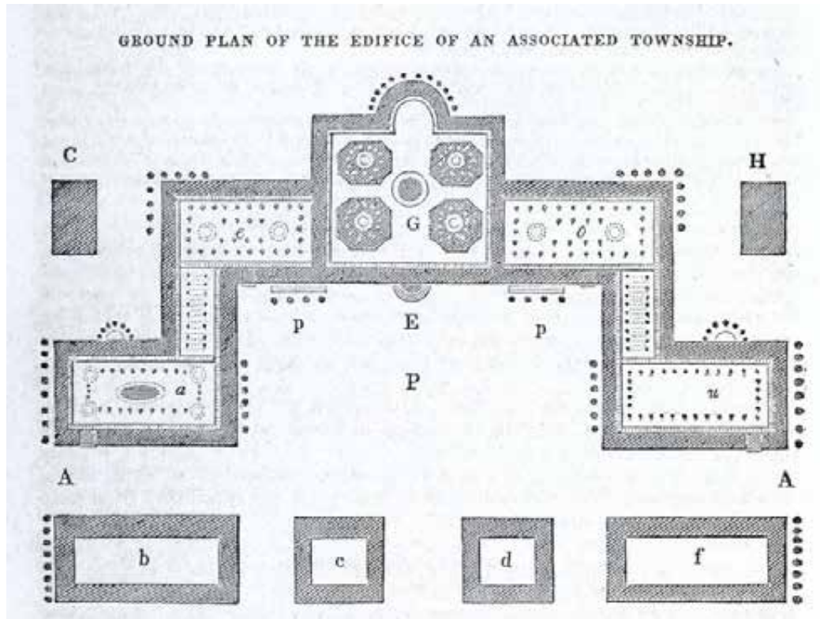


Fig. 2.16 Phalanstery Plan

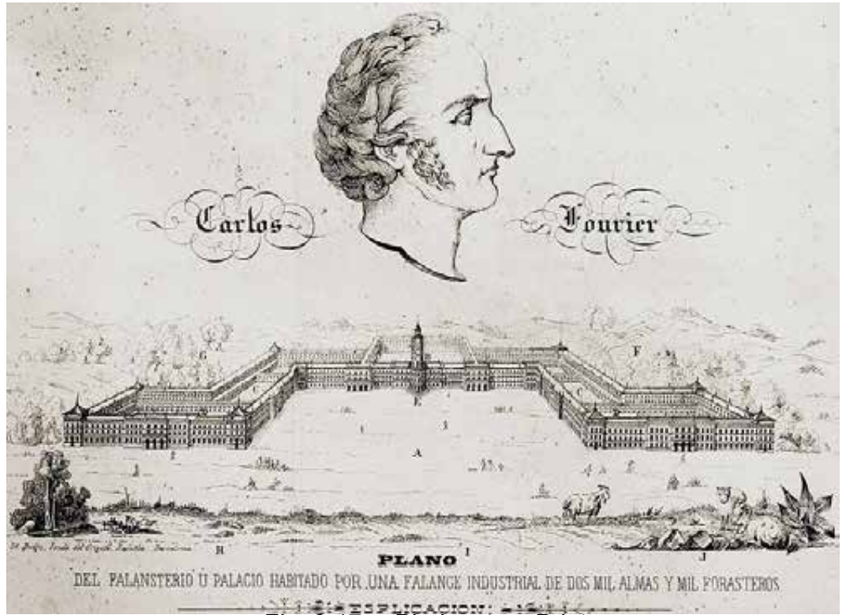


Fig. 2.17 Phalanstery Print

Boarding House- United States (1830)

One of the most relevant samples of communal living in the 19th century comes in the form of American Boarding Houses. These communities were meant to be transitional housing for the incoming immigrants in New York and Boston during the 1830s. Until their steep decline in the 1940s, boarding houses hosted 30% to 50% of Americans. There are many different typologies of boarding houses, but in general, it would be a building in which boarders rent out their rooms on a nightly basis. The people running the boarding house, the landlord, would supply maintenance services and laundry. Sometimes the landlord would also provide some meals. The common facilities would be shared within a boarding house, including dining spaces, washing rooms, and lounge areas. Since the boarding houses made it possible for people to move to larger cities, the house promoted social interactions and gave many opportunities to meet other people. There are boarding houses serving certain groups, such as people from the same country, from the same social class, and the same religion. For example, there were Irish Boarding houses, student houses, and boarding houses specifically for women. Back in the 1800s, the boarding houses would provide 2 to 3 meals per day and a bed to share in bedrooms with other people, there was not enough privacy for the resident, and the social environment was not always safe. These communities were meant for short-term stays only as a transitional step before integrating into independent society lifestyles. By the 1930s, the boarding houses were on a steep decline due to improved mass transit making it possible to travel between suburbs and the city, and private households were the preferred housing type. Furthermore, by the 1950s, due to the housing boom, newcomers were generally able to afford their own homes, and the boarding houses were generally occupied by students, the poor, and the unemployed (Housing Solutions 2019).

Fig. 2.18 Boarding House in Tacoma

Fig. 2.19 Boarding House Communal dinner

Crespi D’Adda Worker’s Village- Italy (1878)

The Crespi D’Adda Worker’s Village is an example of a shared living worker’s village located in Northern Italy, and its first buildings were built between 1877 and 1878. This was a village that depended on the cotton industry, and the owner named Cristoforo Benigno Crespi wanted to create the ideal modern work city where all the employees could have everything they needed for living, such as private residences and shared facilities. The residents of the village consisted of only the employees, and life within the village revolved around the central textile factory and its demands. This little town has a church, a school, a small hospital, a theatre, a small health center, and a market for food and clothing. The first 3 houses in the village were composed of 3 floors each, and they can host up to 12 families of workers living in the same house. The later constructions were private apartments within bunkers, and they were all provided with a private garden and were built in different shapes and sizes to adapt to the needs of the workers (Crespi 2010).

Fig. 2.20 Crespi D’Adda Village Houses

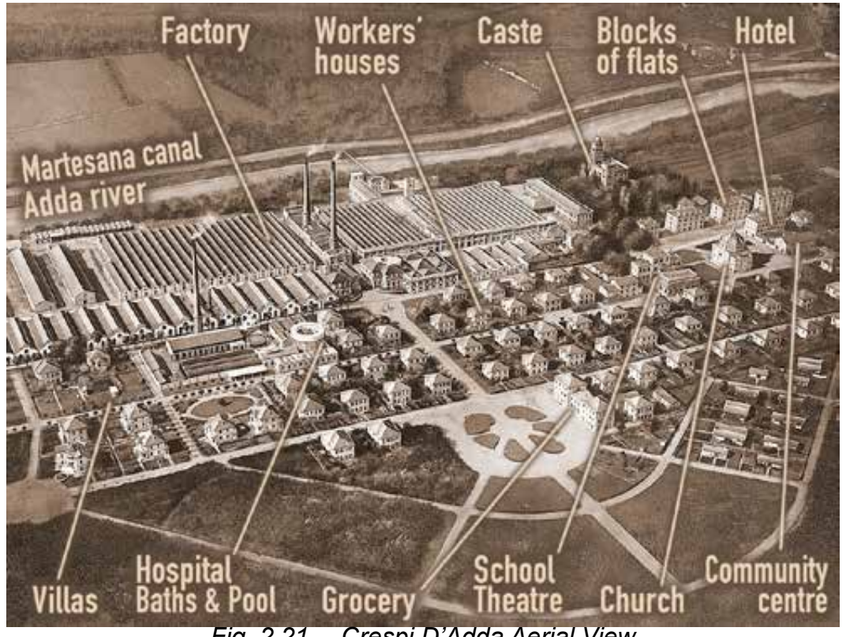


Fig. 2.21 Crespi D’Adda Aerial View

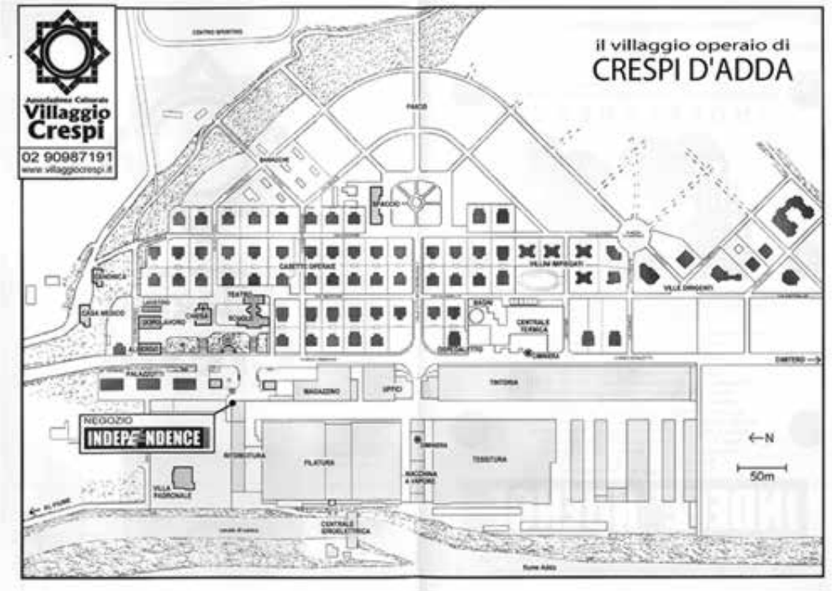


Fig. 2.22 Crespi D’Adda Master Plan

Kibbutzim – Israel (1910)

The Kibbutzim is an intentional community first formed in Israel. The intention was to create a rural village with its base rules being the principles of sharing resources and collective activities. The first village was built in 1910, and the population grew by 5 times within 5 years. Until the beginning of the second world war, there were 4000 residents within the Kibbutzim. In the Kibbutzim, all the children lived together in a collective house with one caretaker managing all the business. All the roles within the community were run by one person at once, for example, cleaning, cooking, washing, and patrolling. The chores were rotated around on a timely basis, so everyone got their share of chores. Around 150 families live in a Kibbutzim with a population of 400 to 500 people. All these residents share a common building that is supplied with a collective dining room and a gathering room. There are also some shared vehicles, a shared gallery for artists, shared farms and fields, and the private dwellings of the families. The Kibbutzim is agriculturally centered and can fully sustain itself (Tourism Israel 2012).

Fig. 2.23 Kibbutzim Lifestyle

Fig. 2.24 Kibbutzim Alonim

Fig. 2.25 Kibbutzim Nalhalal

Kommunalka-Russia (1917)

The Kommunalka is a co-living typology born out of the political condition in Russia. It is a housing type idealized by Lenin in 1917 and a new system of alternative living for the Russian folk. This typology is more specifically a response to Russia's economic and housing crisis at the time and reflects socialist ideas. In a Kommunalka, the buildings of old wealthy tenants were forcibly confiscated by the state and reconfigured into shared buildings. Each floor was divided into a single apartment, and in this apartment, different rooms were created, each being occupied by tenants. The spaces needed for each person were strictly calculated into 10 square meters per adult and 5 square meters per child. The Kommunalka can generally host up to 7 families. Each of the families would have a private bedroom. All the other amenities are shared, such as the kitchen, bathroom, dining room, and living room. The kitchens were designated places of meeting and gathering, where decisions regarding the house were usually made. There were enforced laws of habitation in a Kommunalka, such as curfews for noise and light, how to divide up the bills, and cleaning schedules. The residents helped each other in caring for children and the elderly and lent monetary aid to those in need. Most Kommunalkas have been renovated into private apartments (Welle 2006).

Fig. 2.26 Kommunalka Shared Kitchen

Fig. 2.27 Kommunalka separate Stoves

Fig. 2.28 Kommunalka Private Units

Into the Urban age

Some of these historical communal living typologies emerged due to culture and some due to political-economic factors; however, they were all meant to provide solutions to the issues of their time. There were problems with food storage, living spaces, workforce, production, housing supply, and living conditions. People realized that these problems were potentially disastrous, and when they gathered to solve these issues, it gave way to different models of communality. In the modern-day, even though there is a rise in different solutions for living, the single-detached housing unit remains the predominant form of housing choice. However, with the housing crisis and rising socio-demographic changes, there is a rising return to communal living. The metropolis attracts young professionals and recent graduates with the possibility of better jobs and more opportunities. People require a space to live within these urban areas and often choose to rent a room or turn to alternative housing solutions. Around the world, there are many efforts to invest in affordable alternatives around the world, and many new typologies of shared living exist today. These will be closely examined in the next chapter. To break out of the idea that single-detached housing is the ultimate dream, one must keep in mind that communal living has always been in existence since humans came to earth. It is human nature to form relationships with others and find support outside the immediate family. The single-detached nuclear housing typology was sufficient during a time when the economy, family, and job structures were clearly defined and stable. However, in modern times with new shifts and instability in the economic and social fields, it is only natural that the housing fields also adapt to these new changes.

Endnotes

Angel, Jessica. 2014. “ESSAY - Fourier’s Phalanstery.” Jessica Flore Angel. December 19, 2014. Accessed May 04, 2022, http://jessica-f-angel.com/phalanstere.

Blomberg, Ingela, and Kerstin Kärnekull. 2019a. “Do-It-Yourself: The Stony Road to Cohousing in Sweden.” *Built Environment 45 (3)*: 280–95. https://doi.org/10.2148/benv.45.3.280.

Coliving.com. 2020. “The History of the Coliving Movement.” Coliving.com. March 9, 2020. Accessed February 20, 2022, https://coliving.com/blog/what-is-behind-the-coliving-movement.

Colombo, Mauro. 2007. “Storia Di Milano : Le Cascine Di Milano.” Www.storiadimilano.it. September 2007. Accessed May 20, 2022, http://www.storiadimilano.it/repertori/cascine/cascineweb.htm.

Crespi. 2010. “THE HOUSES - Sito Ufficiale Del Villaggio Operaio Di Crespi D’Adda, Patrimonio Dell’Umanità UNESCO.” Visitcrespi.it. 2010. Accessed May 20, 2022, https://visitcrespi.it/en/the-houses.

Depaulo, Bella M. 2015a. *How We Live Now : Redefining Home and Family in the 21st Century*. Hillsboro, Oregon: Atria Books/Beyond Words.

Dyble, M., G. D. Salali, N. Chaudhary, A. Page, D. Smith, J. Thompson, L. Vinicius, R. Mace, and A. B. Migliano. 2015. “Sex Equality Can Explain the Unique Social Structure of Hunter-Gatherer Bands.” *Science 348 (6236)*: 796–98. https://doi.org/10.1126/science.aaa5139.

Gillis, John R. 1997. *A World of Their Own Making : Myth, Ritual, and the Quest for Family Values*. Cambridge, Mass.: Harvard University Press.

Housing Solutions. 2019. “A History of Boarding Houses: Ideal Forms of Affordable Housing.” Housing Solutions. June 15, 2019. Accessed February 20, 2022, https://housingsolutions.home.blog/2019/06/15/a-history-of-boarding-houses-ideal-forms-of-affordable-housing/.

Kew, Michael. 2018. “Northwest Coast Indigenous Peoples in Canada | the Canadian Encyclopedia.” Thecanadianencyclopedia.ca. 2018. Accessed June 10, 2022, https://www.thecanadianencyclopedia.ca/en/article/aboriginal-people-northwest-coast.

Livingston, Amy. 2022a. “Communal Living & Cohousing - Types & Benefits of Intentional Communities.” Moneycrashers. January 31, 2022. Lind, Diana https://www.moneycrashers.com/communal-living-cohousing-types-benefits-intentional-communities/.

Mccamant, Kathryn, Charles Durrett, and Ellen Hertzman. 2003a. *Cohousing : A Contemporary Approach to Housing Ourselves.* Berkeley, Calif.: Ten Speed Press.

Mccamant, Kathryn, Charles Durrett, Bill Mckibben, and New Society Publishers. 2019a. *Creating Cohousing : Building Sustainable Communities.* Gabriola Island, Bc: New Society Publishers.

Migliano, A. B., A. E. Page, J. Gómez-Gardeñes, G. D. Salali, S. Viguier, M. Dyble, J. Thompson, et al. 2017. “Characterization of Hunter-Gatherer Networks and Implications for Cumulative Culture.” Nature Human Behaviour 1 (2): 0043. https://doi.org/10.1038/s41562-016-0043.

Mills, Edward, and Harold D Kalman. 2019. “Architectural History of Indigenous Peoples in Canada | the Canadian Encyclopedia.” Thecanadianencyclopedia.ca. 2019. Accessed May 20, 2022, https://www.thecanadianencyclopedia.ca/en/article/architectural-history-early-first-nations.

Obderola. 2016. “Las Ecoaldeas Como Alternativa Ecológica.” Iberdrola. 2016. Accessed January 20, 2022, https://www.iberdrola.com/sustainability/ecovillages-alternative-ecological-communities.

RSA, The. 2018. “The Rise and Fall (and Rise?) of Communal Living.” Medium. March 22, 2018. Accessed March 20, 2022, https://medium.com/@thersa/the-rise-and-fall-and-rise-of-communal-living-8d276bf6e686.

Strauss, Ilana E. 2016. “The Millennial Housing Trend Is a Repeat of the Middle Ages.” The Atlantic. The Atlantic. September 26, 2016. Accessed April 25, 2022, https://www.theatlantic.com/business/archive/2016/09/millennial-housing-communal-living-middle-ages/501467/.

Tourism Israel. 2012. “What Is a Kibbutz? | Tourist Israel.” Tourist Israel. June 15, 2012. Accessed April 05, 2022, https://www.touristisrael.com/what-is-a-kibbutz/6053/.

UNESCO World Heritage Centre. 2008. “Fujian Tulou.” UNESCO World Heritage Centre. 2008. Accessed April 05, 2022, https://whc.unesco.org/en/list/1113/.

Welle (www.dw.com), Deutsche. 2006. “Russia: 16 Families in a Single Kommunalka Apartment | DW | 13.09.2016.” DW.COM. 2006. Accessed April 12, 2022, https://www.dw.com/en/russia-16-families-in-a-single-kommunalka-apartment/a-19544660.

Wikipedia. 2021. “Cascina a Corte.” Wikipedia. May 19, 2021. Accessed April 05, 2022, https://en.wikipedia.org/wiki/Cascina_a_corte.

CHAPTER 3

Urban Communal Living Typologies

The previous sections examined how people lived communally in history. The following section will be case studies regarding conventional examples of communal living, also known as intentional communities, that have appeared from the 19th century to the present day. These examples of communities grew from a response to the ever-changing economic and societal factors and are generally based on pre-existing housing typologies. Intentional communities are created and run by their residents; it is essential for the people living in such a community to be involved in the common activities. The idea of the community means different things to separate groups of residents, so there have been many variations in communal living throughout history. Modern intentional communities come in a wide variety of shapes and sizes, only limited by the imagination of the people who start them. Each formed community has unique qualities and its own individual set of circumstances and people. One of the beautiful things about conventional intentional communities is that they can be whatever form of living the people who start and occupy them collectively decide them to be. Common conventional typologies include Cohousing, Ecovillages, Communes, Housing Co-ops, Student housing, and assisted living communities. These case studies will examine the similarities and differences between these typologies and analyze how they operate.

Cohousing

Cohousing is probably the most well-known typology of contemporary communal living as a form of intentional community and is rapidly growing in popularity. It is most commonly a living arrangement in which a community of 30-50 units or households live alongside one another, sharing some resources and spaces. Households generally have their individual jobs, private lives, and individual living spaces while also having additional shared dining and gathering spaces for weekly meals and get-togethers, laundry, gardens, and other shared amenities or activity spaces. They will also commonly collaborate on household responsibilities like cooking and chores to ensure the community runs smoothly (Mccamant et al. 2019).

Though cohousing varies depending on each community, certain elements still remain similar throughout all cohousing communities. The common house is a crucial element of all cohousing typologies. It serves as the gathering space and living room; it is the place where residents come together for meetings, meals, and activities. A common house usually has elements such as a communal kitchen, dining spaces, event spaces, a common laundry area, and a lounge space. Common houses may also hold guest rooms for visitors, workshops, or childcare areas, depending on the community. Most cohousing communities' private residences are grouped closely around the common house. The individual homes would take on typologies such as apartments, townhouses, duplexes, single detached homes, or sometimes tiny homes. These private residences would all have a complete set of amenities such as bedrooms, kitchens, and bathrooms. However, since the common house does offer many shared facilities, the sizes of these individual dwellings can potentially be built smaller. For example, there is no need for a private children's room or large cooking areas since the common house supply these amenities. The individual homes are grouped to make for opportunities for neighborly interaction and social connections. Another common feature of a cohousing community is a shared outdoor space. Residents share lawns, gardens, walkways, firepits, and parking (Blomberg and Kärnekull 2019). The shared walkways are a great way to allow interaction between residents since they would cross paths daily. Since the parking would usually be located outside the community, it serves to keep the inside of the cohousing car-free and a safer space

for children. Sometimes the residents would pool resources and add amenities like pools, hot tubs, or playgrounds. These key features are vital parts that make a cohousing community successful (Mccamant, Durrett, and Hertzman 2003).

The modern cohousing movement was first started in Denmark during the 1970s, and currently, there are 700 such cohousing communities in Denmark alone. The first is the community for 27 families built by Theo Berg in Denmark. In these communities, dozens of Danish families reside in private homes built around common houses and shared spaces. “The residents wanted to see each other over the course of their everyday lives and be there for each other in ways large and small,” says DePaulo. This modern communal living idea eventually spread to several other countries, and this is just the success of this one style of evolved communal living. Everything aside, the cohousing life is not for everyone; the number of chores, going to regular meetings, and taking care of others can be quite a drag. Some people also prefer to live in relative isolation rather than be involved in their neighbors’ lives.

More recently, housing developers are starting to see how appealing the idea of cohousing is to specific groups of people. The first Canadian cohousing development was formed in BC Langley in 1996, and the first cohousing was set up in the U.S. 25 years ago. Currently, there are 20 completed communities in Canada. Alongside other advantages, many residents are drawn to cohousing for its social benefits. Within a cohousing community, there are always people around to talk with and spend time with, providing community support. “If someone is hospitalized, cohousing friends are there to visit,” observes DePaulo. “When a cohouser is ailing at home, neighbors show up with chicken soup and the latest news from the community.” (Depaulo 2015). There are also economic advantages to cohousing in addition to the sense of community. For example, families must oversee all chores and meals in a typical single household. However, by living within a cohousing community, there are possibilities of cooking and chore schedules so the members can rotate working and save time and money.

Another one of cohousing’s most significant upsides is that it eases the burdens of raising a child. As the saying goes, it takes a village to raise a child, and most parents today could use the extra community support. People that live in a cohousing community share ownership of all the common resources. Usually, to ensure no conflicts happen, the residents would form an association and share the responsibility of maintaining the common areas. There are different ways of dividing work, and one way is to form work teams assigned to deal with specific tasks, such as cleaning, cooking, planting, and repairing. Sometimes these work teams rotate jobs, or people sign up to do their preferred tasks. Sometimes the community would also hold a workday when everyone worked all together to maintain the functionality of the cohousing. Decisions regarding the community are usually democratic and decided through consensus. They would hold a meeting and run through options until they found one everyone agreed with. Living in a cohousing community is a big responsibility, but it is also more play. People would have to participate in tasks, but they would also have the perk of sharing with other residents (Blomberg and Kärnekull 2019).

Today most modern communities are designed to keep households apart. “I like to think of dwellings as people: If a group of people wanted to get to know each other, they would not line up facing each other in two straight, rigid rows, too far apart to really see anyone else clearly,” says DePaulo. “That’s how houses are arranged on many conventional streets.” Under this modern household typology, it’s difficult to ask for help from the community. Cohousing can easily fill in on the difficulties of living by splitting cooking, household items, childcare, and other expenses that require more time and money. The Danish and Swedish governments have supported the idea of cohousing for a long time, and perhaps the government of Canada could do something similar. However, one restriction of a cohousing community is that the critical threshold for dwelling density is around 30 to 40 households.

A typical cohousing community in Canada is Windsong Cohousing in Langley BC. Windsong is a multigenerational sale-type cohousing community completed in 1996 and located 45 minutes East of Vancouver in Langley, BC, Canada. This community has a nice balance of public and private spaces; there are 34 privately owned townhouse dwellings, each service with its own entrance and private functions. The townhomes are arranged in two long rows facing each other across an internal pedestrian community street covered by greenhouse-style roofing. The street is where most of the

interactions between neighbors and public furniture, such as lounge chairs, planters, and others, are scattered and used; this space allows the residents to walk without disturbance from the outdoor climate. The 5000 square feet common house is located midway from end to end and includes dining spaces, a shared industrial kitchen, playroom, arts and crafts room, workshop, laundry, office, media room, guest room, public washrooms, exercise room, loft, and lounge, and it opens to an outdoor play structure (Windsong 2010). The community is designed to foster positive community interactions between the members. The most successful component of this project is the construction of the internal street. This component allows flexible furnishing from the residents and encourages the gathering of small groups. It is also a well-utilized space in all seasons of the year, large enough to accommodate activities that usually take place on the outside.

Fig. 3.1 Windsong Cohousing Internal Street

Fig. 3.2 Windsong Cohousing Indoor Gathering Space

Ecovillages

Ecovillages are a form of an intentional community consisting of groups of people seeking an escape from urban life. The members of an Ecovillage generally live outside city limits and consent to live according to ecological principles to cause as little impact on the surrounding environment as possible. The concept stemmed from the hippie communes of the 1960s. The Ecovillage is designed through member participatory processes and is aimed toward a vibrant and diverse social structure. Ecovillages are not restricted in size, and some ecovillages are so big they contain cohousing communities within, like the Yarrow Ecovillage in Vancouver, which hosts a population of 3,000 people, the organic farm, multigenerational cohousing, mixed-use commercial, senior cohousing, and a learning center. This Ecovillage is in Yarrow, BC, formed in 2002. It is an intentional communal settlement with a population of around 3000 to achieve a sustainable way of life. There are 3 significant entities within the community: a 33-unit cohousing community, a mixed-use development with commercial space and 17 units of senior cohousing, and an organic farm (Anon 2021). The organization of the Ecovillage is centered around 5 main components, the organic farm, cohousing community, mixed-use commercial, senior cohousing complex, and a learning center. (Groundswell Cohousing 2012). Ecovillages are primarily self-sustaining, and everyone has different skills to contribute to the community. Ecovillages often have features like off-grid energy sources, community gardens, shared agriculture, shared vehicles, shared food storage, and community-run businesses. In some cases, the Ecovillage even trades in their unique currency to establish complete self-sufficiency. Today there are 66 recorded Ecovillages in Canada and more than 10,000 around the globe. (Obderola 2016)

Fig. 3.3 Yarrow Ecovillage

Communes

Communes as a typology have existed for hundreds of years. The members share food, work, and living areas. Communes became widely known as hippies' Communes, a housing movement that swept across America and Europe in the 1960s. It started with the younger generation from various streams of life who chose to live together in a single household, rejecting any role-defining rules of the government or their parent generation. Today a commune is a property, household, or community where people share common interests or goals. As a type of intentional community, the members of a commune would share income alongside the typical work responsibilities, resources, and living areas, and a higher authority usually enforces this sharing within a commune. The founders of a commune are usually friends or social acquaintances with similar interests. According to the group size, they may share from a single household to larger communities. The membership of a commune is much stricter, and new members generally must acquire the approval of all current members before joining. Decisions in a commune are reached by the consensus of all members, and usually, individual ownership of property or income is forbidden; everything is shared equally (Rankin 2022). One of the oldest surviving communes is the Sunburst Sanctuary, also known as the Brotherhood of the Sun, founded in California in 1969. The central ideology that the commune was built from was self-realization. The intentional community was formed around spiritual beliefs, and community meditation activities strengthened those beliefs. The original Sunburst Sanctuary was situated on 4000 acres of farmland. They had a spiritual leader with the power to dictate collective activities in the commune and often organized spiritual events. In the 1970s, the commune members lived in poverty and chastity; they lived without electricity and running water. The members shared weekly allowances of 5 dollars, and organic vegetable was their primary source of revenue. They also opened a small café, a juice factory, a bakery, and a wholesale market where they sold and shipped their organic vegetables. The Sunburst Sanctuary members lived a holistic communal lifestyle base on meditations, living off the land, organic farming, and collective growth.

Fig. 3.4 Hippies Commune Farming

Co-Operative Housing

Co-operative housing is a form of non-profit housing established in Canada under the government's social housing programs targeting people with low to medium incomes. These housings are co-operatively owned and managed; they are also often government-sponsored. The units come in various typologies, including apartments, mid-rises, single-detached housing, and townhouses. The residents are membership-based, with the membership being granted by share purchases in the co-operative and the occupation of one private unit. The degrees to which amenities are shared vary from building to building and is depended on how the building is designed. Most co-ops have at least some community spirit, doing activities like meal-sharing and collaborating on chores. Canada's Housing co-operatives started with other co-operative initiatives in the 1930s. During the 1960s, housing co-ops began to win government support for affordable housing, and the Co-operative Housing Foundation of Canada was formed in 1968. The Canadian government financed the development of thousands of co-op housing from 1973 to 1992, and the demanding work paid off (Housing International 2019). The 60 Richmond housing co-op was Toronto's first housing co-operative in 20 or so years; constructed by Teeple Architects and completed in 2011. This mixed-use building has 11 stories and 85 units. The building is meant to house the hospitality industry workers and their families who were displaced due to the reconstruction Renewal project of Regent Park. A central idea that drives 60 Richmond is to incorporate social spaces dedicated to food and production within the building. The resulting urban permaculture is a small self-sustaining ecosystem owned and operated by the residents. The food grown on the sixth floor of the building would serve the restaurant and training kitchen located on the ground floor of the building, and the organic waste, in turn, serves as compost for the gardens. The building's requirement to lower maintenance costs also resulted in many innovative design solutions; durable materials were combined with energy-saving techniques like energy recovery systems and a reduced carbon footprint (Teeple Architects 2010).

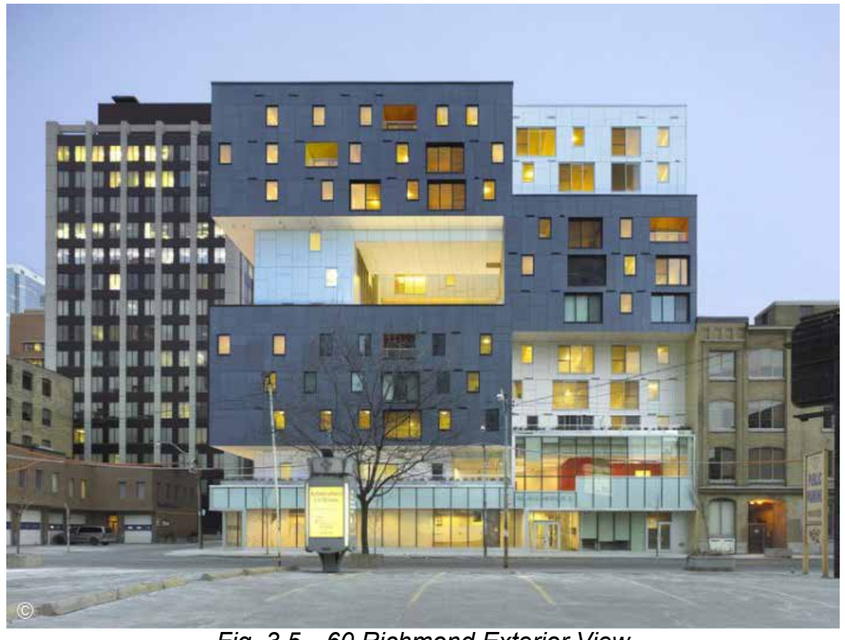


Fig. 3.5 60 Richmond Exterior View

Supported Living

This typology is a specialized intentional community designed for elderly or disabled people. The goal of supported living housing is to help the people in need maintain a normal lifestyle with constant support available on site. Supported living comes in many different typologies and is generally divided into categories based on the physical and mental needs of the residents. The residence is generally shared with a group of people with similar conditions and offers the same services. One sub-category of supported living is assisted living, which are communities designed for the elderly wanting to live independently but with help nearby if needed. This typology would provide nursing services, meal preparations, housekeeping, and other necessary services. The residents would live in a private residence of their choosing and share a common space with various programs, activities, and social events to keep them active. On the other hand, supported living communities would give those in need medical assistance, caregiving, and social activities. However, there is the benefit of financial aid through insurance and other financial assistance programs. Common typologies of assisted living include retirement homes, mental wards, medical homes, personal care homes, and long-term care homes. In these communities, the more heavyset chores are done by assistants, such as cleaning and cooking, while there is generally a common space for daily lounging, dining, and joint activities (Anon 2022). There are no specific examples of this communal living typology because it comes in many variants from built projects dedicated explicitly to extensive care and organizations that provide in-home services.

Fig. 3.6 Senior Assisted Living Activities

Student Housing

The student housing residential buildings are designed and explicitly conceived for short-term stays and are managed by their respective educational authorities. These living arrangements are generally offered to students through specific educational institutes such as universities as an extra service besides tuition. The rent would be paid through a simple contract that often includes a private bedroom, wi-fi, water, and electricity bills. The building can be divided into multiple apartments with multiple students living in each, sharing the facilities and living in private bedrooms. In addition, student housing would sometimes include extra shared amenities such as study halls, quiet rooms, a gym, reading spaces, a library, meeting rooms, and event spaces specifically geared towards the students. (Housing International 2019). The Teitgen Student Dormitory was designed by Danish architects Lundgaard & Tranberg and is located in the Ørestad district of Copenhagen, Denmark. The dormitory has 360 units, arranged in blocks of 12 units across 7 floors. Each private room has a bedroom and a washroom; between each block, there is a shared living area and kitchen that the students themselves can furnish. The building is circular, and the ground floor is designed to include multiple common facilities such as the café, an auditorium, computer labs, study rooms, workshops, laundry, and meeting rooms. At the same time, the private units are located on the other stories. The dorm rooms are placed on the outer side of the circular shape with an open view of the surrounding landscape. At the same time, the common spaces and hallways are oriented inwards towards the courtyard to initiate interactions between the students. The core concept of this student dormitory is to encourage the social and personal development of the students and enable all different kinds of interactions within (Lundgaard & Tranberg Architects 2014).

Fig. 3.7 Tietgen Student Dorm Internal Courtyard

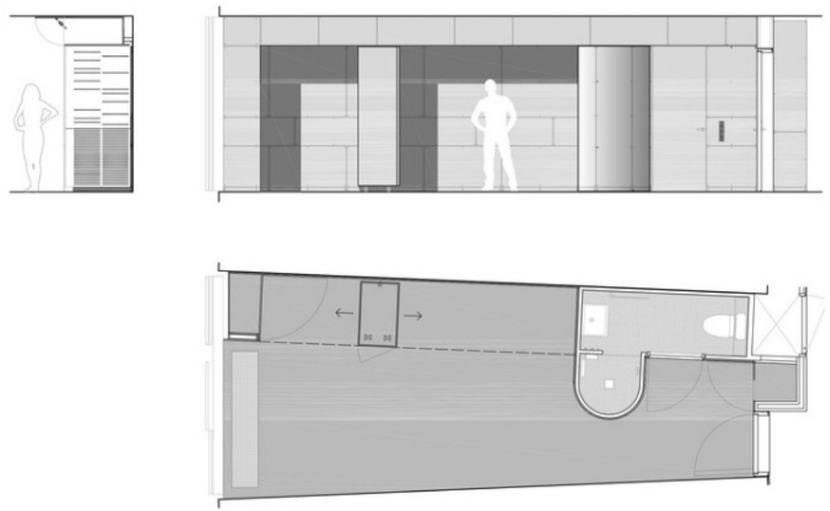


Fig. 3.8 Tietgen Student Dorm Room Layout

Co-living

Co-living spaces and services are inspired by the success of co-working companies such as WeWork. This success allows the companies and enterprises to expand into the residential realm and offer living spaces with high levels of comfort, flexibility, and collectivity. In the modern era, the sharing aspect of everyday life is in full swing; many people today value life's experiences over the material aspects. Co-living buildings would offer residences of different typologies generally geared more towards short-term stays; however, some residents choose to stay long-term in co-living spaces due to the affordability. The rent rate of a co-living residence is lower than a typical studio apartment, and there is no need for the resident to furnish their living spaces and pay for extra services like internet and hot water. The co-living building would offer a range of shared spaces in the form of a big common area, containing spaces such as shared living rooms, dining areas, lounges, activity spaces, gyms, co-working spaces, cinemas, and common kitchens. One significant advantage of co-living is the ease of booking. The potential resident can have access to bookings online through the websites. The contracts are generally simple and effective, including services like wi-fi, cleaning, security, electricity, and water at per week rent rates. Modern co-living offers living accommodations for a sector of the population determined to grow and learn in the presence of others; the residents live, work, play, socialize, and create together in energized communal atmospheres (Livingston 2022). The co-living community would often take measures to welcome new residents and host various community activities such as dinners, barbeques, movie nights, and other social events to bring people together.

In the past 10 years or so, there has been a rise in the building of co-living spaces around the world. There are several factors at play, travel is easy, some companies are becoming remote working, housing prices continue to rise, and there is a great deal of attention paid to urban isolation and the need for community. In 2015 the company Common Co-living was launched in New York, they currently own 25 locations in the United States, and its members can communicate through a phone application that allows the residents to bond and organize collective activities like bike runs, hikes, brunches, and yoga classes to bond with one another. In 2016 the first large-scale co-living apartment opened in the United Kingdom named the Collective. This company's mission was to use the co-living spaces as a tool to find new people, learn new skills, experience flexible housing contracts, and enjoy the alternative ways of living stress-free. Another major co-living company is Quarters which was established in 2017 with 45 properties in Berlin and 47 in New York operating today. These spaces are geared towards young professionals and people who enjoy co-living and co-working combined in a bundle. Co-living spaces are ideal for meeting new people and building strong social networks, and there are some residences specifically for artists, start-ups, remote workers, students, and young professionals (Coliving.com 2020). The idea that the people with similar goals and interests live together under one roof will allow for more networking and structuring opportunities; the residents would also likely host events explicitly geared towards their areas of interest and professions. Today many co-living companies have their goals set on expansion because the critical housing shortage and rental prices in large cities continue to rise steadily. There are sectors of the population that tend to lean towards communal living and sharing resources to survive. These alternative ways of living would continue to gain in popularity and demand.

As a member of the Collective co-living company, the Collective Old Oak, located in London east, opened its doors in May 2016. It was described as the most extensive co-living development globally, with 550 private units, 1114 square meters of shared commons spaces, and 400 co-working units. This building, built by PLP Architects in collaboration with the Collective, is meant to resolve the housing shortage affecting young people in the contemporary city. With the current housing being either expansive or inadequate, younger generations are increasingly marginalized and pushed out of urban centers. As a solution, the Collective Old Oak location is developing a strategy for affordable housing that is high density, communal, and is built around shared facilities. The target demographics are the people from 21 to 35 years old looking for an affordable place to stay in London. This hybrid typology integrates shared and private spaces through an arrangement of living spaces, working, creating, exchanging, and entertainment spaces that form a vertical neighborhood. The building allows for small clusters of people to meet in the shared areas and makes people feel comfortable in each other's presence. A central component is the co-working space which acts as an incubator for young professionals to network and add energy to the

atmosphere. A central hub located at the intersection of two significant formal volumes provides a series of amenities that contribute to the interaction of the residents, a games room, spa, garden, showroom, library, and laundry. The Collective Old Oak is geared towards more long-term stays based upon an annual contract, so the private quarters include a bedroom, kitchenette, and bathroom. The goal was to reconceptualize high-density housing and envision a new way of occupying the urban environment apart from existing models and social norms (PLP Architecture 2018).

Fig. 3.9 Collective Old Oak Exterior

As things Progress

Communal and shared living has existed throughout the times; this style of living has always existed since humans came to be. It is human nature to form relationships with one another and, through those bonds, gain support from people outside of their direct extended family. When nuclear family typology emerged, it was due to the economic and social conditions of the time. As a method to achieve stability, the work and family structure shifted to accommodate. After many years of stability in modern times, there are new factors in the social and economic field that prompt people to adapt and find new ways of living aside from the typical nuclear household. The increase in urbanization, the housing crisis, the influx of urban loneliness, and the dire need for affordable and flexible accommodations are all significant current issues that inspired quests to discover alternative ways of living. People are looking to the communal living model, and adapting those shared living strategies is one of those ways. The typologies revealed the importance of shared spaces and creating opportunities for interaction between the residents in this section. The area of common spaces and the available amenities should be carefully calibrated to suit the target demographics. In the next section, there will be examples of the more experimental alternative communal living project from around the world.

Endnotes

Anon. 2021. “Yarrow Ecovillage.” Wikipedia. September 21, 2021. Accessed April 14, 2022, https://en.wikipedia.org/wiki/Yarrow_Ecovillage.

Anon. 2022. “Supportive Housing Options.” Ontario.ca. 2022. Accessed May 04, 2022, https://www.ontario.ca/page/supportive-housing-options.

Blomberg, Ingela, and Kerstin Kärnekull. 2019a. “Do-It-Yourself: The Stony Road to Cohousing in Sweden.” *Built Environment 45 (3)*: 280–95. https://doi.org/10.2148/benv.45.3.280.

Canadian Cohousing Network. 2010. “Pacific Gardens.” Canadian Cohousing Network. 2010. Accessed May 20, 2022, https://cohousing.ca/communities/bc/pacific-gardens/.

Depaulo, Bella M. 2015a. *How We Live Now : Redefining Home and Family in the 21st Century*. Hillsboro, Oregon: Atria Books/Beyond Words.

Groundswell Cohousing. 2012. “Our Story.” Groundswell Cohousing at the Yarrow Ecovillage. 2012. Accessed May 20, 2022, https://groundswellcohousing.ca/our-story/.

Housing International. 2019. “Canada Archives.” Cooperative Housing. June 2019. Accessed May 20, 2022, https://www.housinginternational.coop/co-ops/canada/#:~:text=The%20first%20student%20housing%20co.

Knapp, Francky. 2019. “The Last Great California Hippie Commune Is Still Going Strong.” Messy Nessy Chic. April 23, 2019. Accessed May 20, 2022, https://www.messynessychic.com/2019/04/23/the-last-great-california-hippie-commune-is-still-going-strong/.

Livingston, Amy. 2022a. “Communal Living & Cohousing - Types & Benefits of Intentional Communities.” Moneycrashers. January 31, 2022. Lind, Diana https://www.moneycrashers.com/communal-living-cohousing-types-benefits-intentional-communities/.

Lundgaard & Tranberg Architects. 2014. “Tietgen Dormitory / Lundgaard & Tranberg Architects.” ArchDaily. February 7, 2014. Accessed May 20, 2022, https://www.archdaily.com/474237/tietgen-dormitory-lundgaard-and-tranberg-architects.

Mccamant, Kathryn, Charles Durrett, and Ellen Hertzman. 2003a. *Cohousing : A Contemporary Approach to Housing Ourselves.* Berkeley, Calif.: Ten Speed Press.

Mccamant, Kathryn, Charles Durrett, Bill Mckibben, and New Society Publishers. 2019a. *Creating Cohousing : Building Sustainable Communities.* Gabriola Island, Bc: New Society Publishers.

Paulsen, Norman. 2017. “Intentional Community.” Sunburst. 2017. Accessed May 20, 2022, https://sunburst.org/intentional-community/.

PLP Architecture. 2018. “The Collective Old Oak.” Www.plparchitecture.com. June 2018. Accessed May 04, 2022, http://www.plparchitecture.com/the-collective-old-oak.html.

Rankin, Alan. 2022. “What Is a Commune? (with Pictures).” Www.wise-Geek.com. February 10, 2022. Accessed May 02, 2022, https://www.wise-geek.com/what-is-a-commune.htm.

Teeple Architects. 2010. “60 Richmond Housing Cooperative / Teeple Architects.” ArchDaily. November 2, 2010. Accessed April 05, 2022, https://www.archdaily.com/85762/60-richmond-housing-cooperative-teeple-architects.

Windsong. 2010. “WindSong - Cohousing Community.” WindSong - Cohousing Community. 2010. Accessed April 12, 2022, https://windsong.bc.ca/.

CHAPTER 4

Cluster Living Typologies

Modern Communal living is gradually becoming a widespread phenomenon. Different enterprises and architects are exploring the possibilities of shared living by building various conventional or experimental projects. In the following chapter, this thesis will examine a few notable explorations into communal living and identify critical factors that make up their design strategy. For each case study, this thesis will investigate the crucial general information such as the number of units, the number of residents, and common facilities. Then there will be a more in-depth analysis of these projects' private and public spaces to extract the key factors that will govern the design of a successful communal living project.

The analysis will be in 2 parts; the first part will examine the overall strategic organization methodology of the projects. Key elements such as circulation, program, and public space will be explored. The second part will look in-depth into the design of the cluster apartment typologies within these buildings. The shared amenities and private units will be scrutinized to understand what works well and needs improvement in each design. By extracting these essential elements, there will be a complete understanding of the design of alternative living apartments.

Heizenholz- Kraftwerk1

Architect: Adrian Streich Architekten AG
Project year: 2012
Project Location: Zurich, Switzerland
Residents: 85
Units: 26

Heizenholz is the second project sponsored by the housing cooperative named Kraftwerk 1. The project is a reconversion of two existing apartment buildings from the 1970s and the insertion of a 7-story communal terrace that connects the two buildings. The original building was in dire need of renovation, and the original plan consisted of many small rooms that were ideal for conversion into a communal living form. The first design innovation comes in the form of cluster apartments. There are 26 apartment units in the building, and apart from the typical private single apartments, the design includes the formation of 2 multigenerational cluster apartments on the second and third floors. Each cluster has 6 private units and a meandering common space shared between 10 residents. The common space is designed to divide different areas within the same space, and centrality is given to the shared kitchen and dining area. There is an extra living corner for socialization between the residents, and the common area is connected to the terrace commune. There is a range of private units in the cluster with 3 single room units, 1 double room unit, 1 triple room unit, and 1 guest room. Except for the guest room, the units come equipped with a kitchenette, a washroom, storage, and a bed.

The second design innovation is the terrace commune, which is the project's centerpiece. The series of terraces and stairs connect the two buildings, and the common outdoor spaces connect to the courtyard on the ground floor and extend all the way to the roof. The terraces are built wide to support outdoor interaction and public furniture; it invites the residents to linger, eat, play, and act as a meeting place for the residents. Since it is not considered a fire escape, the terraces can be furnished freely, and the residents bring out planters, chairs, and grills to place on the terrace. The extended central courtyard is a spillover space to the ground floor, which has a common room with a kitchen that can accommodate parties, meetings, and community dinners.

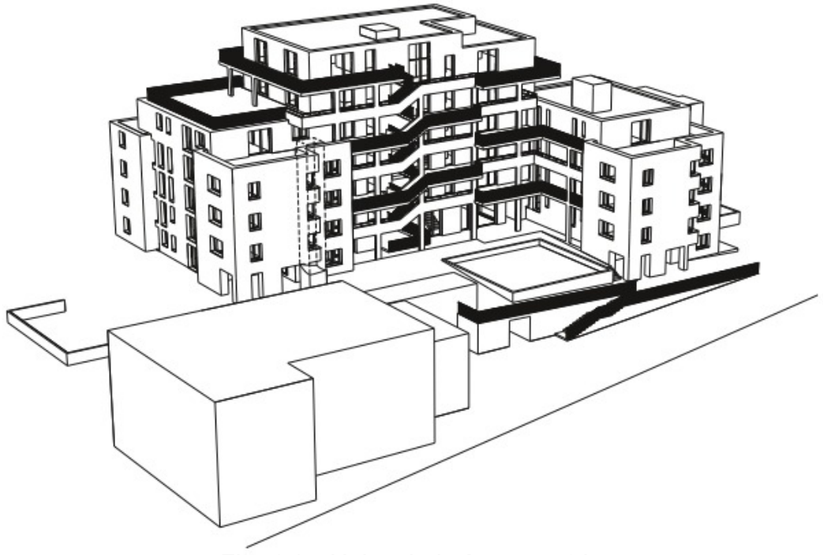


Fig. 4.1 Heizenholz Axonometric

Fig. 4.2 Heizenholz Terrace Commune

Fig. 4.3 Heizenholz Terrace Commune Resident Furnishing

Fig. 4.4 Heizenholz Terrace Commune Planters

Fig. 4.5 Heizenholz Terrace Commune Public Stairs

Fig. 4.6 Heizenholz Courtyard

Fig. 4.7 Heizenholz Floorplan Cluster Apartment Unit

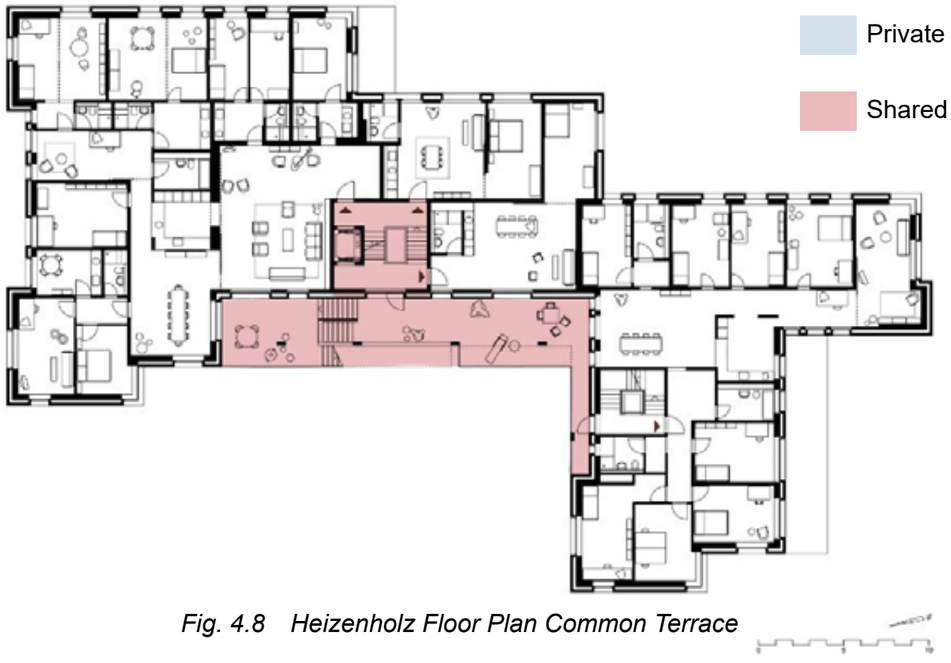


Fig. 4.8 Heizenholz Floor Plan Common Terrace

Fig. 4.9 Heizenholz Terrace Commune Exterior View

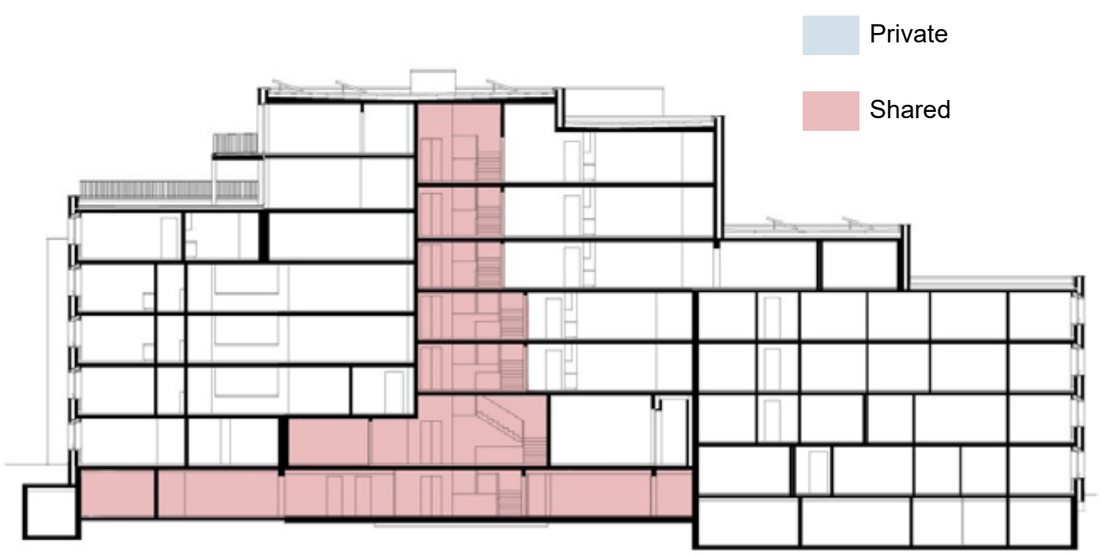


Fig. 4.10 Heizenholz Shared Circulation

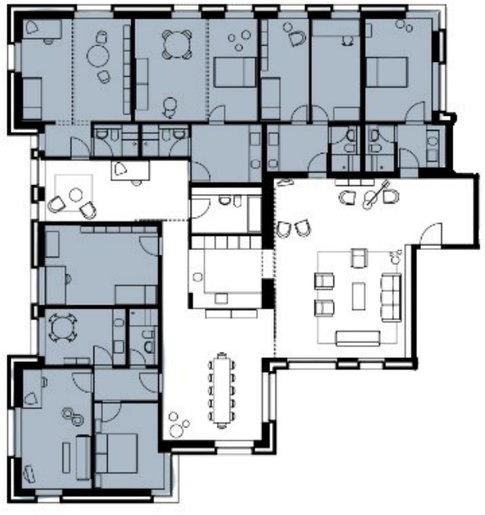


Fig. 4.11 Cluster Apartment Private Units

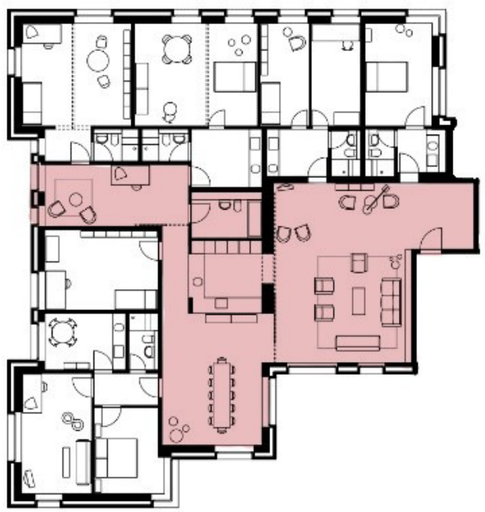


Fig. 4.12 Cluster Apartment Common Space

Observations

The terrace common is an excellent strategy for bringing the residents together to decorate a relatively common space; however, one issue is the lack of spatial hierarchy. Since the terrace communes are open to everyone, including the neighbors, means everyone has access, and some items were reported stolen. Within the cluster apartments, the layout of the common space promotes flexibility of usage, and the residents use the buffer spaces well. In addition, the presence of the shared kitchen helps bring people together and encourages the sharing of meals. However, the private units are designed with fixed furniture, so there was less flexibility in the variance of use from day tonight. Nevertheless, this project successfully builds community spirit and the design of common spaces.

Fig. 4.13 Cluster Apartment Common Space View

Coop Housing at River Spreefield

Architects: Carpaneto Architekten + Fatkoehl Architekten + BARarchitekten
Project Year: 2013
Project Location: Berlin, Germany
Buildings: 3
Units: 64

This project is a housing co-operative that is jointly developed and administered. This project aims to create a socially just, affordable, and environmentally responsible urban block. The housing coop is open to the surrounding areas because they do not close off the ground floor area like a typical private residential block. The project includes a variety of programs open to the public, such as a kindergarten, a workshop, and open spaces available for public use on the ground floor. The private units site above offers a range of different units, from typical compact apartment units to cluster apartments housing up to 21 residents. There are 3 apartment buildings on the block, and each of these separate buildings offers a semi-public rooftop garden and open terrace shared by the residents. The project has well-differentiated public, communal, and private spaces that service different groups of people within the building. The ground floor is entirely public to reflect an open attitude to the surrounding environment. There is a carpentry workshop, catering kitchen, working studios, co-working space, and daycare. In addition to these, an option room is available that is unfurnished and unassigned so that the space can be used for various events and activities.

The project has 6 cluster apartments available apart from conventional private apartment buildings. Each cluster apartment can provide units for 4-21 residents, and there are single-room units and double-room units available. The private units in the cluster apartments are equipped with a kitchenette, a bathroom, a bed, and a private terrace. The common area of the cluster apartment includes a shared living room, a kitchen, dining space, a bathroom, and a communal terrace. Also shared with the rest of the building are services such as laundry rooms, fitness center, guest rooms, roof terraces, and a music room. The resident population is diverse, with some multigenerational families living in the cluster apartments. The residents themselves carried out the construction of the units, and in the cluster apartment, the common area was furnished by resident consensus.

Fig. 4.14 River Spreefield Exterior View

Fig. 4.15 River Spreefield River View

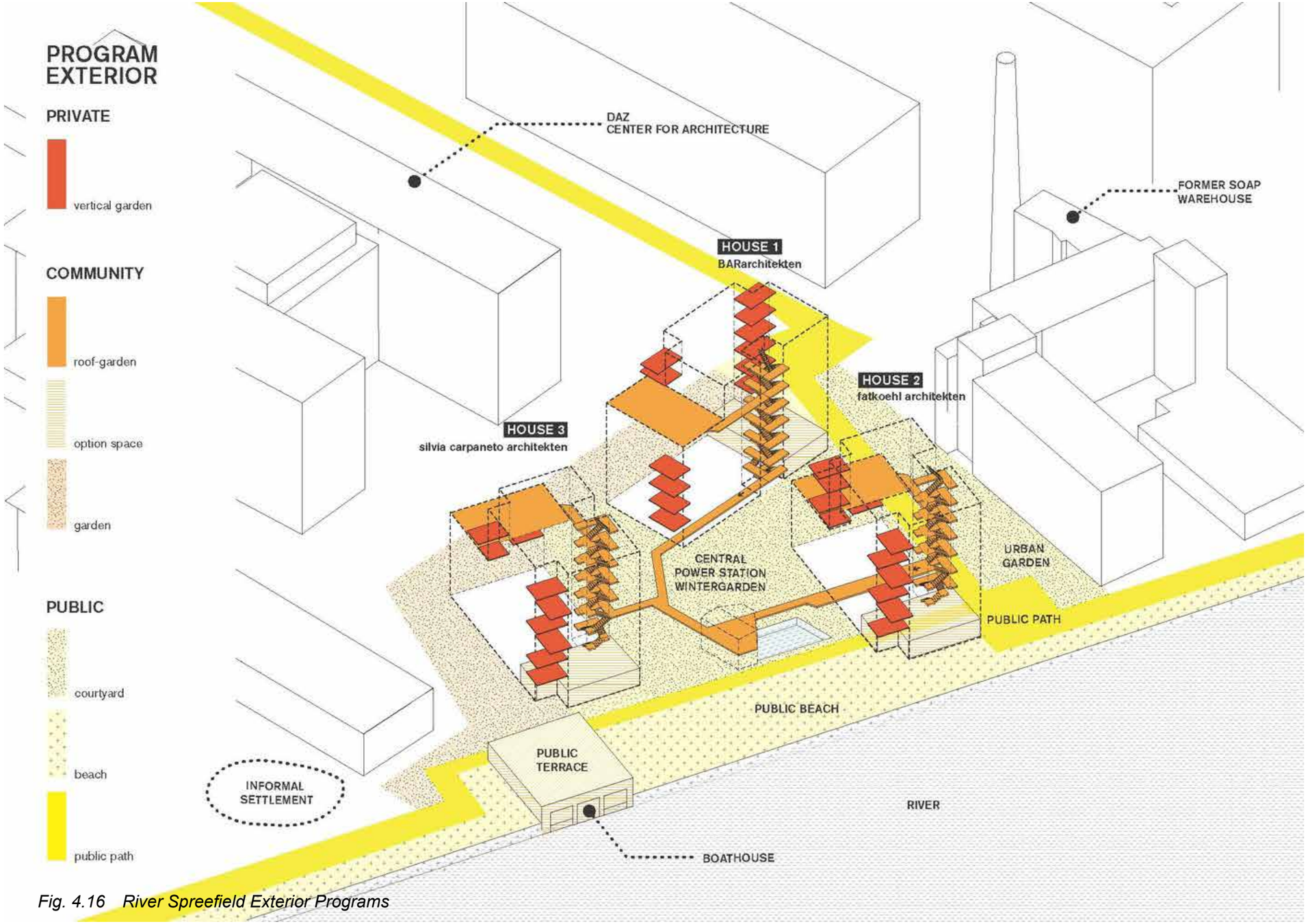


Fig. 4.16 River Spreefield Exterior Programs

PROGRAM INTERIOR

STANDARD FLAT
54-290 m²

47 %

total: 3580 m²

CLUSTER UNIT
H1: 705 m²
H2: 580 m²
H3: 620 m²

25 %

total: 1.905 m²

COMMUNAL TERRACE
3 x 140 m²

6 %

total: 420 m²

OPTION SPACE
3x 128 m²

5 %

total: 384 m²

COMMUNAL SPACE
guests
fitness
salon
kids space
storage
laundry

4%

total: 350 m²

COMMERCIAL UNIT
44-273 m²

13 %

total: 980 m²

TOTAL: 7.620 m²

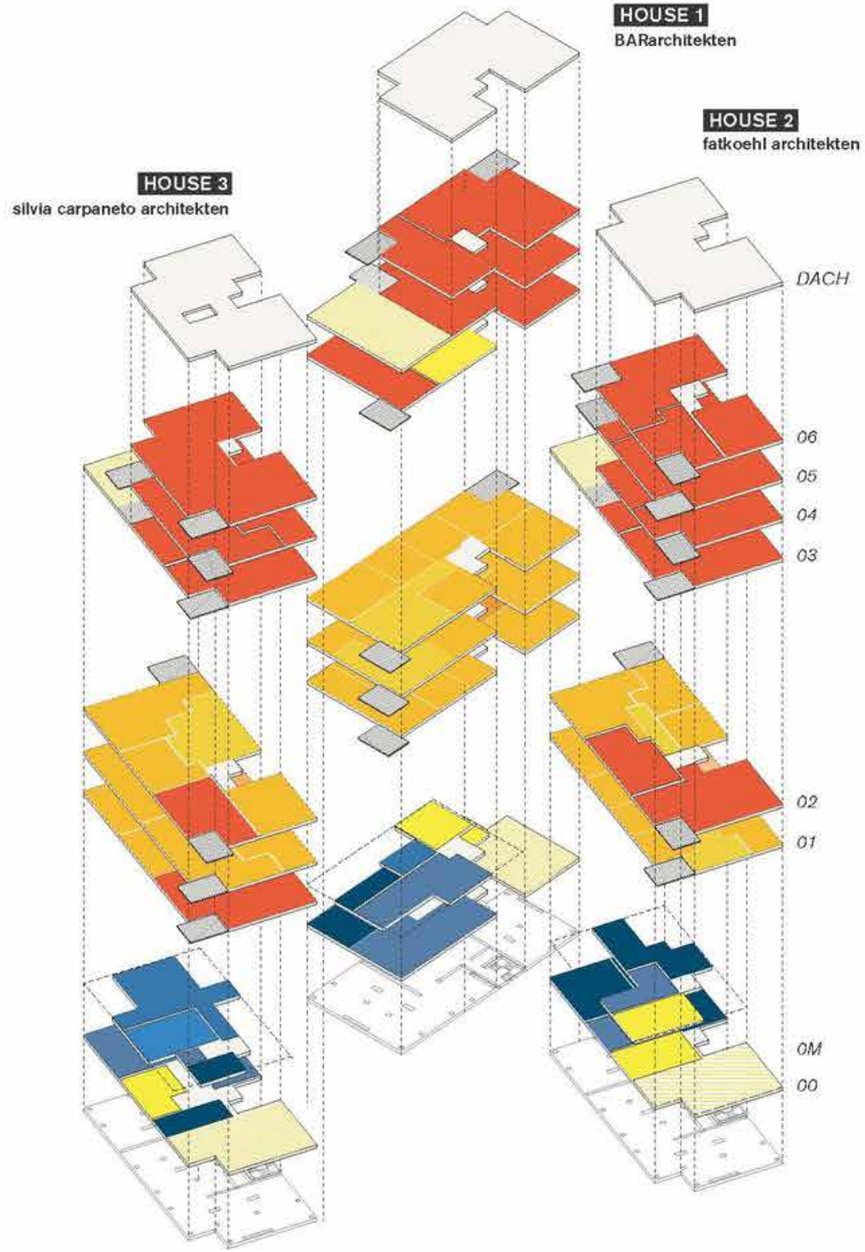
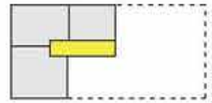


Fig. 4.17 River Spreefield Interior Programs

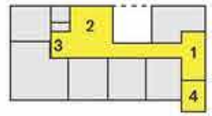
CLUSTER UNIT

COMMUNAL SPACES

1 living room
2 kitchen
3 bathroom
4 communal terrace



2ND FLOOR



1ST FLOOR

SINGLE UNIT

5 mini-kitchen
6 bathroom
7 bed
8 private terrace

Fig. 4.18 River Spreefield Cluster Apartment Layout

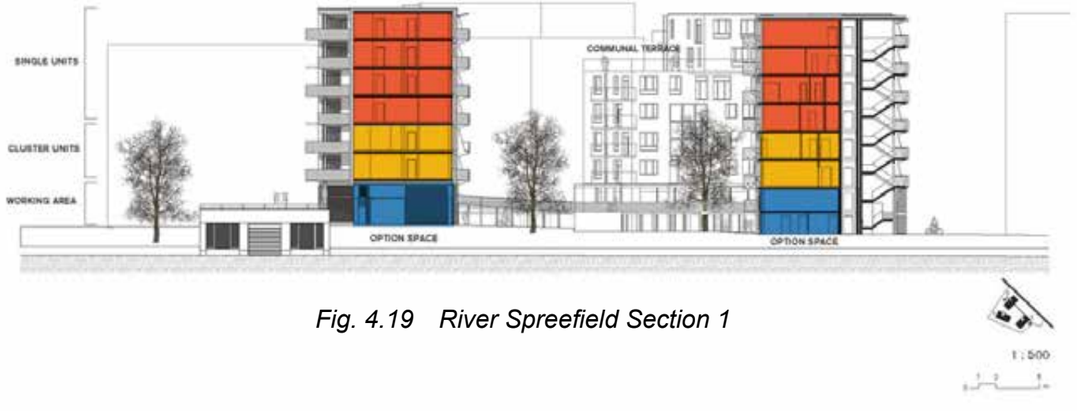


Fig. 4.19 River Spreefield Section 1

Fig. 4.20 River Spreefield Section 2

Observations

The arrangement of public and private spaces worked very well in this project, and it encouraged the intermingling of the surrounding public and the residents of the project. The workshops were rented out regularly, and the unfurnished rooms were well used by both the public and the residents as event space. Since there were no apparent barriers on the ground floor, people were encouraged to wander onto the project premise and create a more vibrant ground level. Within the buildings, the different typologies of units work out well to accommodate different sizes of families, and the semi-public services shared between the residents are appropriately sized in scale to the population. However, there is not enough flexibility between the units. Hence, it becomes problematic when the residents want to expand their families. The upper floors, which contain the conventional apartment units, do not have direct access to the shared areas. The idea that everyone furnishes the common space together within the cluster apartments is well thought out to provide for everyone. However, there is wasted space given to the corridors too small to furnish, which then becomes unused area.

Fig. 4.21 River Spreefield Terrace View

LT Josay Share House

Architects: Naruse Inokuma Architects
Project Year: 2013
Project Location: Nagoya, Japan
Residents: 13-20
Units: 13

This project was constructed and designed to alleviate housing demand in Japan. The goal was to seamlessly integrate communal spaces with private spaces and allow strangers to share those spaces and build good relationships. The typology is based on a historical share house typology that was culturally normal in Japan. Related people lived in large houses and shared living rooms and water systems. However, in this case, it would be a group of strangers living together and sharing the space naturally with one another. For strangers to share spaces naturally without conflict, a sense of comfort induced by design would be a key factor. The shared spaces contain communal bathrooms, a kitchen, dining spaces, leisure spaces, and a living room lounge. The spaces are not enclosed and naturally flow into different usages to encourage flexible use and eliminate dead space. The larger spaces, such as the entrance hall and atrium, are designed to gather multiple people, and there are smaller spaces like corners and window seats are perfect for spending quality time alone.

The private units are minimally designed as micro-apartments with only 11.8 square meters of private space assigned to each resident. The units contain only a bed and storage, while all other services and resources are shared with the rest of the house. The goal was to draw activity to the well-designed common spaces and promote interaction between the residents. Therefore, all the spaces within the project are assigned different comfort levels, spaces geared toward gatherings, and places for spending time alone. For example, the kitchen area is perfect for gatherings of 2-3 people, and the rug space on the first floor is a relaxed buffer zone suitable for spending time alone or with one other person. With the creation of these spaces, the residents can use the entire house casually as an extension of their minimal individual rooms.

Fig. 4.22 LT Josay Share House Exterior View

Fig. 4.23 LT Josay Share House Interior View

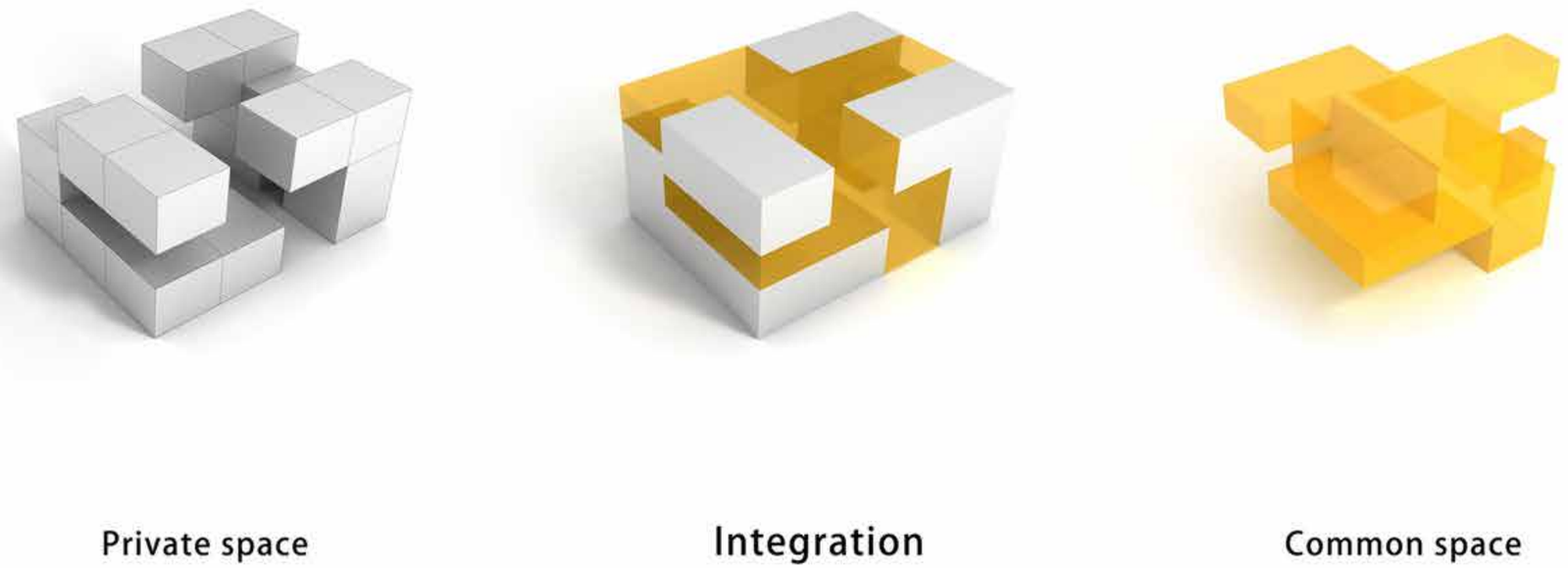


Fig. 4.24 LT Josay Share House Space Diagram

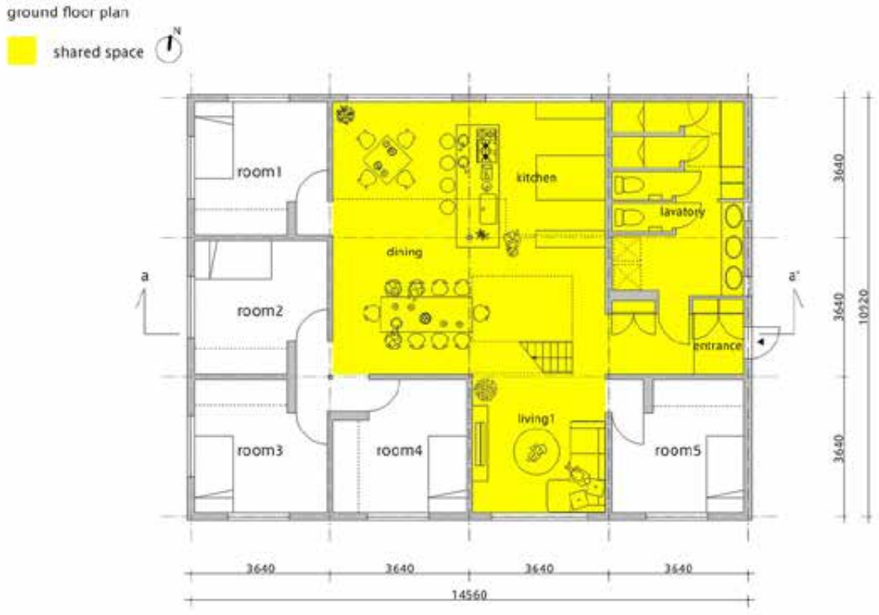


Fig. 4.25 LT Josay Share House Ground Floor Plan

Fig. 4.26 LT Josay Share House Ground Floor Interior

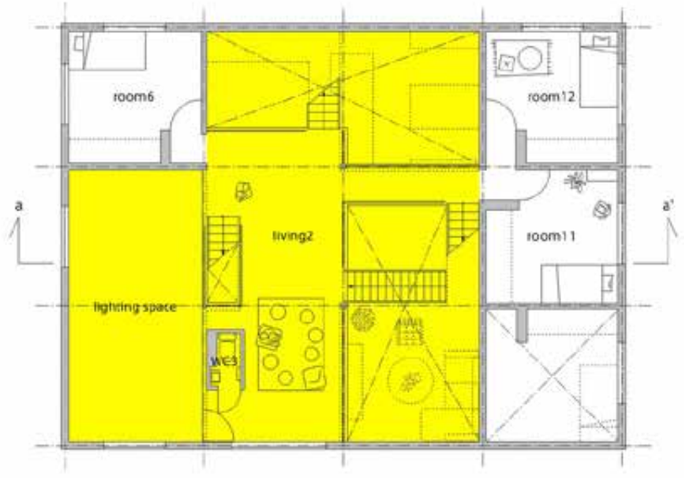


Fig. 4.27 LT Josay Share House First Floor Plan

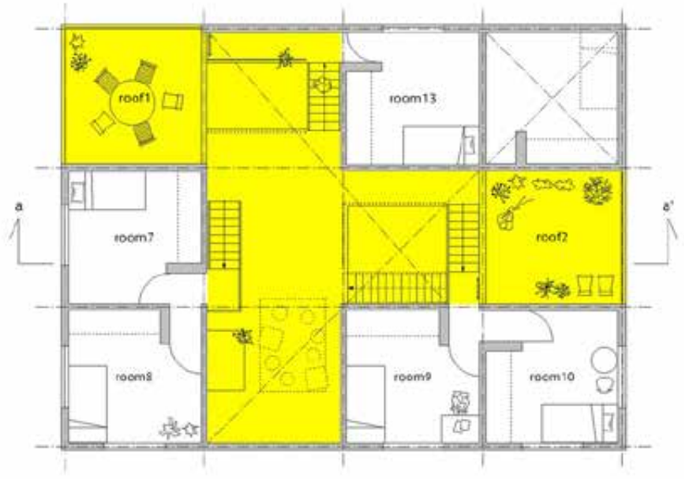


Fig. 4.28 LT Josay Share House Second Floor Plan

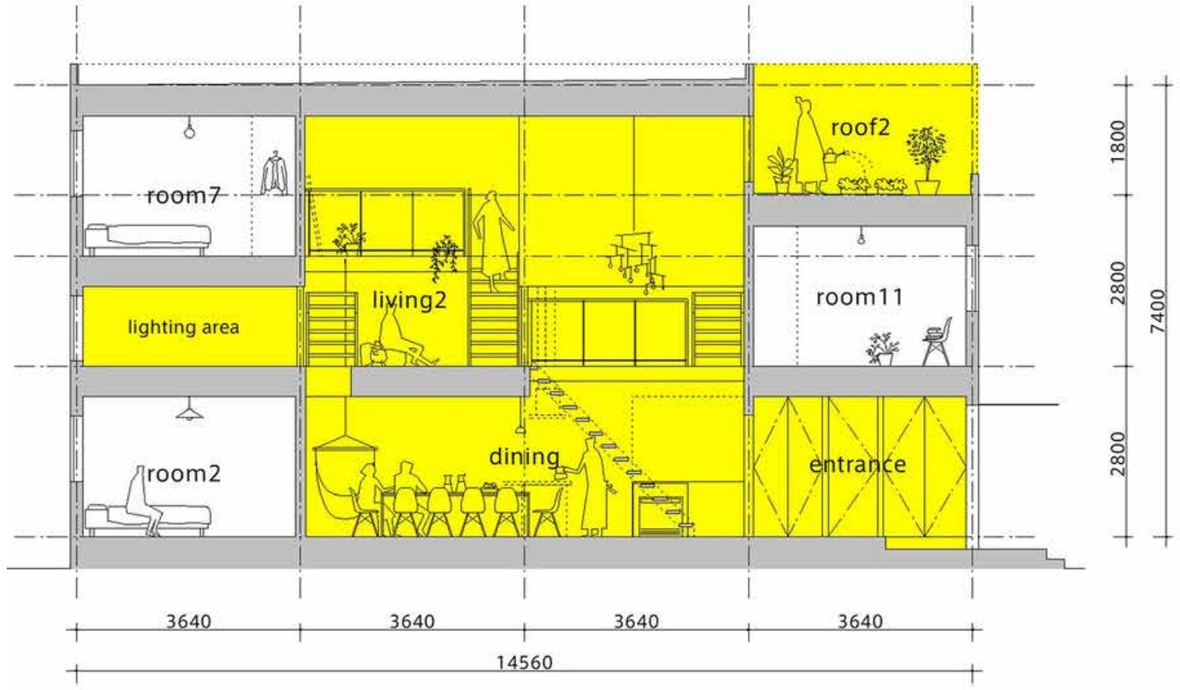


Fig. 4.29 LT Josay Share House Section

Observations

While the shared house successfully creates a comfortable atmosphere with varying degrees of privacy and comfort, there are certain issues with the shared resources. One main problem would be the proportion of utilities to the residents. The shared kitchen is equipped with only one sink and a cooker, so only one resident can manage the kitchen at once. In conjunction, the number of sofas does not satisfy a gathering of all household members, and the bathrooms cannot accommodate more than 4 people at once, posing certain privacy and usage issues. On the other hand, an alternating double-head space and windows allow ample daylight in the house, adding to the sense of comfort. There is enough space for a single resident to lounge comfortably within the private unit, but there is not enough flexibility in the differentiation of use from day to night. The volume of common spaces can be articulated as a single volume that holds together the private units. The common spaces traverse all 3 floors of the house and successfully provide for the social needs of the residents. Also, by moving some of the typically private elements, such as kitchens, fully into the common area, there can be a cut-down in the redundancy of services within the project.

Fig. 4.30 LT Josay Share Common Space

Dialogweg 6 – Mehr Als Wohnen

Architects: Duplex Architects
Project Year: 2015
Project Location: Zurich, Switzerland
Cluster Apartments: 11
Units: 120

Dialogweg 6 is building A of the 13 experimental alternative living apartment projects that make up the Mehr Als Wohnen “More Than Living” masterplan in Zurich. The overall master plan was funded by 50 co-operatives that banded together to support the projects financially. This master plan responded to Zurich’s housing crisis due to rising housing costs. There was a city-sponsored competition for the master plan, which is situated on a former industrial site. The vision for this competition was to create a part of the city that is affordable and public-oriented. The winning master plan by Futurafrosch and Duplex Architects proposed a series of small independent residential buildings arranged across 13 lots. The buildings are connected through a series of public pathways, parks, and shared spaces traversed through the ground-floor open programs in the residential buildings containing workshop spaces, retail, and community rooms. The final master plan contains 1200 residents, 150 employees, 395 dwellings, 35 retail spaces, and shared community facilities.

Out of the 13 buildings, Dialogweg 6 or Building A was an investigation into communal living in a cluster house typology. This project was designed as an urban alternative housing typology that allows people to live with various degrees of privacy and flexibility. Within the building, there are several cluster-concept apartment units where the residents rent out a private unit space and share the rest of the floor as a collective forming a micro-community. There are 2 cluster apartments on each floor arranged across 6 stories. The ground floor is an open program workshop for people with disabilities designed according to the master plan. Dialogweg 6 is characterized by a central atrium that serves as the circulatory core and place of interaction. The common space takes on an irregular shape in the cluster apartment and contains programs such as a shared kitchen, dining, living room, terrace, laundry, and extra living customizable spaces. There are single and double-room private units available for the residents, and they come equipped with beds, a kitchenette, a bathroom, and a living room for the double room units. The common space is quite generous, so the cluster apartments provide a gathering space and the option to retreat to a private unit.

Fig. 4.31 Mehr Als Wohnen Masterplan

Fig. 4.32 Dialogweg 6 Exterior

Fig. 4.33 Dialogweg 6 Courtyard

Fig. 4.34 Dialogweg 6 Cluster Apartment Common Area

Fig. 4.35 Dialogweg 6 Cluster Apartment Common Kitchen

Fig. 4.36 Dialogweg 6 Floorplan

Fig. 4.37 Dialogweg 6 Internal Circulation

Fig. 4.38 Dialogweg 6 Internal Social Stairs

Fig. 4.39 Dialogweg 6 Cluster Apartment Private Units Plan

Private

Shared

Fig. 4.40 Dialogweg 6 Cluster Apartment Common Space Plan

Observations

The irregular meandering shape of the common space in the cluster apartment eliminates the waste of corridor space and gives character to the project. This allows for the creation of different program areas and direct access to the private units. However, with the irregular shape, there are corners and spaces too small for proper usage, and there are areas with not enough pieces of furniture. The creation of these leftover spaces is located awkwardly, such as a reading space right next to a private unit door where rarely anyone would be using it. For some clusters there are also small shared spaces that are not connected to the larger shared area, which means the residents would have to leave the cluster to access this space. The private units are designed well with a high level of spatial efficiency; however, there is a lack of separation between day and night usage.

Fig. 4.41 Dialogweg 6 Cluster Apartment Shared Amenities

The Gap House

Architects: Archihood WXY
Project Year: 2015
Project Location: Seongnam, Korea
Cluster Apartments: 6
Units: 17

This project is designed with a target demographic: the young, single-demographic household. The surrounding area has a few universities, so housing for young professionals and recent graduates was in high demand. For that reason, the Seongnam area was crowded with multi-dwelling unit typologies, student housing, and studios. However, most of these accommodations were built without consideration for outdoor spaces, gardens, or gathering spaces. The typical neighborhood character was that of monotonous and generic-looking units designed for maximum profit and spatial efficiency. Some of these living spaces were poorly designed to support the lifestyle of young professionals. The architects of Gap House composed the building as four blocks surrounding an internal courtyard. The blocks are intercepted by long narrow balconies that create open-air meeting spaces and lovely exterior views. The open interior courtyard allows for ample daylighting and natural ventilation in the house units. On the ground floor, a u-shaped block containing a shop and a doorstop ensures the privacy of the house entrance staircase.

There are 3 floors of residential spaces, and each floor contains 2 cluster apartments with shared common spaces and 2-3 private units. The project seeks to support an alternative lifestyle of young professionals by sharing common areas such as dining, kitchens, bathrooms, living rooms, and balconies. The balconies, referred to as the gap, helps bring in nature and encourage the mingling of the housemates. The house is designed to give enough privacy to the residents and create various opportunities for interaction simultaneously. The private rooms are minimally structured with only a bed and storage available; the rest of the utilities are shared between 2-3 people living in the same cluster. The functional spaces are evenly divided between the residents, and there is fairness in the distribution of amenities. The groups living in a cluster are smaller in number, so there is less need for large amounts of space. The big gathering area for events is designated in the courtyard on the ground floor.

Fig. 4.42 Gap House Exterior View

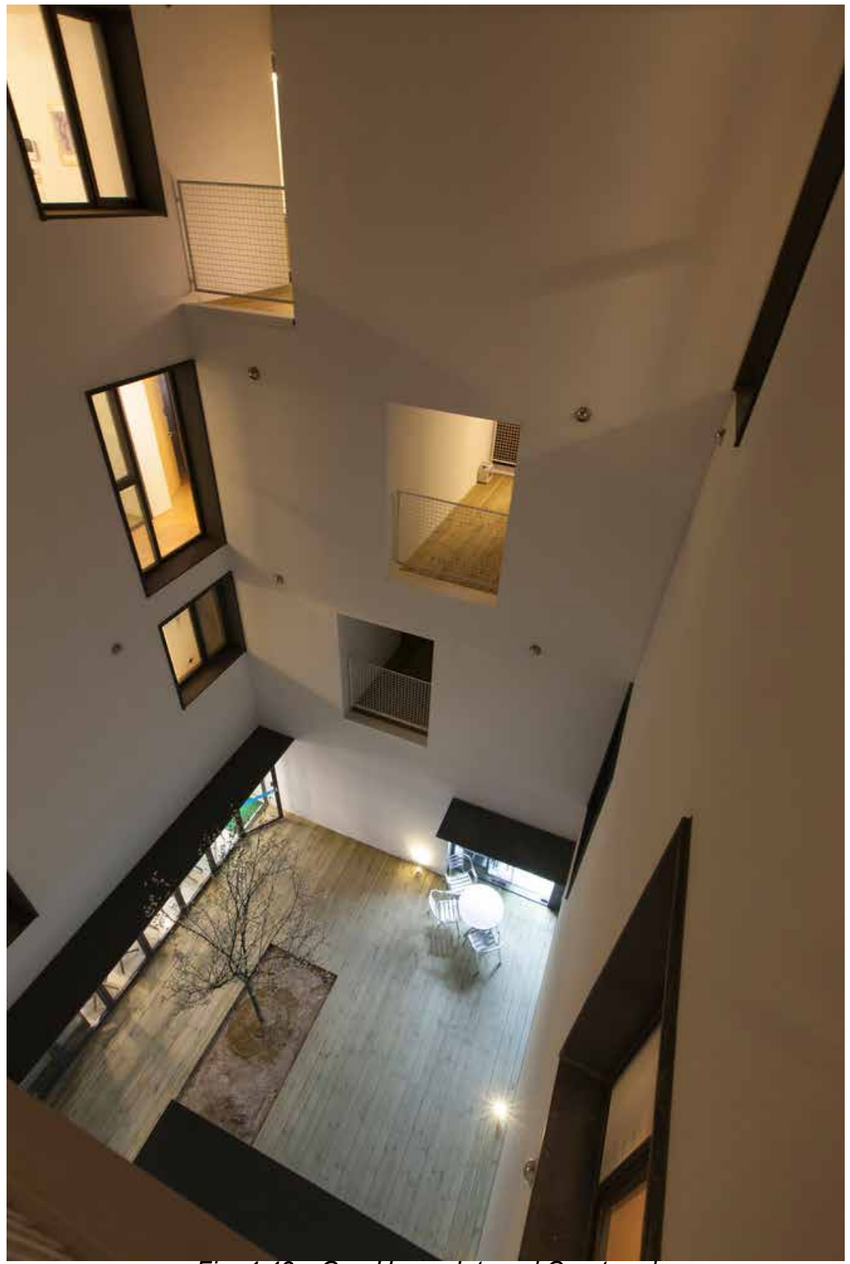


Fig. 4.43 Gap House Internal Courtyard

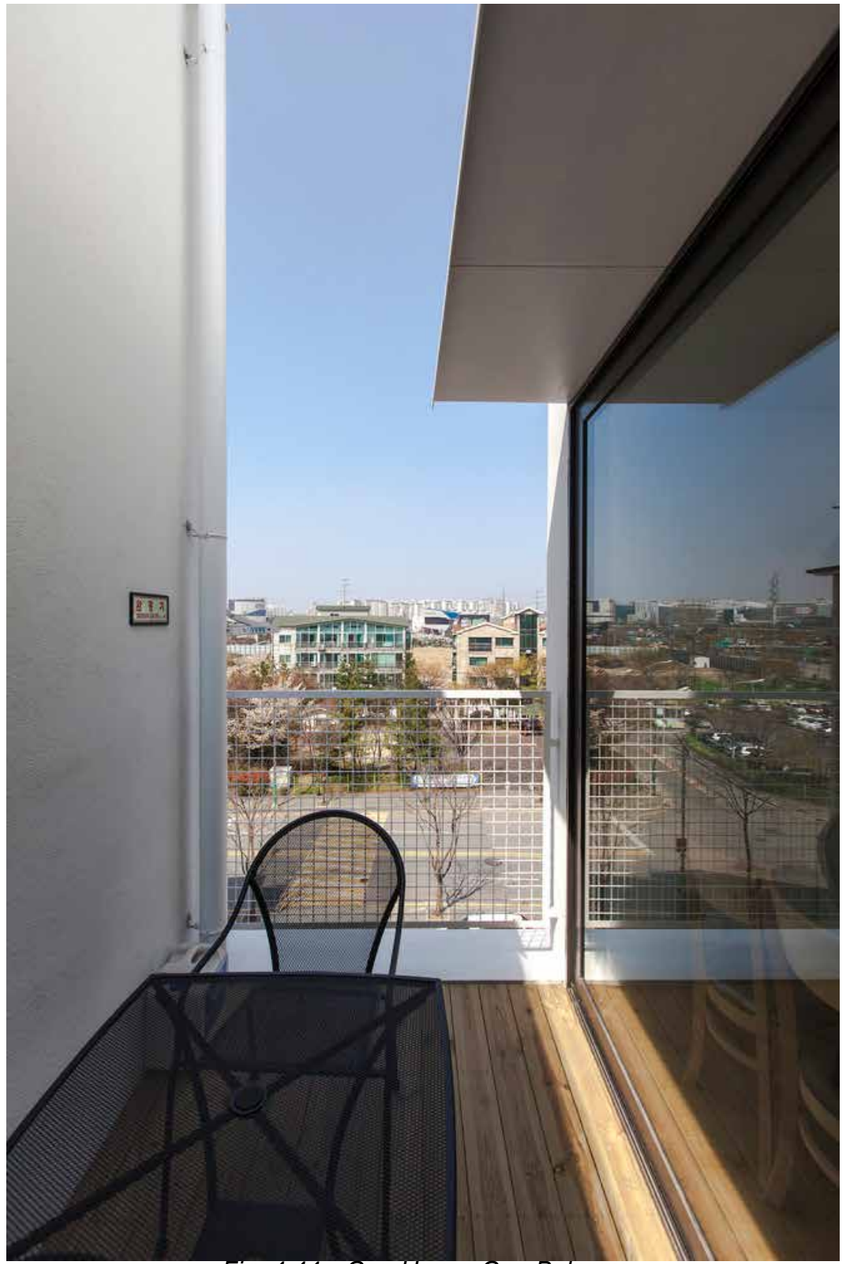


Fig. 4.44 Gap House Gap Balcony

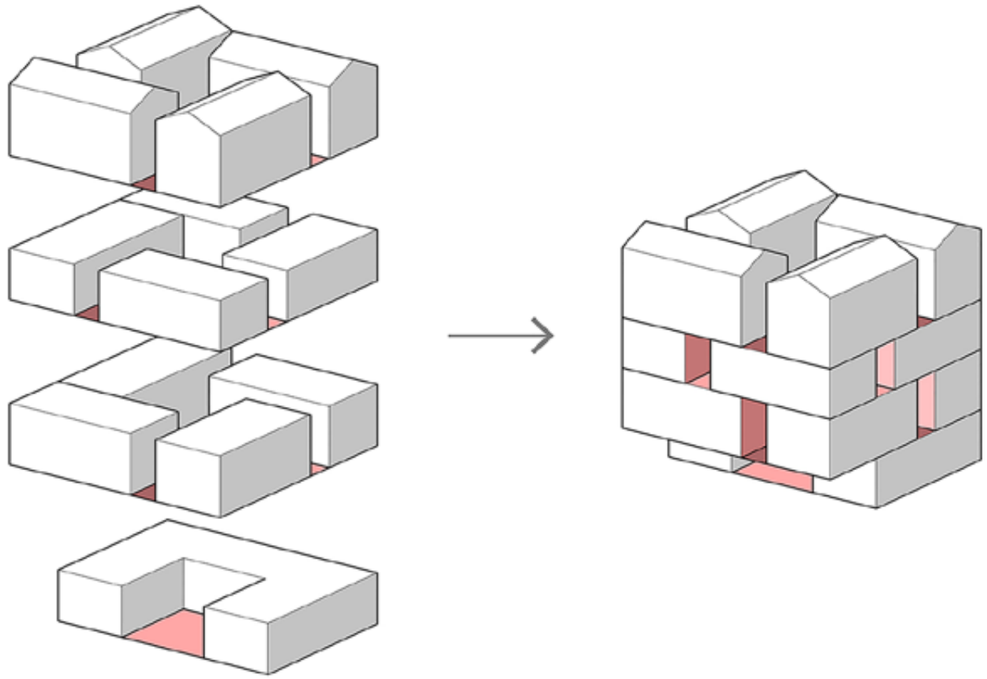


Fig. 4.45 Gap House Formal Diagram

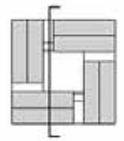


Fig. 4.46 Gap House Section

Fig. 4.47 Gap House Cluster Apartment Plan

Observations

In this project, the balconies and courtyard are the main places of interaction; due to the small number of people sharing in a cluster, it would feel more like a roommate-type situation rather than a communal lifestyle. Since the balconies are not shared with all the residents, it does not work well as an element supporting interaction between them. The courtyard is also relatively small in proportion to the residents living inside. Therefore, it will not be able to support all of the residents if they choose to gather. There is a missing dimension of semi-private spaces between the small, shared apartments and the larger courtyard space. The private units are small and efficient, but they cannot accommodate any activity other than sleeping; there is a lack of functional furniture. Even though the target demographic is the young professional population, no facilities benefit the target population. No study spaces, working areas, or reading areas are available for the residents in this house.

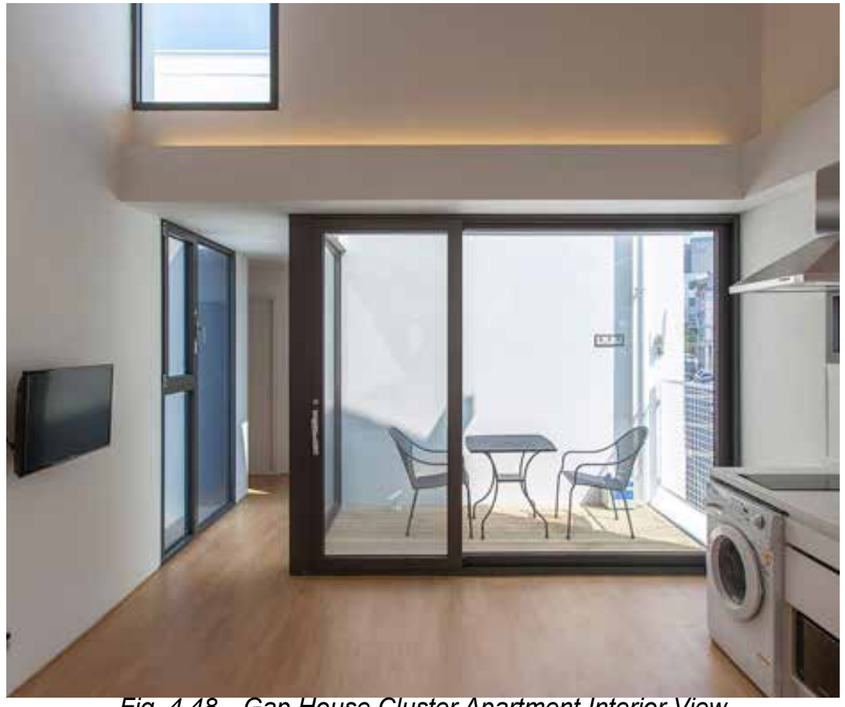


Fig. 4.48 Gap House Cluster Apartment Interior View

Cooperative Housing Complex wagnisART

Architects: Bgevischs Buero Architekten Stadtplaner GmbH + SHAG Schindler Hable
Project Year: 2016
Project Location: Munich, Germany
Residents: 200
Units: 138

This project was constructed in the Domagkpark district, where the zoning plan offered the possibility to design with few restrictions. Germany was going through a housing crisis where rent was increasing rapidly, and many people who lived in cities could not afford to live there. As an alternative, the housing cooperative WagnisART built an apartment that guarantees low rent and life estate. The building was designed to be an open property with various services and programs available to the public. On the project's ground floor, there are common rooms, workshops, business spaces, and open play areas that serve the different activities of the entire neighborhood. There are 5 freestanding buildings in total, and they are connected publicly on the ground floor via open courtyards and joined privately by a rooftop bridge. Event venues are available for the neighborhood and a restaurant supported by local businesses. The bridge connects the buildings, creating the impression of a semi-private roof garden. Creating these terraces and gardens promotes resident interaction and fosters a sense of community and ownership since the residents can decorate at their own will.

Within the project, there are a total of 84 private units organized into cluster apartments. These units are grouped in numbers of up to 5 units, and they would share spaces like kitchens, dining areas, living, and bathrooms. The typologies available are typical 1-bedroom apartments, 4-unit cluster apartments, and 5-unit cluster apartments. Each private unit is equipped with storage, a kitchenette, and a bedroom within the cluster apartments. A community kitchen and joint living spaces are also available for all of the residents in one of the buildings. However, it can only accommodate 11 people at once. The space in this project is well thought out, there is the public realm on the ground floor, and the rooftop bridges provide a second semi-public area that is more secure. The roof terraces are connected to the ground floor by large central stairs in all the buildings, and these act as a social center for the people who live there. The stairs and the landings are all designed wide, so there are grand opportunities for interaction. The roof terrace and walkways form a circle that offers panoramic views of the city beyond.

Fig. 4.49 WagnisART Exterior Complex Entrance

Fig. 4.50 WagnisART Internal Public Courtyard

Fig. 4.51 WagnisART Roof Walkway

Fig. 4.52 WagnisART Roof Terrace

Fig. 4.53 WagnisART Exterior View

Fig. 4.54 WagnisART Masterplan

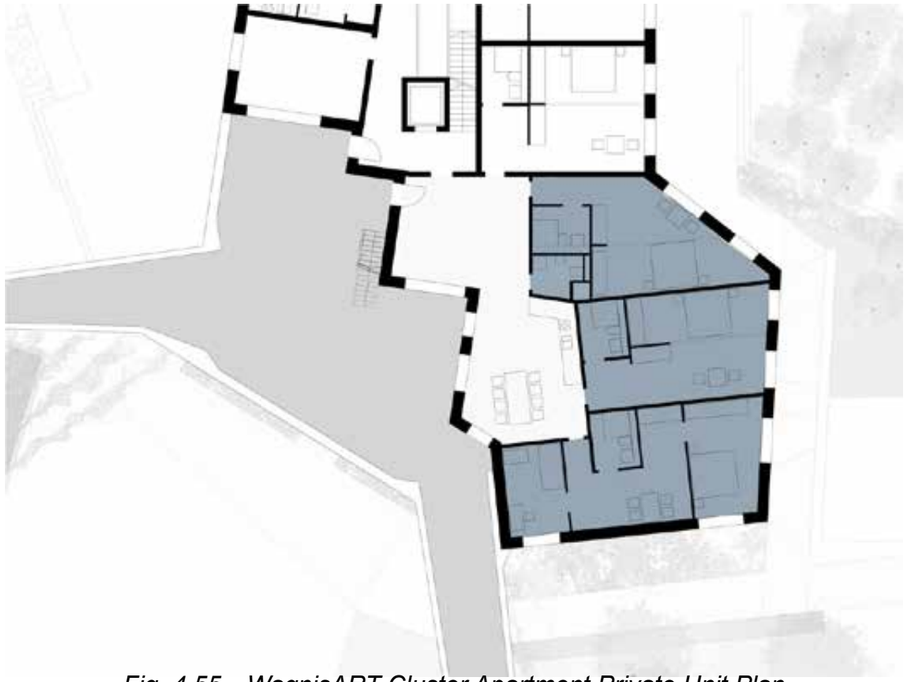


Fig. 4.55 WagnisART Cluster Apartment Private Unit Plan

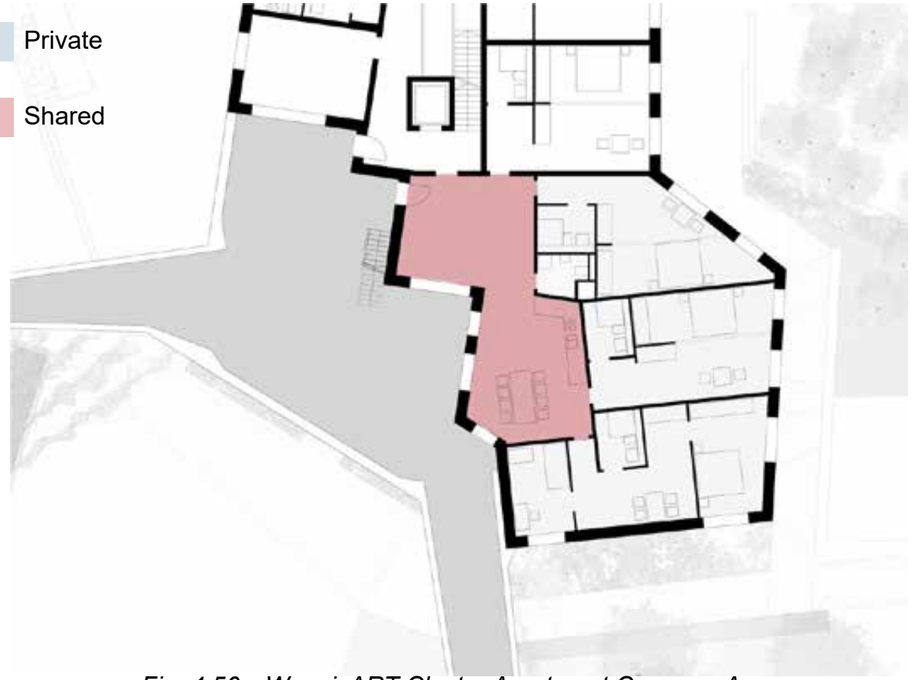


Fig. 4.56 WagnisART Cluster Apartment Common Area Plan

Observations

The project very well thought out the levels of privacy from public to semi-public, to share in a small group, then finally to private units. However, there is a disconnection between the ground floor open space and the semi-public roof garden. In terms of flow, the private spaces are sandwiched between the public and semi-public spaces; this does not signify a smooth transition. The project offers a vibrant range of public programs that serve the resident and the surrounding community. This allows the ground floor to become a social hub for interactions between people who live in the building and the peripheral neighborhood. The idea of the roof walkways was good since it allows the residents to freely decorate and furnish without the worry that their belongings will get lost or stolen. The cluster apartments are arranged alongside the single-occupancy apartments, so there is no segregation. However, the proportion of shared space is not enough to service the people that live in the clusters. The living rooms are too small to accommodate 4-5 people. Also, with such a small group of people, there is no need to have both a kitchenette and a shared kitchen space.

Fig. 4.57 WagnisART Interior Walkway

Conclusion

From these case studies, some principles can be extracted to formulate strategies for an urban communal living typology geared towards young professionals. The formation of cluster apartments is a good strategy in which a controlled number of residents share enough common space to distribute resources and services evenly. The layout of these common spaces should be relatively open and flexible, so dead space and useless corridors are eliminated. The creation of different areas in the common space would imply the possibility of a human-centric space that everyone can use. There should also be a separation of loud and quiet common areas in the cluster since the target demographic could use a quiet workspace and a place to socialize and build connections. The kitchen and general lounge can be removed from the private units and inserted into the common space since young professionals would not be spending as much time cooking in their units as their counterparts with families of their own. Private storage would also be available in the common space if the private units do not satisfy the resident's storage needs. The private units themselves can be simple, but the addition of mobile and flexible furniture would allow the resident to transform their usage of the private space from day to night. The bed can be pulled into a sofa to free up space for private work during the daytime.

In the overall building, extra facilities should be dedicated to the young professionals, such as a library, a reading space, a shared terrace, a fitness center, a learning center, meeting rooms, co-working spaces, activities spaces, and work opportunities. The offering of these services can be partially extended to the public, such as renting meeting spaces, co-working spaces, and gyms. These would offer services that are not usually found within standard condominiums, and these are the services that increase the value of the communal living apartment. The gradation of the public to private space would be a bottom-up process and a smooth transition to ensure the safety and security of the residents. These strategies would form the basis of an affordable communal living project that can help the resident thrive and benefit the surrounding neighborhood.

Endnotes

Anon. 2013. “Haus a | Duplex Architekten.” Archilovers. 2013. Accessed May 20, 2022, https://www.archilovers.com/projects/220150/haus-a.html.

Archdaily. 2014. “LT Josai / Naruse Inokuma Architects.” ArchDaily. April 18, 2014. Accessed May 20, 2022, https://www.archdaily.com/497357/ lt-josai-naruse-inokuma-architects.

Archdaily. 2015a. “Coop Housing at River Spreefeld / Carpaneto Architekten + Fatkoehl Architekten + BARarchitekten.” ArchDaily. January 17, 2015. Accessed May 20, 2022, https://www.archdaily.com/587590/coop-housing-project-at-the-river-spreefeld-carpaneto -architekten-fatkoehl-architekten-bararchitekten.

Archdaily. 2015. “Gap House / Archihood WXY.” ArchDaily. August 6, 2015, Accessed May 20, 2022, https://www.archdaily.com/771429/gap-house-archihood-wxy.

Fatkoehl Architekten. 2013. “Spreefeld Berlin / Fatkoehl Architekten.” Fatkoehl.com. 2013. Accessed May 25, 2022, https://fatkoehl.com/en/housingmixed-use/spreefeld-berlin/.

Frei, Roger, and Roland Bernath. 2012. “Adrian Streich Architekten, Roland Bernath, Roger Frei · Kraftwerk.” Divisare. 2012. Accessed April 10, 2022, https://divisare.com/projects/415244-adrian-streich-architekten-roland-bernath-roger-frei-kraftwerk.

González, María Francisca. 2018. “Cooperative Housing Complex WagnisART / Bogevischs Buero Architekten Stadtplaner GmbH + SHAG Schindler Hable.” ArchDaily. February 17, 2018. Accessed May 20, 2022, https://www.archdaily.com/889159/cooperative-housing-complex-wagnisart-bogevischs-buero-architekten-stadtplaner-gmbh-plus-shag-schindler-hable.

Kaltenbach, Frank. 2017. “Community instead of Property.” @GI_weltweit. January 2017. Accessed May 20, 2022, https://www.goethe.de/ins/us/en/kul/wir/woh/20894807.html.

Khatibi, Maryam. 2022. “Socio-Spatial Interactions of a Cluster-House Concept Apartment in Mehr Als Wohnen Project in Zurich, Switzerland.” *Frontiers of Architectural Research 11 (2)*: 191–202. https://doi.org/10.1016/j.foar.2021.10.002.

Kraftwerk1. 2012. “Bau- Und Wohngenossenschaft Kraftwerk1 Kraftwerk1 Heizenholz.” Accessed May 20, 2022, Www.kraftwerk1.Ch. 2012. https://www.kraftwerk1.ch/heizenholz/siedlung.html#tab-1.

Mairs, Jessica. 2015. “Seoul Apartment Block by Archihood Features Gabled Corners.” Dezeen. August 20, 2015. Accessed January 03, 2022, https://www.dezeen.com/2015/08/21/seoul-apartment-block-housing-archihood-wxy-balconies-gables-south-korea/.

Mcmaster, Jennifer. 2016. “Mehr Als Wohnen.” Danish Architecture Center - DAC. 2016. Accessed May 20, 2022, https://dac.dk/en/knowledgebase/architecture/mehr-als-wohnen/.

Meisser, Ursula. 2015. “Dialogweg 6 - MEHR ALS WOHNEN.” Www.mehralswohnen.ch. 2015. Accessed April 02, 2022, https://www.mehralswohnen.ch/hunziker-areal/das-quartier/dialogweg-6/.

Urban Coop Berlin. 2020. “Kraftwerk1 Siedlung Heizenholz: Fest Intern 2.6.2012.” Urban Coop Berlin EG. April 8, 2020. Accessed May 20, 2022, https://www.urbancoopberlin.de/kraftwerk1-siedlung-heizenholz-fest-intern-2-6-2012/.

CHAPTER 5

Site Selection

In this thesis, the goal is to develop a set of strategies that can be utilized to design suitable and affordable accommodations for a target demographic. The target demographics have been set to young professionals and recent graduates aged 20-35. The central idea of this thesis is to help these people transition and afford their own homes by offering an alternative communal living typology that can lessen their housing stresses. The accommodation would ideally be in a location attractive to the target demographics and beneficial to their professional development. For young professionals, living within or in close proximity to urban centers would be the best choice since most of the jobs are clustered closer to the financial center of a city. Typical condominiums in urban centers would be out of price range for young professionals, which is why they must look elsewhere for more suitable options. With young professionals, there is also the need for social vibrancy. At the beginning of their careers, it would be a good idea to live in an area with a range of amenities and programs that promote social interactions. Shops, restaurants, parks, and educational institutions are all programs beneficial to a young professional's development. Keeping the needs of the target demographics in mind, the project site of this thesis is determined to be in downtown Vancouver.

Fig. 5.1 Vancouver City Layout

Greater Vancouver has one of Canada's most expensive housing markets, which is much worse in the downtown core (Wilson 2018). It is nearly impossible to find accommodations with affordable costs at 30 percent of monthly income in the downtown region. Nevertheless, much of the job market and the financial district are located in downtown Vancouver making it very attractive to young professionals and recent graduates. In the past 20 years, Vancouver has grown into a global city and established itself as a center for investment. This attracts a diverse population of young professionals, migrants, general workforces, tourists, and regional commuters. The city's growth drives up housing sales and rental prices, making the city inaccessible for those who may want to live there but cannot afford to do so. The younger working generation is faced with the problem of finding stable living arrangements close to their jobs. Although there are limited affordable options in the form of co-operative and subsidized housing, the general waitlists for these options range from 2 to 5 years (Olsen 2021). The pandemic slightly improved the rental vacancy rate in Vancouver in 2020, and there was an increase from 1.1 percent in 2019 to 2.6 percent in 2020 for purpose-built rentals. This was still a low vacancy rate compared to the healthy 3-5 percent vacancy rate, but it increased from the consistent 1 percent vacancy rate for the past 6 years (Chan 2021).

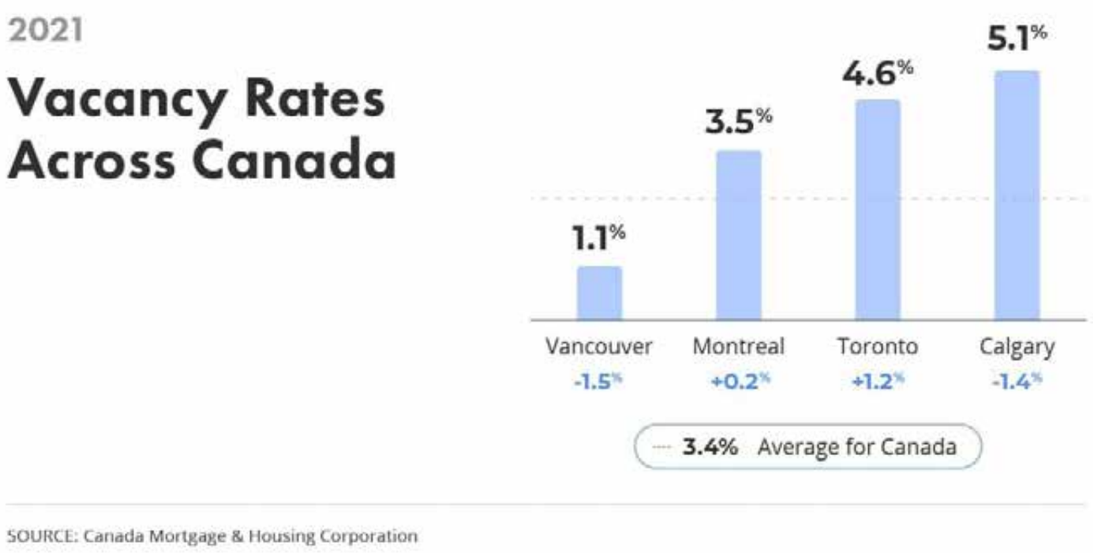


Fig. 5.2 Canadian Vacancy Rates

Fig. 5.3 Vancouver Average Sale Prices 1977-2017

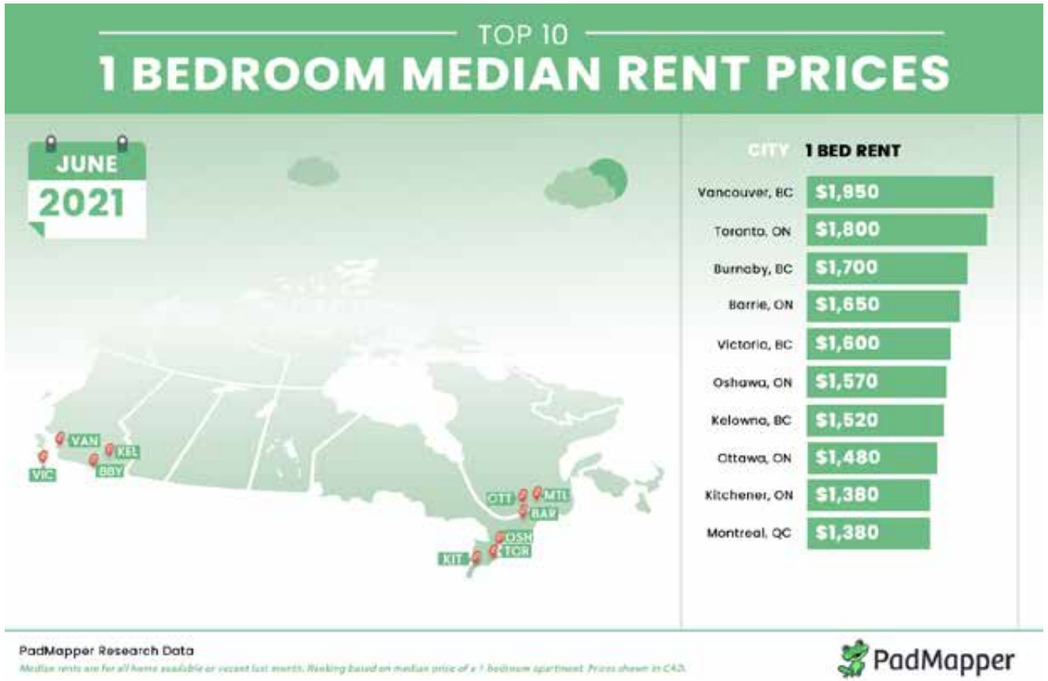


Fig. 5.4 Average 1 Bedroom Median Rent Across Canada

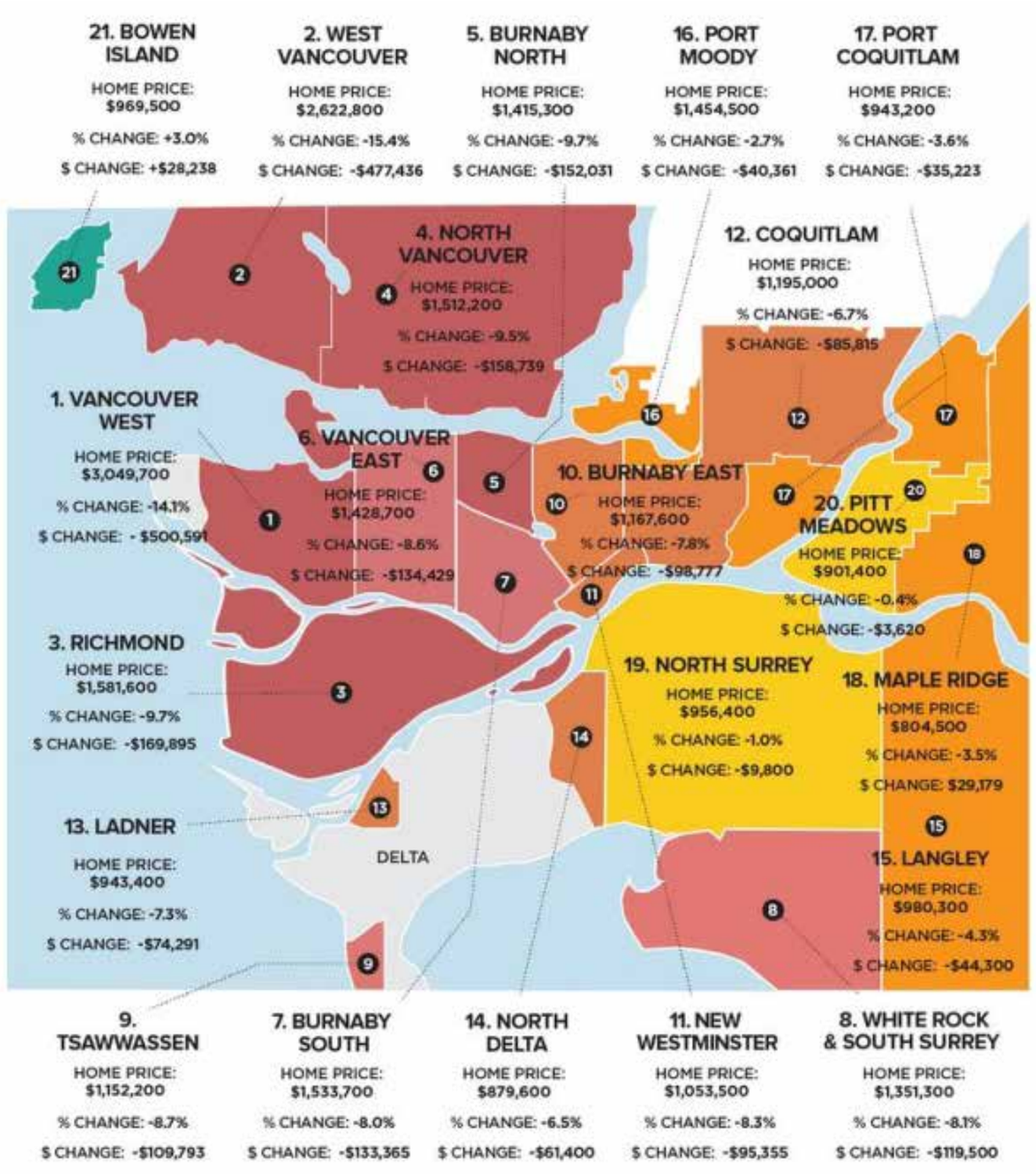


Fig. 5.5 Detached Home Sale Prices Vancouver

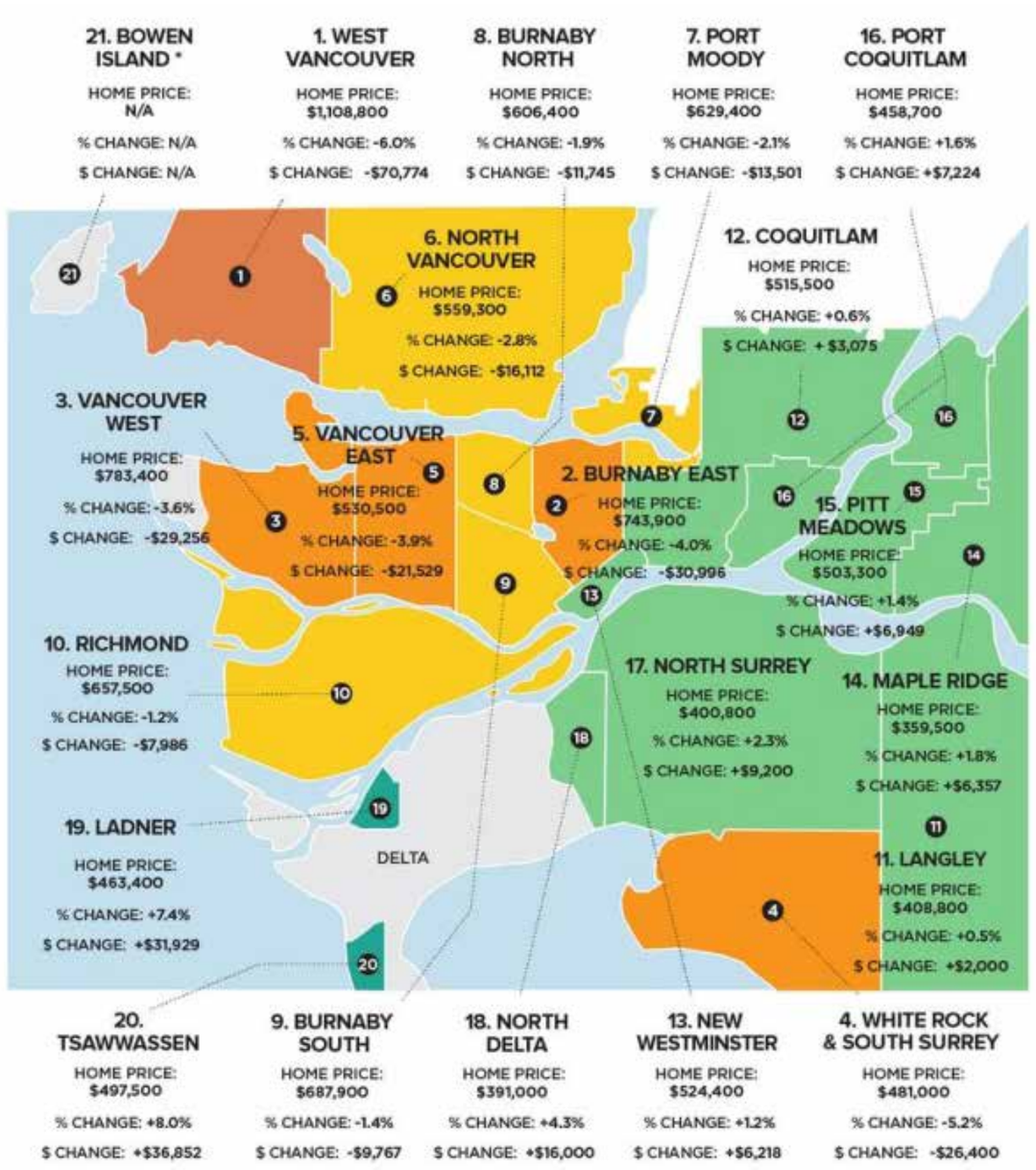


Fig. 5.6 Condominium Sale Prices Vancouver

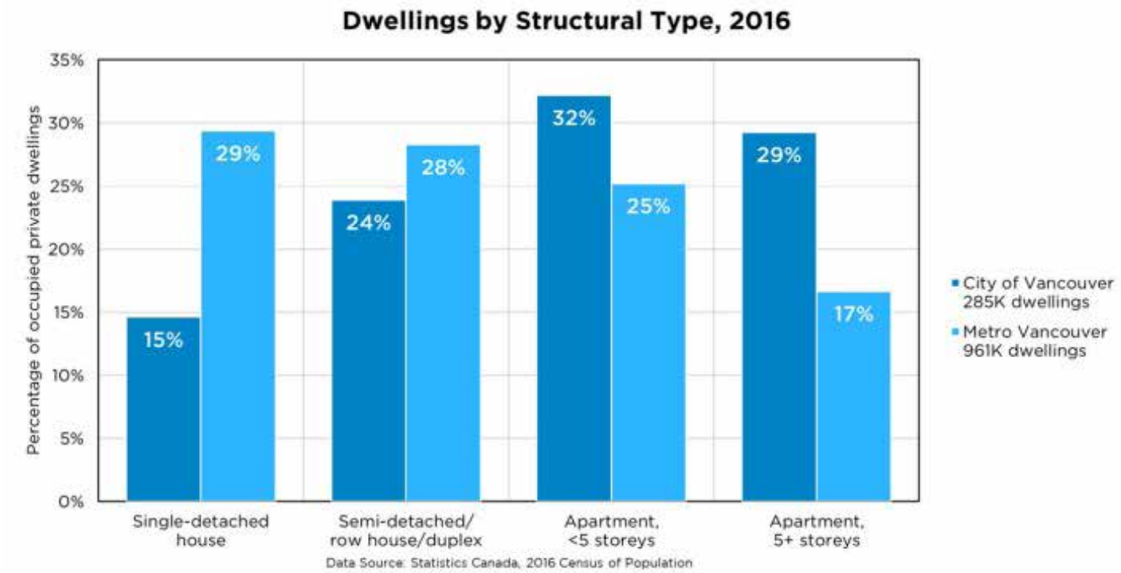


Fig. 5.7 Dwellings by Structural Type in Vancouver

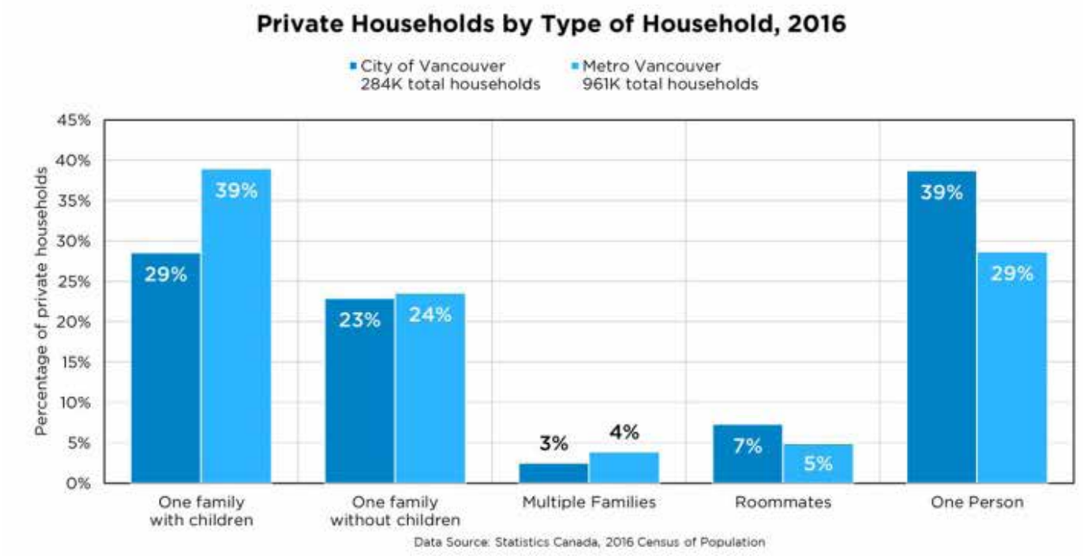


Fig. 5.8 Types of Households in Vancouver

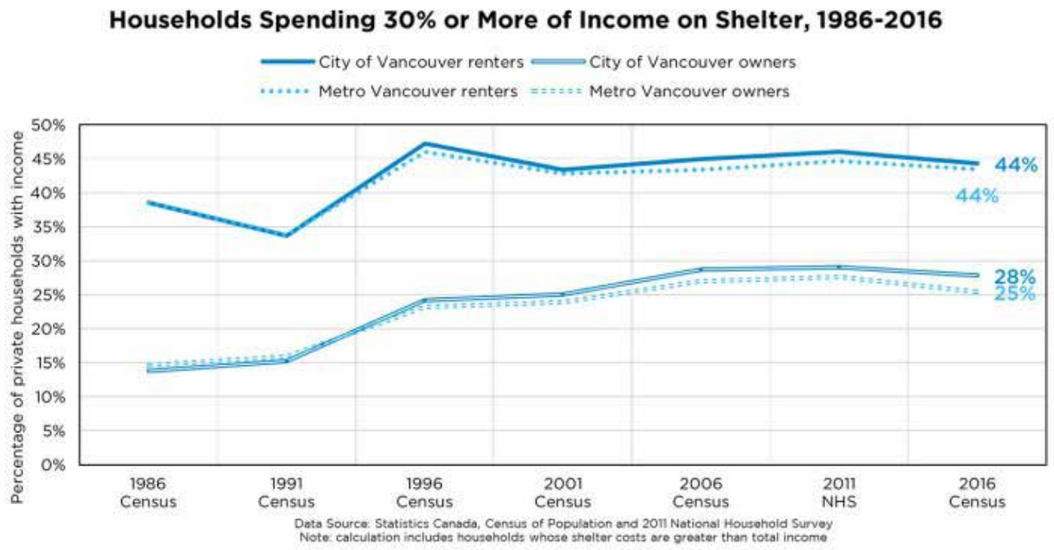


Fig. 5.9 Households Spending more than 30% of Income on Housing

Vancouver is also a young and growing city; its population has reached over 2 million in a relatively short time. The development of Greater Vancouver was based on low-density suburban single-family housing dependent on automobiles. The majority of the density in Vancouver is concentrated in the downtown core, and on the outside, most of the city follows a sprawling low-density pattern. To counter the urban sprawl, there was the development of the public transportation system and the redevelopment of some sections of Downtown into high-density residential buildings. However, the trend remains the same, and suburban developments continue to encroach on agricultural lands and wilderness (Arundel 2020). Population growth in the Vancouver region projected an increase of 820,000 people from 2006 to 2031, placing the population at around 3 million. A part of that population would be the young professionals and recent graduates hunting for jobs in the Greater Vancouver region. The Downtown area would be a desirable location to live in for these people. Overall, the population city of Vancouver is gaining young adults aged 25-34 and older adults aged 55 and over (City of Vancouver 2020). Following the rental model of the thesis proposal, there has been a shift towards building rental housing in Vancouver. 75 percent of the newly built units from 2011 to 2017 are rentals, and these can take the form of new constructions, new suites in existing buildings, and new households in previously unoccupied dwellings. In terms of household types, the city of Vancouver contains more single-person households and unrelated people living together than the Greater Vancouver region. 18 percent of the population lives alone, which is an increasing trend.

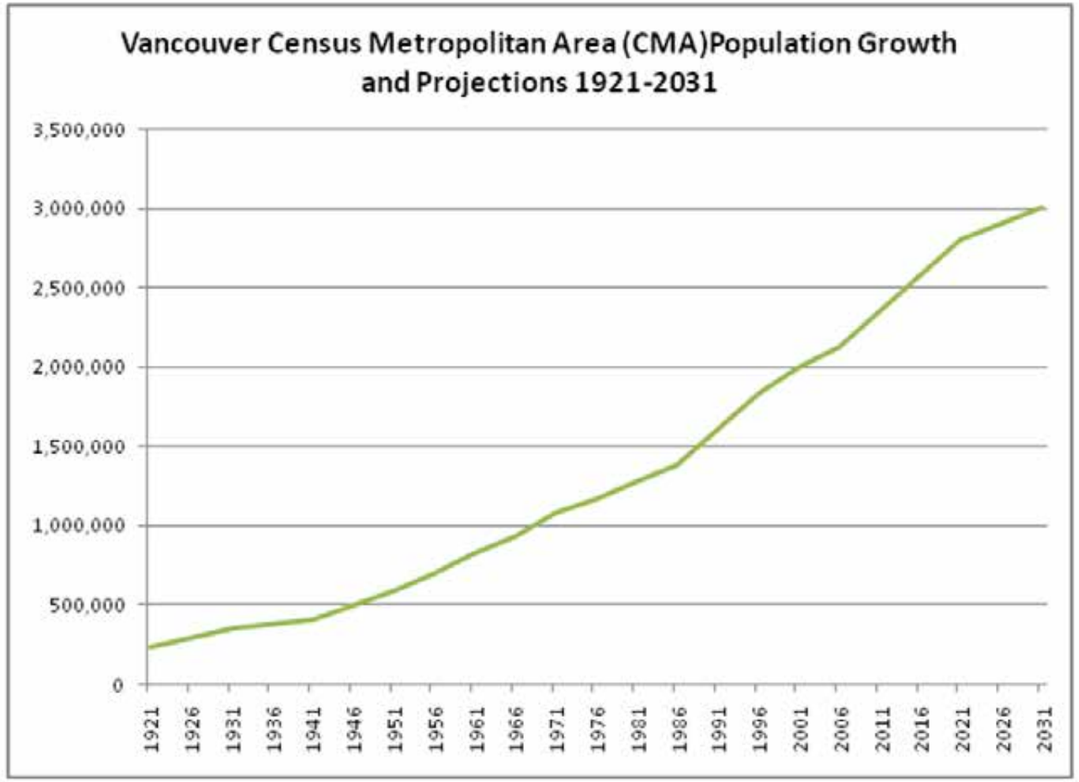


Fig. 5.10 Vancouver Population Growth Projections

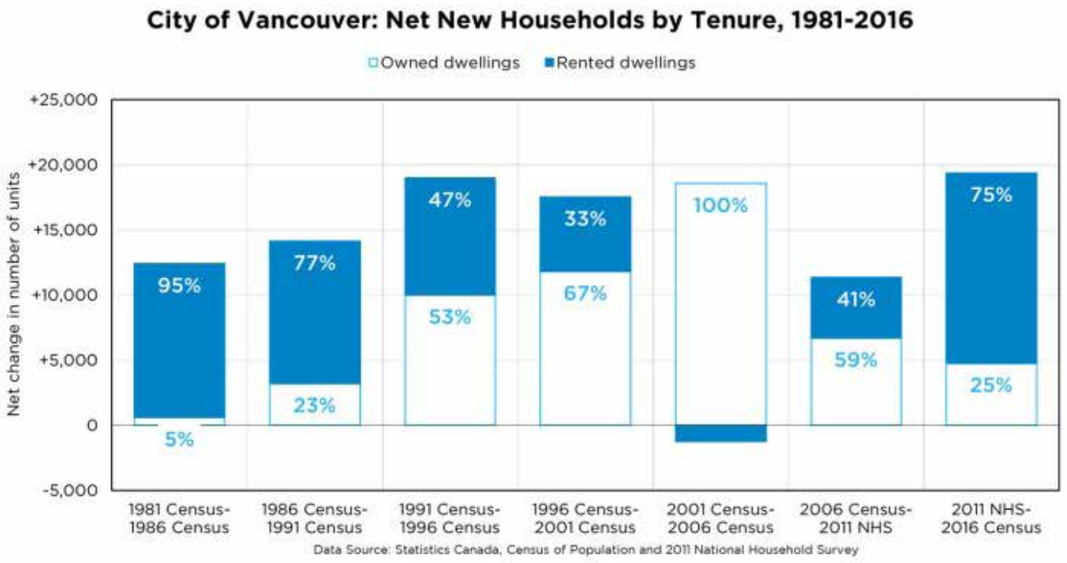


Fig. 5.11 Net New Households by Tenure in Vancouver

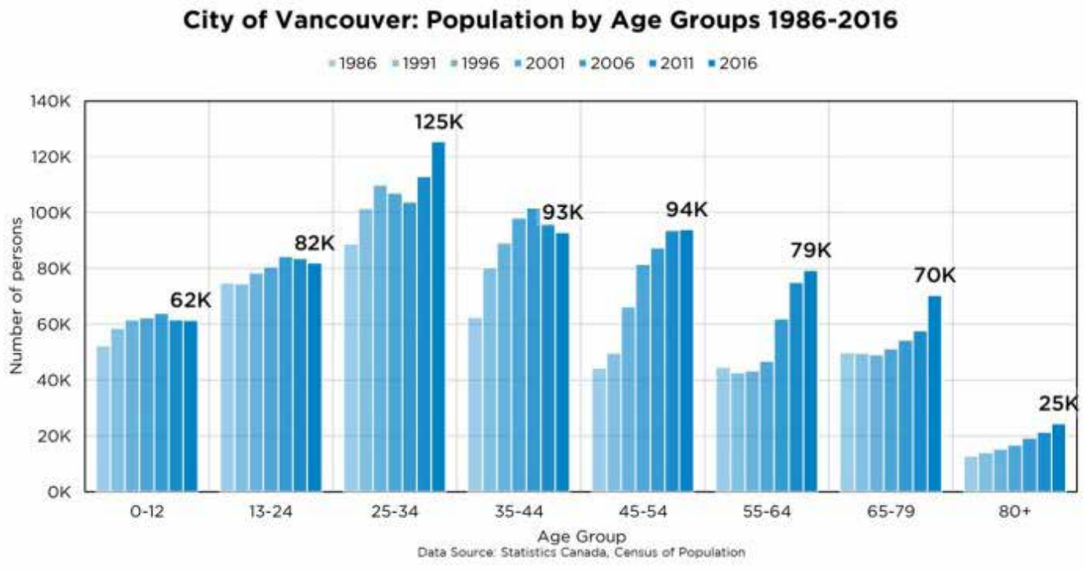


Fig. 5.12 Vancouver Population Growth Projections

Fig. 5.13 Vancouver Population Growth Projections

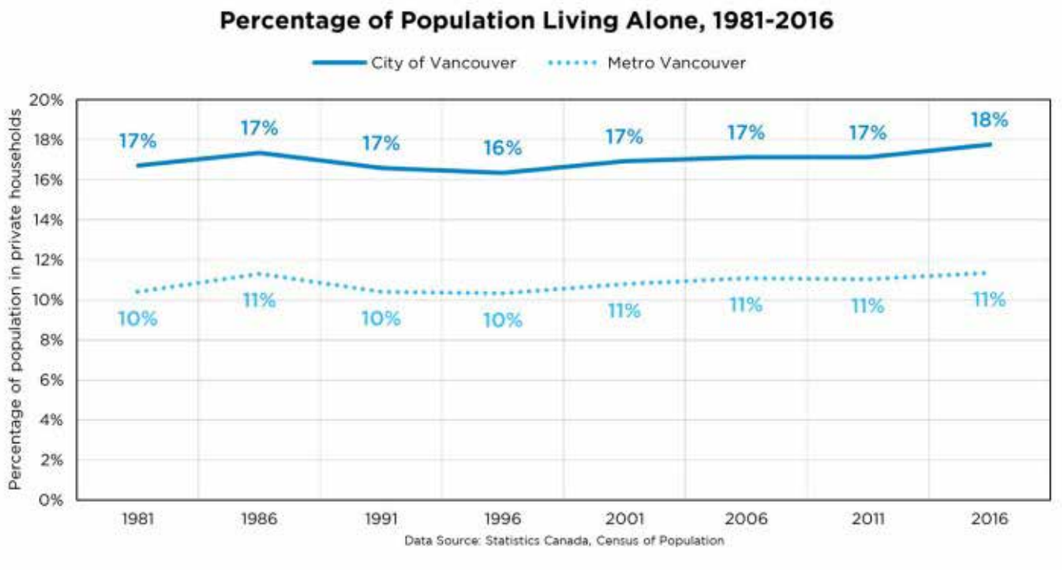


Fig. 5.15 Percentage of Population Living Alone

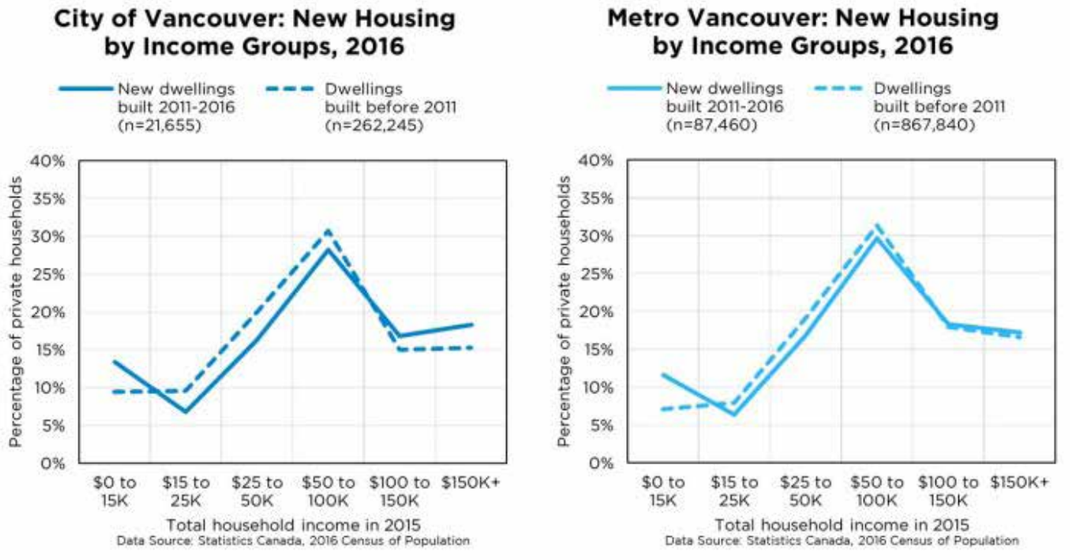


Fig. 5.14 New Housing by Income Groups

The income levels in Vancouver are pretty polarized, 14 percent of residents are in the top 10 percent of Canadian earners, and 15 percent are in the bottom 10 percent. The Canadian census of 2016 shows that recent growth in Vancouver is leaning towards higher-income earners. The population of the top 4 income levels has grown faster than the city's overall population. The portion of rented households spending more than 30 percent of their income on housing is around 44 percent, and the rate has been consistent over the past years. These statistics indicate many people are spending more than they should be on housing costs. The growing number of people in the higher-income sphere pushes housing prices even further. Most of the population working in the downtown region commute to work because of the housing prices, which is why Vancouver has such an extensive public transportation network. Since this thesis's target demographics are the young professionals who had received a formal education, a large population resides in the City of Vancouver. The rate of post-secondary credentials in the city is increasing, and the younger residents of Vancouver are more likely to hold a university degree (City of Vancouver 2020).

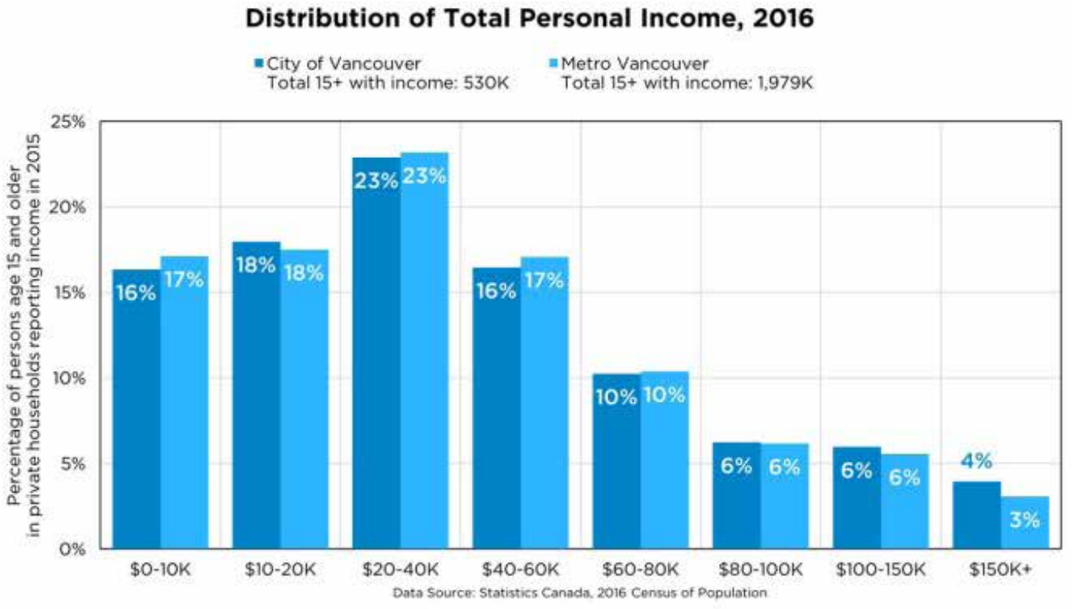


Fig. 5.17 Distribution of Total Personal Income

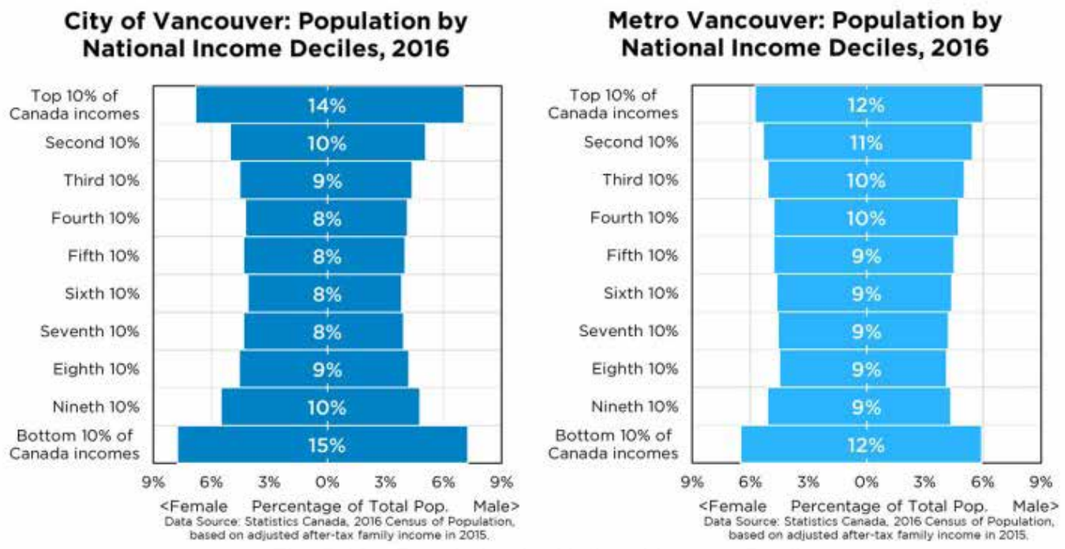


Fig. 5.16 Population by National Income Deciles

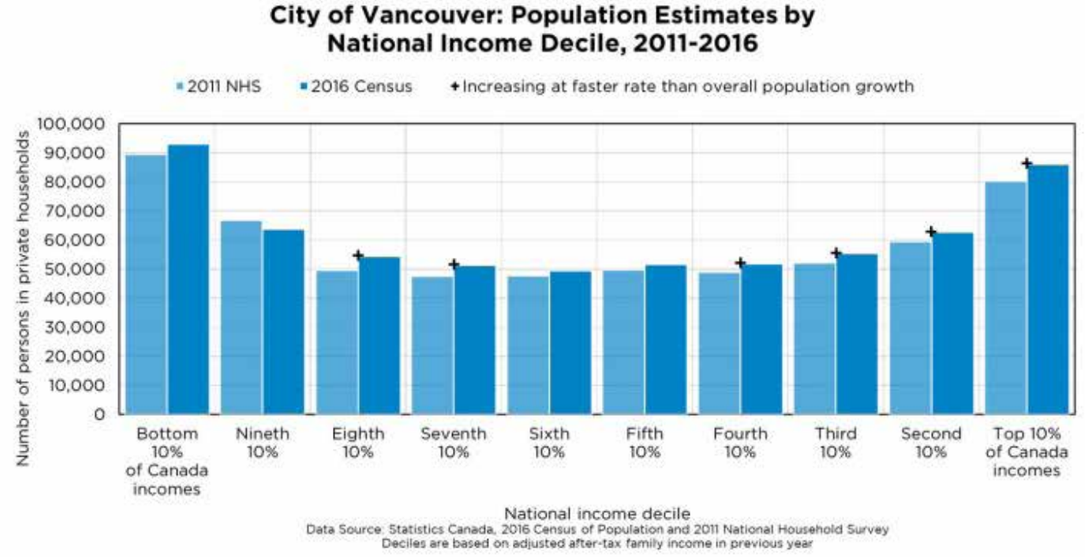


Fig. 5.18 Population Estimates by National Income Decile

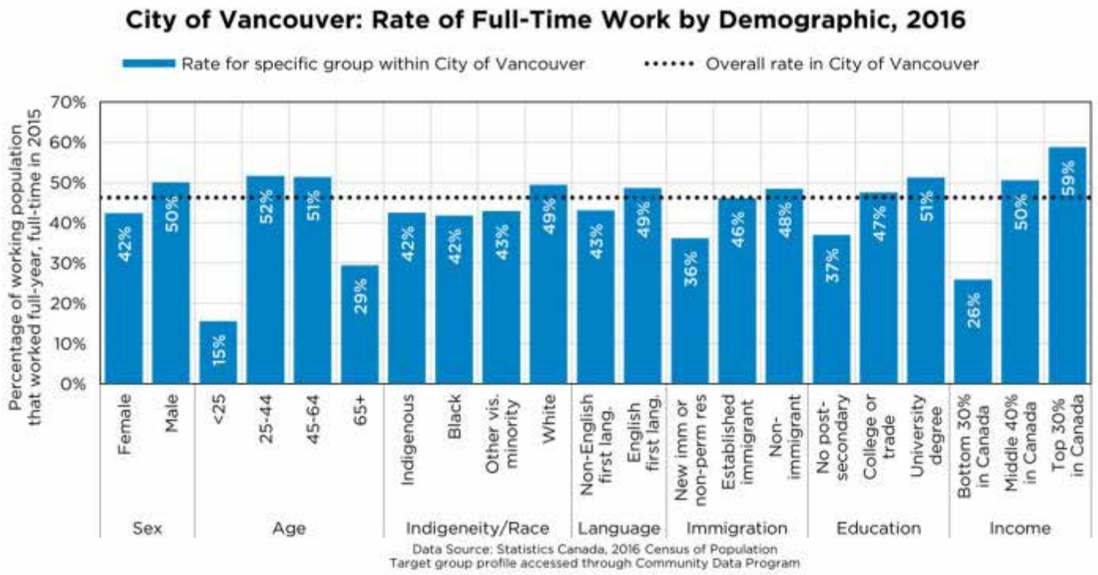
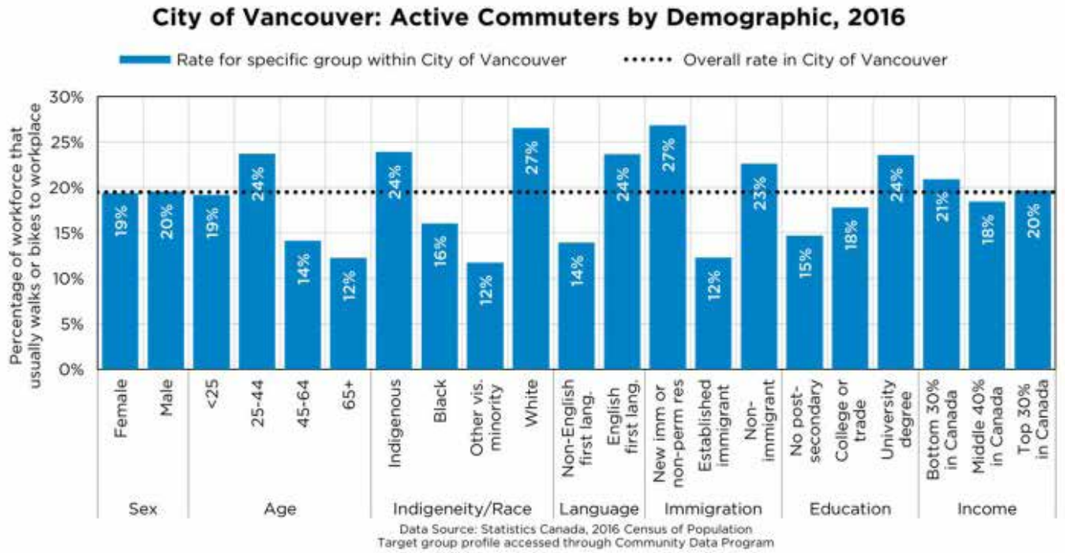


Fig. 5.19 Rate of Full-time Work by Demographic



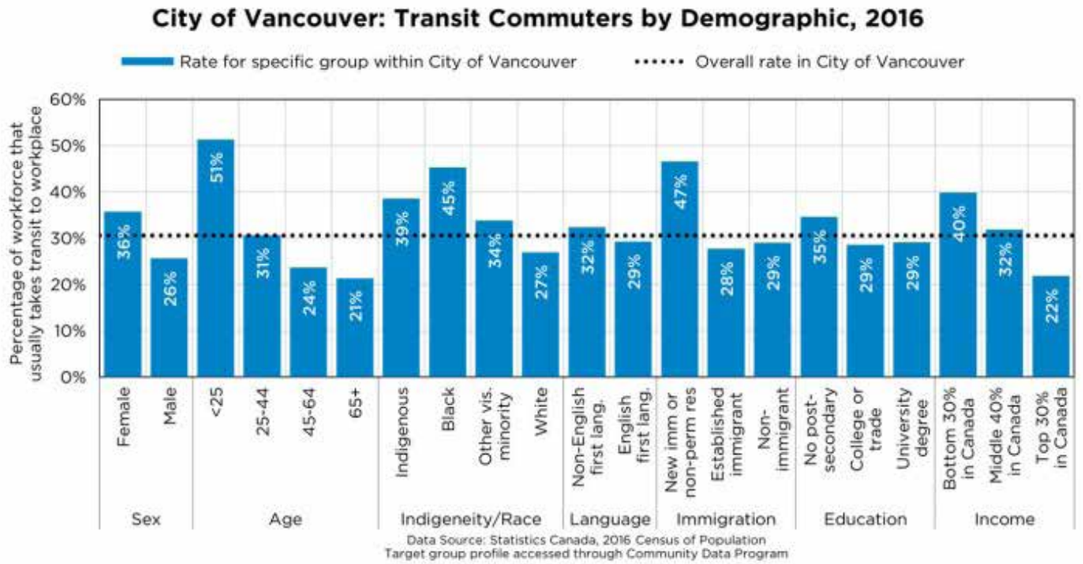


Fig. 5.20 Active Commuters by Demographic

Fig. 5.21 Transit Commuters by Demographic

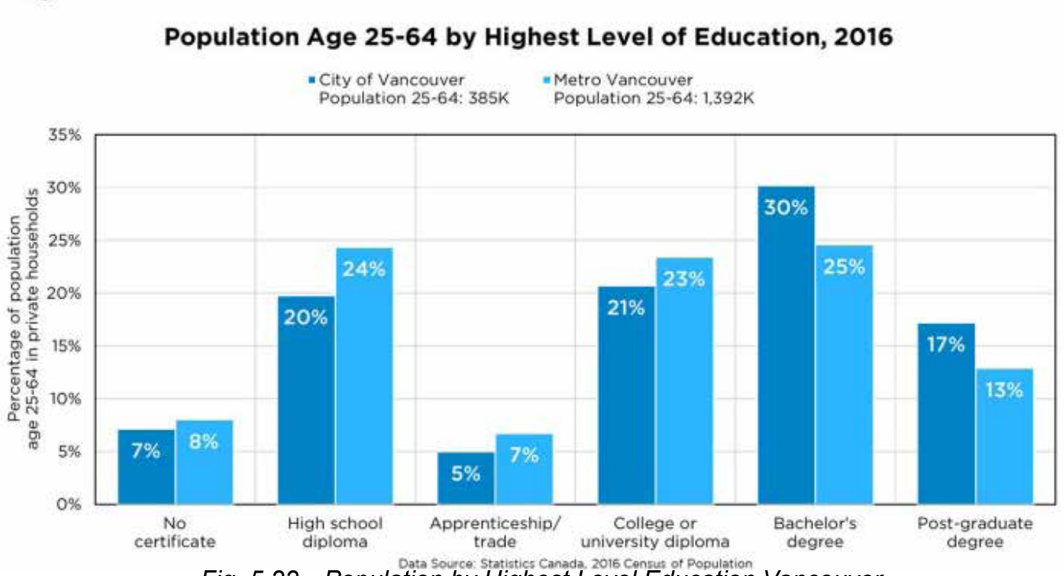


Fig. 5.22 Population by Highest Level Education Vancouver

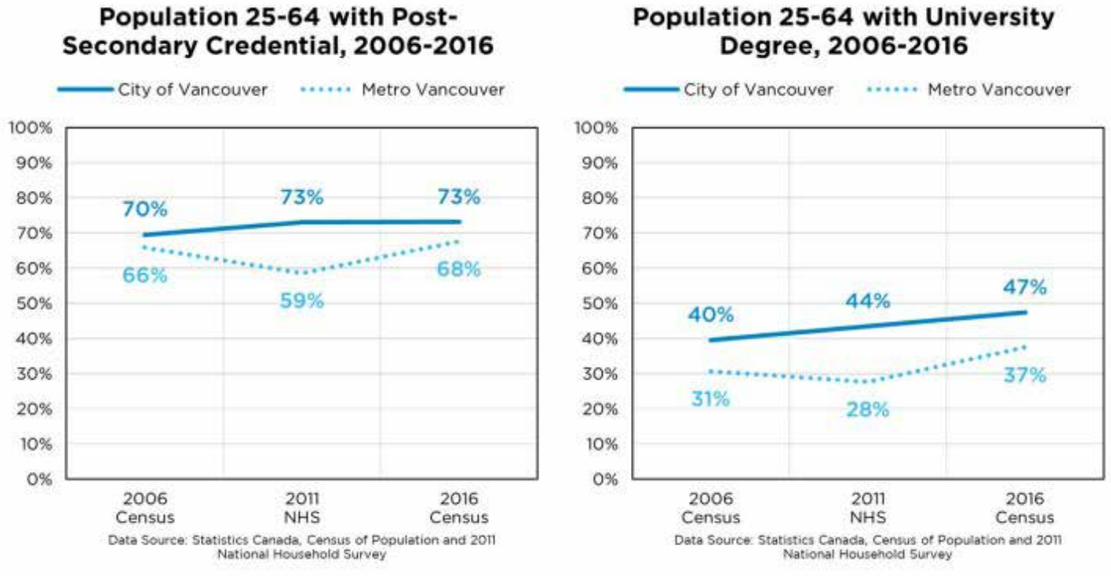


Fig. 5.23 Population with Post-secondary Credential

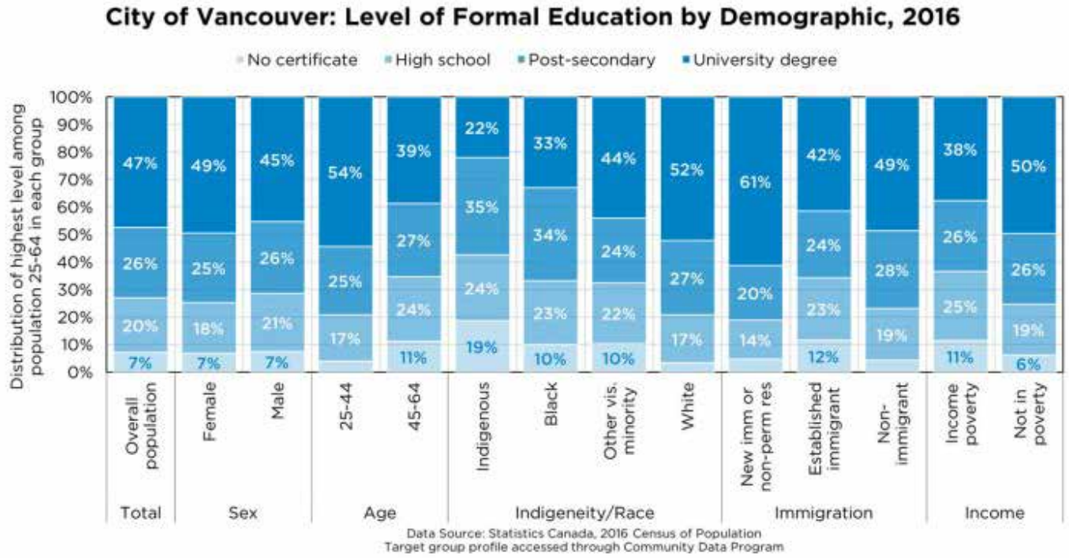


Fig. 5.24 Level of Formal Education by Demographic

Downtown Vancouver is also an ideal site for an alternative communal living typology because the city has a positive track record in city building experimentations. The reconfiguration of Downtown Westend to high-density residential in the 1970s, the rejection of inner-city highways, and lately, the allowance of the construction of laneway houses are all examples. The City of Vancouver is intent on creating and protecting purpose-built rental housing that meets the needs of a diverse population. The Vancouver Affordable Housing Endowment Fund (VAHEF) is dedicated to growing the city's affordable housing stock in a sustainable way (Vancouver 2021). Alternative typologies such as nano suites are tested in student residences at UBC (Ramsey 2019). There are many attempts by the City of Vancouver to experiment with new building ideas and typology. In a similar way, it would be highly likely that an alternative communal living typology could be brought to life in the Downtown region of Vancouver.

Downtown Comparable Properties

There are many rental model apartment condominiums in the downtown region, some comparable ones are listed here with building stories, unit counts, and rent rates.

Cosmo at 161 West Georgia Street
23 Storeys
253 Units
1 Bedroom $1895-4000/month

Spectrum 1 at 111 West Georgia Street
30 Storeys
221 Units
1 Bedroom $1895-2695/month
2 Bedroom $3295-5000/month

The Pinnacle at 939 Homer Street
36 Storeys
312 Units
1 Bedroom $1895-2295/month
2 Bedroom $2995-3795/month

The Beasley at 888 Homer Street
34 Storeys
221 Units
1 Bedroom $2195-2295/month
2 Bedroom $3195-5000/month

The ARC at 89 Nelson Street
29 Storeys
560 Units
1 Bedroom $2095-3295/month

Paris Place at 183 Keefer Place
32 Storeys
172 Units
1 Bedroom $2195-2595/month
2 Bedroom $2895-3295/month

Site Analysis

In the following section, the site selected will be analyzed from 2 scales, the downtown region scale, and the neighborhood scale. The site selected is located at a parking garage in the intersection of multiple districts in downtown, which forms a rich context. In addition, the analysis will consider the surrounding entertainment programs, the transportation system, pre-existing conditions, educational institutions, commercial programs, services, and shops. This information will form a clear picture of the surrounding environment and form the basis of programmatic considerations for the final design.

Fig. 5.25 Site Location in Canada

Fig. 5.26 Site Location in Downtown

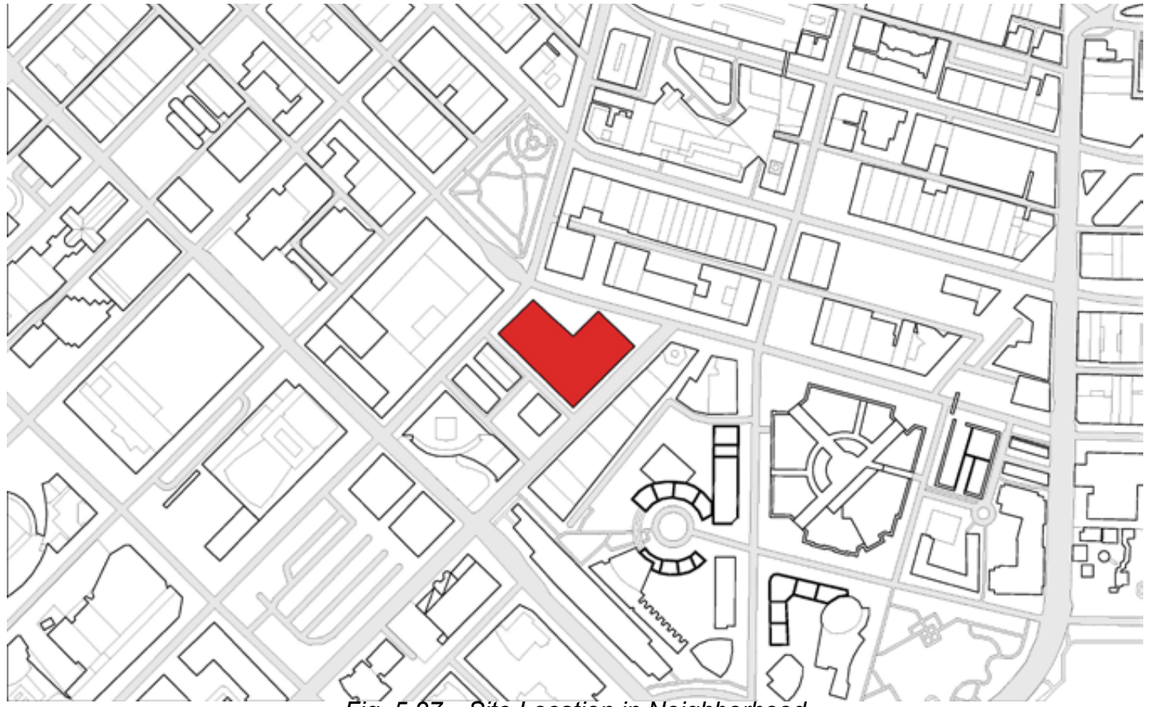


Fig. 5.27 Site Location in Neighborhood

Fig. 5.28 Downtown Zoning

Fig. 5.29 Vancouver Downtown District Map

1. Stanley Park
2. The West End and English bay
3. Coal Harbour
4. Waterfront
5. Granville Entertainment district
6. Gastown
7. Railtown and Chinatown
8. Yaletown

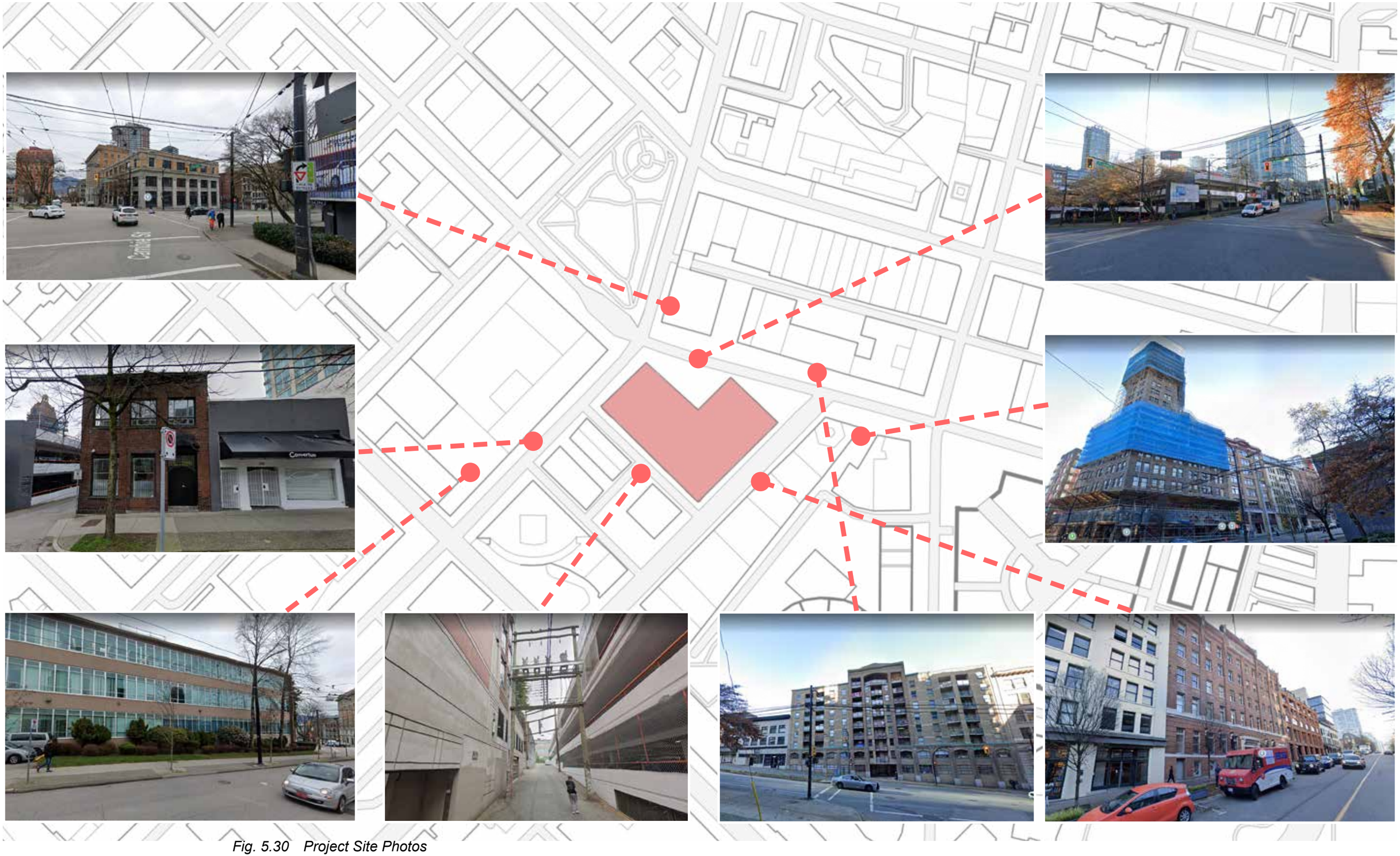


Fig. 5.30 Project Site Photos

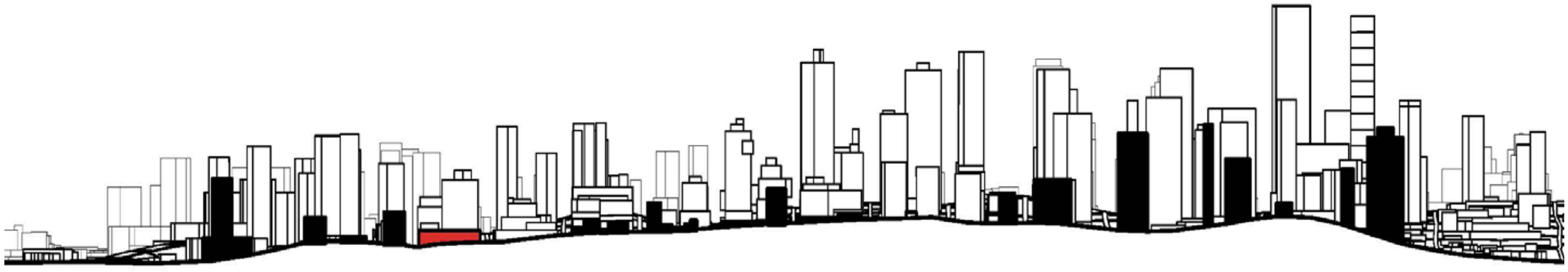


Fig. 5.31 Site Section 1 1:5000

Fig. 5.32 Site Section 2 1:5000

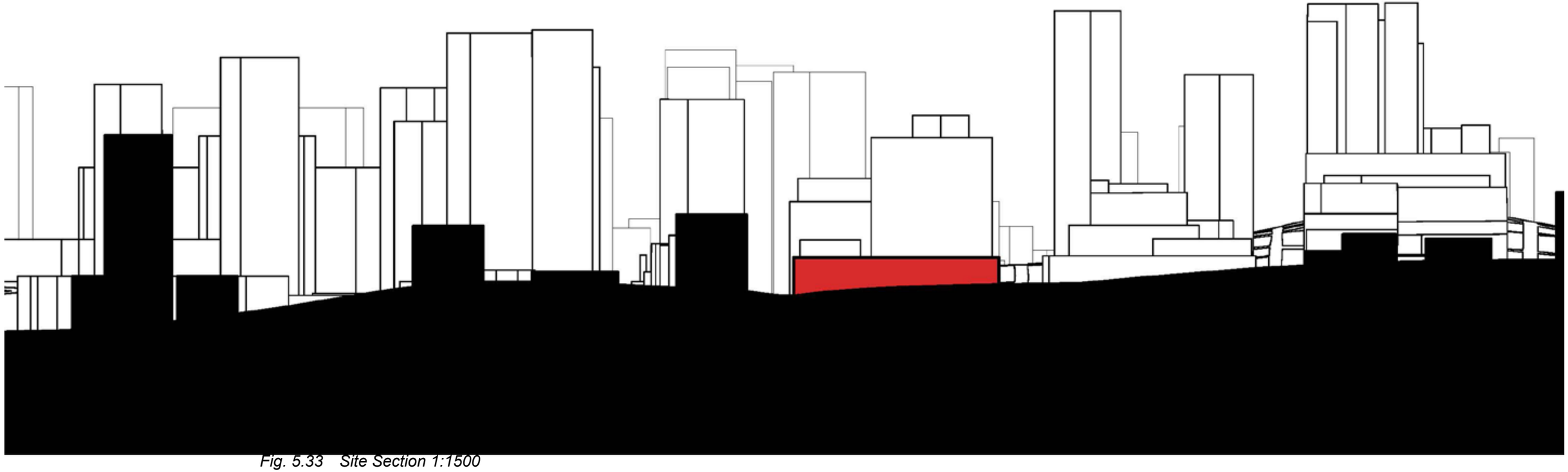


Fig. 5.33 Site Section 1:1500

Fig. 5.34 Public Parks and Green Spaces

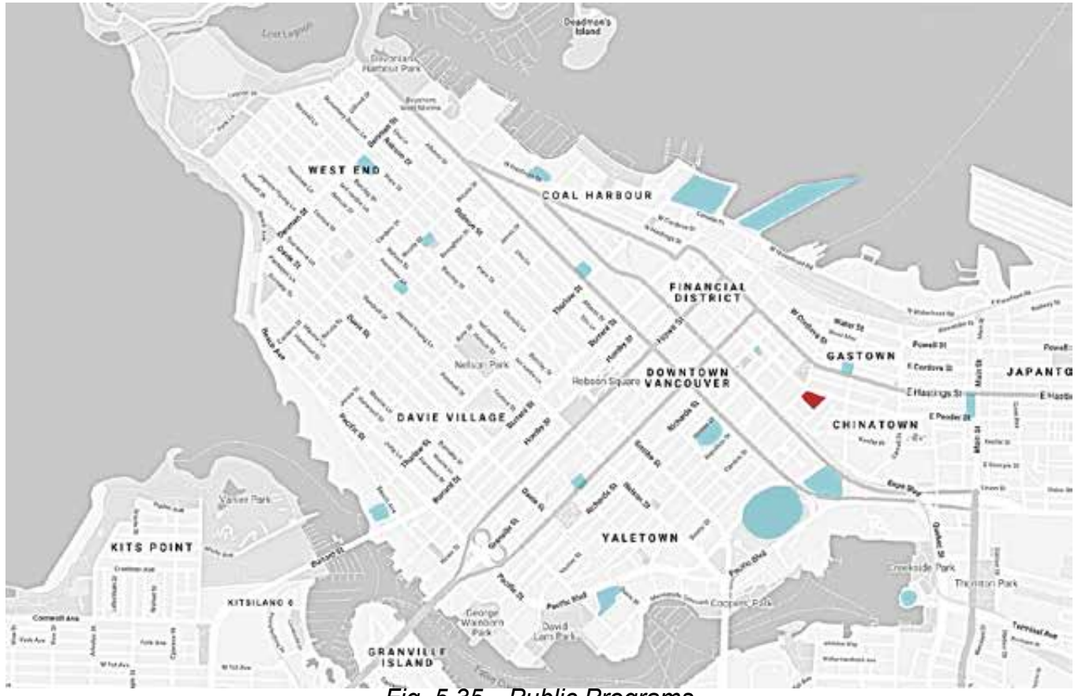


Fig. 5.35 Public Programs

Fig. 5.36 Educational Programs

Fig. 5.37 Parking

Fig. 5.38 Major Bus Routes

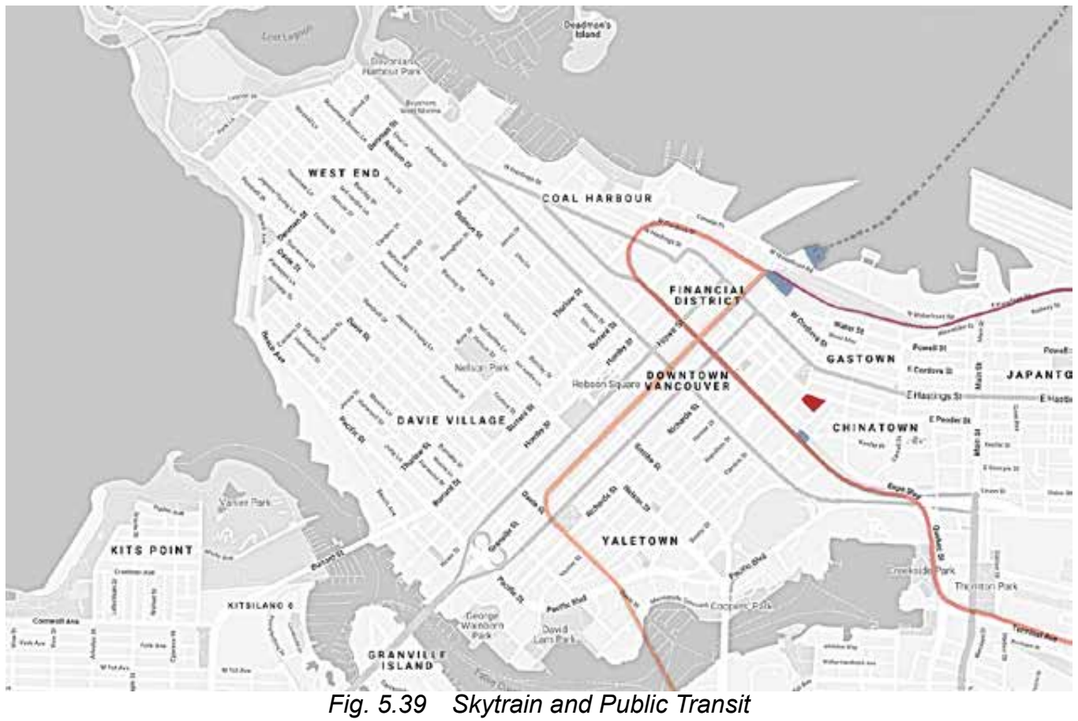


Fig. 5.39 Skytrain and Public Transit

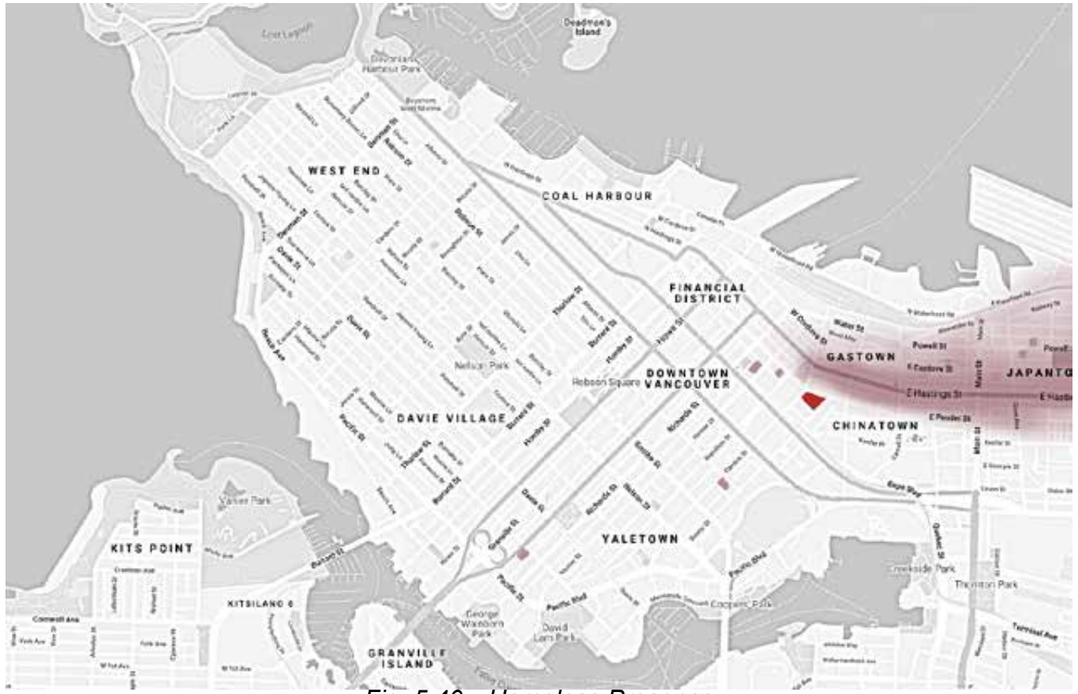


Fig. 5.40 Homeless Presence

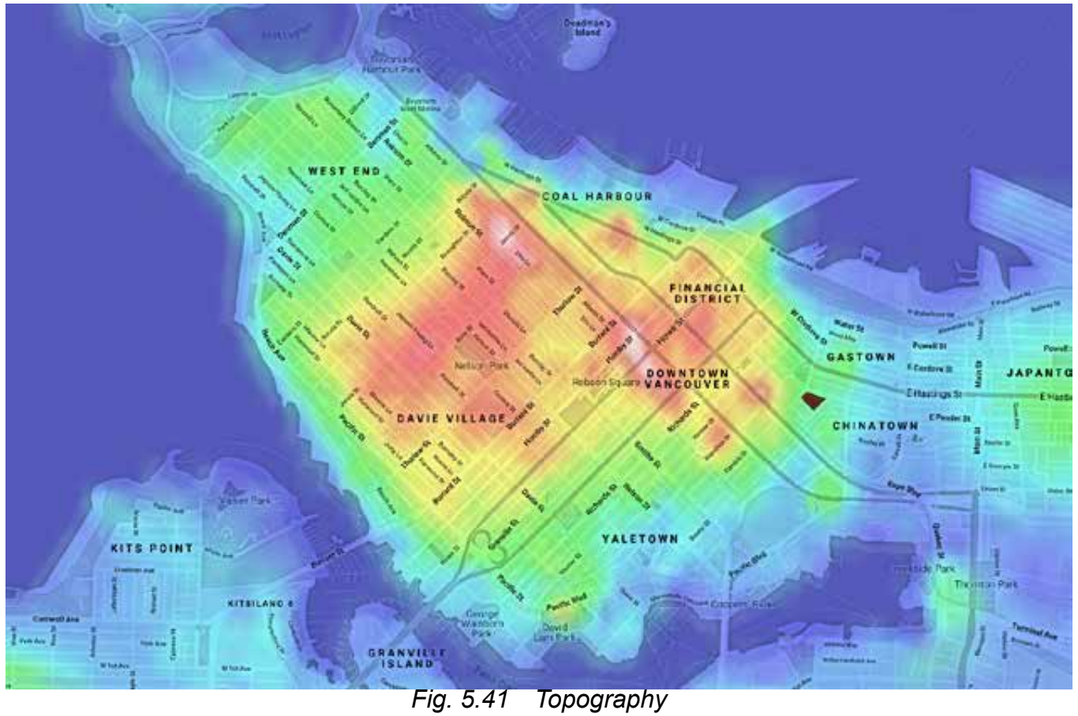


Fig. 5.41 Topography

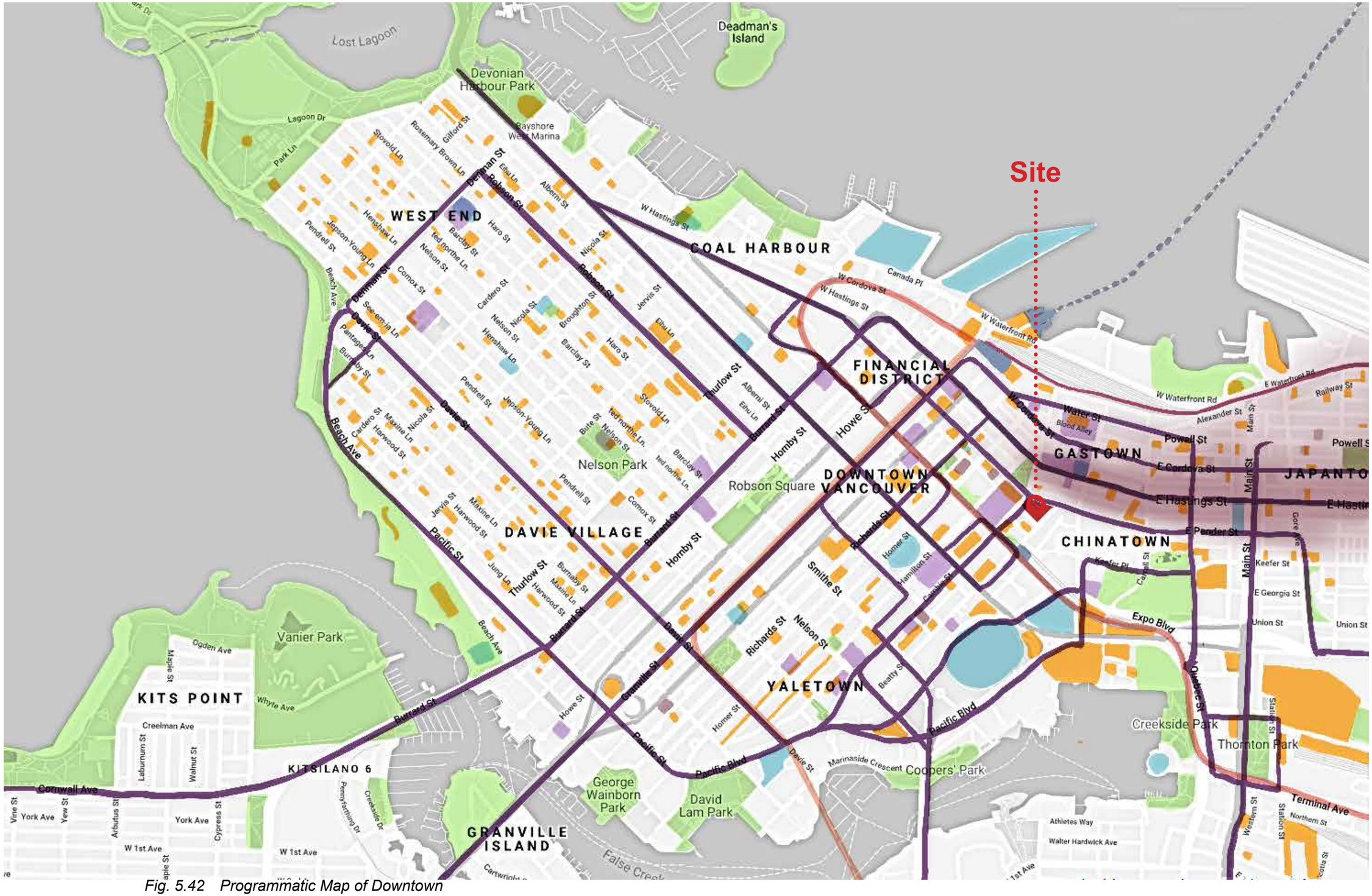


Fig. 5.42 Programmatic Map of Downtown

Fig. 5.43 Important Bus Routes

R5
No.4
No.5
No.7
No.17
No.19
No.22
No.20
No.50

Fig. 5.44 Skytrain and Bike Stations

- Stadium Chinatown Skytrain Station
  Expo Line Skytrain

- Mobi Bike Stations

Fig. 5.45 Parks and Green Spaces

Andy Livingstone Park
Cathedral Square
Dr. Sun Yatsun Classical Chinese Garden
Queen Elizabeth Plaza
St Julien's Square
Victory Square

Fig. 5.46 Service Programs

Aarm Dental Group
BC Hydro
BC Stamps
Beatty Street Drill Hall
Bus charter
Canada Post Office
CBC Radio
Church of Scientology
Crown Business Building
Duncan Office Building
Express News
Franco Lopez Architecture
Holy Rosary Cathedral
Koodo
Library Square Towers
Physiotherapy
Printer Service
Spaces Office rental
Stantec
TD
Telus
The Architecture Centre
Vancouver Foundation
Vancouver Public Library
Wood Engineering

Fig. 5.47 Food and Entertainment Programs

Fig. 5.48 Commercial Programs

Aquafarina
Auto Strad
Bean Coffee
Big Bowl Rice
Body Energy Club
Boot Café
Brown's social House
Cambie Bar and Grill
Cartem Doughnuts
Catch 122
Chambar restaurant
Charisma Cafe
Chinatown Shopping Mall
Cineplex
Clough Club
Coffee Bar
Daejae
Devil's Elbow
DiBeppe
Didi's Pizza
Dimmension art Gallery
Donair Dude
Eastern Roaster
Famosa Pizza
Fatburger
Field and Social
Finch's
Four Bistro
Gowan Café
Hai Phong
Hoduya Walnut
Indigo Café
International Village Mall
Jam Café
Jaun Cat Cafe
JJ Bean's
Jules Bistro
Kanzo Sushi
L'abattoir
Lagasita
Lamplighter Public House
Levels Nightclub
Library Square Pub
Lost and Found Café
MacDonald's
Meat and Bread
Meet in Gastown
Moxie Grill & Bar
Mt Everest Grill
Nelson the Seagull
Nemesis Coffee
Noodle Box
Papa Roti
Peaceful Restaurant
Pecking Pa
Pint Public House
Pita Wrap Café
Pizzeria Lodica
Poke M
Pokerito
Prada Café
Purebread
Qieu Café
Ramen Gojiro
Save on Meats
Share tea
Starbucks
Subway
Sushi Home
Tacofino
Tashoken Ramen
The Greek Gastown
Tim Hortons
Triple O's
Tsuki Sushi
Uncle Faith Pizza
Vancouver Playhouse
Vegan Cave Café
Vegetarian Butcher
Vera's Burger Shack
Wakukuro
Whitespot

Albion Books
AOI Beauty
Arm & Navy
Book shop
Brush Salon
Converty Market
Cos Clothing
Costco
D&D Flowers
Duer Clothing
Gastown Furniture
Gastown Vintages
Gift Shop
Inform Interiors
JD Barbers
Lightform
London Drugs
Men's Salon
Model Express
Modu Hair Salon
Money Mart
Montauk Sofa
Native Shoes
New World Fashion
One Yoga
OSO Hair Salon
Please Fix Ur Hair Salon
Posh Boutique
Proper Hair Lounge
Rain's Clothing
Resource Furniture
Seven eleven
Showtime Tickets
structube Furniture
The Nooks Gastown
Tsubasa Hair Salon
T&T Supermarket
Value Coop Shop
Workshop Salon

Fig. 5.49 Educational Programs

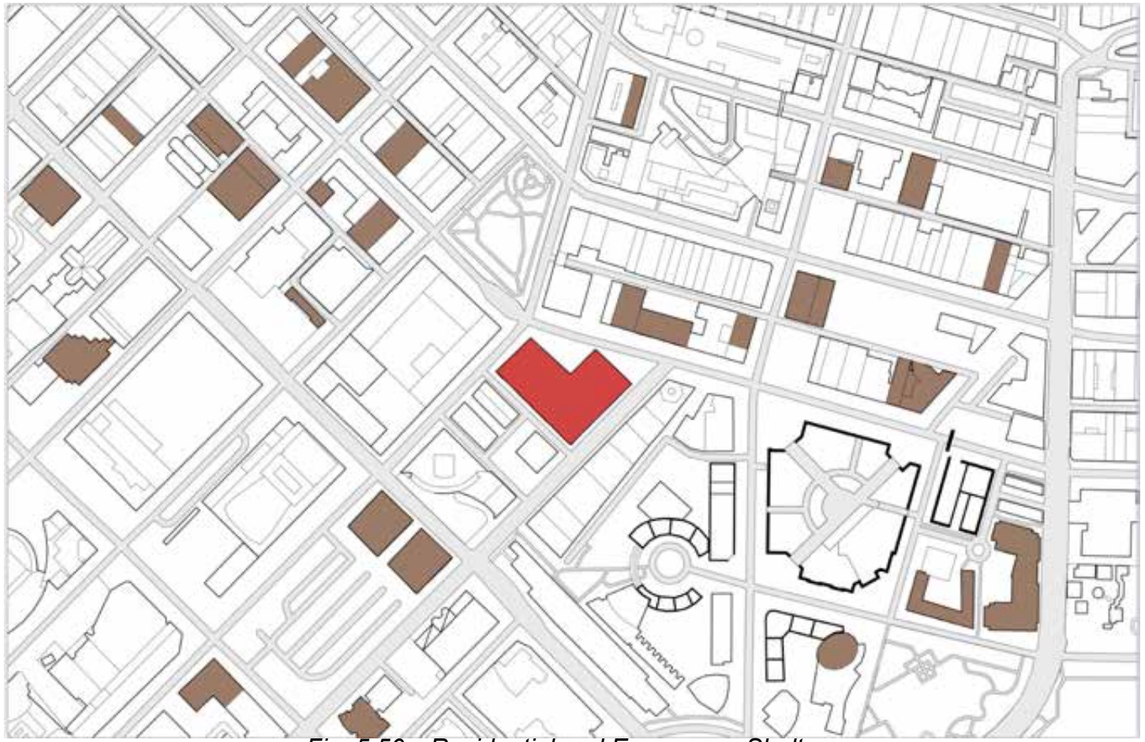


Fig. 5.50 Residential and Emergency Shelters

Academie Duello
Adler University
Arthur Murrey Dance School
BCIT Downtown Campus
Dirty Apron Cooking School
EF International Language Campus
ILSC Language School
London School
National Film Board of Canada
SFU Goldcorp Centre for the Arts
SFU Social Innovation Lab
Vancouver Community College
VFS Animation School
VFS Sound Design
Vancouver Film School

Abbott Mansion
Avalon Hotel
Beacon Hotel
Cambie Hostel
Central City Lodge Nursing Home
Covenant House Homeless shelter
Delmar Inn
Grand Union Hotel
Harmony Assisted Living
Hildon Hotel
Hotel Canada Low income Housing
Larwhil Place Condos
Lotus Hotel
Morrow Studio
Native Housing residence
Pacific Coast Apartments
Pendera Retirement Home
Ramada
River Buell Sutton
Salvation Army Homeless Shelter
Sandman Hotel
St Clair’s Hotel
Student Housing
Skwachays Lodge
Success Care Home
Vacation Home Rentals
Victorian Hotel

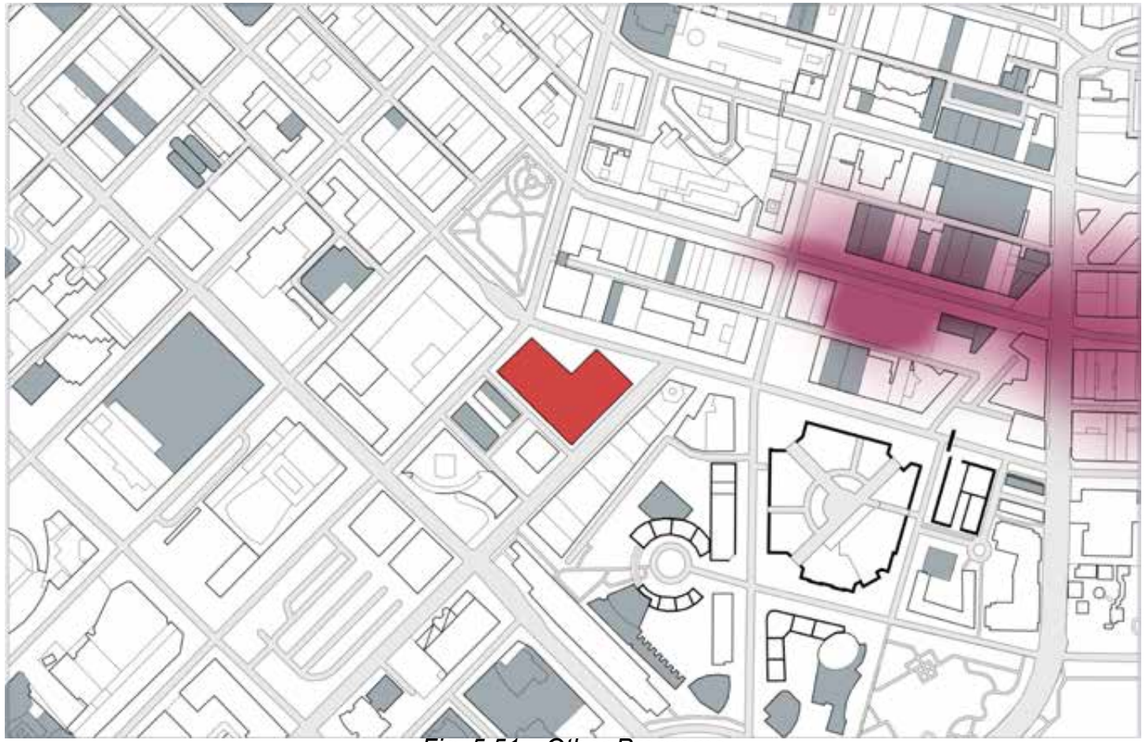


Fig. 5.51 Other Programs

Undetermined Buildings
Buildings Under Construction

Homeless Camp and Presence

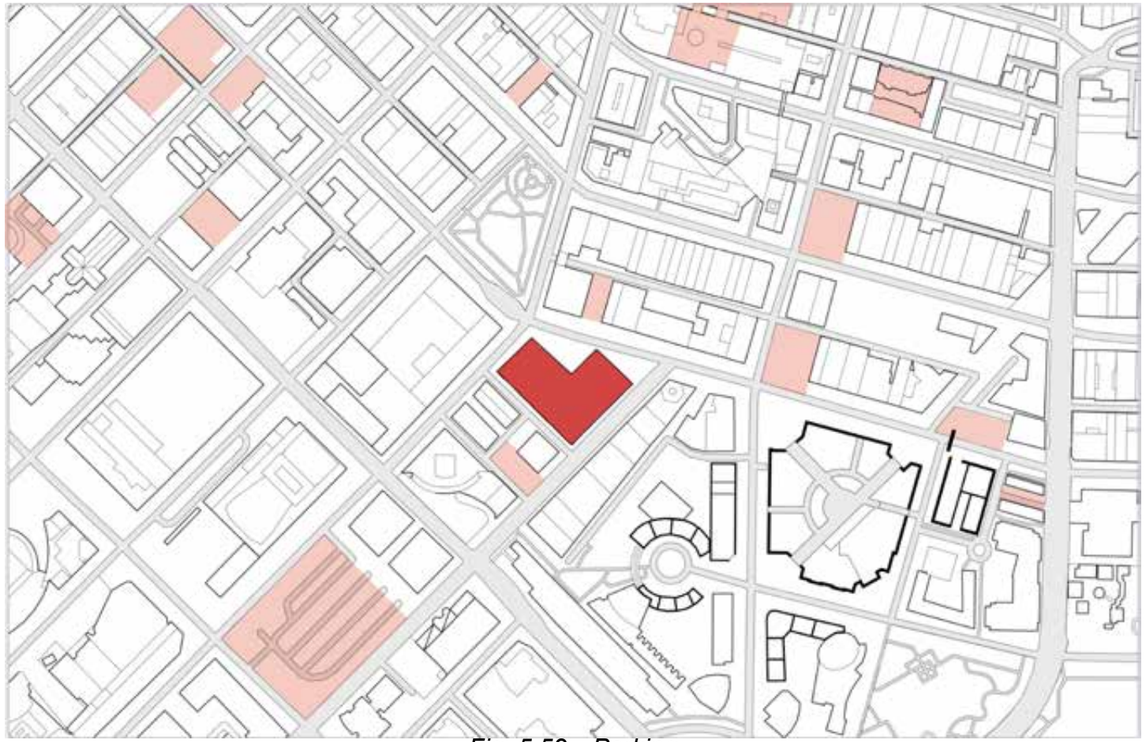


Fig. 5.52 Parking

Fig. 5.53 Programmatic Map of Neighborhood

Fig. 5.54 Neighborhood Activity Concentration

The site analysis shows that both the neighborhood and the downtown core area are vibrant with a collection of beneficial programs. Within walking distance, there is a range of educational institutions, restaurants, shops, and services that attracts young professionals. The proximity of the public transit system also allows the project's residents to quickly get around and connect to places outside of walking distance. Given a choice, residents want to live near the city center, and this project should realize this. The densification of underused lots has its precedents in the densification of the Downtown West end neighborhood, Kitsilano, and Maypole in Vancouver. All of these areas were densified through rezoning and the addition of residential units. For this design proposal taking advantage of the underused lot in a central location makes perfect sense. The proposal would contain public programs that integrate well and serve the surrounding neighborhood. The goal would be to create an affordable place of transition for young professionals that can help them save money and eventually afford to support their own households in an urban center.

Endnotes

Arundel, Rowan. 2020. “Vancouver Density.” Geog.ubc.ca. 2020. Accessed May 20, 2022, https://ibis.geog.ubc.ca/courses/geob479/classof08/vandensify/introduction.html.

Balca, Dario. 2019. “Vancouver Real Estate: Which Cities Are Seeing the Biggest Drop in Home Prices?” British Columbia. February 6, 2019. Accessed May 20, 2022, https://bc.ctvnews.ca/vancouver-real-estate-which-cities-are-seeing-the-biggest-drop-in-home-prices-1.4285643.

Canadian Press. 2019. “CityNews.” Vancouver.citynews.ca. January 19, 2019. Accessed April 15, 2022, https://vancouver.citynews.ca/2019/01/13/young-professionals-leaving-vancouver-over-high-cost-of-housing/.

Chan, Kenneth. 2021. “Metro Vancouver’s Rental Housing Vacancies Saw Improvement in 2020: CMHC | Urbanized.” Dailyhive.com. January 28, 2021. Accessed May 05, 2022, https://dailyhive.com/vancouver/metro-vancouver-rental-housing-statistics-2020.

City of Vancouver. 2020. “Social Indicators and Trends: City of Vancouver Profile 2019.” Accessed May 20, 2022, https://vancouver.ca/files/cov/social-indicators-profile-city-of-vancouver.pdf.

Jensen, Dinah. 2021. “Recent Graduates, Young Professionals Feel Excluded from Kingston’s Housing Market.” CFRC 101.9fm. 2021. Accessed May 05, 2022, https://www.cfrc.ca/recent_graduates_young_professionals_feel_excluded_from_kingston_s_housing_market.

Madden, David, and Peter Marcuse. 2016a. *In Defense of Housing : The Politics of Crisis. London* ; New York (N.Y.): Verso, , Cop.

Olsen, Tyler. 2021. “Waitlist for Affordable Housing Has Doubled in Last 5 Years.” Fraser Valley Current. June 22, 2021. Accessed May 10, 2022, https://fvcurrent.com/article/waitlist-for-affordable-housing-has-doubled-in-last-5-years/.

Pemberton, Kim. 2016. “Wait Lists Growing for Residential Care, Subsidized Housing in B.C.: Advocate.” Vancouversun. 2016. Accessed March 20, 2022, https://vancouversun.com/news/local-news/wait-lists-growing-for-residential-care-subsidized-housing-in-b-c-advocate.

Presse Canadienne. 2021. “The Housing Crisis Is Hitting Young People Hard, Conseil Jeunesse de Montréal Says.” Montrealgazette. April 14, 2021. Accessed April 12, 2022, https://montrealgazette.com/news/local-news/the-housing-crisis-is-hitting-young-people-hard-conseil-jeunesse-de-montreal-says.

Ramsey, Matthew. 2019. “UBC’s First Nano-Suites Open at the New Exchange Residence.” UBC News. August 31, 2019. Accessed January 20, 2022, https://news.ubc.ca/2019/08/31/ubcs-first-nano-suites-open-at-the-new-exchange-residence/.

Vancouver, City of. 2021. “Creating and Protecting Purpose-Built Rental Housing.” Vancouver.ca. 2021. Accessed April 12, 2022, https://vancouver.ca/people-programs/creating-new-market-rental-housing.aspx.

Wilson, Kerrisa. 2018. “This Chart Shows How Much Greater Vancouver Home Prices Have Climbed over the Past 4 Decades.” Livabl. January 28, 2018. Accessed May 02, 2022, https://www.livabl.com/2018/01/chart-greater-vancouver-prices-climbed-4-decades.html.

CHAPTER 6

Design Application

Design Goals

For this design, the goal is to achieve an alternative living for young professionals by sharing the living spaces and the expenses. The arrangement creates possibilities for resident socialization and building personal networks. Achieve better living space and shared content that can create an enjoyable lifestyle. The spatial arrangements create opportunities for user participation in the usage of the common spaces. The strategy would also ensure safety by introducing different levels of sharing and privacy within the building. This proposal is about reconsidering patterns of living that are different from typical detached nuclear typologies and discovering ways that architecture can induce a sense of community engagement. The project is set to be a maximum 5-year tenancy, and the goal is to help young professionals transition into their next phase of life when they achieve job and financial stability. Since the young professionals themselves are in a transitional state of life, it is only natural that their housing reflects this state. The project proposal is not meant to be a long-term housing facility, and the mid-term contract will encourage the residents to think about their careers and promote hard work. Architecture can and will aid in this vital transition towards financial and social stability by providing a suitable environment for development. The 5-year tenancy will ensure a timeframe dedicated to the residents' development and education regarding alternative living.

Vancouver's Downtown is the highest-density commercial area within the city and the Greater Vancouver Region. In the zoning for this selected site, the FAR must not exceed 7.0, and following the official plan for Downtown, the ground floor must contain public programs, and the building height must not exceed a maximum of 137.5 meters. (City of Vancouver 2017) Following the zoning plan, the design proposal is set to be at the height of 75 meters with 18 floors, and there are 3 floors of shared amenities and 15 floors of residential programs. The residential floorplates are 600 sqm each serviced by 3 elevators and a scissor fire stair. The project supplies a total 50 paid parking spots in the basement and ground level. Since the project location is close to public transit and the financial center, there is no need for many parking spots. The city of Vancouver also encourages the usage of public transit versus private transportation for energy conservation purposes.

Lessons from Case Studies

- A controlled number of residents should share enough common space so that the resources and services are distributed evenly. This strategy separates the residents into smaller cluster communities to ensure even resources for all.

- The layout of these common spaces should be relatively open and flexible, so dead space and useless corridors are eliminated.

- The creation of different areas in the common space would imply the possibility of a human-centric space that everyone can use. The common space should be customizable.

- There should also be a separation of loud and quiet common areas in the cluster since the target demographic could use a quiet workspace and a place to socialize and build connections.

- The kitchen and general lounge can be removed from the private units and inserted into the common space since young professionals would not be spending as much time cooking in their units.

- Private storage would also be available in the common space if the private units do not satisfy the resident's storage needs.

- The private units themselves can be simple, but the addition of mobile and flexible furniture would allow the resident to transform their usage of the private space from day to night. The bed can be pulled into a sofa to free up space for private work during the daytime.

- Building there should be facilities dedicated to the young professionals, such as a library, a reading space, a common terrace, a fitness center, a learning center, meeting rooms, co-working spaces, activities spaces, and work opportunities.

- The offering of these services can be partially extended to the public, such as renting meeting spaces, co-working spaces, and gyms.

- The gradation of the public to private space would be a bottom-up process and a smooth transition to ensure the safety and security of the residents.

Demographic Needs

For the target demographics of this thesis, young professionals have a list of needs that the programs within the project should meet. These people are recent graduates at the beginning parts of their careers. At this point in their lives, young professionals are not established in society, and most would want to save money. This demographic consists of people entering a new stage of life and are mostly willing to try new things for fulfillment. In terms of housing, a portion of the young professionals living away from home will be willing to spend an affordable amount on housing to help transition and save money (Green 2018). This thesis proposes a 5-year maximum tenancy for the residents and offers many services and amenities to help young professionals self-develop into full-fledged independency. Specifically tailored to young professionals, this project offers the following:

- Alternative communal living: sharing areas that would typically be private such as kitchens, will encourage resident interaction. Sharing resources will lower maintenance costs and promote the flexible usage of common spaces. The residents can negotiate on shared furniture and share expenses.

- Cluster Community Typology: The cluster communities are grouped on 3 floors each within the residential tower. Each cluster forms a micro-community within the larger whole to ensure evenly distributed resources are available for everyone. The cluster floors are acoustically separated and functionally distributed by distributing different common spaces ranging from quiet to gathering spaces.

- Flexible Private Unit: The private unit is minimal; however, there is enough space to satisfy the resident's daily needs. The foldup murphy bed transforms into a sofa during the day to free up more interior space for movement. In the 2-bedroom unit, the main bedroom is separated from the living space by a folding partition wall that can flip open during the daytime to free up more interior space.

- Study and workspaces: A quiet work-study floor is available for the resident working from home within the cluster community. For collective

- working and studying, a for-rent co-working space is available for both the public and the residents on the first and second floors. There are also customizable meeting rooms and learning rooms available for the public and the residents on the second floor. These services are tailored to the young professionals and would help them build strong networks and allow communication between like-minded individuals.

- Reading spaces: Like the previous entry, the residents can enjoy reading spaces in the private cluster community. There is also an open library space on the second floor open to the public.

- Multimedia and variety rooms: There are opportunities for the residents to self-organize classes and showcase their areas of expertise within the building. The third floor of the project is a shared space between all the residents. The hallways can be used as galleries, and the residents are free to roam the floor to use the spaces as they like.

In terms of rent, according to Canadian Census, the median income of the age group 25-34 due to employment in 2022 stands at 40,000 dollars, with males earning 48,300 dollars and females 33,200 dollars. Therefore, affordable rent should be around 30 percent of monthly income, so this project is offering a monthly rent rate of 1,100 dollars per month for 1 bedroom units and 2,100 dollars per month for 2 bedroom units.

Fig. 6.1 Plaza Ramp

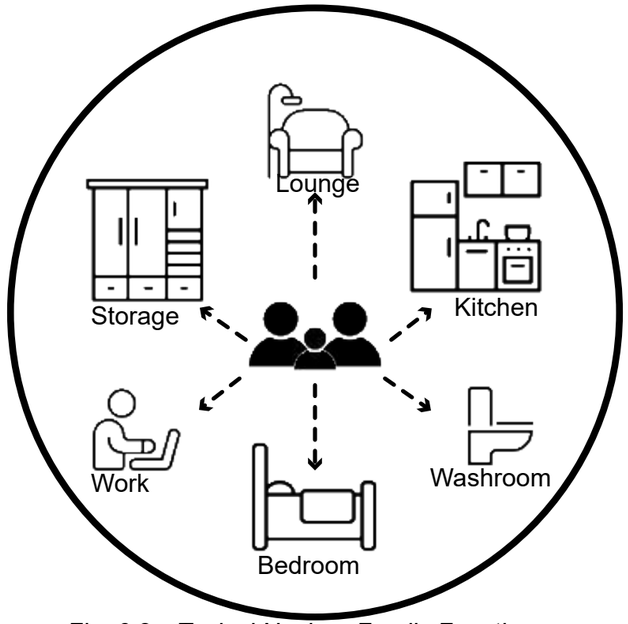


Fig. 6.2 Typical Nuclear Family Functions

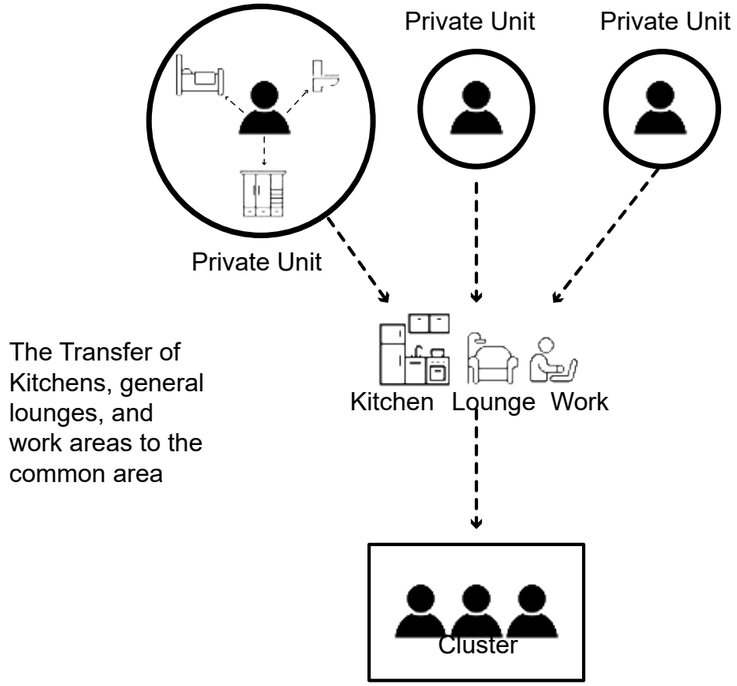


Fig. 6.3 Proposed Cluster Community Functions

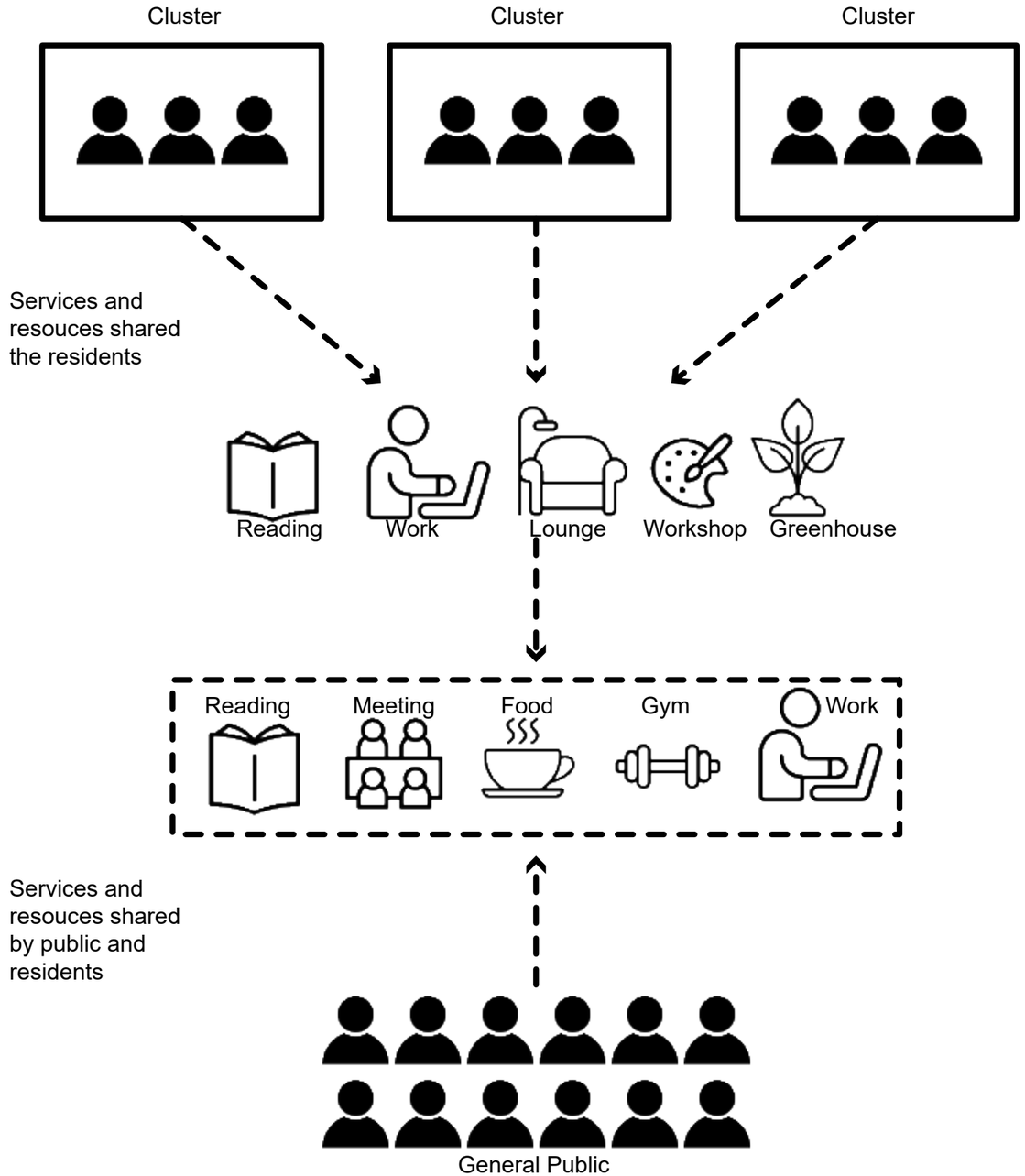


Fig. 6.4 Public Private Shared Resources

Fig. 6.5 Site Axonometric

Design Strategy

The site is interesting because it has a 4.5-meter difference from end to end. Taking full advantage of this situation, the ground and second floors are half-buried in the ground next to an excavated ground floor plaza. The two public floors offer a variety of programs, including cafes, gyms, childcare, an overhead rain shelter, a library, and coworking spaces. The plaza is an extension of the indoor programs and offers spaces to sit and relax. The third floor is a semi-public space shared by the residents of the project, offering spaces to exhibit, workshop spaces, a greenhouse, video rooms, and flexible spaces open to customization. The fourth floor has a large open terrace open to the project's residents, who can use it for gatherings and parties. The floors above are the residential cluster floors, each with more intimate commons spaces shared between 3 floors. The gradient from public to private ensures proximity to services and resources but also protects the privacy and safety of the residents.

Project Data

Tenancy: 5-year Maximum
Unit Count: 160
2 Bedroom Units: 40
1 Bedroom Units: 120
Cluster Communities: 10
Floors: 18

Total Site Area: 6310 sq.m
Total Building Footprint: 2695 sq.m
Total GFA (excl. parking): 25,451 sq.m
FAR: 4.0

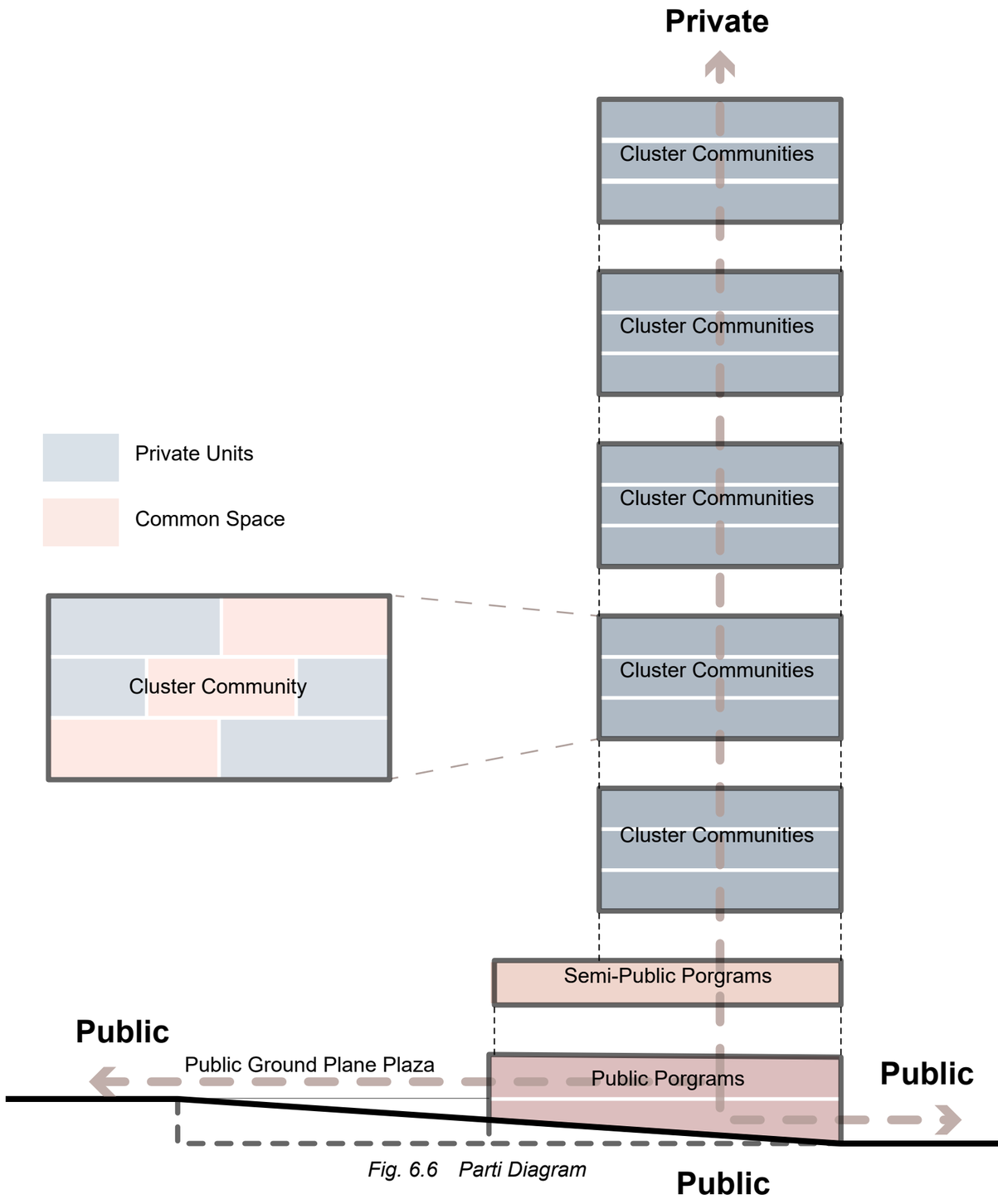


Fig. 6.6 Parti Diagram

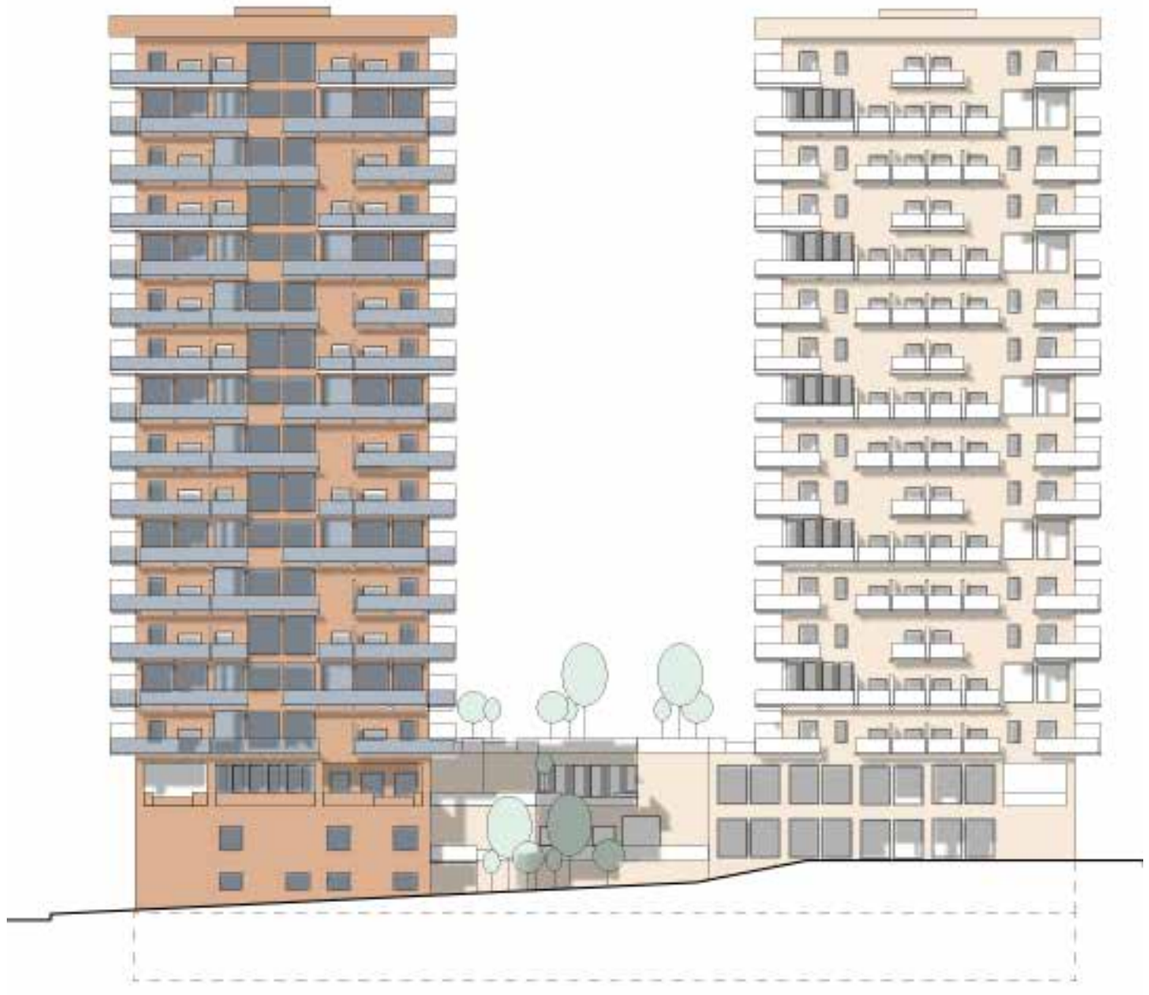


Fig. 6.7 North Elevation 1:500

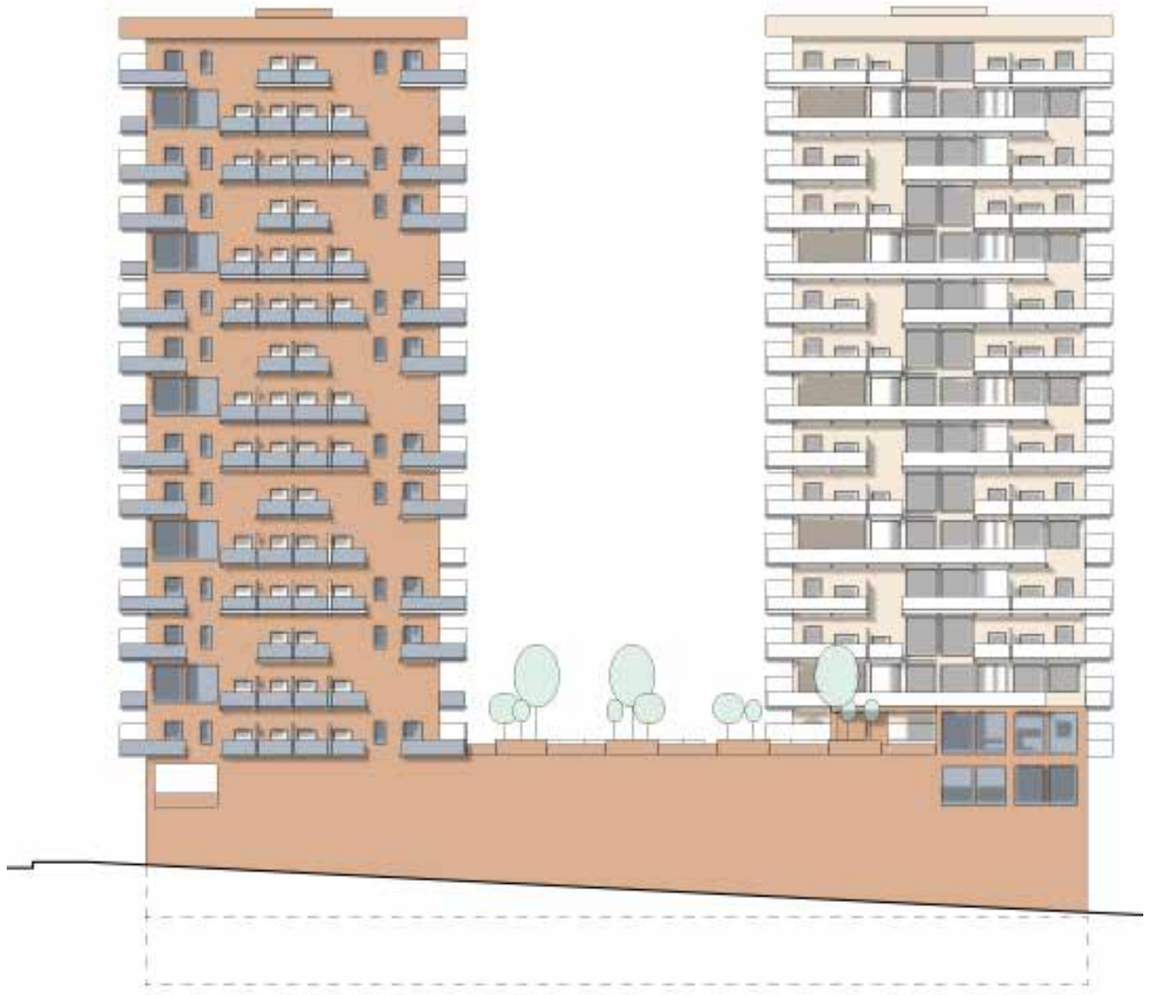


Fig. 6.8 South Elevation 1:500

Fig. 6.9 East Elevation 1:500

Fig. 6.10 West Elevation 1:500

1. Administration and Coworking
2. Bike Parking
3. Market Storage
4. Restaurant
5. Cafe
6. Public Elevator Lobby
7. Parking
8. Private Arcade and Elevator Lobby
9. BOH
10. Public Plaza
11. Streetside Market

Fig. 6.11 Ground Floor Plan 1:500

Fig. 6.12 Plaza Street View

Fig. 6.13 Cafe and Restaurant Exterior Seating

1. Public Coworking
2. Library and Reading Lounge
3. Public Outdoor Terrace
4. Gym
5. Daycare
6. Public Meeting and Learning Center
7. Residential Lobby

Fig. 6.14 Second Floor Plan 1:500

Fig. 6.15 Second Floor Library and Reading Lounge

Fig. 6.16 Second Floor Terrace

1. Residential Tower Lobby Lounge 1

2. Media Room1

3. Shared Terrace

4. General Kitchen 1

5. Shared Terrace

6. Greenhouse

7. Workshop and Activitiy Space

8. Shared Terrace

9. Reading Niche

10. Residential Tower Lobby Lounge 1

11. General Kitchen 2

12. Media Room 2

13. Shared Terrace

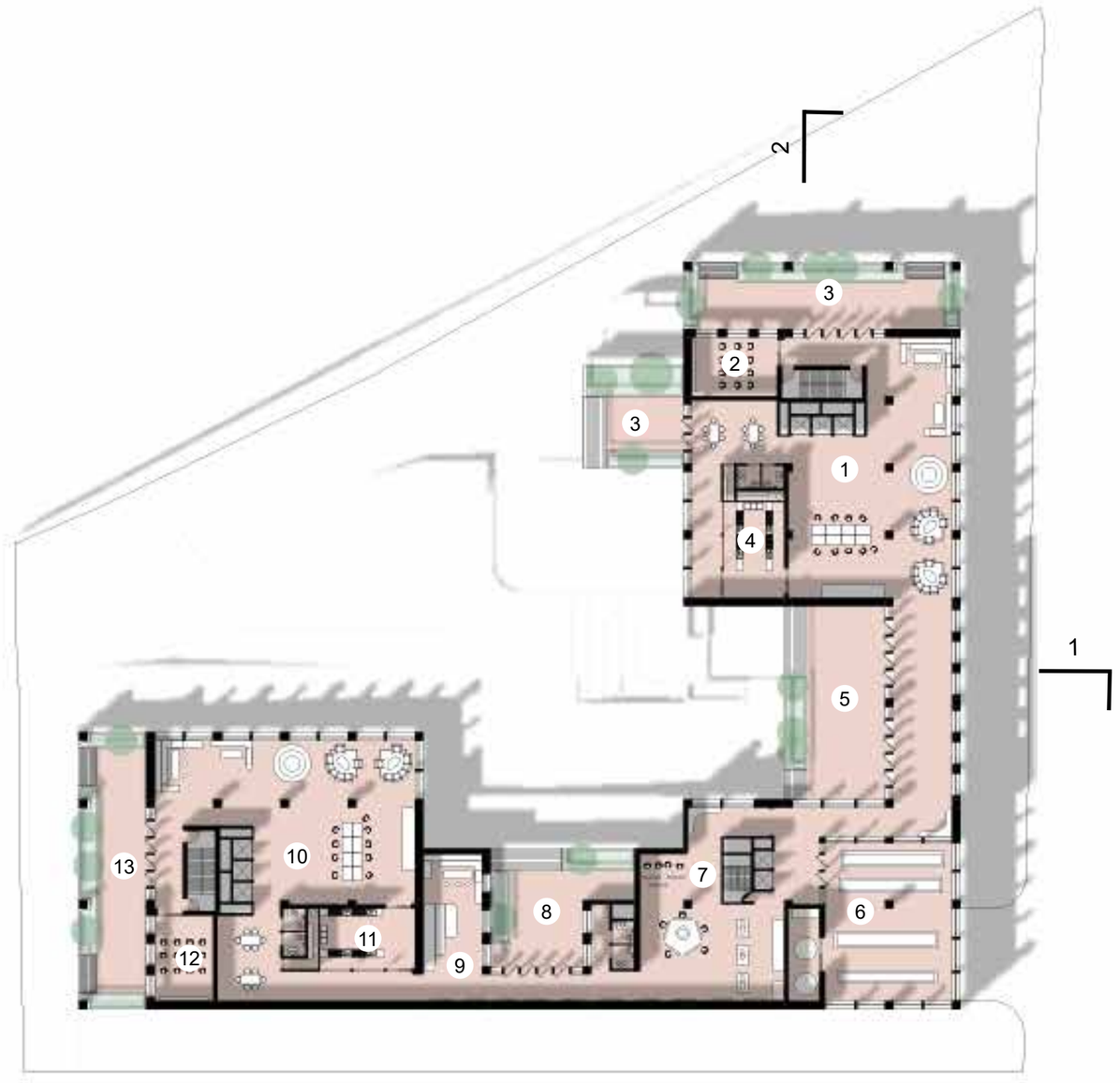


Fig. 6.17 Third Floor Plan 1:500

1. Residential Tower 1 Private Spaces

2. Residential Shared Terrace

3. Residential Tower 1 Private Spaces

Fig. 6.18 Fourth Floor Plan 1:500

Fig. 6.19 Fourth Floor Semi-Public Shared Terrace

Fig. 6.20 Fourth Floor Terrace View

Fig. 6.21 Section 1 1:500

Fig. 6.22 Section 2 1:500

2 Bedroom Unit
36 sqm

Daytime Nighttime

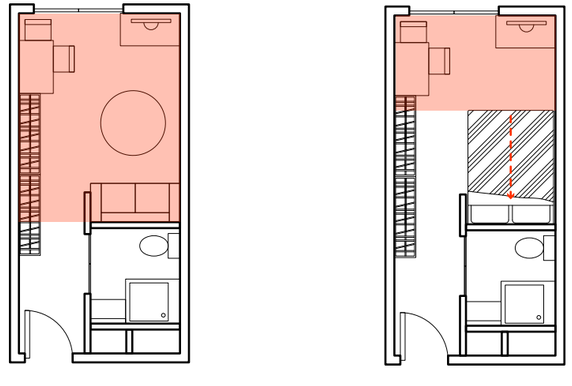
Open Space

Furniture Movement

The 2 bedroom unit is mobilized via the usage of an acoustic movable wall partition which may open up during daytime. In combination with the murphy bed couch, this strategy will free up more open space within the private unit for usage during the day.

Fig. 6.23 2 Bedroom Unit Plan 1:100

1 Bedroom Unit
18 sqm



Daytime Nighttime

Open Space

Furniture Movement

The 1-bedroom unit contains a murphy bed couch that frees up more open space during the daytime.

Fig. 6.24 1 Bedroom Unit Plan 1:100

Cluster Floor 1: The Lounge

1. Cluster Common Lounge 1

2. Cluster Common Lounge 1

3. 2 Bedroom Unit

4. 1 Bedroom Unit

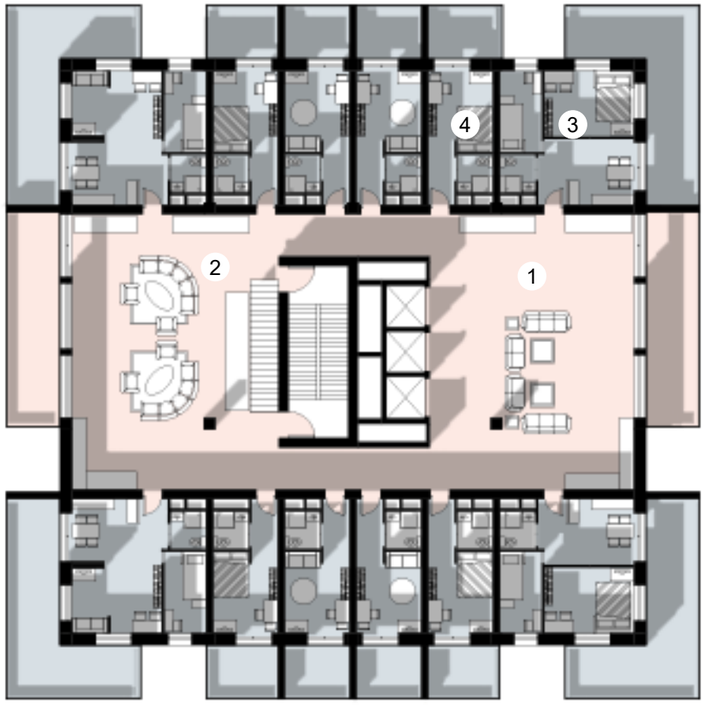


Fig. 6.25 Cluster Community Floor 1 Plan 1:250

Fig. 6.26 Cluster Community Floor 1 Lounge 1

Cluster Floor 2: The Collective Activities

1. Games Lounge

2. Dining Area

3. Shared Kitchen

4. Laundry

5. Exterior Balcony

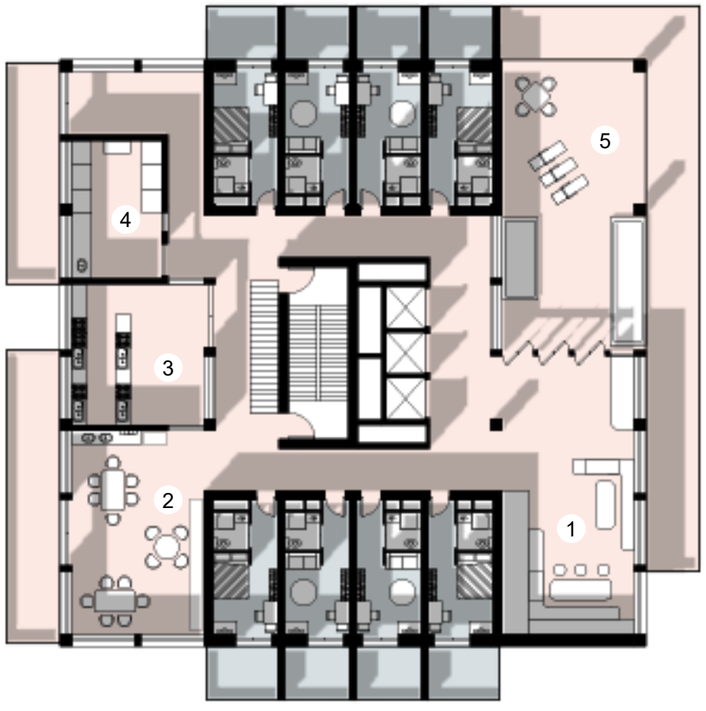


Fig. 6.27 Cluster Community Floor 2 Plan 1:250

Fig. 6.28 Cluster Community Floor 2 Games Lounge

Cluster Floor 3: The Quiet Zone

1. Reading Space

2. Working Space

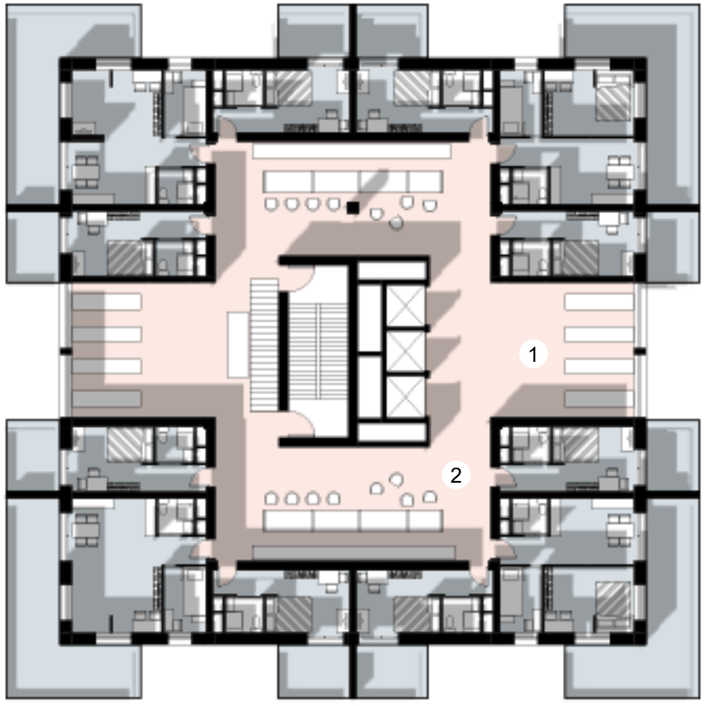


Fig. 6.29 Cluster Community Floor 3 Plan 1:250

Fig. 6.30 Cluster Community Floor 3 Reading Space

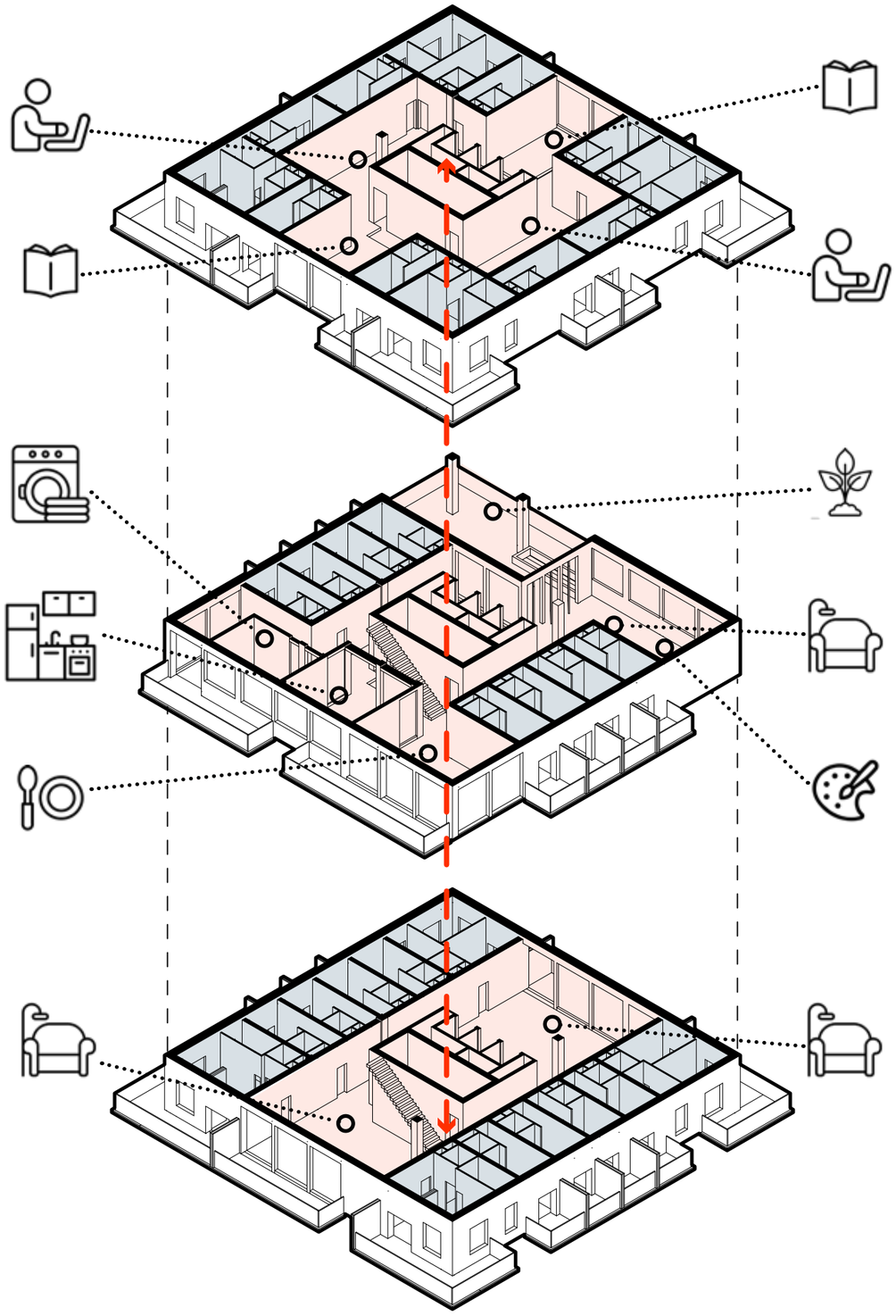


Fig. 6.31 Cluster Community Axonometric

Fig. 6.32 View From Private Balcony

Economic Model

The proposal assumes this 18-story building is built as affordable units that charge below-market rental rates monthly, developed by non-profit organizations and housing associations with support from CMHC. Some funding could be secured through existing government funding programs in the national housing strategy and municipal government funding.

In Vancouver, the hard cost construction is roughly calculated at $390/sf, and for the proposal, the hard cost construction would be estimated at around $106,842,450, and the soft cost, including contingencies, calculated at 25% of hard cost being $26,710,612, the total construction cost would be estimated at $133,553,062. Since the project proposes a non-profit rental model offered at 100% affordable units, there are some significant funding sources that can go into this project.

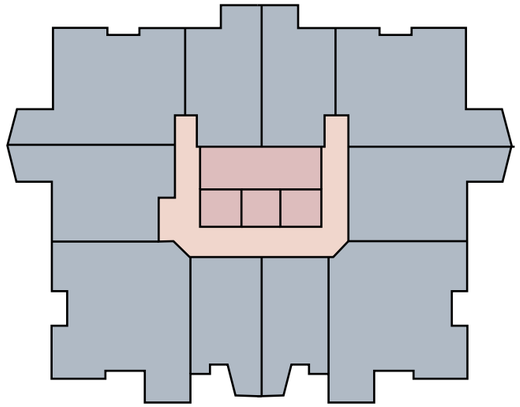
At the city level, the Community Housing Incentive Program will provide $ 3,000,000 in funding for building new affordable units. This program provides funding for non-profit affordable housing projects. Since this proposed project offers a similar condition to Low end of Market units, the funding calculations are based upon these criteria. At the provincial level in BC, the CHF community housing fund program facilitates the development of affordable rental housing. It is willing to provide grants per unit for new constructions at $100,000 for 1-bedroom units and $125,000 for 2-bedroom units, with a total of up to 17,000,000 in funding for 100% new affordable units (BC housing 2020). The NHS also offers loans in the RCFI programs geared toward building new rental units at the federal level. The Affordable Housing Innovation Fund is used to develop alternative affordable housing models with innovative approaches and business models. There is an estimated funding of $5,000,000 from the federal funding sources.

Overall, there are estimated funding of $25,000,000 from various sources accounting for 19% of total construction costs. Also, compared to conventional apartment buildings, there will be a significant operating cost reduction in the proposed project. As a 100% affordable typology, there are likely no vacancies, reducing marketing and cleaning fees for the residential areas. Energy-efficient strategies such as shared appliances, LED lighting, and energy-efficient appliances would also cut down operating costs. Calibrated water usage methods, including water flow regulators, reduced flow toilets and showers, and the sharing of kitchens are also important. The maintenance of the building would be a collective effort with all the residents sharing responsibility for chores. All these efforts result in around a 50% reduction in typical operating expenses.

The annual rental revenue stands at $2,592,000, and the typical operating expense would be 30% of revenue at $777,600; however, with the benefits of communal living, there are savings on water, internet, and electricity bills so the operating expense would be a reduction of 50% on operating expenses at $388,800. The annual commercial revenue from the first and second floors is estimated to be $1,458,500, with an operating expense of $350,040. The project's total revenue as a combination of rental and commercial income is roughly $ 3,311,660.

The total net cost of the building estimates to be $108,553,062 with an equity down payment of $27,138,266 at 25% and a principal balance of $81,414,797. With an interest rate of 1.5% and an amortization period of 50 years (CMHC 2020), the annual debt service come to an estimated payment of $2,849,516 annually, and the debt service coverage ratio is estimated to be 1.16. Once the project is completed, the annual revenue of the building is sufficient to cover the annual debt service for the low-interest CMHC mortgage loan for the principal balance required to build the development. This allows for a below-market rent rate of 1100/month for a 1-bedroom unit and 2100/month for a 2-bedroom unit.

Hard Cost:	$106,842,450
Soft Cost:	$26,710,612
Total Construction Cost:	$133,553,062
City Funding:	$3,000,000
Provincial Funding:	$17,000,000
Federal Funding/Loans:	$5,000,000
Annual Rental Revenue:	$2,592,000
Annual Commercial Revenue:	$1,458,500
Operating Cost:	$738,840
Total Revenue:	$3,311,660
Net Cost:	$108,553,062
Down Payment:	$27,138,266
Principal Balance:	$81,414,797
Annual Debt Service:	$2,849,516
DSCR:	1.19



580 sqm

The Pinnacle at 939 Homer Street

36 Storeys
312 Units
1 Bedroom $1895-2295/month
2 Bedroom $2995-3795/month

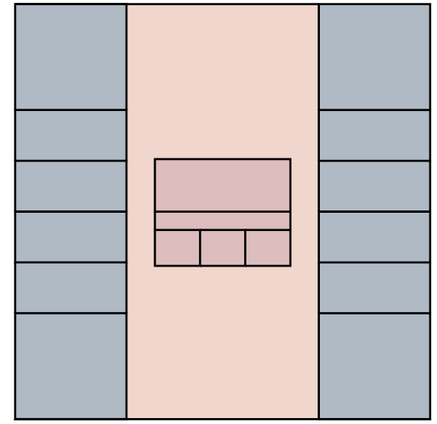
Building Services:

Bike Room
Fitness Centre
Billiard Room
Concierge
Guest Suite
Sauna
Hot Tub
Party Room
Elevator
Library
Pool

Units:

1 Bedroom: 40 sqm-72 sqm
2 Bedroom: 82 sqm-85 sqm

Utilities include Electricity, Gas, Hot water,
Unit Space: Private Balcony, Living room, Kitchen, Bedroom, Bathroom



600 sqm

Common Grounds at 150 W Pender St

18 Storeys
160 Units
1 Bedroom $1100/month
2 Bedroom $2100/month

Building Services:

Bike Room
Fitness Centre
Billiard Room/ Game Room
Concierge
Guest Suite
Gym
Daycare
Elevator
Library
Market Space
Office Space
Public Plaza
Cafe
Restaurant
Learning Center
Meeting Rooms
Workshop Spaces
Video Room
Terraces
Quiet/ Loud Working
Greenhouse

Units:

1 Bedroom: 18 sqm
2 Bedroom: 36 sqm

Utilities include Electricity, Gas, Hot water, Internet
Unit Space: Private Balcony, Living room, Bathroom, Bedroom
Common Space: Living room, Kitchen, Dining Space,Balcony, Game room, Laundry, Quiet Study, LIbrary, Storage.

Kitchen Usage

The Shared kitchen operates on a sign-up basis to avoid overflow; the maximum limit is 10 units per hour. This ensures smooth operation and prevents the shared dining room and kitchens from exceeding service capacity. If the resident is unwilling to share the kitchen, they can always purchase a hotplate of their own to use within their unit.

The resident of unit 73 would like to cook their own meal after work today, so they would sign up for a time slot on the second floor of their cluster and then use the kitchen at their designated time. After cooking their meal, the resident proceeds to bring their food to the outdoor terrace for consumption.

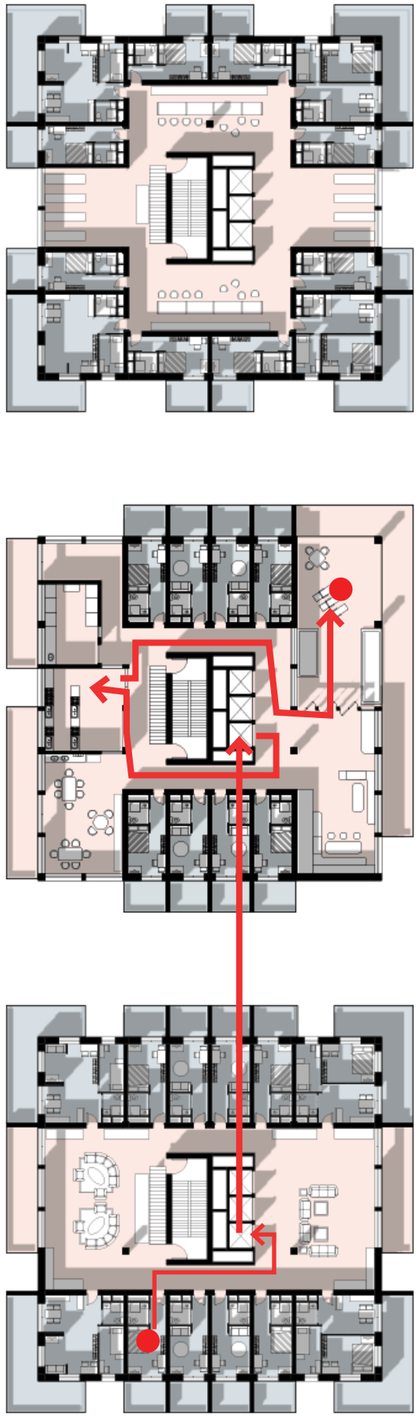


Fig. 6.33 Kitchen Usage

Storage Usage

There are lockers scattered through the common spaces available for resident use. Each unit is assigned 2 lockers, and they can negotiate with other residents for more storage space. In addition, some items and furniture used to populate the common areas can be purchased by the residents upon agreement.

The residents of unit 90 had done some shopping, and they bought some items to decorate the games lounge on the second floor of the cluster and some household items to keep in their locker. The residents first made their way to their own lockers to store and then headed down to the games lounge to put the new picture frames on the wall.

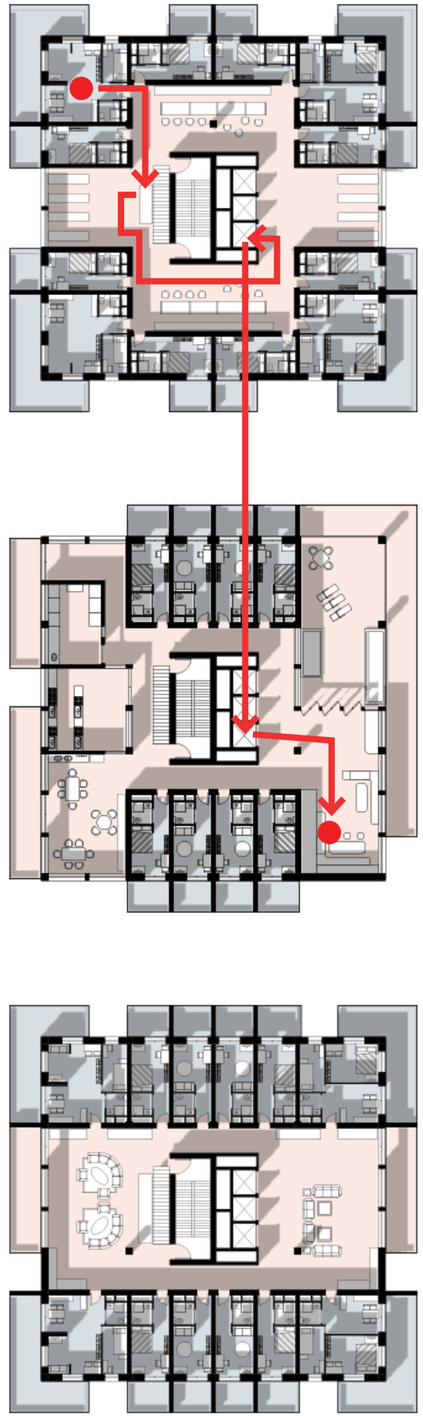


Fig. 6.34 Storage Usage

Semi-Public Amenities Usage

The spaces on the third and fourth floors are available to all the residents of the building. The services available are flexible and customizable to suit the needs of the residents. The residents are also free to roam and interact with the other tenants from tower to tower. Activities and classes run by residents are planned and announced via a mobile application, and everyone in the building is free to join.

The resident of tower 2, unit 85 has a day off from work today and would like to explore and use the spaces available to all the residents. The resident leaves their unit to head to the third floor and picks out a movie to watch with their friends in the media room. They then head to the middle of the joint floor, where a resident leads a planned yoga class. After the class, the tenant heads back to their tower and makes themselves some food in the general kitchen. They then go to the tower lobby lounge to enjoy their food.

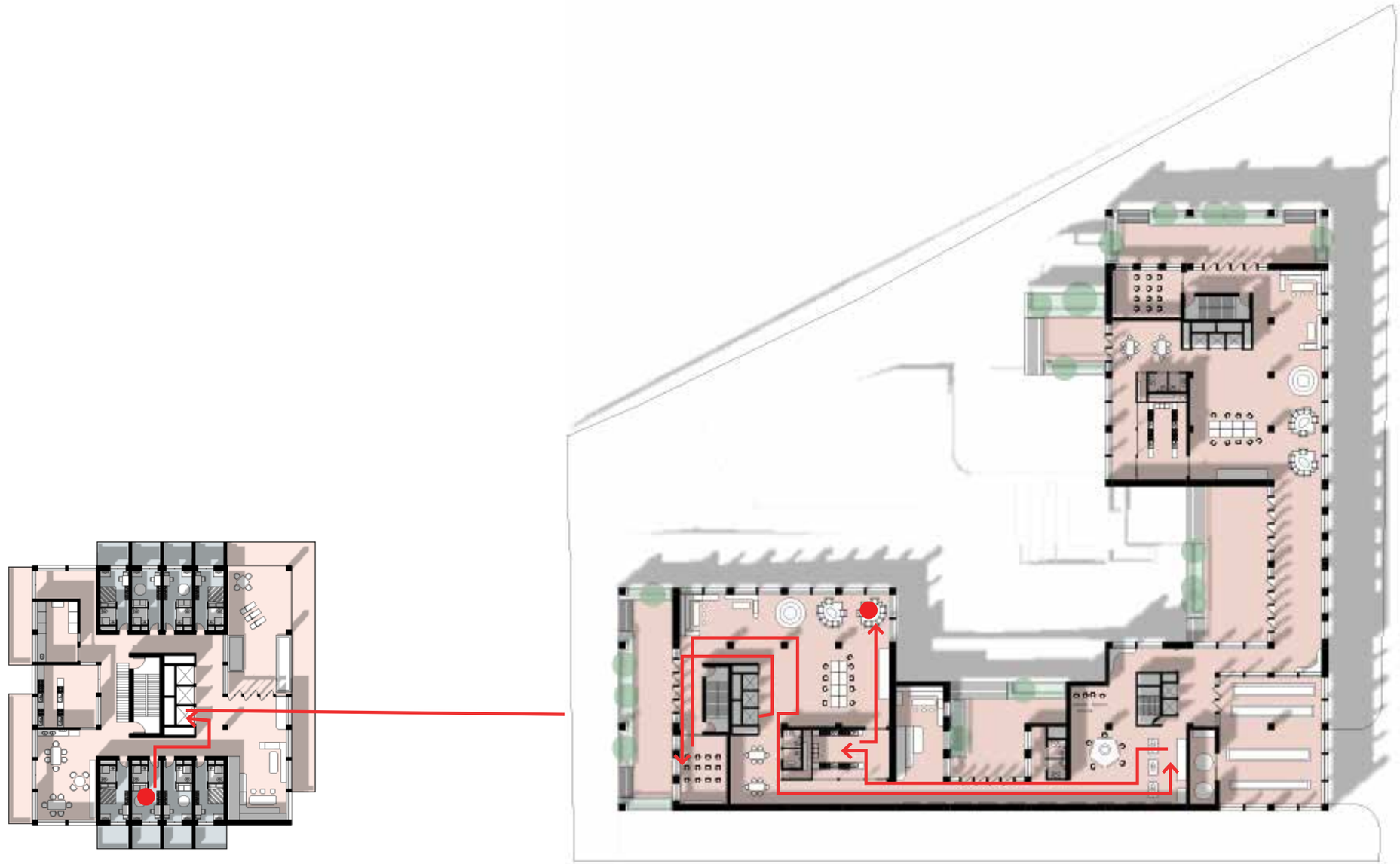


Fig. 6.35 Semi-public Amenities Usage

Thoughts for the Future

The sociological and economic states of the modern age create shifting dynamics characterized by the introduction of new demographics and the housing crisis. There is a need for alternative housing solutions to accommodate these new dynamics. The mainstream detached nuclear typologies have proven to be inaccessible and unaffordable for a significant portion of the population; therefore, there is an urgent need for solutions to this new demand that the current housing market does not fulfill. As a proposed solution to a part of the population, the proposal for a communal cluster living apartment could fulfill the housing needs of young professionals today. As history has told, communal living has existed since the early times; sharing and living with others had long been ingrained in the old ways of living. Even though detached nuclear housing emerged as a product of propaganda, industry, and social shifts in the recent century, it is still a historical anomaly. It fails to address the needs of the majority. There is an emergence of communal living all around the world to create community spirit and address the needs of specific groups. The case studies in chapters 4 and 5 show the effort put into exploring communal living, and those examples helped to define the operation and strengths of specific communal typologies. From these case studies, there was an opportunity to extract design factors that could apply to the design of a communal cluster rental apartment dedicated to the transition of young professionals.

This thesis proposal describes a mid-term rental housing model dedicated to the transition of young professionals into society. It is predicted that during the five-year tenancy at Common Grounds, the resident would be able to save up money, build strong social relationships, and obtain professional networks. The five years of living in this communal environment can provide residents a window into alternative opportunities for models of housing such as cohousing, co-living, and cluster typologies. By living in an alternative housing model, the target population would be able to gain a broadened understanding of living and potentially developing alternative models of their own. For example. some of the residents may grow to enjoy the communal lifestyle and band together with some like minded individuals to start a cohousing community after the five year tenancy. Since the housing crisis is a deeply ingrained issue, it would take a massive overall effort from all populations to mitigate it. The educational aspect of this proposed alternative model would be an important step in the effort to break out of the house shaped box.

The project is designed according to the density standards of Vancouver Downtown Core with a FAR of 4.0 at 18 stories. This project will help young professionals become fully functional and contributing members of society capable of building their career paths with lessened housing stresses. For future possibilities, there could be a shift in focus from the unaffordable nuclear family typologies to alternative ways of living. Due to the emergence of different demographic groups and family types, there are numerous opportunities for explorations into alternative forms of housing geared towards different needs. This proposed design form is one of the many possibilities and an attempt to alleviate housing stress for a portion of the population alongside the benefits of community building from collective living. Though the target demographic of this specific project is young professionals, the design strategy can be altered to support a more diverse range of demographics. The cluster community idea can be reconfigured to include different services and amenities for different needs. This will create a potential for added value and assets to the future of the housing market and mark one of the many ways accommodations can develop for the diverse urban population. Even though the proposed communal living design deviates from the mainstream housing model, it is a style of life housing that has existed for most of human history. It is hoped that introducing such a traditional yet alternative form of housing can be a deviation of thought away from treating housing as a commodity.

Fig. 6.36 Public Plaza Garden

Fig. 6.37 Public Plaza Entrance

Fig. 6.38 Balcony View

Bibliography

Alini, Erica. 2021. “Cheap Money, Shortages, Investors and Crime: The Making of Canada’s Housing Crisis.” Global News, August 25, 2021. https://globalnews.ca/news/8133853/canada-election-housing-crisis-explained/.

Angel, Jessica. 2014. “ESSAY - Fourier’s Phalanstery.” Jessica Flore Angel. December 19, 2014. Accessed May 04, 2022, http://jessica-f-angel.com/phalanstere.

Anon. 2021. “Yarrow Ecovillage.” Wikipedia. September 21, 2021. Accessed April 14, 2022, https://en.wikipedia.org/wiki/Yarrow_Ecovillage.

Anon. 2022. “Supportive Housing Options.” Ontario.ca. 2022. Accessed May 04, 2022, https://www.ontario.ca/page/supportive-housing-options.

Anon. 2013. “Haus a | Duplex Architekten.” Archilovers. 2013. Accessed May 20, 2022, https://www.archilovers.com/projects/220150/haus-a.html.

Archdaily. 2014. “LT Josai / Naruse Inokuma Architects.” ArchDaily. April 18, 2014. Accessed May 20, 2022, https://www.archdaily.com/497357/ lt-josai-naruse-inokuma-architects.

Archdaily. 2015a. “Coop Housing at River Spreefeld / Carpaneto Architekten + Fatkoehl Architekten + BARarchitekten.” ArchDaily. January 17, 2015. Accessed May 20, 2022, https://www.archdaily.com/587590/coop-housing-project-at-the-river-spreefeld-carpaneto -architekten-fatkoehl-architekten-bararchitekten.

Archdaily. 2015. “Gap House / Archihood WXY.” ArchDaily. August 6, 2015, Accessed May 20, 2022, https://www.archdaily.com/771429/gap-house-archihood-wxy.

Arundel, Rowan. 2020. “Vancouver Density.” Geog.ubc.ca. 2020. Accessed May 20, 2022, https://ibis.geog.ubc.ca/courses/geob479/classof08/vandensify/introduction.html.

Balca, Dario. 2019. “Vancouver Real Estate: Which Cities Are Seeing the Biggest Drop in Home Prices?” British Columbia. February 6, 2019. Accessed May 20, 2022, https://bc.ctvnews.ca/vancouver-real-estate-which-cities-are-seeing-the-biggest-drop-in-home-prices-1.4285643.

BC housing. 2020. “Community Housing Fund - Program and Proposal Process | BC Housing. Accessed June 02, 2022,” Www.bchousing.org. May 2020. https://www.bchousing.org/projects-partners/Building-BC/CHF.

Blomberg, Ingela, and Kerstin Kärnekull. 2019a. “Do-It-Yourself: The Stony Road to Cohousing in Sweden.” *Built Environment 45 (3)*: 280–95. https://doi.org/10.2148/benv.45.3.280.

Blonder, Naama. 2021. “Co-Living Is Currently Illegal in Toronto – What Are We Missing?” STOREYS. July 12, 2021. Accessed May 20, 2022, https://storeys.com/co-living-illegal-toronto-what-are-we-missing/.

Boynton, Sean, and David Lao. 2021. “The Number of Births in Canada Has Fallen to a 15-Year Low amid COVID-19 Pandemic - National | Globalnews.ca.” Global News. October 2, 2021. Accessed March 20, 2022, https://globalnews.ca/news/8235350/covid-declining-birth-rate-canada/.

Canadian Cohousing Network. 2010. “Pacific Gardens.” Canadian Cohousing Network. 2010. Accessed May 20, 2022, https://cohousing.ca/communities/bc/pacific-gardens/.

Canadian Press. 2019. “CityNews.” Vancouver.citynews.ca. January 19, 2019. Accessed April 15, 2022, https://vancouver.citynews.ca/2019/01/13/young-professionals-leaving-vancouver-over-high-cost-of-housing/.

Canadian Real estate Association. 2020. “Canadian House Prices – Living in Canada.” Www.livingin-Canada.com. May 2020. Accessed May 20, 2022, https://www.livingin-canada.com/house-prices-canada.html.

Canadian Urban Institute. 2018. “What Is the Missing Middle? A Toronto Housing Challenge Demystified CONTENT.” Accessed February 08, 2022, https://canurb.org//wp-content/uploads/CUIPublication.What_is_the_Missing_Middle_Evergreen_CUI_s2.2018.pd_.pdf.

CBC Radio. 2019. “Lonely Together: The Plight of Urban Isolation | CBC Radio.” CBC. November 7, 2019. Accessed May 20, 2022, https://www.cbc.ca/radio/ideas/lonely-together-the-plight-of-urban-isolation-1.5057995#:~:text=Urban%20loneliness%20is%20a%20virtual%20pandemic.

Chan, Kenneth. 2021. “Metro Vancouver’s Rental Housing Vacancies Saw Improvement in 2020: CMHC | Urbanized.” Dailyhive.com. January 28, 2021. Accessed May 05, 2022, https://dailyhive.com/vancouver/metro-vancouver-rental-housing-statistics-2020.

CIHI. 2018. “Infographic: Canada’s Seniors Population Outlook: Uncharted Territory | CIHI.” Www.cihi.ca. 2018. Accessed May 20, 2022, https://www.cihi.ca/en/infographic-canadas-seniors-population-outlook-uncharted-territory#:~:text=Over%20the%20next%2020%20years.

City of Vancouver. 2017. “Downtown City of Vancouver DD Official Development Plan By-Laws 1 DOWNTOWN OFFICIAL DEVELOPMENT PLAN.” https://bylaws.vancouver.ca/odp/odp-downtown.pdf.

City of Vancouver. 2020. “Social Indicators and Trends: City of Vancouver Profile 2019.” Accessed May 20, 2022, https://vancouver.ca/files/cov/social-indicators-profile-city-of-vancouver.pdf.

CMHC. 2020. “MULTI-UNIT MLI SELECT.” https://assets.cmhc-schl.gc.ca/sites/cmhc/professional/project-funding-and-mortgage-financing/mortgage-loan-insurance/multi-unit-insurance/mliselect/mli-select.pdf.

CMHC. 2022. “RENTAL MARKET REPORT.” https://assets.cmhc-schl.gc.ca/sites/cmhc/professional/housing-markets-data-and-research/market-reports/rental-market-report/rental-market-report-2021-en.pdf?rev=a5a0eaac-6f70-4058-8aa3-e6d307685910.

Coliving.com. 2020. “The History of the Coliving Movement.” Coliving.com. March 9, 2020. Accessed February 20, 2022, https://coliving.com/blog/what-is-behind-the-coliving-movement.

Colombo, Mauro. 2007. “Storia Di Milano : Le Cascine Di Milano.” Www.storiadimilano.it. September 2007. Accessed May 20, 2022, http://www.storiadimilano.it/repertori/cascine/cascineweb.htm.

Comfort Life. 2018. “Our Aging Population: Statistics.” Www.comfortlife.ca. 2018. Accessed May 12, 2022, https://www.comfortlife.ca/retirement-communities/our-aging-population-statistics#:~:text=Many%20older%20people%20live%20alone.

Crespi. 2010. “THE HOUSES - Sito Ufficiale Del Villaggio Operaio Di Crespi D’Adda, Patrimonio Dell’Umanità UNESCO.” Visitcrespi.it. 2010. Accessed May 20, 2022, https://visitcrespi.it/en/the-houses.

Depaulo, Bella M. 2015a. *How We Live Now : Redefining Home and Family in the 21st Century*. Hillsboro, Oregon: Atria Books/Beyond Words.

Drudi, Cassandra. 2022. “Canada’s Housing Market Is Breaking Records at an Alarming Rate.” Cpacanada.ca. February 16, 2022. Accessed April 20, 2022,https://www.cpacanada.ca/en/news/pivot-magazine/2022-02-16-housing-market.

Dyble, M., G. D. Salali, N. Chaudhary, A. Page, D. Smith, J. Thompson, L. Vinicius, R. Mace, and A. B. Migliano. 2015. “Sex Equality Can Explain the Unique Social Structure of Hunter-Gatherer Bands.” *Science 348 (6236)*: 796–98. https://doi.org/10.1126/science.aaa5139.

El-Assal, Kareem. 2020. “Which Cities in Canada Attract the Most Immigrants? | Canada Immigration News.” Www.cicnews.com. February 17, 2020. Accessed May 20, 2022, https://www.cicnews.com/2020/02/which-cities-in-canada-attract-the-most-immigrants-0213741.html#gs.zhsbx8.

Everything Connects. 2014. “Urban Sprawl.” Everything Connects. 2014. Accessed March 03, 2022, https://www.everythingconnects.org/urban-sprawl.html.

Fallis, George. 2022. “Opinion: A Shortage of Homes Isn’t the Main Reason House Prices Keep Rising.” The Globe and Mail, March 14, 2022. Accessed May 20, 2022, https://www.theglobeandmail.com/opinion/article-a-shortage-of-homes-isnt-the-main-reason-house-prices-keep-rising/.

Fatkoehl Architekten. 2013. “Spreefeld Berlin / Fatkoehl Architekten.” Fatkoehl.com. 2013. Accessed May 25, 2022, https://fatkoehl.com/en/housingmixed-use/spreefeld-berlin/.

FCT. 2021. “What Does Canada’s Aging Population Mean for the Real Estate Market?” Dominion Lending Centres. February 5, 2021. Accessed January 10, 2022, https://dominionlending.ca/sponsored/what-does-canadas-aging-population-mean-for-the-real-estate-market.

Flanagan, Ryan. 2020. “Canada Will Have to Rely on Immigration as Global Fertility Rate Plummets: Study.” CTVNews. July 15, 2020. Accessed May 20, 2022, https://www.ctvnews.ca/canada/canada-will-have-to-rely-on-immigration-as-global-fertility-rate-plummets-study-1.5025075.

Flanagan, Ryan. 2021. “Millions of People Will Move to Canada in the next 20 Years, but Where Will They Live?” CTVNews. June 10, 2021. Accessed May 20, 2022, https://www.ctvnews.ca/canada/millions-of-people-will-move-to-canada-in-the-next-20-years-but-where-will-they-live-1.5464205.

Frei, Roger, and Roland Bernath. 2012. “Adrian Streich Architekten, Roland Bernath, Roger Frei · Kraftwerk.” Divisare. 2012. Accessed April 10, 2022, https://divisare.com/projects/415244-adrian-streich-architekten-roland-bernath-roger-frei-kraftwerk.

Galbraith, Nora, Johnny Truong, and Jackie Tang. 2019. “This Study Uses the Census of Population and the 2017 General Social Survey on Family to Examine the Characteristics of the Population Living Alone in Canada. The Demographic, Socioeconomic and Housing Characteristics of Persons Who Live Alone Are Examined, as Well as Their Conjugal History, Family Relationships, and Well-Being Indicators.” Statcan.gc.ca. Government of Canada, Statistics Canada. March 6, 2019. Accessed May 20, 2022, https://www150.statcan.gc.ca/n1/pub/75-006-x/2019001/article/00003-eng.htm.

Gillis, John R. 1997. *A World of Their Own Making : Myth, Ritual, and the Quest for Family Values*. Cambridge, Mass.: Harvard University Press.

Godfrey, Lisa. 2021. “Why Don’t We Live Together? Alternative Housing in a Hot Real Estate Market.” CBC. August 5, 2021. Accessed March 20, 2022, https://www.cbc.ca/radio/ideas/why-don-t-we-live-together-alternative-housing-in-a-hot-real-estate-market-1.5979554.

González, María Francisca. 2018. “Cooperative Housing Complex WagnisART / Bogevischs Buero Architekten Stadtplaner GmbH + SHAG Schindler Hable.” ArchDaily. February 17, 2018. Accessed May 20, 2022, https://www.archdaily.com/889159/cooperative-housing-complex-wagnisart-bogevischs-buero-architekten-stadtplaner-gmbh-plus-shag-schindler-hable.

Government of Canada. 2019. “Canada’s First Ever National Housing Strategy | a Place to Call Home.” A Place to Call Home. 2019. Accessed February 03, 2022, https://www.placetocallhome.ca/.

Government of Canada, Statistics Canada. 2017. “Overview of Household Types, Canada, 2016.” Www150.Statcan.gc.ca. August 2, 2017. Accessed May 20, 2022, https://www150.statcan.gc.ca/n1/daily-quotidien/170802/g-a001-eng.htm.

Grande, Laura. 2020. “What Is Housing Inequality? And What Canadians Can Do about It - HGTV Canada.” HGTV Canada. October 30, 2020. Accessed May 02, 2022, https://www.hgtv.ca/what-is-housing-inequality/.

Green, Christina. 2018. “Meeting the Needs of the Young Professional (Stats and Strategies).” Frank J. Kenny’s Chamber Pros Community. November 19, 2018. Accessed January 25, 2022, https://frankjkenny.com/chamber-young-professionals/.

Groundswell Cohousing. 2012. “Our Story.” Groundswell Cohousing at the Yarrow Ecovillage. 2012. Accessed May 20, 2022, https://groundswellcohousing.ca/our-story/.

Hemson Consulting. 2020. “GREATER GOLDEN HORSESHOE: GROWTH FORECASTS to 2051.” Hemson Consulting Ltd. August 26, 2020. Accessed May 10, 2022, https://www.hemson.com/wp-content/uploads/2020/08/HEMSON-GGH-Growth-Outlook-Report-26Aug20.pdf.

Housing International. 2019. “Canada Archives.” Cooperative Housing. June 2019. Accessed May 20, 2022, https://www.housinginternational.coop/co-ops/canada/#:~:text=The%20first%20student%20housing%20co.

Housing Solutions. 2019. “A History of Boarding Houses: Ideal Forms of Affordable Housing.” Housing Solutions. June 15, 2019. Accessed February 20, 2022, https://housingsolutions.home.blog/2019/06/15/a-history-of-boarding-houses-ideal-forms-of-affordable-housing/.

Immigration, Refugees and Citizenship Canada. 2021. “Canada Welcomes the Most Immigrants in a Single Year in Its History.” Www.canada.ca. December 23, 2021. Accessed May 20, 2022, https://www.canada.ca/en/immigration-refugees-citizenship/news/2021/12/canada-welcomes-the-most-immigrants-in-a-single-year-in-its-history.html.

Jensen, Dinah. 2021. “Recent Graduates, Young Professionals Feel Excluded from Kingston’s Housing Market.” CFRC 101.9fm. 2021. Accessed May 05, 2022, https://www.cfrc.ca/recent_graduates_young_professionals_feel_excluded_from_kingston_s_housing_market.

Kaltenbach, Frank. 2017. “Community instead of Property.” @GI_weltweit. January 2017. Accessed May 20, 2022, https://www.goethe.de/ins/us/en/kul/wir/woh/20894807.html.

Kew, Michael. 2018. “Northwest Coast Indigenous Peoples in Canada | the Canadian Encyclopedia.” Thecanadianencyclopedia.ca. 2018. Accessed June 10, 2022, https://www.thecanadianencyclopedia.ca/en/article/aboriginal-people-northwest-coast.

Khatibi, Maryam. 2022. “Socio-Spatial Interactions of a Cluster-House Concept Apartment in Mehr Als Wohnen Project in Zurich, Switzerland.” *Frontiers of Architectural Research 11 (2)*: 191–202. https://doi.org/10.1016/j.foar.2021.10.002.

Knapp, Francky. 2019. “The Last Great California Hippie Commune Is Still Going Strong.” Messy Nessy Chic. April 23, 2019. Accessed May 20, 2022, https://www.messynessychic.com/2019/04/23/the-last-great-california-hippie-commune-is-still-going-strong/.

Kraftwerk1. 2012. “Bau- Und Wohngenossenschaft Kraftwerk1 Kraftwerk1 Heizenholz.” Accessed May 20, 2022, Www.kraftwerk1.Ch. 2012. https://www.kraftwerk1.ch/heizenholz/siedlung.html#tab-1.

Lee, Marc. 2022. “What Happened to the National Housing Strategy?” Policy Note. March 1, 2022. Accessed May 15, 2022, https://www.policynote.ca/national-housing-strategy/.

Lind, Diana. 2020a. *Brave New Home : Our Future in Smarter, Simpler, Happier Housing*. New York: Bold Type Books.

Livingston, Amy. 2022a. “Communal Living & Cohousing - Types & Benefits of Intentional Communities.” Moneycrashers. January 31, 2022. Lind, Diana https://www.moneycrashers.com/communal-living-cohousing-types-benefits-intentional-communities/.

.

Lundgaard & Tranberg Architects. 2014. “Tietgen Dormitory / Lundgaard & Tranberg Architects.” ArchDaily. February 7, 2014. Accessed May 20, 2022, https://www.archdaily.com/474237/tietgen-dormitory-lundgaard-and-tranberg-architects.

Macklem, Tiff. 2021. “Financial System Review—2021.” Www.bankofcanada.ca. May 17, 2021. Accessed March 20, 2022, https://www.bankofcanada.ca/2021/05/financial-system-review-2021/.

Madden, David, and Peter Marcuse. 2016a. *In Defense of Housing : The Politics of Crisis. London* ; New York (N.Y.): Verso, , Cop.

Mairs, Jessica. 2015. “Seoul Apartment Block by Archihood Features Gabled Corners.” Dezeen. August 20, 2015. Accessed January 03, 2022, https://www.dezeen.com/2015/08/21/seoul-apartment-block-housing-archihood-wxy-balconies-gables-south-korea/.

Mccamant, Kathryn, Charles Durrett, and Ellen Hertzman. 2003a. *Cohousing : A Contemporary Approach to Housing Ourselves.* Berkeley, Calif.: Ten Speed Press.

Mccamant, Kathryn, Charles Durrett, Bill Mckibben, and New Society Publishers. 2019a. *Creating Cohousing : Building Sustainable Communities.* Gabriola Island, Bc: New Society Publishers.

Mcmaster, Jennifer. 2016. “Mehr Als Wohnen.” Danish Architecture Center - DAC. 2016. Accessed May 20, 2022, https://dac.dk/en/knowledgebase/architecture/mehr-als-wohnen/.

Meisser, Ursula. 2015. “Dialogweg 6 - MEHR ALS WOHNEN.” Www.mehralswohnen.ch. 2015. Accessed April 02, 2022, https://www.mehralswohnen.ch/hunziker-areal/das-quartier/dialogweg-6/.

Mendicino, Marco. 2020. “The Honourable ANNUAL REPORT to Parliament on Immigration.” Accessed May 20, 2022, https://www.canada.ca/content/dam/ircc/migration/ircc/english/pdf/pub/annual-report-2020-en.pdf.

Migliano, A. B., A. E. Page, J. Gómez-Gardeñes, G. D. Salali, S. Viguier, M. Dyble, J. Thompson, et al. 2017. “Characterization of Hunter-Gatherer Networks and Implications for Cumulative Culture.” Nature Human Behaviour 1 (2): 0043. https://doi.org/10.1038/s41562-016-0043.

Mills, Edward, and Harold D Kalman. 2019. “Architectural History of Indigenous Peoples in Canada | the Canadian Encyclopedia.” Thecanadianencyclopedia.ca. 2019. Accessed May 20, 2022, https://www.thecanadianencyclopedia.ca/en/article/architectural-history-early-first-nations.

Obderola. 2016. “Las Ecoaldeas Como Alternativa Ecológica.” Iberdrola. 2016. Accessed January 20, 2022, https://www.iberdrola.com/sustainability/ecovillages-alternative-ecological-communities.

Olsen, Tyler. 2021. “Waitlist for Affordable Housing Has Doubled in Last 5 Years.” Fraser Valley Current. June 22, 2021. Accessed May 10, 2022, https://fvcurrent.com/article/waitlist-for-affordable-housing-has-doubled-in-last-5-years/.

Paulsen, Norman. 2017. “Intentional Community.” Sunburst. 2017. Accessed May 20, 2022, https://sunburst.org/intentional-community/.

Pemberton, Kim. 2016. “Wait Lists Growing for Residential Care, Subsidized Housing in B.C.: Advocate.” Vancouversun. 2016. Accessed March 20, 2022, https://vancouversun.com/news/local-news/wait-lists-growing-for-residential-care-subsidized-housing-in-b-c-advocate.

PLP Architecture. 2018. “The Collective Old Oak.” Www.plparchitecture.com. June 2018. Accessed May 04, 2022, http://www.plparchitecture.com/the-collective-old-oak.html.

Presse Canadienne. 2021. “The Housing Crisis Is Hitting Young People Hard, Conseil Jeunesse de Montréal Says.” Montrealgazette. April 14, 2021. Accessed April 12, 2022, https://montrealgazette.com/news/local-news/the-housing-crisis-is-hitting-young-people-hard-conseil-jeunesse-de-montreal-says.

Public Health Agency of Canada. 2019. “Infographic: Inequalities in Housing below Standards in Canada.” Aem. April 24, 2019. Accessed May 20, 2022, https://www.canada.ca/en/public-health/services/publications/science-research-data/inequalities-housing-below-standards-infographic.html.

Ramsey, Matthew. 2019. “UBC’s First Nano-Suites Open at the New Exchange Residence.” UBC News. August 31, 2019. Accessed January 20, 2022, https://news.ubc.ca/2019/08/31/ubcs-first-nano-suites-open-at-the-new-exchange-residence/.

Rankin, Alan. 2022. “What Is a Commune? (with Pictures).” Www.wise-Geek.com. February 10, 2022. Accessed May 02, 2022, https://www.wise-geek.com/what-is-a-commune.htm.

Ratehub. 2019. “Historical 5-Year Fixed Mortgage Rates in Canada.” Ratehub.ca. Ratehub.ca. 2019. Accessed May 20, 2022, https://www.ratehub.ca/5-year-fixed-mortgage-rate-history.

RBC. 2020. “Know How Much Home You Can Afford.” Www.rbcroyalbank.com. 2020. Accessed March 20, 2022, https://www.rbcroyalbank.com/mortgages/how-much-can-you-afford.html.

Rentals.ca. 2022. “Rentals.ca March 2020 Rent Report.” Rentals.ca. April 2022. Accessed May 02, 2022, https://rentals.ca/national-rent-report.

Richter, Tim. 2021. “CAEH - What Budget 2021 Means for Ending Homelessness.” CAEH. April 20, 2021. Accessed May 20, 2022, https://caeh.ca/budget-2021-analysis/?gclid=Cj0KCQjwpcOTBhCZARIsAEAYLuXI5yYA08LH-WpZrMCBRDiyTxluDjMdFWxdVM49owTK3ggl--lAi54aAvKHEALw_wcB.

Rozworski, Michal. 2019. “The Roots of Our Housing Crisis: Austerity, Debt and Extreme Speculation.” Policy Note. June 14, 2019. Accessed May 20, 2022, https://www.policynote.ca/the-roots-of-our-housing-crisis-austerity-debt-and-extreme-speculation/.

RSA, The. 2018. “The Rise and Fall (and Rise?) of Communal Living.” Medium. March 22, 2018. Accessed March 20, 2022, https://medium.com/@thersa/the-rise-and-fall-and-rise-of-communal-living-8d276bf6e686.

Scherer, Steve, and Julie Gordon. 2021. “Canada Opens Door to Immigrants, Adding Fuel to Hot Housing Market.” Financial Post, December 9, 2021. Accessed February 25, 2022, https://financialpost.com/real-estate/canada-opens-door-to-immigrants-adding-fuel-to-hot-housing-market.

Statistics Canada. 2006. “Canadian Social Trends.” Accessed April 12, 2022, https://www150.statcan.gc.ca/n1/en/pub/11-008-x/2007006/article/10379-eng.pdf?st=Mmoq5fvu.

Statistics Canada 2010. “An Aging Population.” Statcan.gc.ca. October 27, 2010. Accessed April 12, 2022, https://www150.statcan.gc.ca/n1/pub/11-402-x/2010000/chap/pop/pop02-eng.htm.

Statistics Canada 2017. “This Article in the Census in Brief Series Paints a Demographic Picture of Young Adults Living with Their Parents in 2016. It Describes Recent Trends and Differences between Rural Regions and Large Urban Centres.” Statcan.gc.ca. Government of Canada, Statistics Canada. August 2, 2017. Accessed April 12, 2022, https://www12.statcan.gc.ca/census-recensement/2016/as-sa/98-200-x/2016008/98-200-x2016008-eng.cfm.

Statistics Canada 2019. “The Daily — Family Matters: Adults Living with Their Parents.” Www150.Statcan.gc.ca. February 15, 2019. Accessed April 12, 2022, https://www150.statcan.gc.ca/n1/daily-quotidien/190215/dq190215a-eng.htm.

Statistics Canada 2021a. “The Daily — Canada’s Population Estimates, Fourth Quarter 2020.” Www150.Statcan.gc.ca. March 18, 2021. Accessed April 12, 2022, https://www150.statcan.gc.ca/n1/daily-quotidien/210318/dq210318c-eng.htm?indid=4098-1&indgeo=0.

Statistics Canada 2021b. “Canada - Average Hourly Wage of All Employees 2020.” Statista. July 6, 2021. Accessed April 12, 2022, https://www.statista.com/statistics/439904/average-hourly-wage-by-occupation-canada/#:~:text=This%20statistic%20shows%20the%20average.

Strauss, Ilana E. 2016. “The Millennial Housing Trend Is a Repeat of the Middle Ages.” The Atlantic. The Atlantic. September 26, 2016. Accessed April 25, 2022, https://www.theatlantic.com/business/archive/2016/09/millennial-housing-communal-living-middle-ages/501467/.

Tal, Benjamin. 2021. “‘We’ve Never Been so Sensitive to the Risk of Higher Interest Rates’: CIBC’s Tal.” Www.bnnbloomberg.ca. March 4, 2021. Accessed May 12, 2022, https://www.bnnbloomberg.ca/economics/video/we-ve-never-been-so-sensitive-to-the-risk-of-higher-interest-rates-cibc-s-tal~2153428.

Taylor, Rupert. 2022. “Housing as a Commodity: The Affordability Crisis in Canada.” ToughNickel. January 22, 2022. Accessed April 12, 2022, https://toughnickel.com/real-estate/Housing-as-a-Commodity.

Teeple Architects. 2010. “60 Richmond Housing Cooperative / Teeple Architects.” ArchDaily. November 2, 2010. Accessed April 05, 2022, https://www.archdaily.com/85762/60-richmond-housing-cooperative-teeple-architects.

Thanabalasingam, Sri. 2021. “Heat Check: Comparing Canada and US Housing Markets.” Economics.td.com. May 13, 2021. Accessed March 15, 2022, https://economics.td.com/housing-heat-check.

The Bank of Canada. 2020. “Historical Selected Credit Measures (Formerly E2).” Www.bankofcanada.ca. September 2020. Accessed April 12, 2022, https://www.bankofcanada.ca/rates/banking-and-financial-statistics/historical-selected-credit-measures-formerly-e2/?page_moved=1.

Tourism Israel. 2012. “What Is a Kibbutz? | Tourist Israel.” Tourist Israel. June 15, 2012. Accessed April 05, 2022, https://www.touristisrael.com/what-is-a-kibbutz/6053/.

Tureli, Ipek. 2022. “Canada’s Housing Crisis Will Not Be Solved by Building More of the Same.” The Conversation. February 23, 2022. Accessed April 12, 2022, https://theconversation.com/canadas-housing-crisis-will-not-be-solved-by-building-more-of-the-same-175221.

UNESCO World Heritage Centre. 2008. “Fujian Tulou.” UNESCO World Heritage Centre. 2008. Accessed April 05, 2022, https://whc.unesco.org/en/list/1113/.

United Nations. 2019. “United Nations Maintenance Page.” Www.un.org. 2019. Accessed April 12, 2022, https://www.un.org/en/development/desa/population/publications/pdf/ageing/WorldPopulationAgeing2019-Highlights.pdf.

Urban Coop Berlin. 2020. “Kraftwerk1 Siedlung Heizenholz: Fest Intern 2.6.2012.” Urban Coop Berlin EG. April 8, 2020. Accessed May 20, 2022, https://www.urbancoopberlin.de/kraftwerk1-siedlung-heizenholz-fest-intern-2-6-2012/.

Vancouver, City of. 2021. “Creating and Protecting Purpose-Built Rental Housing.” Vancouver.ca. 2021. Accessed April 12, 2022, https://vancouver.ca/people-programs/creating-new-market-rental-housing.aspx.

Welle (www.dw.com), Deutsche. 2006. “Russia: 16 Families in a Single Kommunalka Apartment | DW | 13.09.2016.” DW.COM. 2006. Accessed April 12, 2022, https://www.dw.com/en/russia-16-families-in-a-single-kommunalka-apartment/a-19544660.

Wikipedia. 2021. “Cascina a Corte.” Wikipedia. May 19, 2021. Accessed April 05, 2022, https://en.wikipedia.org/wiki/Cascina_a_corte.

Wilson, Kerrisa. 2018. “This Chart Shows How Much Greater Vancouver Home Prices Have Climbed over the Past 4 Decades.” Livabl. January 28, 2018. Accessed May 02, 2022, https://www.livabl.com/2018/01/chart-greater-vancouver-prices-climbed-4-decades.html.

Windsong. 2010. “WindSong - Cohousing Community.” WindSong - Cohousing Community. 2010. Accessed April 12, 2022, https://windsong.bc.ca/.

Winters, Patrick. 2016. “Designing Density in Today’s Urban Environments.” Multifamilyexecutive.com. September 9, 2016. Accessed April 05, 2022, https://www.multifamilyexecutive.com/design-development/designing-density-in-todays-urban-environments_o.

Zhu, Yushu. 2022. “New Study Reveals Intensified Housing Inequality in Canada from 1981 to 2016.” YGK News - Your Kingston, Your News. January 2, 2022. Accessed March 20, 2022, https://ygknews.ca/2022/01/01/new-study-reveals-intensified-housing-inequality-in-canada-from-1981-to-2016/#:~:text=Yet%2C%20more%20Canadian%20households%20have.

Zimonjic, Peter. 2022. “Canada’s Working-Age Population Is Older than Ever, StatsCan Says.” CBC News. April 27, 2022. Accessed May 05, 2022, https://www.cbc.ca/news/politics/canada-working-age-poupulation-census-1.6432398#:~:text=The%20number%20of%20children%20under,more%20than%203.6%20per%20cent.