

Changing Lanes:
Taking Vancouver's laneway housing from feeding speculation to an
affordable ownership model under a Community Land Trust
by
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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of 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

Towards the end of 2017, after consultation with a series of reports, studies, and advisory groups, the Vancouver City Council has published the *Housing Vancouver Strategy (2018-2027) and 3-Year Action Plan (2018-2020)* policy report.¹ This latest ten year plan, set out by the city, highlights a series of strategies in addressing the so called *worsening housing affordability crisis*.² The report mentions Vancouver's wishes of promoting a healthy, diverse, and vibrant city that endorses affordability for all of its diverse population. However, in general Canadian housing programs have been plagued by policy favoring not the improvement of living standards for marginalized households but largely unrelated goals such as private profitability.³

The report explicitly mentions an engagement with housing policymakers and experts from around the world, yet what it fails to mention is that *Housing Crisis* is not a result of the economic system breaking down, but of it working exactly as intended.⁴ What needs to be said is that the ever widening gap between the wealthiest and most vulnerable households of cities across the world is built into the capitalist system - more specifically the concepts and laws related to private property.

As it stands, housing trends within Vancouver seem to be driven by developers towards higher density housing options that are affordable to less and less of the bottom half earners within the city. As such, the housing created is then quickly transformed by higher income individuals

into financial assets upheld by the less wealthy as they are given no other choice but rent. This in turn creates hostility within the city towards the housing system and the individuals inflating the speculative appreciation of property.

What I would like to ask is if the least dense and hence toughest typology that the City has identified in its *Housing Vancouver Strategy* report (laneway homes) can be turned into a truly innovative and affordable housing option? Could Vancouver laneway housing be conceived as a tool used to build towards long term affordable housing rather than just another speculative option? Furthermore, could the bottom half earning households be provided with an ownership option that allows them to build equity over time while promoting housing use value? What I would like to investigate is whether a re-evaluation of the concepts of private property and value of housing would then allow the least dense & affordable housing typology within Vancouver become a powerful means of providing marginalized households with the opportunity to change the city more after their heart's desire.

¹ City of Vancouver, "*Housing Vancouver Strategy (2018 - 2027) and 3-Year Action Plan (2018 - 2020)*," (2017b).

² *Ibid.*

³ John C. Bacher, "Canadian Housing " Policy" in Perspective," *Urban History Review* 15, no. 1 (1986), 3-18.

⁴ David J. Madden, *In Defense of Housing : The Politics of Crisis*, ed. Peter Marcuse (London; New York: Verso, 2016).

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Taking Vancouver's laneway housing from feeding speculation to an affordable ownership model under a Community Land Trust

by Marius Hexan

INTRODUCTION

Towards the end of 2017, after consultation with a series of reports, studies, and advisory groups, the Vancouver City Council has published the *Housing Vancouver Strategy (2018-2027) and 3-Year Action Plan (2018-2020)* policy report.¹ This latest ten year plan, set out by the city, highlights a series of strategies in addressing the so called *worsening housing affordability crisis*.² The report mentions Vancouver's wishes of promoting a healthy, diverse, and vibrant city that endorses affordability for all of its diverse population. The report also remarks that affordability has been found to be the most important value when it comes to housing for Vancouverites. As such, when former Vancouver residents were asked why they chose to leave the city, the primary reason was affordability alongside a desire for more living space and the yearning for home ownership. However, the ten year housing targets set out by the report do not reflect the findings of the studies used to make it. For example, in terms of numbers, the adjacent bottom figure shows that only 40% of the housing targets are geared towards the bottom half earners within the city. This means that there exists an overall 10% housing supply deficit within the city that as the adjacent top figure shows is concentrated around households making \$10,000-\$50,000 per year. Furthermore, absolutely none of the housing units proposed for the bottom half earners are geared towards

ownership.³

My critique of the aforementioned *Housing Vancouver Strategy* report is in its strategy to improve affordability by means of an economic supply vs demand focused approach.⁴ The report explicitly mentions an engagement with housing policymakers and experts from around the world, yet what it fails to mention is that *Housing Crisis* is not a result of the economic system breaking down, but of it working exactly as intended.⁵ What needs to be said is that the ever widening gap between the wealthiest and most vulnerable households of cities across the world is built into the capitalist system. Vancouver has made significant strides, within the recent past, towards recognizing its affordability problems. However, it has yet to come up with an innovative housing approach that addresses all issues produced by the lack of affordability seen throughout the city. Given that the mechanisms within the current system are working as intended, we need to act upon the housing model under capitalism in order to create better levels of affordability in the long run.⁶ City Council, as well as the general public, need to understand that by simply carrying on with the same approach towards housing we have seen for the past century, we are essentially

¹ City of Vancouver, "Housing Vancouver Strategy (2018 - 2027) and 3-Year Action Plan (2018 - 2020)," (2017b).

² Ibid.

³ The values mentioned are based on *Table 2. 10 Year Housing Targets (2018 – 2027)*. Ibid.

Median Household Income data is based on a value of approximately \$72K for the year of 2018 which is based on an average income appreciation of 3.3% (census data observation from 1986 to 2016) and the median household income of \$65K for the year of 2015. Statistics Canada, *Vancouver, CY [Census Subdivision] (Table). Census Profile 1986 to 2016* (Ottawa: Statistics Canada, [1986, 1991, 1996, 2001, 2006, 2011, 2016]).

⁴ City of Vancouver, (2017b).

⁵ David J. Madden, *In Defense of Housing : The Politics of Crisis*, ed. Peter Marcuse (London; New York: Verso, 2016).

⁶ Ibid.

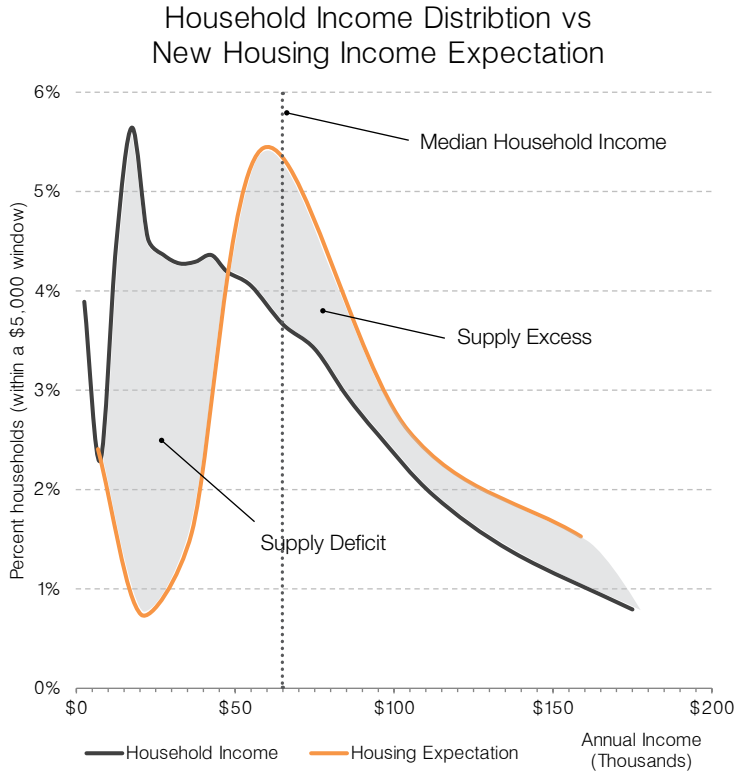


Figure 1 Household Income Distribution vs New Housing Income Expectation - Supply Excess/Deficit

This graph is meant to illustrate the supply of housing over the next ten years proposed by the Housing Vancouver Strategy - represented by the orange line.

I then superimposed the income distribution of City of Vancouver residents and highlighted the gaps between what is being proposed and where people's incomes lie.

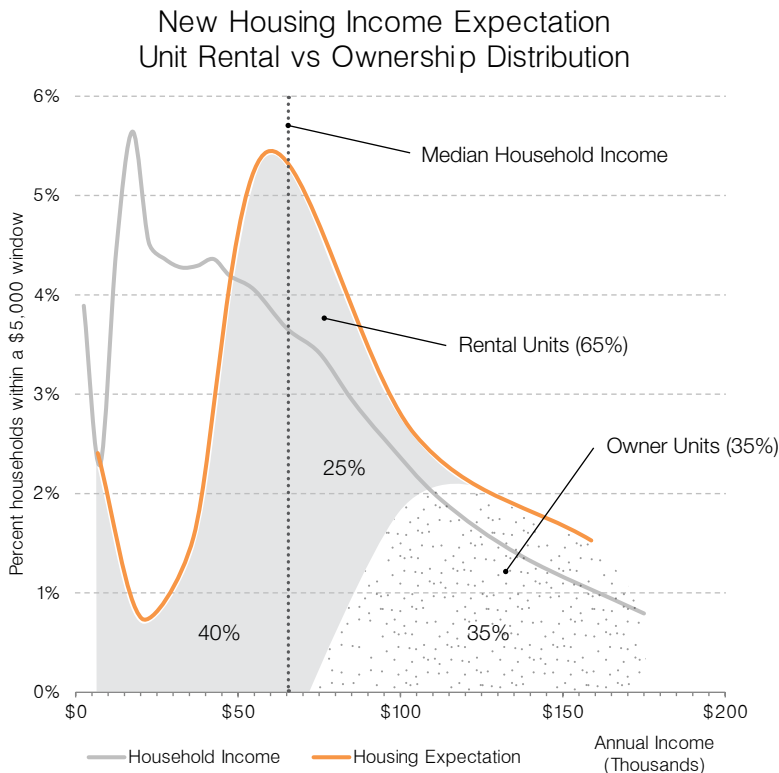


Figure 2 New Housing Income Expectation - Unit Rental vs Ownership Distribution

This graph is meant to illustrate the supply of housing over the next ten years proposed by the Housing Vancouver Strategy - based on type of occupancy (rental/owner)

Not only do the bottom half earners only have 40% of the total proposed units geared towards their income levels, but none of these are affordable enough to be purchased (meaning all rental).

inflating the consequences while pushing them onto future generations.

So what do we need to act upon within the current housing system?

In his book *Rebel Cities*, David Harvey synthesizes Henry Lefebvre's ideas regarding the *Right to the City* and Robert Park's notion of shaping the city after our *heart's desire*, so he goes on to say:

*The right to the city is not merely a right of access to what already exists, but a right to change it after our heart's desire. We need to be sure we can live with our own creations (a problem for every planner, architect and utopian thinker). But the right to remake ourselves by creating a qualitatively different kind of urban sociality is one of the most precious of all human rights.*⁷

Here, Lefebvre's idea of the right to the city arises mainly from the cries and demands for help by the oppressed, while Harvey points out that in the world we live in, rights of private property and the profit rate trump all other. Following this line of thought, Nicholas Blomley says that *"cities are the site for a variety of spatial struggles, many of which turn on the geographies of property"*.⁸ What this leads to are cities in which we have a majority of people without the ability to remake the world they live in more after their heart's desire.

Perhaps not surprisingly, the individuals holding the power to reshape the city are also the ones propelling the spatial struggles found within them. Matt Hern, in his book *What a City is For*, demarcates those holding the power as follows:

It's a cliché to say that "developers run the city." People drop it in most every place I've ever been, and they're mostly right.

⁷ David Harvey, "The Right to the City," *International Journal of Urban and Regional Research* 27, no. 4 (2003), 939-941.

⁸ Nicholas K. Blomley, *Unsettling the City Urban Land and the Politics of Property* (New York; New York ; London: Routledge, 2004).

*Politicians have their spheres of influences, local organizers and activists can get noisy, city bureaucracies try hard to keep up, business organizations and chambers of commerce throw their weight around - but in the end it's the guys who own the land (and it's almost always guys) who ride herd on most of the real decisions.*⁹

Irony has it that although all these actors Hern points out compete for power, it is their collective agreeance that brought them to the current state of spatial struggles. As a collective we have come to agree upon and uphold an ownership model that conceives of property as per the adjacent upper figure.

Moreover, not only is property a means of controlling labor¹⁰, and decisions as we have earlier discussed, but private property accrues value, created by society, over time only to be capitalized upon almost exclusively by private individuals. This idea, called the *unearned increment*, popularized by Henry George more than a century ago, is one of the reasons we see an ever economic divergence within our cities and society at large.¹¹

To get back to the City's strategy in combating affordability thus far, supply and demand are important, but they are heavily reliant on the idea of private property which is the main key in driving forth an economic divergence within cities across the world. The current housing system and the majority of the strategy proposed by the city for the next ten years prioritize a supply side economy. Moreover, instead of promoting use value and long term sustainability, the proposed housing strategy continues with the creation of

⁹ Matt Hern author., *What a City is for : Remaking the Politics of Displacement* (Cambridge, Massachusetts: The MIT Press, 2016).

¹⁰ Henry George 1839-1897., *Progress and Poverty : An Inquiry into the Cause of Industrial Depressions, and of Increase of Want with Increase of Wealth -- the Remedy* (New York: Sterling Pub. Co, 1879). p159

¹¹ *Ibid.*



Figure 3 Conception of private property under current ownership model.

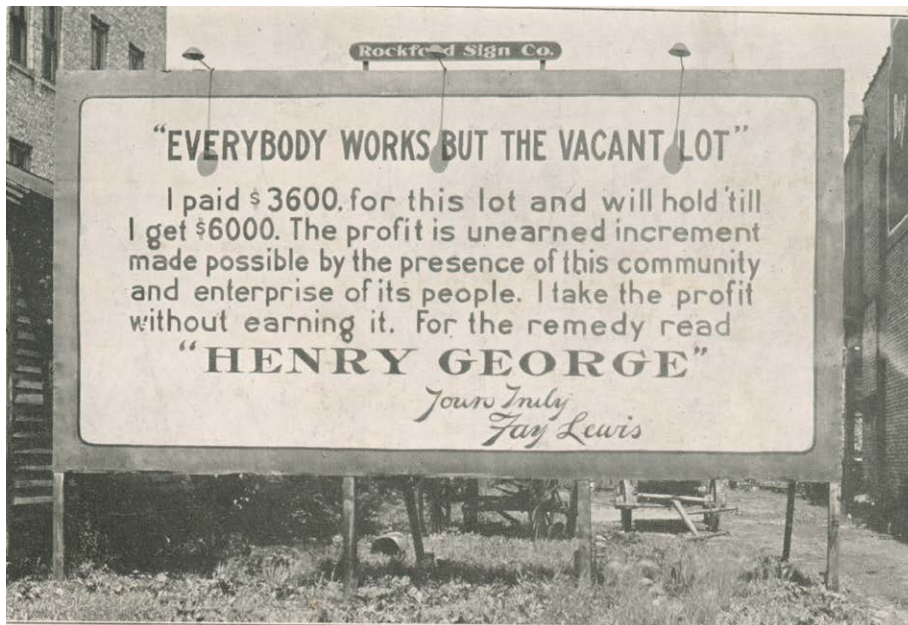


Figure 4 Everybody works but the vacant lot | Henry George quote | 19th century postcard

short term asset value.¹² What this means is the continuation of a tendency for homebuilders to build-to-sell and individuals to buy-to-let; all in the name of constructing financial assets and not human dwellings with actual use value.¹³

The diagrams on the following pages represent the buildable housing typologies for a given land value in East Side and Downtown Vancouver. Depending on the building typology and density chosen, the diagrams specify the maximum size unit affordable to a median income household.¹⁴ Of note, is that as land prices grow faster than construction costs (property speculative appreciation), the gray buildable window shift clockwise with a negative effect on maximum affordable unit sizes. One remedy municipalities have at their disposal is to increase the allowable Floor to Space Ratios (FSR) by rezoning neighborhoods, effectively adding to the trailing end of the gray buildable areas. However, as land prices keep rising, this strategy only prolongs the unavoidable. As the last diagram shows, the maximum size units affordable in downtown are already as small as they can go. Clearly a different longer term strategy is need.

As it stands, housing trends within Vancouver seem to be driven by developers towards higher density housing options that are affordable to less and less of the bottom half earners within the city.¹⁵ As such, the housing created is then quickly transformed by higher income individuals into financial assets upheld by the less wealthy as they are given no other choice but rent. This

in turn creates hostility within the city towards the housing system and the individuals inflating the speculative appreciation of property.

What I would like to ask is if the least dense and hence toughest typology that the City has identified in its *Housing Vancouver Strategy* report (laneway homes) can be turned into a truly innovative and affordable housing option? Could Vancouver laneway housing be conceived as a tool used to build towards long term affordable housing rather than just another speculative option? Furthermore, could the bottom half earning households be provided with an ownership option that allows them to build equity over time while promoting housing use value? What I would like to investigate is whether if the re-evaluation of the concepts of private property and value of housing would then allow the least dense & affordable housing typology within Vancouver become a powerful means of providing marginalized households with the opportunity to change the city more after their heart's desire.

12 Alastair Parvin et al., *A RIGHT TO BUILD: The Next Mass-Housebuilding Industry* (Sheffield, UK: University of Sheffield School of Architecture, 2011).

13 Ibid.

14 Affordability is defined as spending no more than 30% of a household's gross income on housing. Example of calculation: 1.) A 2+ person median income of \$92,000 (2018) per year for East Side Vancouver; 2.) Maximum of 30% of income spent on housing (including 10% of it not towards mortgage); 3.) Mortgage for 25 years, 20% down, with a 5yr fixed rate of 5.0%. Yields a maximum affordable price of \$447,000

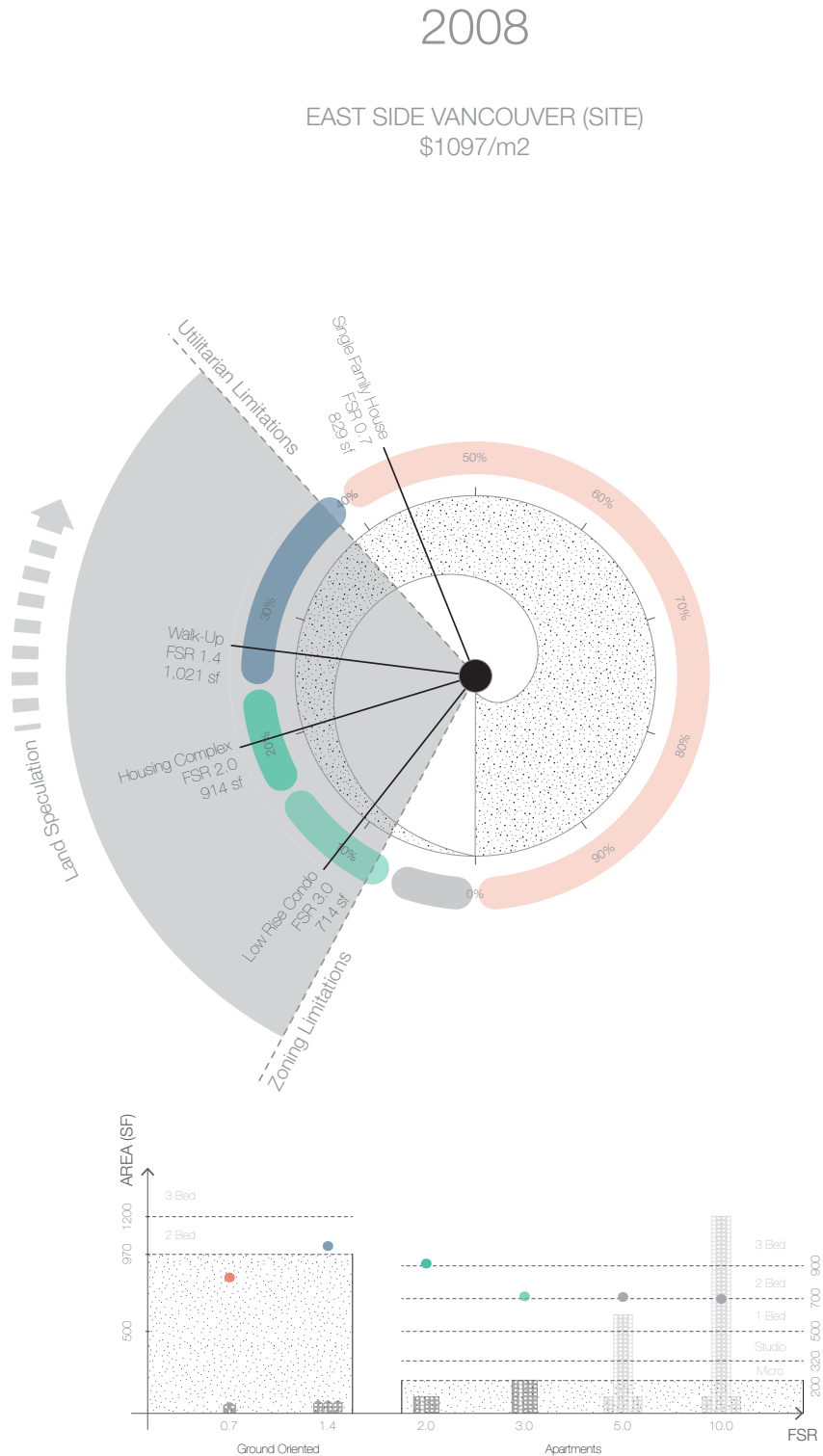
15 Douglas C. Harris, "Condominium and the City: The Rise of Property in Vancouver," *Law & Social Inquiry* 36, no. 3 (2011), 694-726.

Figure 5 Maximum unit size affordability limits of various housing typologies given the average value of land and development costs in 2008 for East Side Vancouver

The diagram is comprised of a center swirl that starts at 100% land cost just right of the six o'clock mark. Moving counter clockwise around the circle, land becomes a smaller and smaller proportion of a housing unit's cost as more and more density is added (otherwise known as a larger Floor-Space Ratio (FSR) value).

As we loop back around we never actually approach 0% land value due to Zoning Limitations. In the case of East Side Vancouver I limited the allowed FSR to a value just greater than 3.0 as this is a reasonable representation of the maximum density we would come across in this part of town.

The graphs complement the diagrams by plotting the maximum unit size affordability limits with respect to the housing typology built. Furthermore, the hatched areas represent unit sizes that are not normally built.



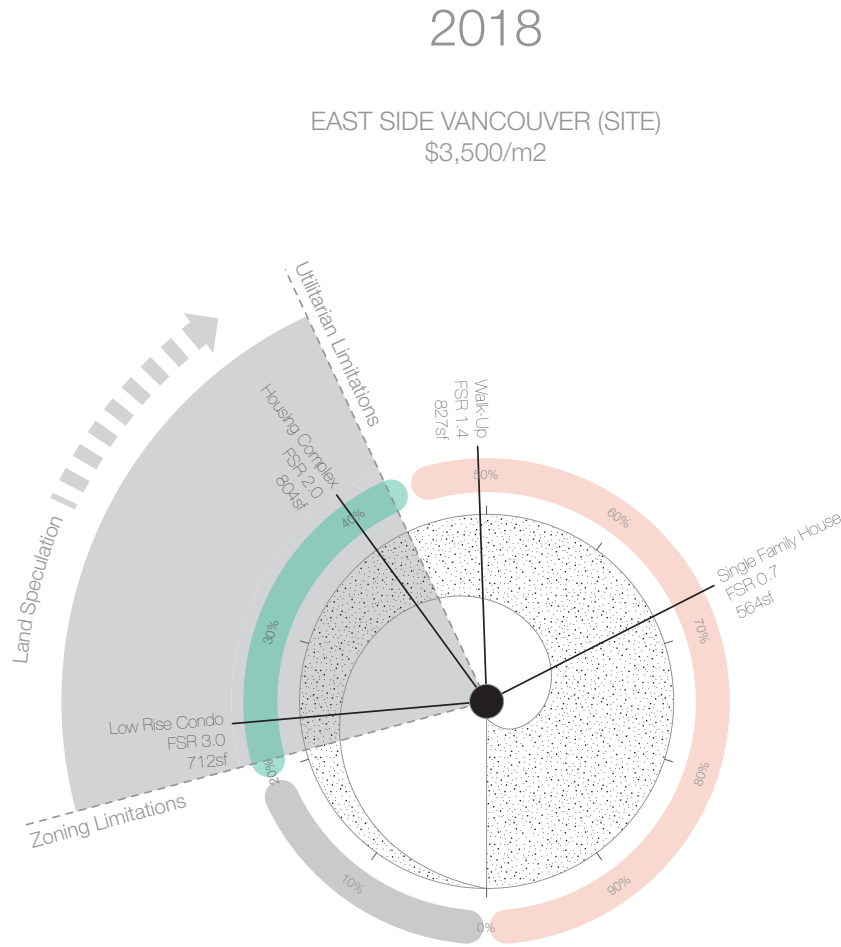
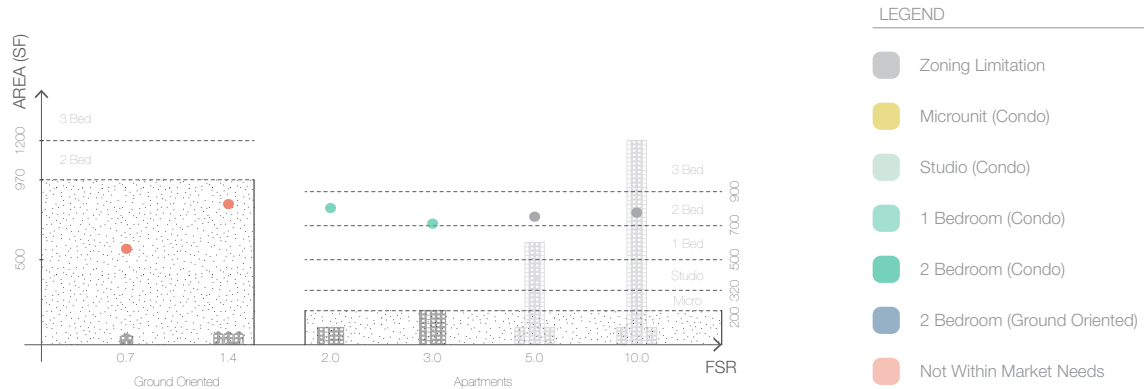


Figure 6 Maximum unit size affordability limits of various housing typologies given the average value of land and development costs in 2018 for East Side Vancouver

The Affordability limit is defined as no more than 30% of a median household's income (before tax) to be spent on housing (this value represents a nationally accepted metric).

We know that land has appreciated much more over this ten year period than the rest of housing development costs. Given that, we can compare the two diagrams and see what the effects of land speculation have had on the affordability limits of new housing construction.

If we closely study the diagram we can see that the gray buildable window has shifted clockwise while the types and size of units affordable to the median income household has decreased.



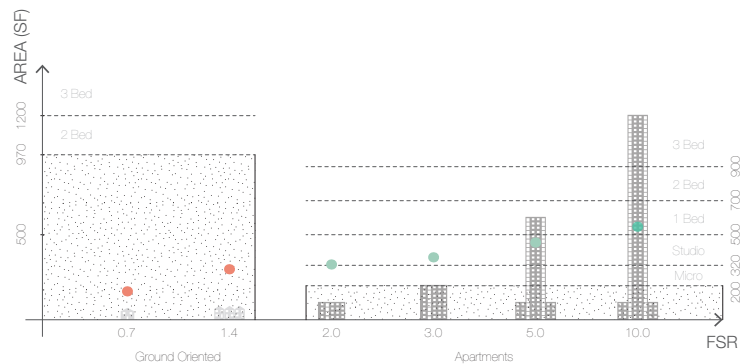
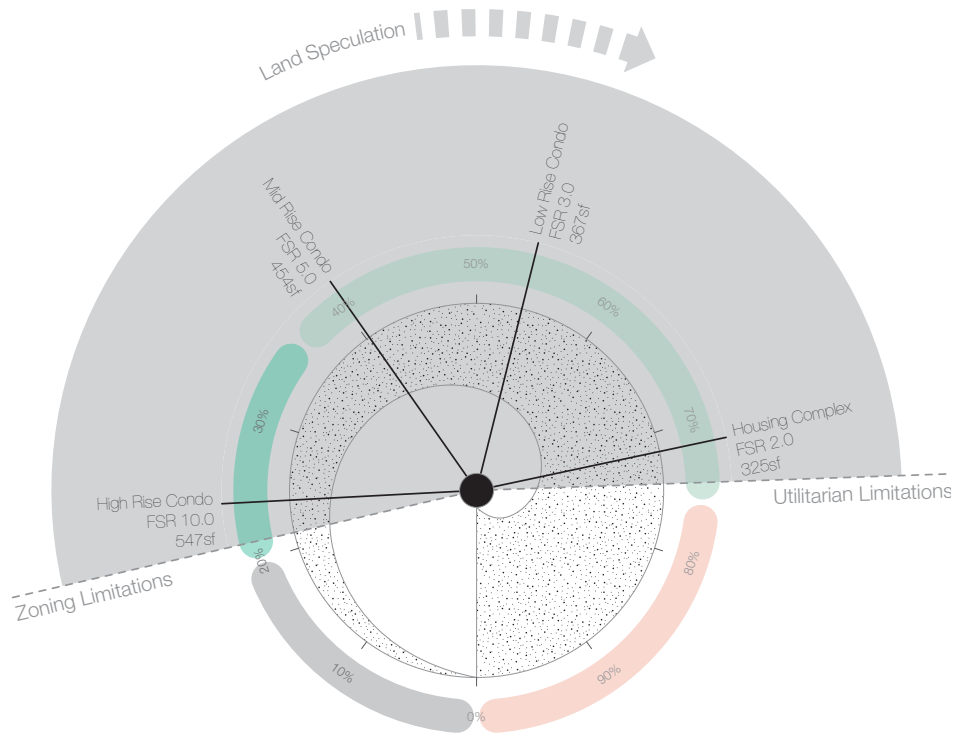
2008

DOWNTOWN
\$10,965/m²

Figure 7 Maximum unit size affordability limits of various housing typologies given the average value of land and development costs in 2008 for Downtown Vancouver

For comparison's sake I have also created a set of similar diagrams for the downtown area. Here, in 2008, we notice a much broader range of FSR values feasible for development. However, the range of maximum unit sizes affordable to the median income household has dropped from 714-1021 sf in East Side Vancouver to 325-547 sf downtown.

In other words, in East Side Vancouver one could afford a two to three bedroom townhouse/low rise apartment building unit. Downtown, the same money could only pay for a studio in a low to mid rise apartment building, or a one bedroom in a high rise condo (assuming basic luxuries).



2018

DOWNTOWN
\$35,000/m²

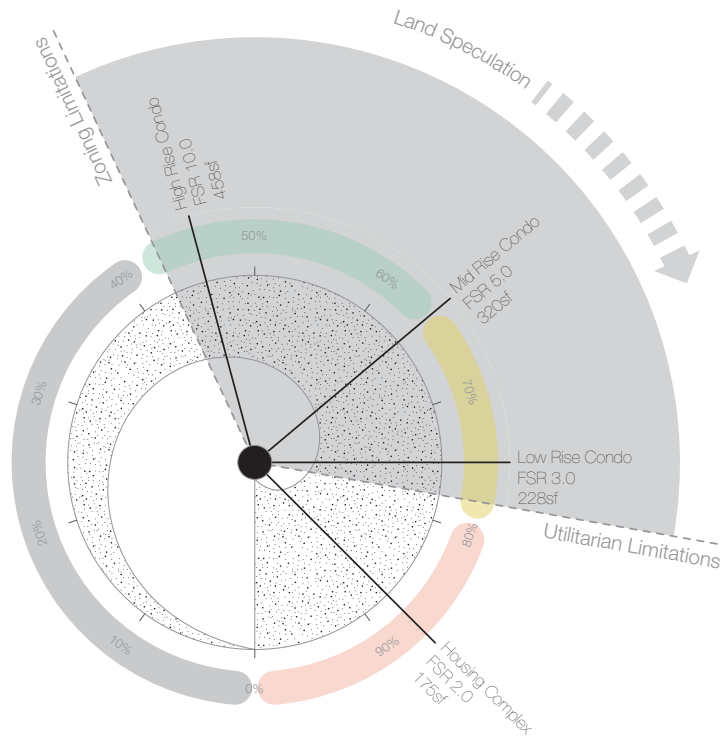
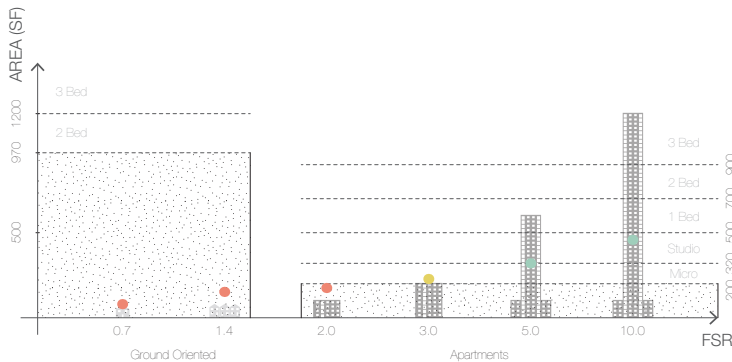


Figure 8 Maximum unit size affordability limits of various housing typologies given the average value of land and development costs in 2018 for Downtown Vancouver

Looking at downtown in 2018, in comparison to 2008, the buildable window has once again narrowed and shifted clockwise due to the effects of land speculation. Furthermore, only mid to high rise apartment buildings are now affordable while unit sizes have shrunk to a range from 228-458 sf.

From these four diagrams it is easy to see that as long as land speculation continues, which is a given under the current ownership model, the median income household will only be able to afford smaller and smaller units in more and more dense housing typologies.



LEGEND

- Zoning Limitation
- Microunit (Condo)
- Studio (Condo)
- 1 Bedroom (Condo)
- 2 Bedroom (Condo)
- 2 Bedroom (Ground Oriented)
- Not Within Market Needs

RETHINKING VALUE

In this chapter I would like to discuss the main constituents that influence the value of a residential property under the current capitalist system. Concurrently, I would like to identify the aspects of each constituent that hold back marginalized households from the opportunity to change the city more after their heart's desire. Finally, I would like to identify a system that can operate within capitalism while also speaking directly to the identified issues.

Where value comes from

One of the widely accepted ways housing affordability is measured is by means of a Price to Area Median Income (AMI) ratio.¹ Looking at the trends seen between these two data sets across the past thirty years, an overall positive slope translates to a divergence between the buying power of households and housing prices. The key and rather obvious observation to be made here is that housing prices have been gaining value at a much greater rate than incomes. The adjacent table shows that in 2017 Metro Vancouver's price to AMI ratio was 11.8², making Vancouver severely unaffordable and the third least affordable housing market in the world, just behind Hong Kong and Sydney.

As an aside, what these numbers do not show is the level of social housing present within these cities; which of course reduces the housing cost burden experienced by marginalized households. Hong Kong (2.5 million households),

the least affordable city in the world according to its housing price to income ratio, has 30% of its households living in public rental housing plus another 15% living in subsidized home ownership housing.³ In comparison, the City of Vancouver quantifies only about 9% of its 283,905 households as non-market housing plus negligible levels of subsidized ownership housing.⁴ What this means is that not only does the city of Hong Kong provide nearly half of its households with public housing, as oppose to Vancouver's less than 10%, but it attempts to bridge the affordability gap between rental and home ownership – something much less visible

³ Census and Statistics Department, "Population by Type of Housing and Year (Table E101)," The Government of the Hong Kong Special Administrative Region, <https://www.bycensus2016.gov.hk/en/bc-mt.html> (accessed Feb, 2019). Subsidized home ownership housing encompasses a number of programs introduced by the Hong Kong Housing Authority within the past few decades. These programs include the Home Ownership Scheme (HOS), the Tenants Purchase Scheme, Home Purchase Loan Scheme, and the Home Assistance Loan Scheme. Additionally, there is also a HOS Secondary Market Scheme which is meant to free up Public Rental Housing spaces by providing households with an opportunity to become owners at a subsidized rate (this rate generally involves a 30-40% equity investment by government in the market value of a housing unit – hence reducing the down payment and mortgage necessary for ownership) Hong Kong Housing Authority, "Home Ownership," The Government of the Hong Kong Special Administrative Region, <https://www.housingauthority.gov.hk/en/home-ownership/index.html> (accessed Feb, 2019).

¹ Wendell Cox and Hugh Pavletich, *13th Annual Demographia International Housing Affordability Survey: 2016 Data (USA: Demographia,[2017])*, the price represents the median value of properties within a given area; while the income represents the median yearly salary earned by a household within that same area.

² *Ibid.* To give these numbers some meaning, economists have set the affordability bar at a ratio of no more than 3.0, (with anything above 5.0 being called severely unaffordable) which as you can see given today's markets, makes most urban centres very much so unaffordable.

⁴ City of Vancouver, *Housing Vancouver Strategy: Annual Progress Report and Data Book 2018* (Vancouver, BC: City of Vancouver,[2018a]). In fact, the 9% figure could actually be quite grossly inflated as the City of Vancouver recently redefined Social Housing as rental housing in which at least 30% of the units are occupied by households with incomes below housing income limits. What this basically means is that if an apartment building had 100 units, of which 30 were rented out to households with incomes below housing income limits as set out by BC Housing, all 100 units would be counted as social housing – not just the 30.

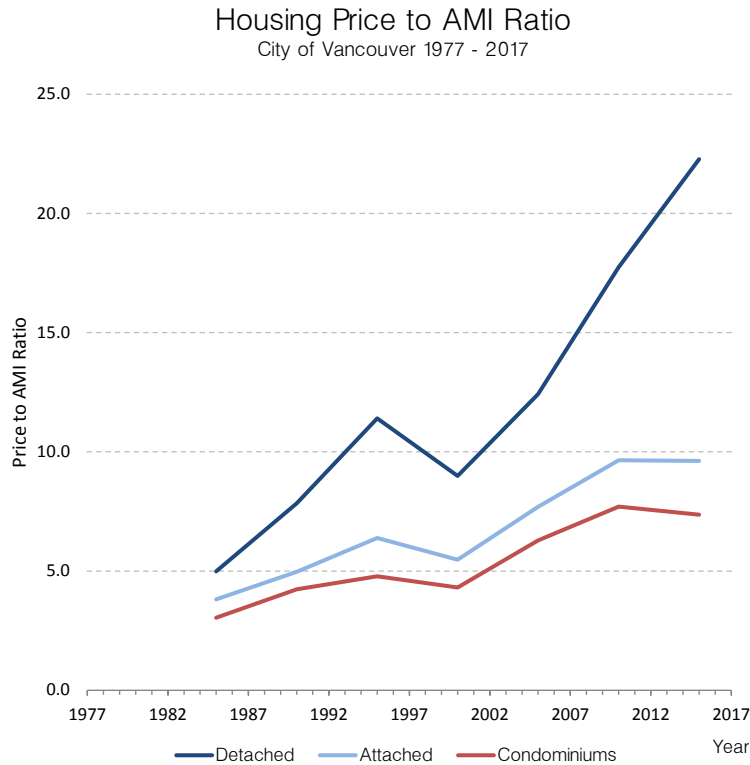


Figure 9 Housing Price to Area Median Income Ratio

Real Estate Board of Greater Vancouver | Monthly Statistical Reports | Accessed March 2018

Vancouver CY Census Profiles | 1986 - 2016 | Accessed October 2018

A positive slope means that housing prices are increasing at a greater rate than incomes. This means a loss in household purchasing power, otherwise identified as a decrease in affordability.

Metro Housing Market	Country	Price : Income
Hong Kong	HKG	18.1
Sydney, NSW	AUS	12.2
Vancouver, BC	CAN	11.8
Auckland	NZL	10
San Jose, CA	USA	9.6
Melbourne, VIC	AUS	9.5
Honolulu, HI	USA	9.4
Los Angeles, CA	USA	9.3
San Francisco, CA	USA	9.2
Bournemouth & Dorset	GBR	8.9
San Diego, CA	USA	8.6
London (Greater)	GBR	8.5
Toronto, ON	CAN	7.7
London (Exurbs)	GBR	7.1
Portland, OR-WA	USA	5.5
Calgary, AB	CAN	4.6
Burlington, VT	USA	4.3

Table 1 Price to AMI ratio for top 14 worst world wide Metro Housing Markets

The ideal Price to AMI ratio trend would have a zero slope anywhere below a value of 3.0

in Vancouver.⁵

Breaking down housing prices between land and building value points towards Henry George's idea of the *unearned increment*⁶, as speculation influences primarily land value. Looking at the adjacent graphs, both Land Value and Sale Price Indices can be similarly described by: a general uptick starting in 2009-2010, a cooling off between 2012 and 2014, and finally an immense gain beyond 2014. While comparing Building Value and Construction Cost Indices less defining features can be observed, but comparing them relative to Land Value and Sale Price they maintain similar trends. Of course, the Sale Price index is a combination of both Land and Building Value Indices so given that Sale Price tends to reflect Land Value would mean that land value makes up a fairly big proportion of a unit's sale price. By looking at raw housing value data, we observe an increase in the proportion of land value over total strata unit value from the low 60 percentile range in 2006, to the mid 70 percentile in 2018.⁷ Clearly, land value is becoming a bigger and bigger portion of a unit's cost.

My overall point here is that over any given period of time the majority of the change in value of a housing unit is influenced by private property and not the value of the dwelling itself. Furthermore, what individuals need to understand is that they can contribute to the improvement of a property through development, which comes in the form of a building, but improvements to a

property's land value is a result of the community surrounding it and not of their own doing⁸ (see figure below).

However, the current land ownership model, according to Charles Donahue, documents within the Western legal concept of property

*a tendency to agglomerate in a single legal person...the exclusive right to possess, privilege to use, and power to convey a thing*⁹

As a result, although society compounds the value of a place, the ownership model leads to the creation of the *unearned increment*, which shows that individuals capitalize upon

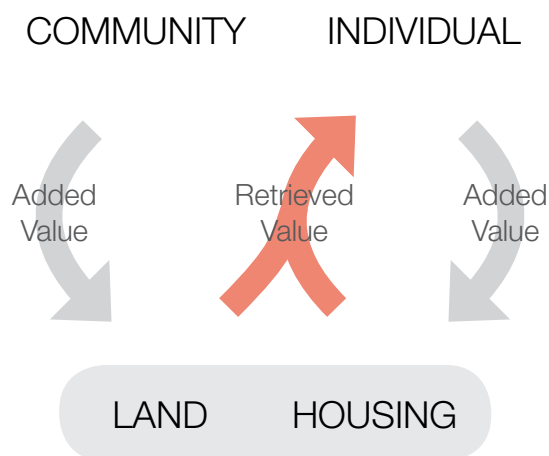


Figure 10 Private property value creation and distribution under the current capitalistic ownership model

Individuals add value by means of construction while a community adds value through its sheer presence. In other words if a community disappeared instantaneously, the value of the land would plummet.

⁵ There is a Home Buyers Plan in Canada which allows the borrowing of up to \$25,000 from one's own Registered Retirement Savings Plan tax free as long as it is used for the purchase of a residential property and it is replaced within 15 years. Government of Canada, "What is the Home Buyers' Plan HBP?" Government of Canada, <https://www.canada.ca/en/revenue-agency/services/tax/individuals/topics/rsps-related-plans/what-home-buyers-plan.html> (accessed Feb, 2019).

⁶ Henry George 1839-1897., *Progress and Poverty : An Inquiry into the Cause of Industrial Depressions, and of Increase of Want with Increase of Wealth -- the Remedy* (New York: Sterling Pub. Co, 1879).

⁷ City of Vancouver, *Property Tax Report Data 2006 -2018* (Vancouver, BC: Vancouver Open Data,[2018c]).

⁸ John Emmeus Davis, "More than Money: What is Shared in Shared Equity Homeownership?" *Journal of Affordable Housing & Community Development Law* 19, no. 3 (2010), 259-277.

⁹ Charles Donahue, "The Future of the Concept of Property Predicted from its Past," in *Property*, eds. John W. Chapman and J. Roland Pennock (New York: New York University Press, 1980), 28-68. p32

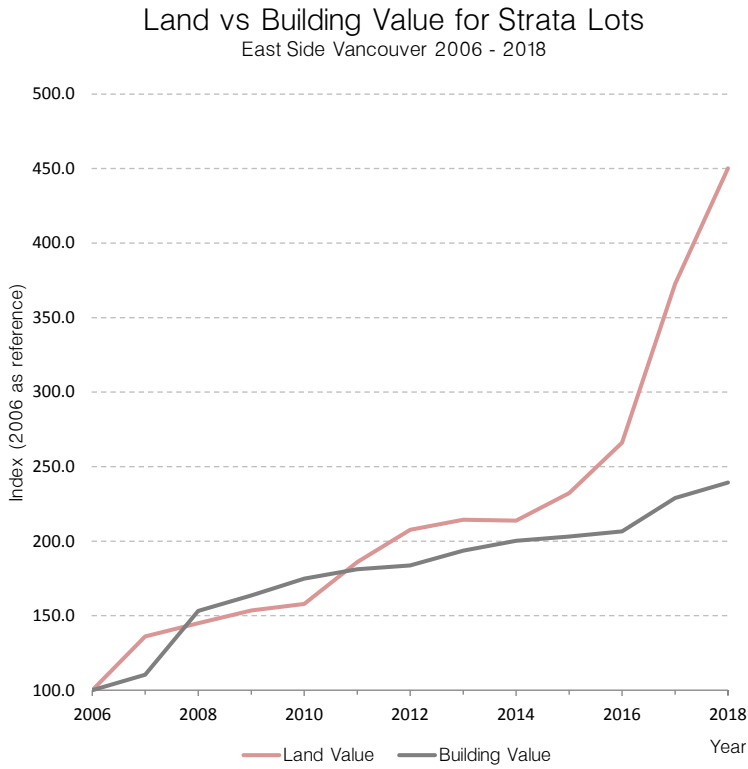


Figure 11 Land vs Building Value for Strata Lots in East Side Vancouver from 2006 to 2018

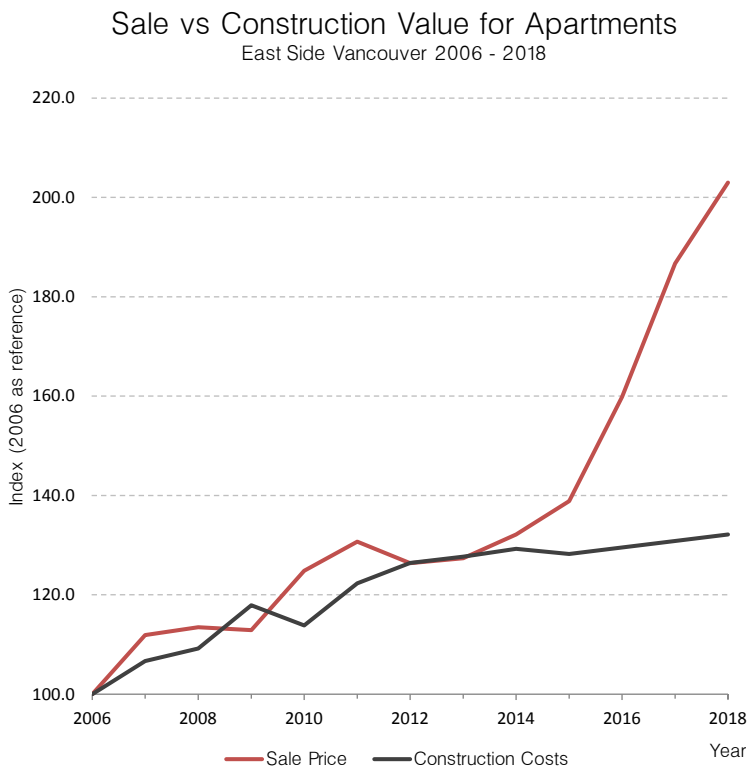


Figure 12 Sale vs Construction Value for Apartments in East Side Vancouver from 2006 to 2018

that added land value almost exclusively. We clearly need a different way of approaching the relationship between land/housing and community/individuals. Thankfully there already exists a system that does just that, and it is called a Community Land Trust (CLT).

CLTs

John Emmeus Davis, an important figure in advancing the understanding and development of CLTs, explains the model as follows:

*It is a vehicle for preventing the community's wealth from being added to the private earnings of individual homeowners. It is a means for reallocating the economic gains that accrue to real property. It is a mechanism for preserving affordability across successive generations...*¹⁰

Simply put, the main thing that CLTs do is separate the ownership of the land from that of the housing unit that sits on it. CLTs practically group Land and Community together and then Housing and Individuals as per the adjacent figure. In this manner the actors that influence one another have control over one other. Individuals control the housing that then occupies the land within the community. One important thing to note is that under a CLT, individuals still have a say in what occurs on the land they occupy, but they do not individually have exclusive power, the power is shared by the surrounding community.¹¹

Within the current capitalistic market, speculation occurs almost exclusively on land and is caused by competing private individuals. Having severed the ownership tie between individuals and land through the CLT model, private individuals can only speculate on housing now. Speculation on housing is less likely to occur however; given that it is not a finite commodity or tied to a specific location in the same manner land is. The value of

housing is tied to construction costs which are governed by fees, labor, and material expenses, highly susceptible to competition which protects prices from speculation. Although speculation may not occur as easily on housing, that does not mean it's value is not exploited. In later chapters I will discuss changes within the housing construction industry and how they have led to a decline in the perceived value of housing by individuals.

Under the CLT model, the CLT controls ownership of the land. Given that they are set up as not for profit organizations, their scope is to maintain the land in perpetuity in order to provide successive generations with the opportunity to reside on the land without having to deal with its speculative appreciation value. Speculation on the land value still occurs, but the land does not change hand, therefore maintaining the value added by society within the CLT – in other words the community.¹²

Conclusion

CLTs have been conceived in such a way as to create a more direct translation of the value created to the value gained by a given entity. As such, a CLT allows land value be captured by society, while housing value by the individuals that created them. Given the way CLTs re-evaluate the concept of private property, plus their not for profit nature, they become a key towards avoiding housing speculation while promoting affordability. The following chapters will reflect a focus on land, housing, and the framework necessary to allow them to come together within the economic, political, and urbanistic context of Vancouver.

¹⁰ Davis, "More than Money: What is Shared in Shared Equity Homeownership?" *Journal of Affordable Housing & Community Development Law* 19, no. 3 (2010), 259-277.

¹¹ *Ibid.*

¹² Some CLTs do allow home owners to capture 25% of the speculative appreciation value on land when selling their home as to promote equity amongst individuals while still maintaining long term affordability within the community.

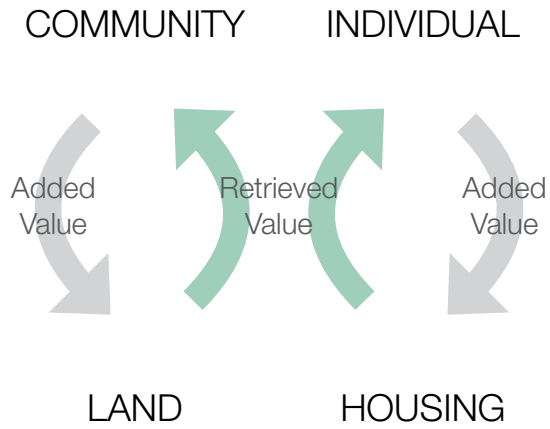


Figure 13 Land and Housing value creation under the CLT model is captured by the actors that have created them in the first place.

The above diagram simply depicts the cycle of value creation and retrieval. The relationships between each actor are much more complex and will be discussed in the next section.

COMMUNITY LAND TRUSTS

In May of 2013 the City of Vancouver and what has now come to be known as The Community Land Trust Foundation (Vancouver CLT) made a land lease agreement. The terms of this agreement were based on an obligation, by the Vancouver CLT, of creating a target of not less than 350 new social housing units on four separate city owned properties.¹ By 2018, the majority of the four sites were developed and the 358 secured rental units created were ready to be rented out at an average rate of about 70-75% of what the market had to offer.² Overall, this initiative can be called successful as these units will only become more and more affordable as time goes on without any further governmental subsidy due to the nature of the CLT. However, this set of 358 units along with roughly 1000 more proposed to be developed by 2021 are all focused on rental.³ Coupling this aspect with a modified governance structure and an exclusive reliance on municipal land⁴, Vancouver's CLT sounds more like a public housing operation.

ICE Model

The traditional Community Land Trust model as developed by the (American) Institute for Community Economics (ICE) in the 1960s is defined as:

¹ City of Vancouver, *Agreements with the Community Housing Land Trust Foundation to Deliver Affordable Rental Housing on City-Owned Land* (Vancouver, BC: General Manager of Community Services,[2013]).

² Kristen Patten, *Vancouver Community Land Trust Foundation : Examining a Model for Long-Term Housing Affordability* (Ottawa, ON: Canadian Electronic Library,[2015]).

³ City of Vancouver, "VAHA and City Announce Community Land Trust Will Build 1,000 Units of Affordable Rental Housing on City Land," City of Vancouver, <https://vancouver.ca/news-calendar/vaha-and-city-announce-community-land-trust-will-build-1000-units-of-affordable-rental-housing-on-city-land.aspx> (accessed Jan, 2019).

⁴ Patten, 2015

*a private non-profit corporation created to acquire and hold land for the benefit of a community and provide secure affordable access to land and housing for community residents.*⁵

So far, Vancouver's CLT meets that definition, however so could a number of other affordable housing initiatives such as non-profit rentals, mutual housing associations, limited equity (and zero equity) cooperatives, limited equity condominiums, and deed-restricted single family houses.⁶ What makes the traditional CLT model unique is a combination of non-profit status, democratic control, dual ownership of property, perpetual affordability, and a range of housing types and tenure options.⁷

Key learnings

Based on the report prepared for CMHC, titled *Critical Success Factors for Community Land Trusts in Canada*, I have chosen to take a closer look at three out of the twelve studied CLTs (plus the Vancouver CLT). The decision of which CLTs to further study was based on their success – followed by history, characteristics of the city they operated in relative to Vancouver, and variety in terms of their mode of operation. As such, the three CLTs I decided on are the Champlain Housing Trust located in Burlington (Vermont, USA), Proud Ground CLT of Portland (Oregon, USA), and Home Space Society CLT of Calgary (Alberta, CA).

⁵ Housing Strategies Inc., *Critical Success Factors for Community Land Trusts in Canada : Final Report* (Ottawa, ON: Canada Mortgage and Housing Corporation,[2005]).

⁶ John Emmeus Davis and Amy Demetrowitz, *Permanently Affordable Homeownership: Does the Community Land Trust Deliver on its Promise?* (Burlington, VT: Burlington Community Land Trust,[2003]).

⁷ Housing Strategies Inc., 2005

Perhaps the largest and most successful CLT in the United States, the Champlain Housing Trust (CHT) is recognized as a model for all other American CLTs to follow.⁸ Established in 1984, CHT has been around for over 30 years and in that period it has had the chance to prove that CLTs can maintain on going housing affordability.⁹ So how does the Champlain Housing Trust compare to the other CLTs and the one present in Vancouver? Well, the core ideals are similar of course. All four CLTs are not for profit organizations that hold ownership of land in order to promote perpetual housing affordability. However, things tend to diverge a little bit when it comes to their range of housing types, tenure options, and governmental structure.

Having compiled information from numerous public sources¹⁰, I was able to create and then contrast the maps found on the pages to follow. From the collected raw data and the maps I was able to determine the range of housing types and tenure options of each CLT. What they show is that the four different CLTs tend to lie in two camps, characterized by their country of origin. Given the presence of ICE, a nationwide US based community development organization, the American CLTs tend to receive much more dependable and consistent support, resources, and financial assistance. In Canada on the other hand, where there is no such central organizational body, CLTs tend to be more self-sufficient and the more successful ones diverge from the traditional ICE based CLT model. While there is a lot more to be said with respect to the financial support CLTs receive, an elaboration on this aspect will come in the Economics chapter.

⁸ Ibid. p90

⁹ John Emmeus Davis and Alice Stokes, *Lands in Trust, Homes that Last: A Performance Evaluation of the Champlain Housing Trust* (Burlington, VT: Champlain Housing Trust, [2009]). To be more specific, the average CHT household earns just below 60% of the area median income.

¹⁰ Sources include municipal property records, GIS open data catalogues, CLT reports and websites, census records, etc.

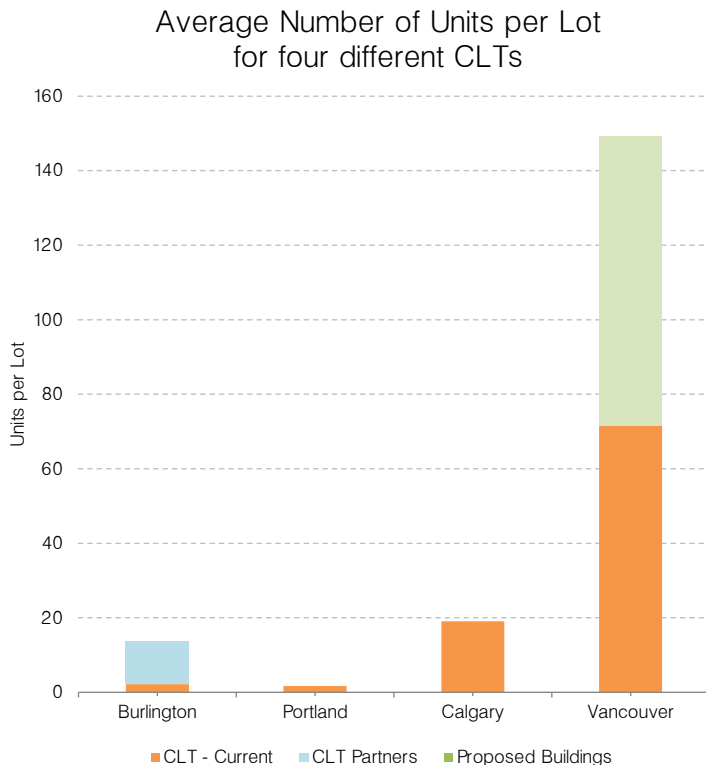


Figure 14 Average Number of Units per Lot for four different CLTs.

The two American CLT models offer both a wider range of housing types and tenure options. Where the Canadian CLTs tend to be limited to mid-high density housing exclusively tailored to rental, the American ones not only offer ownership and single family units, but truly focus on it. The previous page graph shows what this difference in approach, between the four studied CLTs, means for the average number of units situated on a single lot. One might try to explain this by means of a Price to Area Median Income (AMI) Ratio and the fact that lower density housing tends to carry a higher proportion of land value, making single family housing less affordable (see diagrams in the *Introduction* chapter). Although this line of thinking does have some credit, it does not necessarily apply as much as one might think since Calgary's Price:AMI sits at a lower value (4.6)¹¹ than the two American cities, Burlington (5.7)¹² and Portland (6.4)¹³. What I believe to be the main factor influencing the range of housing types and tenure options is the governmental structure of the organization that helped create the housing in the first place.

Looking at the previous graph once more, the partners of the Burlington CLT (not the Burlington CLT itself but the housing authorities they partner with) exhibit similar average number of units per building as Calgary. I believe that this is due to the fact that these housing units were not created by grass-roots neighborhood level democratically controlled organizations, but by much larger top down decision making co-operative organizations. Both the Vancouver and Calgary CLTs take on a role almost exclusively concerned with land acquisition, while passing on the responsibility of building housing to a co-

operative.^{14 15} This is not a bad thing per say, but as we have seen it does tend to push the type and tenure of housing towards higher density rental.

Part of my goal is to provide the bottom half earning households with an ownership option that allows them to build equity over time. Hence, the traditional CLT model is a much better fit in achieving this goal. As we have seen, the traditional CLT model is a grass-roots operation that through its governance structure should provide marginalized households with a much better opportunity to change the city more after their heart's desire.

Less successful CLTs

Besides picking out the more successful CLTs in North America, I also used the *Critical Success Factors for Community Land Trusts in Canada* report to learn about some of the less successful ones as well. As it turns out, in Canada, the CLTs that follow the traditional model do not end up being as successful in the long run as the one's I have mapped and discussed.¹⁶ This is in big part due to the absence of an umbrella organization such as ICE. Canadian CLTs that have tried to promote home ownership have not had the benefit of financial backing or a track record such as ICE's.¹⁷

For example, since its initiation in 1997, the Central Edmonton Community Land Trust has focused on a rent-to-own model for low-income households.¹⁸ The idea was that low income households could rent for a period of five years, after which they would be given an option to purchase – the five year rental period effectively counting as a down payment. This system posed a few different problems. The low income of the tenants turned out not to generate enough equity in five years for banks

11 Statistics Canada, "Calgary, CY [Census Subdivision], Alberta and Canada [Country] (Table) Census Profile 2016," Statistics Canada, <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E> (accessed Dec, 2018).

12 DataUSA, "Burlington, VT," DataUSA, <https://datausa.io/profile/geo/burlington-vt/> (accessed Oct, 2018).

13 DataUSA, "Portland, OR," DataUSA, <https://datausa.io/profile/geo/portland-or/> (accessed Oct, 2018).

14 Patten, 2015

15 Housing Strategies Inc., 2005

16 Ibid.

17 Patten, 2015

18 Housing Strategy Inc., 2005

to loan out a mortgage afterwards.¹⁹ Also, banks were hesitant to give out loans for housing that was not attached to a piece of property – fearing depreciation and restriction of resale in case of foreclosure.²⁰ Although some of these issues may still persist even today, there are solutions to be found. One solution to the bank loan problem is to have co-ownership between the tenant and the CLT. The Burlington CLT has a resale formula that does not separate land from housing value.²¹ The value of the housing unit is only assessed once, at the time the CLT makes the initial purchase. Beyond that the CLT has a contractual agreement selling and purchasing back the housing unit whenever the tenant decides to move.²² In this manner, the price of the housing unit can be maintained by the CLT at consistently affordable levels sale after sale. From the perspective of a bank, the property can be conceived as both land and housing combined – hence reducing risks associated with financing a home alone. In addition, the already significant presence of the Vancouver CLT and its many partners (such as VanCity), gives it a track record and a level of financial backing.

Sociopolitical Implications

Newer CLTs such as the one in Vancouver are perfect examples of how the rise of austerity under neoliberalism has pressured them into adopting more efficient methods of housing development in order to attract sufficient

funding to function organizationally.²³ This in turn has pushed these types of CLTs away from grass-roots community focused governance structures and has limited their range of housing types and tenure options as we have discussed. However, the biggest danger faced by a change in CLT governance structure is that it has allowed for the conversation to shift from empowering marginalized households in taking control of land, to providing affordable housing.²⁴ A community's ability to make decisions with regards to land under a CLT is fundamentally the most important aspect of ensuring its ability and goal to protect and bring positive change to an area.

The problems CLTs are meant to address should not be misinterpreted or oversimplified as the exclusive creation of affordable housing. For example, the Rondo CLT in Saint Paul, MN shows us that the CLT community was empowered by the traditional governance model to influence positive change within the area's commercial sector as well.²⁵ This case suggests that a traditionally governed CLT has the ability to organize and motivate locals beyond the initiating intent of the organization.

Conclusion

The current Vancouver CLT follows a rather top-down governmental structure which limits the range of housing types and tenure options they provide. In order to diversify, I believe that the Vancouver CLT could adopt a parallel grass roots governmental structure such as we have seen with the Burlington CLT and its partnerships. Not only should this strategy provide the bottom half earning households with an ownership option that allows them to build equity, but also provide them with an opportunity to change the city more after their heart's desire.

¹⁹ *Ibid*

²⁰ Susannah Bunce et al., *Urban Community Land Trusts - Experiences from Canada, the United States, and Britain* (Toronto: Social Sciences and Humanities Research Council of Canada, [2013]).

²¹ Davis and Stokes, 2009. The resale formula allows the departing homeowner to capture 25% of the appreciation of the fraction originally bought plus the current equity held in the property. Furthermore, any improvements made to the property will also be assessed and reimbursed to the homeowner upon departure.

$(\text{Initial Purchase Price/Appraisal}_1) \times (\text{Appraisal}_2 - \text{Appraisal}_1) \times 25\% = \text{Homeowner's share of appreciation}$

²² *Ibid*.

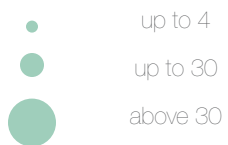
²³ Olivia R. Williams, "Community Control as a Relationship between a Place-Based Population and Institution: The Case of a Community Land Trust," *Local Economy: The Journal of the Local Economy Policy Unit* 33, no. 5 (2018), 459-476.

²⁴ *Ibid*.

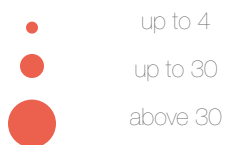
²⁵ *Ibid*.

Changing Lanes

CLT Partner Units

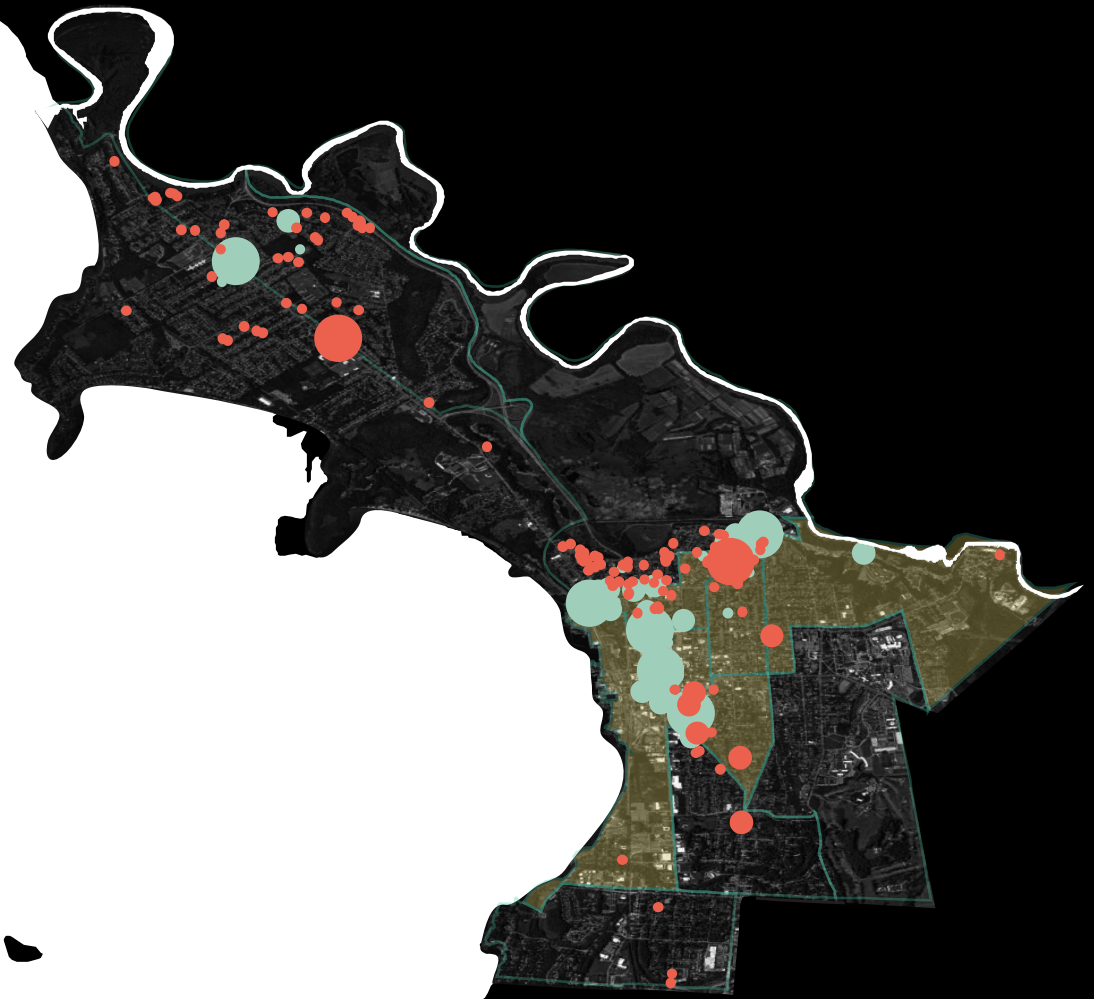


CLT Operated Units



Neighborhoods below City Median Income

Scale 1:80,000



BURLINGTON, VT

inc. 1865

42,556
Population

16,104
No. Households

\$264,300 : \$46,754
House Price to Income Ratio

5.7

Figure 15 Map of Champlain Housing Trust operated housing by number of units per lot in the City of Burlington, VT

CHAMPLAIN HOUSING TRUST

est. 1984

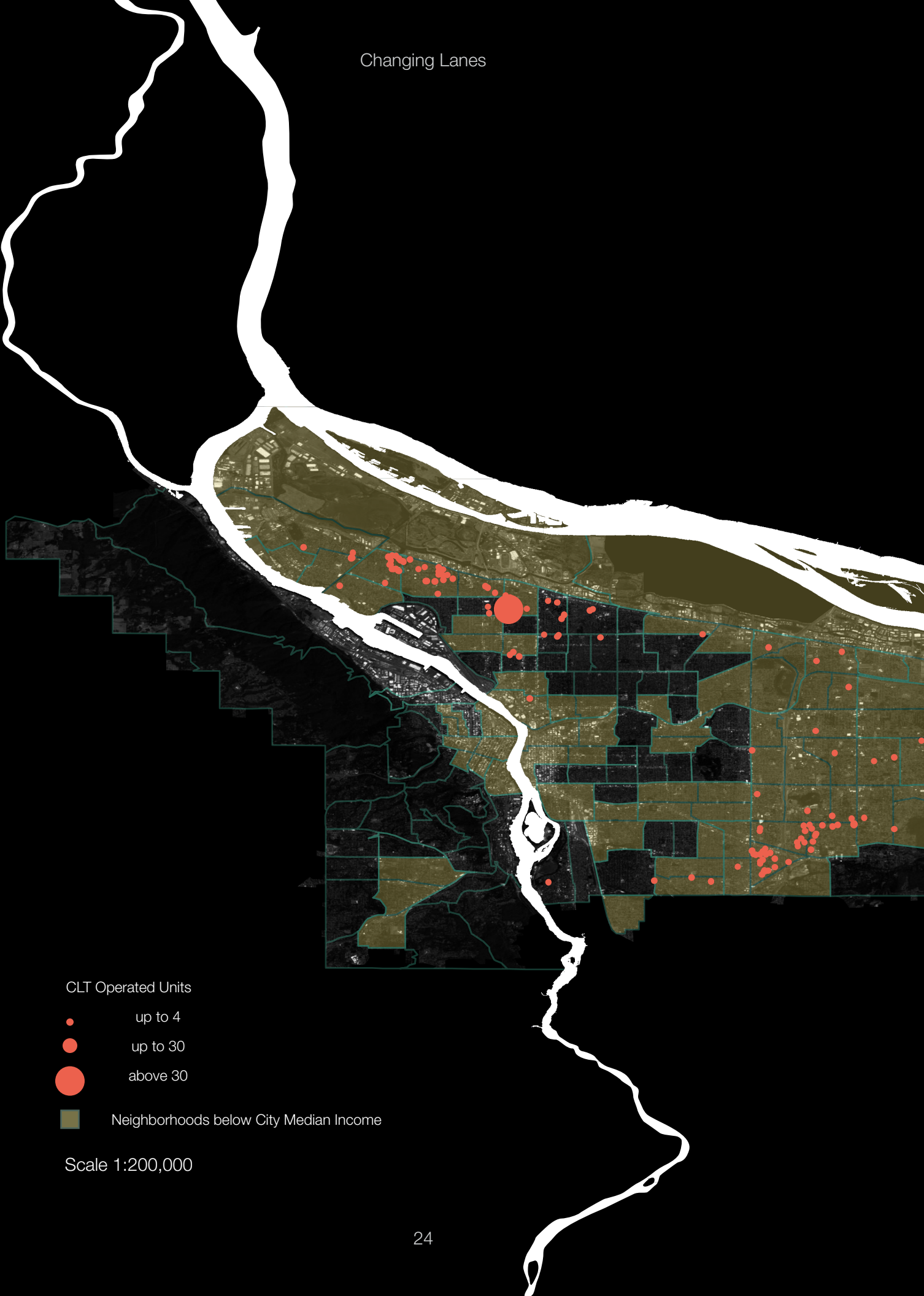
250 condos : 115 homes
City wide condo share

68%

78% Int. / 20% Gov. / 2% Priv.
Income Distribution

\$22 Million
Operating Budget

Changing Lanes



CLT Operated Units

- up to 4
- up to 30
- above 30

■ Neighborhoods below City Median Income

Scale 1:200,000

PORTLAND, OR

inc. 1851

639,635
Population

263,774
No. Households

\$395,100 : \$62,127
House Price to Income Ratio

6.4



Figure 16 Map of Proud Ground CLT operated housing by number of units per lot in the City of Portland, OR

PROUD GROUND

est. 1999

100 condos : 189 homes
City wide condo share

35%

48% Int. / 46% Gov. / 6% Priv.
Income Distribution

\$1 Million
Operating Budget

Changing Lanes



CLT Operated Units

- up to 4
- up to 30
- above 30

■ Neighborhoods below City Median Income

Scale 1:250,000

CALGARY, AB

inc. 1894

1,239,220
Population

466,725
No. Households

\$450,338 : \$97,344
House Price to Income Ratio

4.6

Figure 17 Map of Home Space Society CLT operated housing by by number of units per lot in the City of Calgary, AB

HOME SPACE SOCIETY

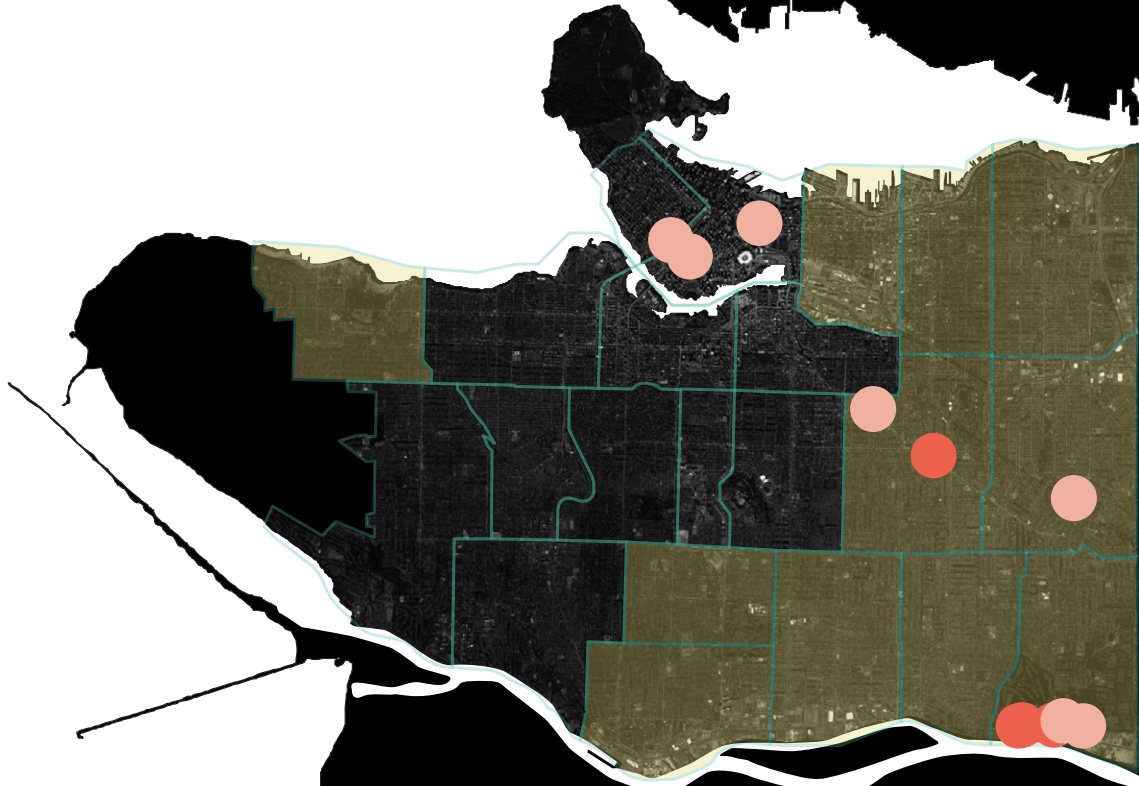
est. 2003

515 renters : 0 owners
City wide rental share

100%

29% Int. / 71% Gov. + Priv.
Income Distribution

\$88 Million
Operating Budget



CLT Units - Proposed

- up to 4
- up to 30
- above 30

CLT Operated Units

- up to 4
- up to 30
- above 30

Neighborhoods below City Median Income
(1 person households)

Scale 1:125,000

VANCOUVER, BC

inc. 1886

631,486
Population

283,915
No. Households

\$1,102,843 : \$65,327
House Price to Income Ratio

16.9

Figure 18 Map of Vancouver CLT operated housing by number of units per lot in the City of Vancouver, BC

VANCOUVER COMMUNITY LAND TRUST

est. 2013

358 renters : 0 owners
City wide rental share

100%

100% Int.
Income Distribution

\$ ~5 Million
Operating Budget

LAND

Current CLT developments, as well as other social and supportive housing, are high density developments sparsely spread throughout the city.¹ These projects are very important for Vancouver, and I do not wish to discourage their creation in any way. However, the argument in the previous chapter asserts the need for a low density home ownership option within the ones available to the bottom half earners of the city. As such an option does not really exist in Vancouver, the next step towards creating one involves searching for the land it could be developed on. In this chapter, I will present what I believe to be a land option charged with a great deal of potential for putting power into the hands of the community in both the short and long term.

Low Density Development

Most CLTs that support single family home ownership tackle the option when they find themselves in one of the following scenarios: land prices are a manageable proportion of housing costs, housing prices are low due to foreclosure or age of dwelling, or the property is being donated.² Land donation, or developed property donation for that matter, and foreclosure properties are two of the cheapest ways to grow for a CLT. However, while looking at the four CLTs in the previous chapter, in general, none of them saw donation revenues greater than 10% of their budgets³ ⁴ making this option limited and not necessarily consistent. Foreclosures on the other hand are presently not an option in Vancouver, although they could become one

¹ *City of Vancouver, 2018a*

² *Housing Strategies Inc., 2005*

³ *Champlain Housing Trust, Annual Report - Fiscal Year 2017 (Burlington, VT: ,[2017]).*

⁴ *Proud Ground, Proud Ground Annual Report 2017 - Investing in Permanent Affordability (Portland, OR: Proud Ground,[2017]).*

in the future. Even so, they may still not be an option due to the extremely high value of land present across the city. Therefore, affordable land options are very limited within Vancouver with the exception of what I believe to be an overlooked opportunity.

Laneways

In 2009, the City of Vancouver changed its regulations for single family residential lots to allow the construction of a smaller house towards the back of the property with access to a laneway.⁵ Up until this point in time, the city had nearly no residential vacant land; something that ran out back in the 1950s as urban sprawl hit the geographic limits of the municipality.⁶ Yet practically overnight, this regulation opened up the possibility of building on over 60,000 lots across the city.⁷ That is 7.44 square kilometers⁸, or 8.6% of Vancouver's total developable land (not including right of ways)⁹

As included in the Appendix, regulations are fairly specific as to what shape, location, and size these laneway homes can be.¹⁰ However, what is most noteworthy is that land is now available within the city for new construction

⁵ *General Manager of Planning and Urban Design and Sustainability, Amendments to the Zoning and Development by-Law - Laneway Home Regulations (Vancouver, BC: City of Vancouver,[2018]).*

⁶ *Bruce Macdonald, Vancouver: A Visual History (Vancouver, BC: Talonbooks, 1993).*

⁷ City of Vancouver, "Open Data Catalogue," City of Vancouver, <https://data.vancouver.ca/datacatalogue/index.htm> (accessed Nov, 2017).

⁸ *assuming an average of 25% allotment of the land parcel to the laneway home*

⁹ City of Vancouver, "Open Data Catalogue," City of Vancouver, <https://data.vancouver.ca/datacatalogue/index.htm> (accessed Nov, 2017).

¹⁰ *City of Vancouver, Zoning and Development by-Law No. 3575 (Vancouver, BC: City of Vancouver,[2018e]).*

without the demolition of existing housing. This is extremely important as, later to be further discussed, history shows us that Vancouver has already gone through a period of densification in order to promote home ownership which came at the expense of renters and marginalized households through gentrification.¹¹

Of the roughly 60,000 lots, a little over 20% of them have an added benefit.¹² The city further changed regulations in order to protect heritage homes (meaning built prewar). A laneway lot that has a heritage home built on it, and keeps it, may add a laneway house to the lot while stratifying ownership.¹³ What makes stratification significant in this context is that not only can

housing density be added without demolition, but the owner of the laneway house can claim full ownership of both the land and housing unit.

Laneway Development

Since the 2009 amendment to the Zoning and Development By-Law to implement laneway homes (LWH) across residential single family zones, roughly 3871 building permits have been issued.¹⁴ That number represents just over 6% of the available lots for LWH development. Although there are clearly many more lots to be developed, we must recognize that not all lots can be developed, nor is every owner willing. After all, we must remember that the power to develop sits in the hands of the land owner. A recently conducted *Laneway Housing Survey* provides a picture into just who is developing

¹¹ Harris, 2011

¹² City of Vancouver, *Property Tax Report Data 2006-2018* (Vancouver, BC: Vancouver Open Data,[2018c]).

¹³ City of Vancouver, *Guidelines for Additions, Infill and Multiple Conversion Dwelling in Association with the Retention of a Character House in an Rs Zone* (Vancouver, BC: City of Vancouver,[2017a]).

¹⁴ Includes permits issued from Nov 2009 up until the end of 2018. City of Vancouver, *City of Vancouver - Statement of Building Permits Issued (Monthly)* (Vancouver: City of Vancouver,[2011-2018]).

SOCIAL/SUPPORTIVE VS LANEWAY HOUSING PERMITS (2009-2017)

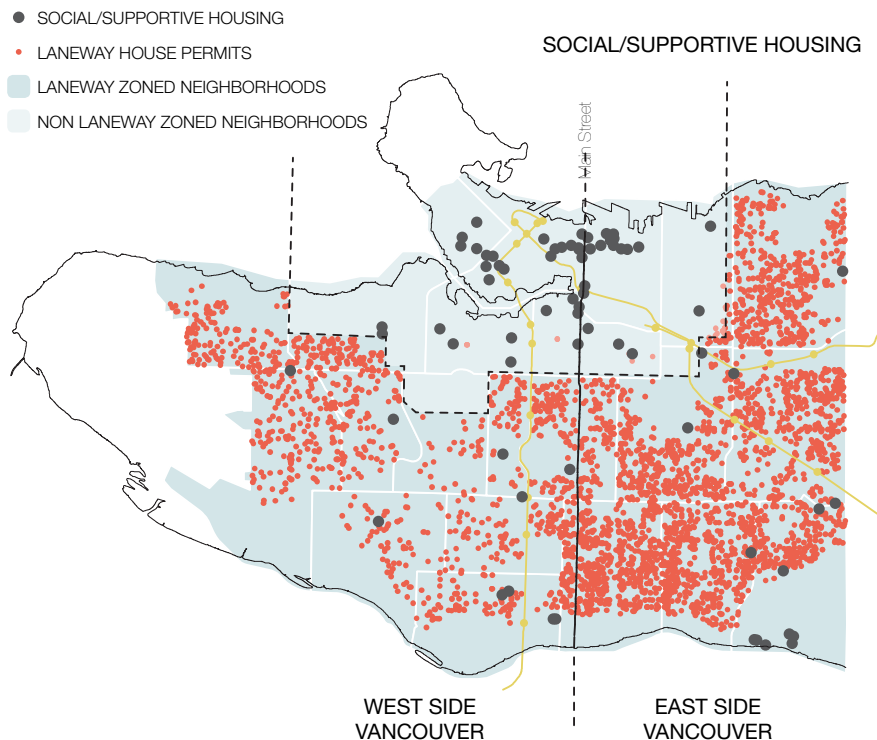


Figure 19 Social/Supportive vs Laneway housing permits approved between 2009-2017

Roughly 2/3 of social/supportive housing approvals lie outside of the laneway house zoning area

and for what purpose. The survey shows that the majority of land owners that develop do it for rental income purposes, while a majority also have a household income over \$100,000.¹⁵ This could be due to two main reasons: one they can afford it, and two they are more likely to own a house and therefore develop. However, through the adjacent mapping exercise I would like to show that there is a little bit more to it than that.

The City of Vancouver is home to a little bit over 60,000 lots zoned for LWH development with physical access to a laneway. Splitting the city down Main Street, East Side Vancouver takes a share of approximately 60% of this number. LWH permit applications are even further skewed towards the East Side sitting at 70%.¹⁶ What this means, is that roughly 7% of East Side Vancouver laneway lots have been developed since 2009, while West Side Vancouver sits at 4%. Clearly, West Side Vancouver residents are much less likely to develop a LWH, something most likely due to the increased number of luxury homes and higher class households found in this part of town. East Side Vancouver on the other hand is known on average to be home to lower income individuals. Therefore, I was not only interested to see how LWH development varies across the entire city, but also across land values.

15 City of Vancouver, Laneway Housing Survey Summary (Vancouver, BC: City of Vancouver,[2018b]). Other noteworthy facts that came out of the survey include the following: 1.) Households occupying LWHs are: 28% 1 person, 49% 2 person, while only 23% are 3+ person; 2.) The biggest group of occupants are between 19 and 34 year of age (35%); 3.) Most occupants pay between \$1,500 and \$2,000 in rent (38%); 4.) Reasons stated for building a LWH include: generate rental income (55%), for family (48%), to live in (20%), for guests (15%); 5.) Roughly half of the property owners have non family rent paying tenants, while 9% live in them; 6.) Roughly 2/3 of the LWH cost between \$100,000 and \$300,000 (more likely to cost less if LWH is built in conjunction with main house due to site efficiencies)

16 based on a mapped sample of 3705 building permits from Nov 2009 to the end of 2018, City of Vancouver, Issued Building Permits - 2017-2018 (Vancouver: City of Vancouver,[2017-2018]).; City of Vancouver, Addresses of all Laneway Houses and Legal Secondary Suites from January 2004 to September 20, 2016 (Vancouver: City of Vancouver,[2016]).

The adjacent map represents the 10,000 least expensive lots within Vancouver that are eligible for LWH development. Almost entirely situated within East Side Vancouver, these lots make up roughly one quarter of the LWH lots found within the East Side of town. What is interesting in terms of LWH development is that only 3.8% of them have been developed.¹⁷ This makes the other three quarters of lots within East Side Vancouver more than twice as likely to be developed (8.3%).¹⁸ Although I may not be able to categorically state that the reason for this is financial hardship, I believe that it must be part of the explanation. As such, the least expensive laneway zoned lots are not able to modify the city as freely as more affluent lots within the same neighborhoods are.

Laneway + CLT Partnership

As previously noted, the power to develop property sits in the hands of land owners. However, this statement only holds true if that land owner has the financial means to do it. What we have seen in East Side Vancouver is a reduced likelihood for the bottom quarter priced lots to develop LWHs. What I would like to propose is that any laneway lots suitable for LWH development, be considered for purchase through a grassroots CLT model. In this manner, not only will affordable housing be developed in less affluent neighborhoods, but the land owners benefiting from these transactions will also more likely be of lower income.

I see laneway lots as a great candidate for the development of affordable housing under CLTs for the reason that it can be community driven. Real existing home owners, part of the community, will have the opportunity to sell property to real community members that will then occupy the developed units. The CLT will primarily act as an ambassador for these sorts of relationships to be cultivated throughout a given community. The relationships and exchanges will be made between real community members, and not profit driven companies or organizations

17 Ibid.

18 Ibid.

loosely attached to these communities.

What I would like to see, is the development of laneway lots by the tenants that will ultimately occupy them. If Vancouver is to build affordable housing, it needs to promote a system that empowers tenants, not developers, with an ability to control the affordability of housing. This is where I believe a coming together of CLTs and laneway lots could have a significant impact within the city.

Conclusion

Vancouver's CLT has thus far solely relied on municipally driven land lease agreements for the development of its housing units. As other CLTs have shown, housing development on CLT purchased land is a practice that provides more housing options for the CLT members. These options involve home ownership and the ability to more freely choose where one resides and what shape that dwelling takes. This also reinforces the importance of ownership in the ability to make decisions within the urban context.

From the perspective of low to mid income households, I believe laneway lots have some very significant advantages in allowing them to change the city more after their heart's desire. Laneway lots are a fine grained low density option for development throughout the majority of Vancouver's neighborhoods.¹⁹ That means that marginalized households forced to relocate would be given the opportunity to stay within the neighborhoods and communities they are already a part of. Furthermore, they would also have more control over their housing as the lots are currently empty and designated for single family use. Households would not only have the opportunity to be involved with the development of their own housing, but also be able to modify it over time (something that would not hold true for a higher density development).

¹⁹ General Manager of Planning and Urban Design and Sustainability, *Amendments to the Zoning and Development by-Law - Laneway Home Regulations* (Vancouver, BC: City of Vancouver, [2018]).

CHEAPEST 25% OF EAST SIDE VANCOUVER LANEWAY LOTS

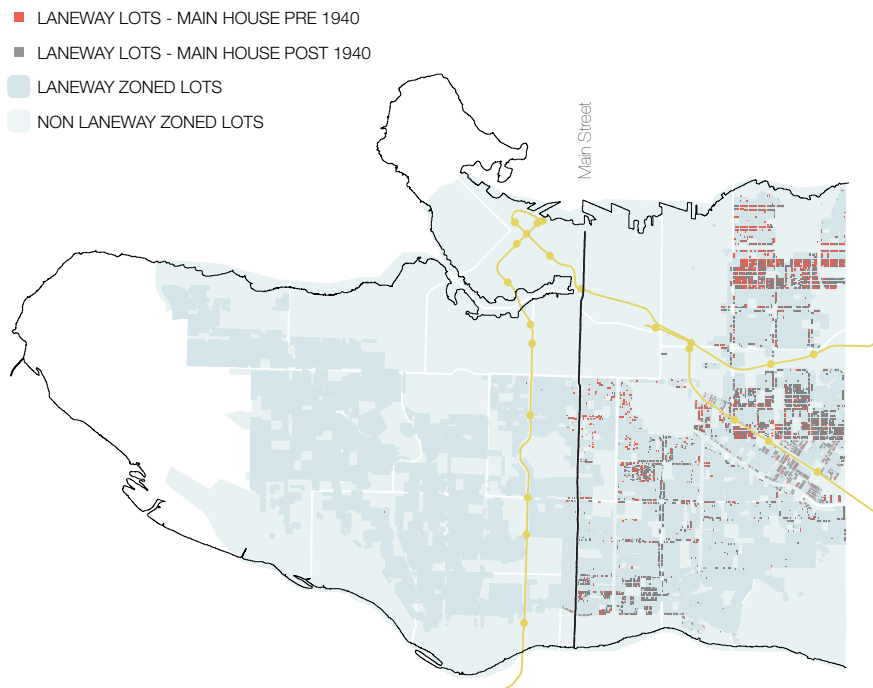


Figure 20 Cheapest 25% of East Side Vancouver Laneway Housing Lots

The map shows roughly 10,000 lots with an average land value of 1.2 million dollars. About 80% of these lots can be found in the following three neighborhoods: Hastings-Sunrise, Renfrew-Collingwood, and Kensington-Cedar Cottage

HOUSING

In this chapter, I would like to speak about how various housing development approaches have restricted individuals' abilities to change the city more after their heart's desire. Furthermore, I will discuss a more appropriate housing development model for individuals that should both increase affordability and the ability to influence it.

The Value of Housing

Since the Industrial Revolution it has been accepted as normal that houses, like many other market commodities, are mass-produced by professionals and mass-consumed by citizens.¹

In his book *Right to Build*, Alastair Parvin et al discuss three distinct processes that have been utilized for the creation of housing: developer, government, and individual driven. The adjacent figure shows that these three processes are named after the figures holding the bulk of the risk during the course of housing development. As risk is the main aspect that stands between a figure and their ultimate goal, each figure assumes complete power over development decision making and hence the direction of a project. Parvin states that ever since the Industrial Revolution individuals have increasingly assumed the role of consumers in a market economy²; shifting from individually to developer driven housing creation. What is argued for housing then is that individuals have been losing control of what is being built even though theoretically they control producers through the levers of market choice and government regulations.³

The reality of the situation is as always a combination of events. At the turn of the

¹ Parvin, 2011

² *Ibid.*

³ *Ibid.*

century, Vancouver was quite a unique town of 25,000 in that land was cheap and wages were high which meant that just about anyone could afford to own their own house.⁴ In 1928, what used to be called South Vancouver (roughly the southern half of now East Side Vancouver), was dominated by working class owner occupied single family homes.⁵ As land was becoming scarcer towards the end of the 1950s, land prices were increasing while urban sprawl was giving way to urban renewal.⁶ This meant that the only way to house a continuing increase in population would be an increase in density. As such, the end of the 1960s saw the expropriation of 23 hectares of rundown residential neighborhoods in order to make way for a new housing typology: the condominium.⁷ The increase in size and complexity of this new type of housing development meant that individual home builders were now more than ever giving way to larger and larger specialized private developers. With large upfront investments needed for the completion of increasingly longer projects, banks were also becoming more wary as to whom they are lending to and on what conditions. Ultimately, this meant that the risks that were once borne by many individuals were now placed on a few profit margin focused developers.^{8 9}

⁴ By comparison 94 percent of New York's residents were renters. Deryck Holdsworth, "Cottages and Castles for Vancouver Home-Seekers," *BC Studies* (1986), 11-32.

⁵ *Ibid.* Of all residential units 75 percent were single family homes of which 84 percent were owner occupied.

⁶ Macdonald, 1993

⁷ *Ibid.*

⁸ Generally there are three different types of risks: planning (as in acquiring land + sufficient density to turn a profit), project (as in rising costs associated with the delivery of the project), and market (as in the market may not express the expected demand/price) Parvin, 2011 p24

⁹ John C. Bacher, "Canadian Housing " Policy" in Perspective," *Urban History Review* 15, no. 1 (1986), 3-18.

HOUSING CREATION PROCESSES

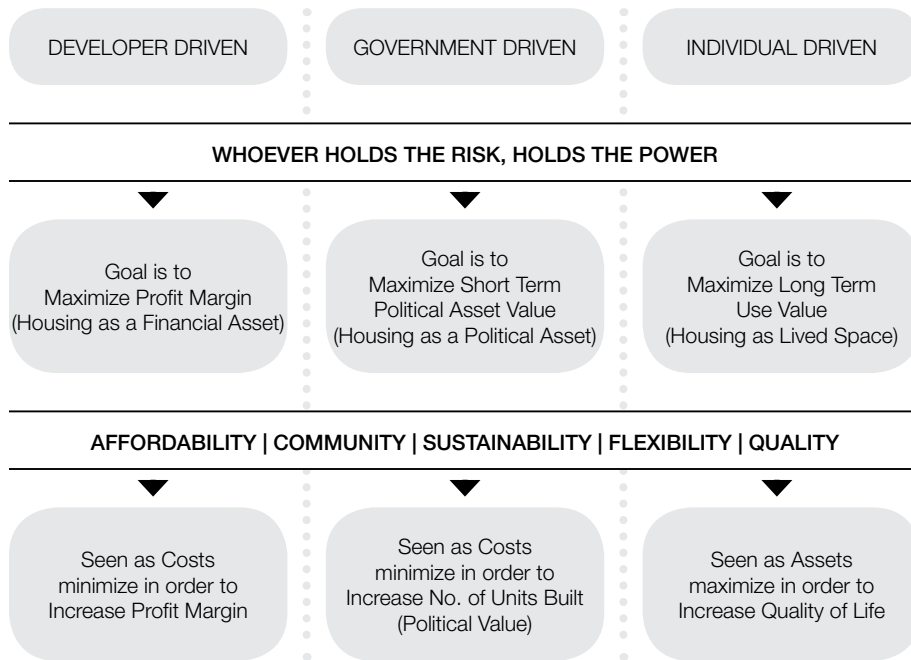


Figure 21 Housing Creation Processes - A comparison between developer, government, and individual driven housing development.

Furthermore, as John C. Bacher points out in a 1986 article, Canadian public housing programs have been plagued by policy favoring not the improvement of living standards for marginalized households but largely unrelated goals such as private profitability.¹⁰ The misalignment between the housing market and the people occupying it is stated by Michael M. Dennis and Susan Fish in their book as follows:

*Poor locations, poor designs, inadequate facilities, insensitive management, discrimination against problem families ... all result from an attempt to engraft social housing programs on a profit-making production-oriented market mechanism in which the producers conceive of housing as an artifact to be produced, rather than a service to be rendered.*¹¹

Due to the transfer of risk from individuals to

¹⁰ Ibid.

¹¹ Michael M. Dennis and Susan Fish, *Programs in Search of a Policy: Low Income Housing in Canada* (Toronto: Hakkert, 1972). p374

mass-producers, over the span of a few decades housing went from being self-built, based on individual needs, to now being developer driven based on generalized hypothetical needs¹² - thus creating the speculative homebuilder model seen on the next page. Home sizes have more than doubled in this time frame yet household sizes have shrunk.¹³ With the transfer of trust from individuals to developers, housing has become a profit driven enterprise. As such, developers sell not homes but ‘great investments’. Housing is being labeled as a financial asset, while it cannot be one as long as the owner resides in it.¹⁴ Housing can be considered a financial asset

¹² Parvin, 2011

¹³ Preet Banerjee, “Our Love Affair with Home Ownership might be Doomed,” *The Globe and Mail*, <https://www.theglobeandmail.com/real-estate/mortgages-and-rates/our-love-affair-with-home-ownership-might-be-doomed/article4179012/> (accessed Mar, 2019).

¹⁴ Kevin Mercadante, “The Truth? Your House is Not an Investment,” *money under 30*, <https://www.moneyunder30.com/why-your-house-is-not-an-investment> (accessed Mar, 2019).

if for example it is used to generate revenue such as through rental. This scenario is exactly what the city has promoted through the introduction of the laneway home regulation. The problem is that under such a scenario the needs of the tenants are overpowered by individual laneway home developers looking to maximize profit.¹⁵ Similarly, given the crucial involvement of city chosen land for the current Vancouver CLT developments there is a level of political interest that as the diagram shows tends to favor the maximization of units built – not value of housing.

Neither the current laneway home development process nor the Vancouver CLT put the tenant at the forefront of decision making which discourages the maximization of long term housing use value. If individuals wish to be able to better control the type and price of housing they reside in, they need to be encouraged to develop it for themselves. Housing is lived space, and that’s how it should be treated from conception all the way to the end of its life.

Self-Provided Housing

This term encompasses three distinct ways of going about the construction of a new housing unit, and they include: self-commissioned, self-procured, and self-built.¹⁶ The differences between the three strategies come down to the level of involvement desired by each individual. As the individual seeks more involvement, there is a direct correlation with the time invested by the individual and most likely the length of the project. However, an indirect correlation will be experienced with respect to fees, as the roles of project manager, contractor, and architect are taken on by the individual producing the house.

For the purposes of the CLT, I propose that all individuals start off with a self-commissioned strategy. I believe that this will be advantageous from both the CLT’s perspective as well as the

incoming household. Given the tight budgetary constraints of the CLT, it will look to minimize the time any given lot stays vacant. From the incoming household’s perspective, it will most likely not have any experience in the housing construction process or capital to sustain housing payments at two separate addresses.

Conclusion

Given that laneway lots are designated for low density residential construction, their development is a perfect opportunity for marginalized Vancouver households to be given a voice in the shaping of the city they have been living in. Through self-provided housing, I believe that these households will be able to express themselves based on their needs while staying within their financial potential. As such, we can now reorganize the actors discussed thus far as per the adjacent bottom figure.

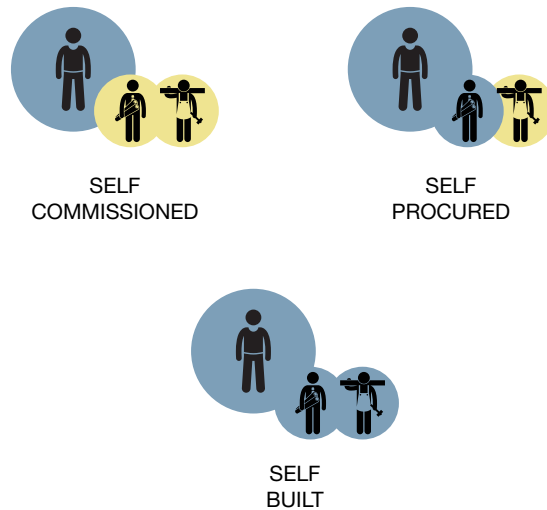


Figure 22 The Self-Provided Housing Sphere

In order of increasing responsibility placed on the future homeowner we have the self-commissioned method (the individual simply hires both architect/project manager and general contractor), the self-procured method (the individual takes on the role of the project manager and only hires the general contractor), and finally the most involved self-build method (the individual takes on the project from start to finish without hiring an architect/project manager or general contractor)

¹⁵ Although there are a number of laneway home developers/owners that build them with the intent to either live in them or allow for a relative to do so, the majority (~77%) rent them out at market rates. City of Vancouver, 2018b

¹⁶ Parvin, 2011

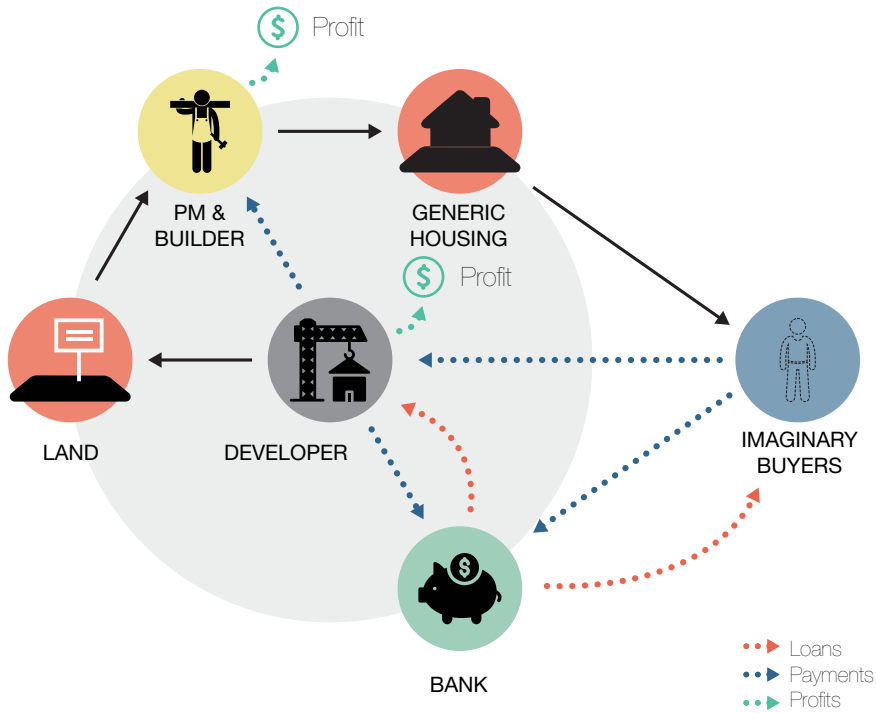


Figure 23 The Speculative Homebuilder Model

A developer centered model since the majority of the risks and a good part of the rewards lie with the developer.

Noteworthy observations are the removed roles of buyers within this process as well as the importance of banks within the Developer-Bank-Buyer loop.

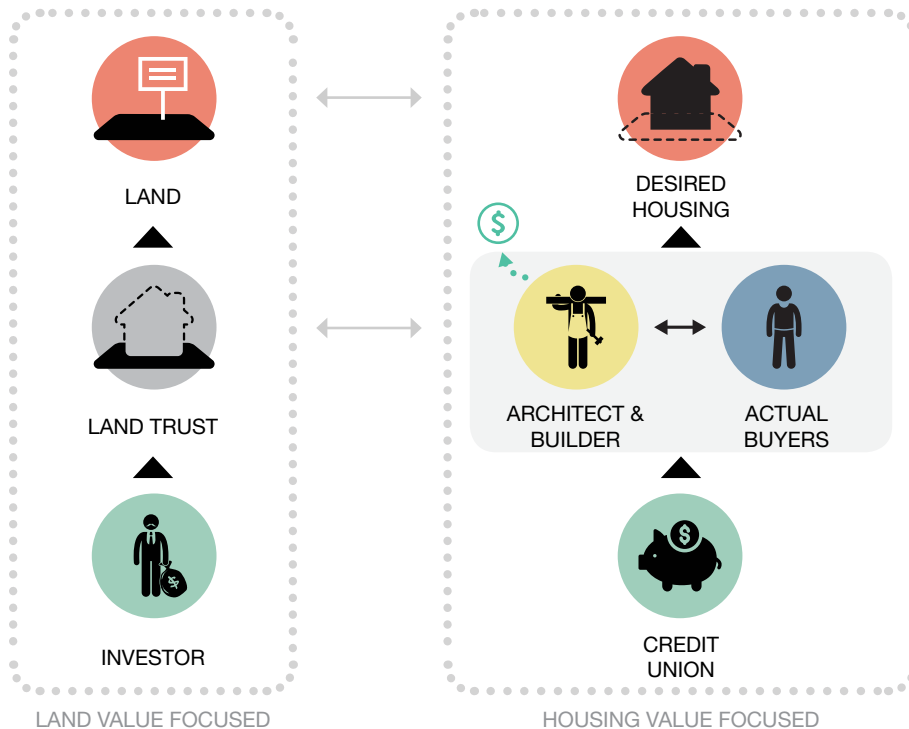


Figure 24 The reorganization of actors based on CLT practices

The organization is based on land value vs housing value focused actors.

Notice the removal of the developer and reintroduction of a relationship between buyers and architects & builders. Also, the bank is now split between land value focused investors and a housing value focused credit union which means the bank no longer holds as powerful a position as when lent capital to both developer and home buyers .

ECONOMICS

From governance to tenure and typological options, we have seen a significant amount of variation across different North American CLTs. When it comes to the financial models employed by these same CLTs, no two are the same. This chapter will cover a wide range of financial sources called upon by the various CLTs previously covered. Of note is that no matter the CLT, it constantly needs to navigate a fluctuating balance between internal, public, and private financial support. Furthermore, a successful CLT needs to find this balance all while maintaining solvency and a push for an expanding portfolio of affordable units.

CLT Budgets

In general, CLT revenues can be broken down into three distinct streams including internal, private, and governmental contributions.¹ Internal contributions may include items such as monthly rent, lease, property management, membership, or other CLT generated gains.² Private revenue tends to come in the form of individual donations of land, capital, or labor brought in with the help of fundraising events and community outreach.³ Finally, governmental contributions are generally comprised of grants, tax credits, loans, and lease agreements amongst other things.⁴ Expenses can be broken down between administrative (meaning CLT staff salaries and office running costs) and operational (such as land tax, property management, loan payments, development fees, fundraising, etc.)⁵ Ideally, a CLT would set

itself up in such a way as to balance its expenses with the internal revenue it is able to generate.⁶ However, depending on the median household income and tenure options the CLT wishes to target this balance may not come out on par.⁷ This is where private and governmental funding come in to complement internal revenues, while excess capital is invested in growing the CLT in the long run.

The adjacent graph shows how the three earlier discussed CLTs navigate their internal + external revenues vs expenses. The Burlington CLT manages to cover all of its expenses via their internal revenues, which make up 78% of their overall revenue stream.⁸ This is due to a number of factors including diversity in tenure options, extensive experience of the CLT, partnerships with a number of co-operatives, land to housing price ratio, targeted median household income, and its resale formula amongst other things. In contrast, both Portland's and Calgary's CLTs exhibit similar cash flow trends despite their differences. The Portland CLT focuses on single family home ownership while targeting median incomes just over 60% of AMI.⁹ The Calgary CLT focuses exclusively on higher density rental units geared towards tenants making roughly 40% of AMI.¹⁰ Yet, despite these two very different compositions, both CLTs are only able

¹ Based on observations from the annual financial reports of the studied CLTs

² Champlain Housing Trust, *Annual Report - Fiscal Year 2017* (Burlington, VT: ,[2017]).

³ *Housing Strategies Inc., 2005*

⁴ HomeSpace Society, *Financial Statements 2018* (Calgary, AB: HomeSpace Society,[2018]).

⁵ Champlain Housing Trust, 2017

⁶ In this way a CLT is able to maintain its portfolio no matter the level of capital contributions from private or governmental sources. Self-sufficiency can ensure the long term survival of a CLT even if its size will most likely stagnate.

⁷ The internal dilemma of a CLT in balancing it's books is that in order to do so it must compromise on affordability. The question then becomes, does it cater to higher income households or does it fight for a constant stream of external capital?

⁸ Champlain Housing Trust, 2017

⁹ Proud Ground, *Solving the Affordable Homeownership Gap* (Portland, OR: Proud Ground,[2016]).

¹⁰ Housing Strategies Inc., 2005

CLT Revenues vs Expenses

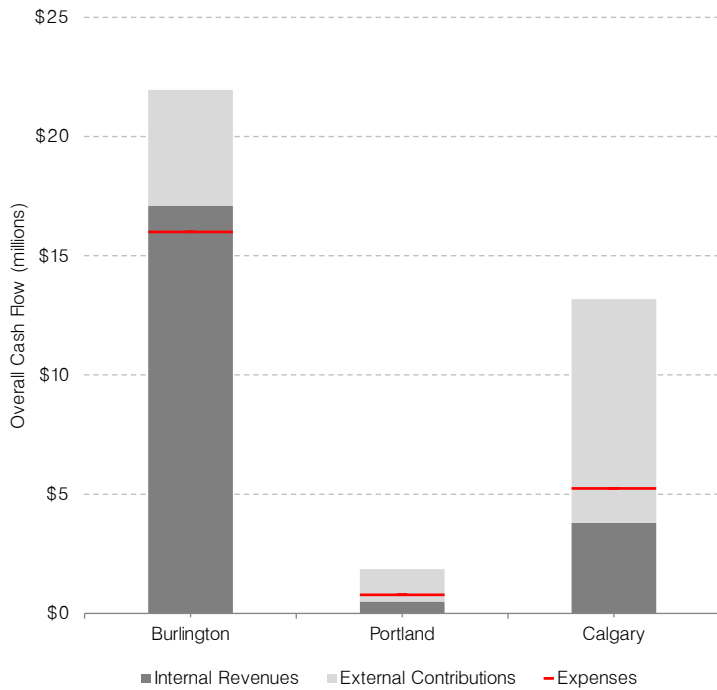


Figure 25 Community Land Trust Revenues vs Expenses for the three previously studied CLTs.

External Revenues are a summation of private and governmental contributions which have been lumped together in this graph for all CLTs (due to a lack of more specific breakdown in the Calgary CLT financial statements) However, in general governmental contributions exceed private ones.

	Operating	Capital	Total (2018)
Revenue			
Donations and Grants	\$1,971.50	\$16,239.20	\$18,210.70
Rental Revenue	\$6,945.26		\$6,945.26
Interest and Investment Income	\$124.24	\$186.15	\$310.38
Miscellaneous Income	\$115.50		\$115.50
Subtotal	\$9,156.50	\$16,425.35	\$25,581.84
Operating Expenses			
Real Property Costs	\$3,721.50	\$297.71	\$4,019.22
Interest		\$207.97	\$207.97
Special Events	\$35.22		\$35.22
Subtotal	\$3,756.72	\$505.68	\$4,262.41
Administrative Expenses			
Salaries	\$2,060.32		\$2,060.32
Office	\$417.69	\$932.36	\$1,350.05
Amortization	\$8.75	\$2,489.44	\$2,498.20
Subtotal	\$2,486.77	\$3,421.80	\$5,908.57
Excess of Revenue over Expenses	\$2,913.01	\$12,487.86	\$15,410.87

Table 2 Calgary CLT - 2018 Operating and Capital Budgets per unit of housing held.

The total number of units held by the Calgary CLT at the time the budget was prepared is estimated at 515.

to cover about two thirds of their expenses via their internal revenue streams.^{11 12} That means that both of these CLTs have one third of their expenses covered by external contributions, which is a significant reliance on a somewhat less predictable source of capital.

Calgary's CLT has quite a high level of governmental support which can be considered both a blessing and a curse given how other Canadian CLTs have dissolved due to a reduction and even elimination of governmental subsidies and/or grants.¹³ The extreme drop off experienced in early 90s in governmental support for lower income households can be seen in the adjacent figure. Attributed in good proportion to a shift towards more neoliberal approaches to housing, the virtual elimination of government funding was also a result of resentment towards an over commitment to long term subsidies (which was crippling budgets). Due to political pressures, in recent years government has once more given in to housing subsidies and grants. However, this time being more wary as to the terms and programs these funds would be allocated to. Whereas before social housing initiatives tended to be affordable only for the first few years, government now expects longer term affordability with less ongoing support.¹⁴

Public Sources of Capital

Given the 'housing crisis' we are finding ourselves in, government has recognized the need to resurrect public funding for affordable housing projects. While federal sources are not as abundant as they used to be, both municipal and provincial levels of government started looking for ways to take on the responsibility of raising capital. This of course meant one of two things from a budgetary perspective – either make cuts to other programs in order to free up

capital or increase taxes (or a combination of the two). In the case of Vancouver, both municipal and provincial governments have been quite vocal about newly introduced taxes aimed at raising capital for affordable housing. Whether all of these taxes go towards the creation or support of affordable housing in the area they were raised is a tough question to answer.¹⁵ However, we can estimate the amount of capital these newly implemented taxes are expected to raise, and the adjacent table does just that.

First we saw the introduction of the Foreign Home Buyer's Tax by the provincial government at 15% in August of 2016, only to be increased to 20% of a home's asking price in February of 2018.¹⁶ Meanwhile, the municipality of Vancouver was in the process of figuring out facts with respect to rumors of countless foreign national homes being left empty year round. A report by Ecotagious Inc. was prepared for the Vancouver Affordable Housing Agency in 2016 with the scope of figuring out the extent of the empty homes problem faced by the City of Vancouver housing stock. The report found a practically flat average city wide Non-Occupancy rate of roughly 5% from 2002 to 2014 based on electricity consumption data.¹⁷ Armed with this information, the municipality went ahead and introduced a yearly Empty

¹¹ *Proud Ground, Proud Ground Annual Report 2017 - Investing in Permanent Affordability (Portland, OR: Proud Ground,[2017]).*

¹² *Home Space Society, 2018*

¹³ *Housing Strategies Inc., 2005*

¹⁴ Paula Gasparro, "Rental Construction Financing Initiative" (Toronto, 2017).

¹⁵ *As is the percent of the overall number invested by all levels of government into affordable housing*

¹⁶ *The Foreign Home Buyer's Tax was introduced with the idea of deterring interest by Non-Canadian residents in purchasing real estate in certain high density regions of the country. The tax is applied at the time of purchase to the sale price of a residential property. In economics, a reduction in demand normally leads to a lowering in prices. Government of British Columbia, "Additional Property Transfer Tax for Foreign Entities & Taxable Trustees," Government of British Columbia, <https://www2.gov.bc.ca/gov/content/taxes/property-taxes/property-transfer-tax/additional-property-transfer-tax> (accessed Nov, 2018).*

¹⁷ *Ecotagious Inc., Stability in Vancouver's Housing Unit Occupancy. Analysis of Housing Occupancy in the City of Vancouver using Electricity Meter Data Analytics (Vancouver, BC: Ecotagious Inc.,[Feb 2016]).*

Federally Funded Non-Profit and Co-operative Housing Units (created 1979-2014)

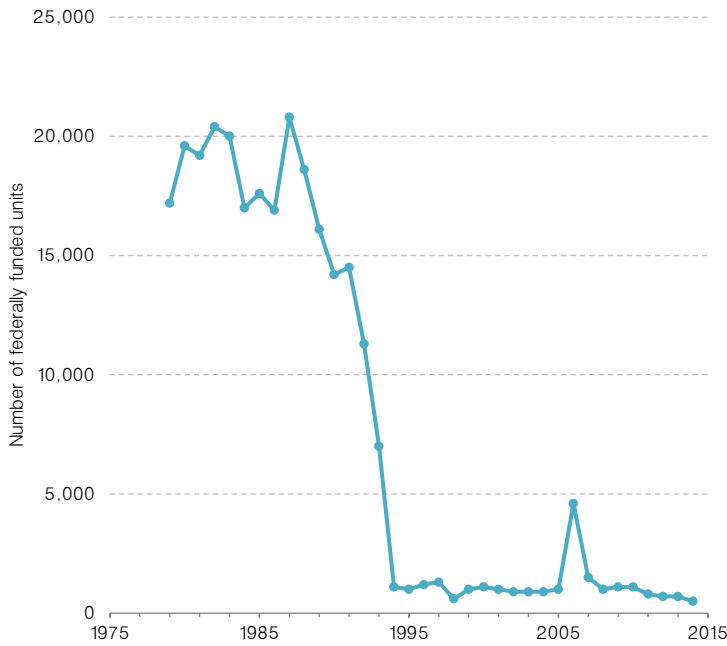


Figure 26 Federally funded non-profit and co-operative housing units created by year in Canada, 1979-2014.

Federal cuts to affordable housing programs culminated in 1993 with the end of new supply programs.

EXPECTED YEARLY TAXATION REVENUES
(only City of Vancouver portion of tax shown)

	<u>Estimated Revenue</u>
Municipal	
Empty Home Tax (2017 start)	\$20 - 27.5 million
Provincial	
Foreign Home Buyer's Tax (Aug 2016 start)	\$95 million
BC Speculation Tax (2019 start)	\$20.6 million

Table 3 Expected annual revenues to be collected within the City of Vancouver from newly introduced taxes.

The three new taxes are aimed at discouraging speculative real estate investment and the reintroduction of empty homes into the market.

Homes Tax set at 1% of a property's assessed taxable value starting with 2017.¹⁸ Starting with 2019, the provincial government decided to introduce the BC Speculation Tax – effectively a replica of the Vancouver Empty Homes Tax. Aimed at homes that stay empty for more than 6 months of the year, this tax is also based on the assessed taxable value of a residential property (broken down as follows: 2% for foreign owners, 1% for out of province owners, and 0.5% for BC residents).

Since August of 2016 we have seen new taxes introduced by both municipal and provincial governments aimed at discouraging speculative real estate investment and the reintroduction of empty homes into the market. Through the three highlighted taxes, the City of Vancouver is estimated to raise somewhere around \$20M in the first year, while the provincial government is expected to raise somewhere in excess of \$115M via the City of Vancouver market alone. Given that the overall goal seems to be to improve access to affordable housing, the question then becomes: What are the proportions between the speculative property appreciation values the City of Vancouver has experienced throughout its recent past and the levels of capital invested in affordable housing. The adjacent figure shows that within the past five years all of the land within the City of Vancouver zoned for LWH development has accumulated an unearned increment of roughly \$80B.¹⁹ In comparison, the City of Vancouver has diverted a cumulative \$800M towards housing within the same five

year time frame.²⁰

Based on the past five years and the recently published City of Vancouver *2019-2022 Capital Plan*, the average amount of capital allocated towards the maintenance and creation of affordable housing by the municipal government has and continues to hover around \$135M annually.^{21 22} While all levels of government have been striving to find new avenues of investment to increase their contributions, a report published by the BC Rental Housing Coalition has estimated that figures still need to double in order to have a significant positive impact on the current market.²³

New revenue streams

On June 21st of 2018, the City of Vancouver council approved the amalgamation of the existing funds channelled towards affordable housing discussed thus far with the Property Endowment Fund (PEF).²⁴ The significance of this grouping is that the aim of the PEF will now shift from making a reasonable return to striving

¹⁸ The idea behind the Empty Homes Tax is to once again deter home owners from sitting on property for the sole purposes of speculative appreciation. The City's stated intent is to encourage the renting out of such properties by their owners in order to avoid being taxed. City of Vancouver, "Vacancy Tax (Empty Homes Tax) Bylaw 11674," City of Vancouver, <https://vancouver.ca/your-government/vacancy-tax-bylaw.aspx> (accessed Nov, 2018).

¹⁹ To put these numbers into perspective, LWH zoned land appreciated from \$100B (2018 dollars) in 2013 to \$180B in 2018 (For at least the past 10 years, LWH zoned land values have been consistently hovering around 50% of all developable land within the city). City of Vancouver, 2018c

²⁰ The City has funded housing via three main streams of capital: the Empty Home Tax, Community Amenity Contributions, and its Capital Budget. The Capital Budget is based on income from Property Taxes & User Fees, Development Cost Levies, and Partner Contributions (such as Provincial & Federal Government, non-profit agencies, foundations, and philanthropists) (1) City of Vancouver, *Financial Budget Reports 2013-2019* (Vancouver: City of Vancouver,[2012-2018]).; (2) City of Vancouver, *Annual Report on Community Amenity Contributions and Density Bonusing (2012-2017)* (Vancouver: City of Vancouver,[2013-2018]).; (3) Kerr, 2018

²¹ City of Vancouver, 2012-2018

²² Director of Finance, *Final 2019-2022 Capital Plan & Plebiscite Questions* (Vancouver: City of Vancouver,[2018]).

²³ BC Rental Housing Coalition, *An Affordable Housing Plan for BC* (Vancouver: Housing Central,[2018]).

²⁴ Vancouver Courier, "Vancouver Council Greenlights \$2B Affordable Housing Fund," Vancouver Courier, <https://www.vancourier.com/real-estate/vancouver-council-greenlights-2b-affordable-housing-fund-1.23344180> (accessed Feb, 2019).

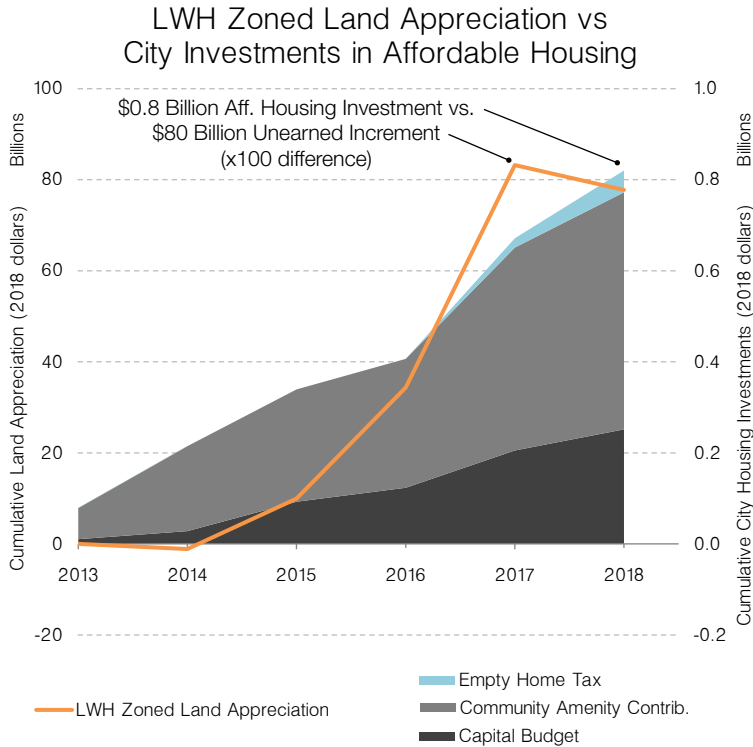


Figure 27 Cumulative LWH Zoned Land Appreciation vs City Investments in Affordable Housing

Land Appreciation vertical axis on the left while City Investments correspond to the one on the right.

Note the x100 difference in scale between the left and right vertical axes.

for the creation of affordable housing units.²⁵ The unification of assets will be called the Affordable Housing Endowment Fund, which under a new Financial Strategy will take a more holistic approach in carrying out the aims of Vision Vancouver. The plan is that within the next ten years \$2 billion be invested in the creation of 72,000 truly affordable units, including 12,000 new social, supportive, and co-op units.²⁶ This will mean that the capital budget, community amenity contributions, development levies, empty home tax and higher levels of government contributions combined with lease payments from the Property Endowment Fund will now amount to an average of \$200 million of investment annually.²⁷ The creation of the Affordable Housing Endowment Fund is definitely

a move in the right direction for improving affordability within Vancouver; however it still falls short of the earlier mentioned figures by the BC Rental Housing Coalition.

On a provincial and federal level, not only is capital being funneled towards affordable housing via municipalities, but also through direct partnership programs with private developers. As of recent, one of the biggest streams of funding comes from the **National Housing Co-Investment Fund**. Over a period of 10 years, this fund makes available \$5.19 billion in loans and \$2.26 billion in capital contributions nationwide by application.²⁸ Another stream of capital, not fully dedicated to affordable housing, is the **Rental Construction Financing** low-cost loans which provide up to \$3.75 billion from 2017-

25 Adrienne Tanner, "Vancouver Removes Perplexing Roadblock to Affordable Housing," The Globe and Mail, <https://www.theglobeandmail.com/opinion/article-vancouver-removes-perplexing-roadblock-to-affordable-housing/> (accessed Feb, 2019).

26 Vancouver Courier, accessed Feb, 2019

27 Tanner, accessed Feb, 2019

28 Assuming a fund distribution by population, BC would benefit from roughly \$980 million or \$98 million annually. CMHC, "National Housing Co-Investment Fund - New Construction Stream," Canada Mortgage and Housing Corporation, <https://www.cmhc-schl.gc.ca/en/nhs/co-investment-fund---new-construction-stream> (accessed Jan, 2019).

2021.²⁹ Finally, a third stream of capital is the *Affordable Housing Innovation Fund*. Although less abundant, it offers up \$200 million over 5 years to support the development of innovative approaches to affordable housing such as perhaps the proposition to be presented here.³⁰

With that said, while the Foreign Home Buyer's Tax, the Empty Homes Tax, and the BC Speculation Tax take aim at the actors partially to blame for the currently overinflated housing prices, the most glaring stream of new revenue that the government could implement is taxation on the *unearned increment*. In other words, a report by the Canadian Centre for Policy Alternatives identifies the preferential treatment of the income tax system to those with real estate wealth while stating the following:

*The non-taxation of capital gains on the sale of principal residences in BC translates into foregone revenues of about \$300 million annually.*³¹

One area of concern with the introduction of a capital gains tax has to do with seniors looking to downsize after retirement. As such, the report mentions a modest proposal could allow home owners be exempt from paying a capital gains tax on such income up to \$500,000 over their lifetime.³² No matter the finer details of such a tax, the end result would be a cool down of the housing market.³³ While a tax on capital gains in order to avoid speculative appreciation has

²⁹ CMHC, "Rental Construction Financing," Canada Mortgage and Housing Corporation, <https://www.cmhc-schl.gc.ca/en/nhs/rental-construction-financing-initiative> (accessed Jan, 2019).

³⁰ CMHC, "Affordable Housing Innovation Fund," Canada Mortgage and Housing Corporation, <https://www.cmhc-schl.gc.ca/en/nhs/affordable-housing-innovation-fund> (accessed Jan, 2019).

³¹ Marc Lee, *Getting Serious about Affordable Housing: Towards a Plan for Metro Vancouver* (BC, Canada: Canadian Centre for Policy Alternatives, [May 2016]).

³² *In the US, all owner-occupied home sales with capital gains exceeding \$250,000 (\$500,000 for couples) are subject to income tax. At the same time however, mortgage interest payments can be deducted from income tax in order to incentivise home ownership. Lee, [May 2016]*

³³ *Ibid.*

been argued for more than a century ago by Henry George himself, the biggest challenge to implementing it is political will. While price to income ratio in a given area is low, the lack of a capital gains tax encourages homeownership while spurring the economy. However, as soon as the price to income ratio skyrockets as it has in Vancouver, the lack of a capital gains tax leads to a runaway economical divergence within class society that threatens the health, diversity, and vibrancy of all cities. When it comes to implementing a capital gains tax, such a proposal is a great challenge as anyone suggesting it would be perceived as practically committing political suicide.³⁴ Ultimately, the goal of such a tax would not be to discourage home ownership, but to distribute part of the unearned increment experienced by land owners back towards the community that created it (and that are now finding themselves unable to afford housing).

If the implementation of a capital gains tax is somewhat of a hopeful wish in boosting the affordable housing budget, that leaves the private market as the last potential source of new capital. While forms of funding are virtually unlimited in the private market, the trouble is finding and convincing the actors willing to invest as returns are less favorable than the free market. Fortunately, these types of actors are starting to emerge more and more across Canada as well. In 2015, a collaboration between BC Housing, the Housing Services Corporation, and the Real Estate Foundation of BC directed research towards six alternative sources of capital for social and affordable housing. The six studied models included Real Estate Investment Trusts, Hybrid Legal Structures, Capital Raising & Lending Facilities, Housing Bonds, Community

³⁴ *Ibid.* A vote on such a bill would basically come down to renters vs home owners, which in the City of Vancouver, renters make up 53% of all private households. However, such a bill would most likely not be voted on municipally which means we have to look at national numbers which show home ownership rates at 68% of all households. Statistics Canada, Nov 2017

Investment Funds, and Social impact Bonds.³⁵ Of the six, the first three have yet to have an established organization adopt and prove that they can function for affordable housing creation within Canada.³⁶ The other three models have all had successful examples within Canada with Housing Bonds showing perhaps the greatest potential for long term – high capital investment. A Housing Bond model was adopted by the Toronto Community Housing Corporation (TCHC) on two accounts, once in 2007 and then 2010, being able to raise \$450 million from two 30 year bond issues.³⁷ One critical success factor for the TCHC issued bonds was that they were backed by the City of Toronto.³⁸ This meant that private investors knew the bonds were highly rated (AAA and AA class) and therefore

meant a low risk investment.^{39 40}

Vancouver CLT

Thus far we have seen a number of CLTs successfully manage their internal, governmental, and private financial contributions. Then, we explored and strived to push even further the streams of governmental and private investment in affordable housing. While it is extremely difficult to predict where financial contributions may come from at any given time, it is important to grasp both the capital and operational budget a CLT may encounter within Canada. Earlier, the Calgary CLT has shown us its overall budget which is currently sustaining roughly 515 medium

35 BC Housing, *Alternative Sources of Capital for Social and Affordable Housing* (BC, Canada: BC Housing, [2015]).

36 *Ibid.*

37 Margie Carlson, *Alternative Sources of Capital for the Social/Affordable Housing Sector in Canada* (Canada: Housing Services Corporation, [Apr 2015]).

38 BC Housing, 2015

39 *Ibid.*

40 Credit or Bond Ratings are based on a company's credit risk and are meant to help investors determine the quality of an investment. Ratings range from AAA, AA, A, BBB, ... all the way to D which stands for In Default. Any company with a rating of BBB or higher is considered worthy of investment while anything rated BB or lower is considered Speculative or Junk. Investopedia, "Bond Ratings," Investopedia, <https://www.investopedia.com/walkthrough/corporate-finance/3/bonds/ratings.aspx> (accessed Jan, 2019).

Investment Source	Type	Per Unit	Percent Total	Return on Investment		
				Interest	Term	
Internal	Lease Inc.	Equity	\$13,687	3%	--	--
	Municipal	Grant (Land Lease)	\$68,994	18%	0	99 yrs
Government	Provincial	Grant (in kind)	\$1,397	0.4%	--	--
		Loan	\$252,235	64%	2.2% (10 yrs)	30-50 yrs
	Federal	Equity	\$11,173	3%	--	--
	Subtotal		\$333,799	85%		
Private	New Market	Loan (Bond)	\$30,726	8%	6% (net)	8-10 yrs
	Co-op	Equity	\$13,408	3%	--	--
	Subtotal		\$44,134	11%		
Total			\$391,620	100%		

Table 4 Funding Budget for the 358 units of affordable housing built by Vancouver CLT

density rental units aimed at tenants with an average of 40% AMI. The part of a budget that we have not yet seen is that associated with the initial investment needed to create a set of brand new affordable units. As it happens, the recently established Vancouver CLT provides a unique blend between the newly implemented governmental investment streams and private avenues in creating its affordable units (see table on previous page).

The success of the 358 unit proposal hinged on the coming together of a number of partners and all revenue streams, not just one central one.⁴¹ In more detail however there was a \$10 land lease agreement provided by the City of Vancouver in exchange for a 99 year lease of four separate properties worth a combined value of \$24.7 million.⁴² Then there was a combined investment by other non-profit operators of \$4.8 million, while a similar \$4.9 million was invested by the Vancouver CLT itself originating from a lease agreement for future commercial property. A further \$11 million were invested by New Market Funds in the form of a bond with an overall annual return of 6 per cent, net of fees, including a 4 per cent quarterly distribution.⁴³ Finally, upper levels of government invested \$4 million in return for equity, while the majority of construction costs were covered by a \$90.3 million loan at a 10 year fixed interest rate of 2.2% for a period of 35 to 50 years.⁴⁴

⁴¹ The list of partners involved in the success of the project includes: Vancouver Community Land Trust, City of Vancouver, Fraser Housing Co-operative, Sanford Housing Society, Tikva Housing Society, BC Housing, New Market Funds, and Vancity.

⁴² Frances Bula, "A Speculation-Free Zone," *The Globe and Mail*, <https://www.theglobeandmail.com/real-estate/vancouver/how-community-land-trusts-could-help-build-affordable-vancouverhousing/article34026679/> (accessed Jan, 2019).

⁴³ The maturity of the bond was flexible with a period anywhere between 8 and 10 years. Garth Davis, "New Market Funds Launches Canada's First Market-Based Affordable Housing Investment Fund," *New Market Funds Press Release 2015*, no. 2015 (2015), Nov 2018.

⁴⁴ Michael Flanigan, "BC Housing/Municipal Partnerships to Deliver Affordable Housing" (Vancouver, 2016).

In terms of the affordability this initiative is still in the process of creating, the adjacent graphs shows where in the spectrum of Vancouver incomes these units lie. As the first figure shows, nearly 50% of the units are geared towards households making between \$35-40 thousand per year (all 1 bedroom units).⁴⁵ The other 50% of units are a combination of 2 and 3 bedroom made available to households with incomes ranging from \$40-95 thousand per year.⁴⁶ These numbers are then shaded by relative volume (based on incremental \$5,000 income brackets) and plotted with the Household Income Distribution found within the City of Vancouver. All in all the 1 bedroom units tend to be geared towards 104% of the median 1 person household income of the area they are built in. The 2 and 3 bedroom units tend to be geared towards households making 82% of the AMI of 2+ person households.⁴⁷ If we average it all together the numbers would indicate that the CLT provides housing units for households making 70% of the AMI.⁴⁸

⁴⁵ Patten, 2015

⁴⁶ *Ibid.*

⁴⁷ I am making what I believe to be reasonable assumption here that 1 person households will almost exclusively occupy 1 bedroom units, while 2+ person households will almost exclusively occupy 2 and 3 bedroom units (Exception being that a 2 person household could potentially occupy a one bedroom unit)

⁴⁸ This number looks much more appealing when advertising the affordability of the CLT housing, however when we dig a little deeper we have seen that the numbers are 104% with respect to the 1 person AMI (1 Bed units), and 82% with respect to the 2+ person AMI (2&3 Bed units). The reason for this has to do with an uneven distribution between who the CLT is targeting and what the neighborhood is made up of. For example: let's say the AMI for all households within the city is \$50,000 while the CLT offers 1-Bedroom units for households making \$40,000. This makes the affordability of the CLT units 80% of AMI. But, let's say those 1-Bedroom units end up being taken up by 1 person households exclusively whom make a median annual income of \$35,000. In this extreme scenario it is no longer appropriate to compare the affordability of the CLT to the overall AMI of the city, it should be compared to the 1 person household AMI. As such, the affordability of the CLT changes from a favorable 80% (\$40,000/\$50,000) to an unaffordable 114% (\$40,000/\$35,000).

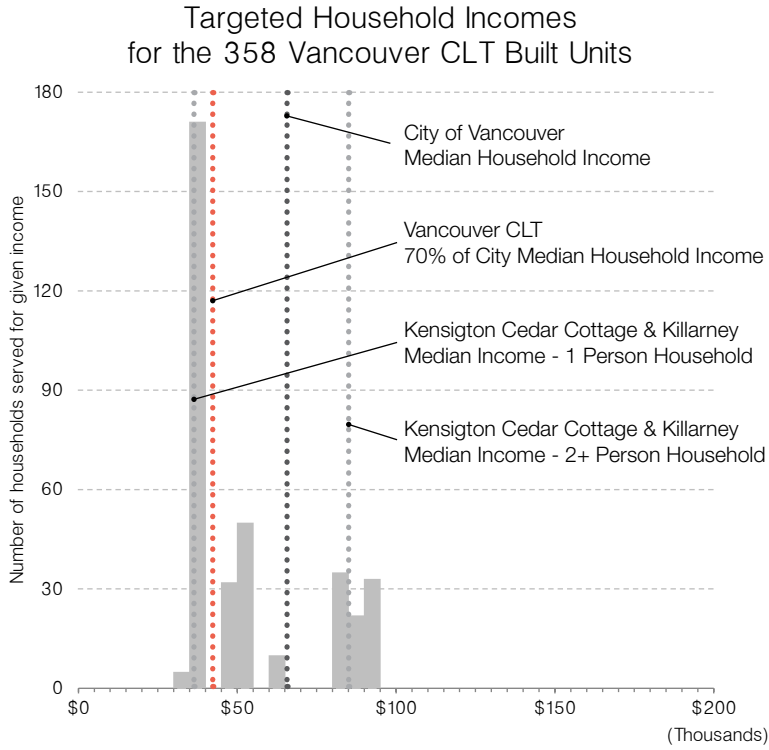


Figure 28 Targeted Household Incomes for the 358 Vancouver CLT Built Units (2015 values)

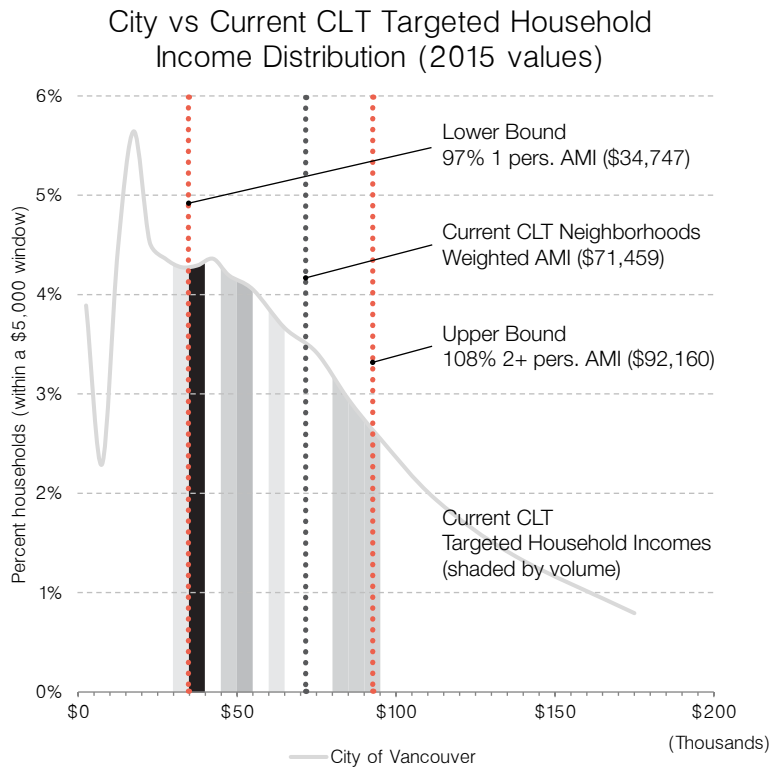
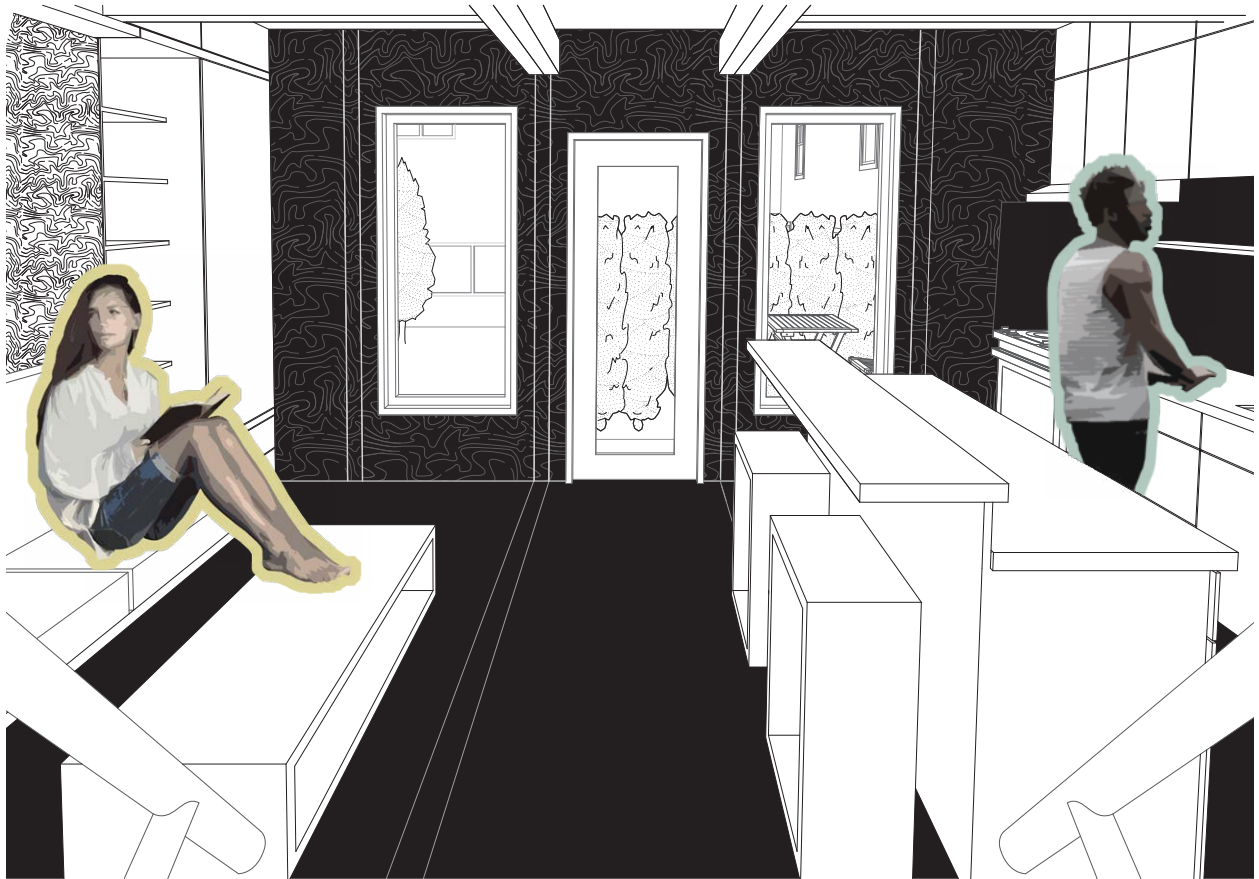


Figure 29 Household income distribution across the city with an overlay of current Vancouver CLT target household incomes by volume (2015 values)



PROPOSAL LOGISTICS

LANEWAY LOT SELECTION

Process

The first step in the process of developing an affordable community land trust housing unit on a laneway lot is the selection of the lot. The initiation could take place one of two ways: (1) A Land Owner presents a lot to the CLT, or (2) the CLT solicits a lot from a potential Land Owner. Following the identification of a potential Laneway Lot for purchase, the CLT would have to make sure that the lot in question is a good candidate for development. This basically means that the required setbacks can be accommodated by the construction of a laneway home, any potential tree conflicts can be resolved, servicing of the lot is feasible, the value of the lot is within budget, and stratification can occur. In the meantime, the CLT also needs to match a qualifying Tenant with the lot in question. The idea here is to create a closed loop system between all parties involved in order to yield the highest level of satisfaction. Ideally, this method not only matches a qualifying Tenant with their desired neighborhood within the city, but also leads to community development.

Economics

The adjacent figure highlights the 25% cheapest LWH zoned lots with actual access to a laneway across the City of Vancouver. With the exception of a handful of lots, the approximately 10,000 lots, all lie within East Side Vancouver. Furthermore, roughly 80 per cent of these lots are located within three neighborhoods (Hastings Sunrise, Renfrew Collingwood, and Kensington Cedar Cottage)

On average, the assessed land value of these lots is \$1.2 million dollars. Given the rough dimensions of a lot within these neighborhoods and the setback requirements for a LWH, the average laneway lot will claim 25 per cent coverage. This means that the average laneway lot value can be estimated at \$300,000.

(Previous Page):

Figure 30 2-Bed unit internal main floor view looking across kitchen/living area

CHEAPEST 25% OF EAST SIDE VANCOUVER LANEWAY LOTS

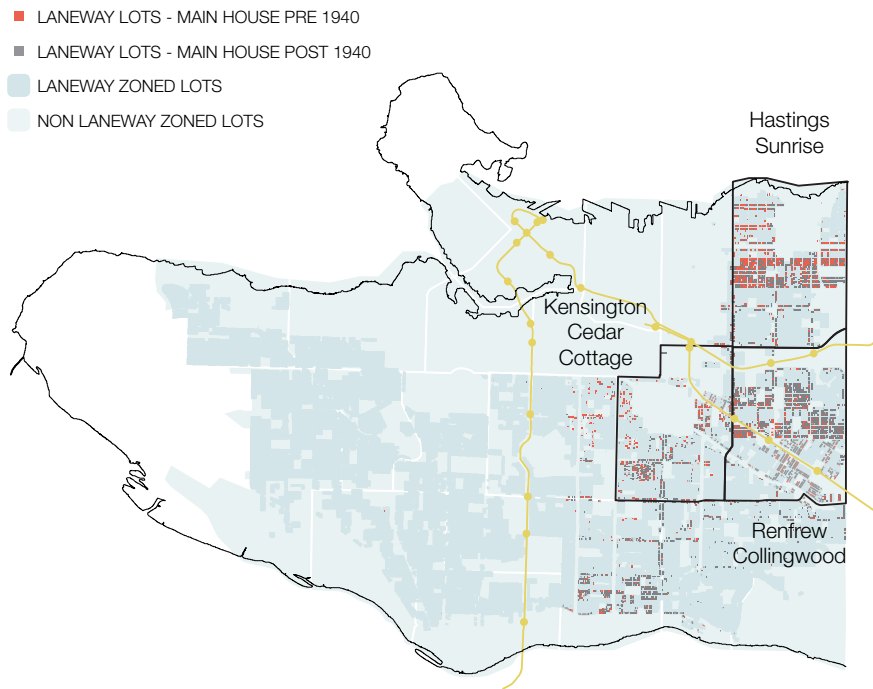
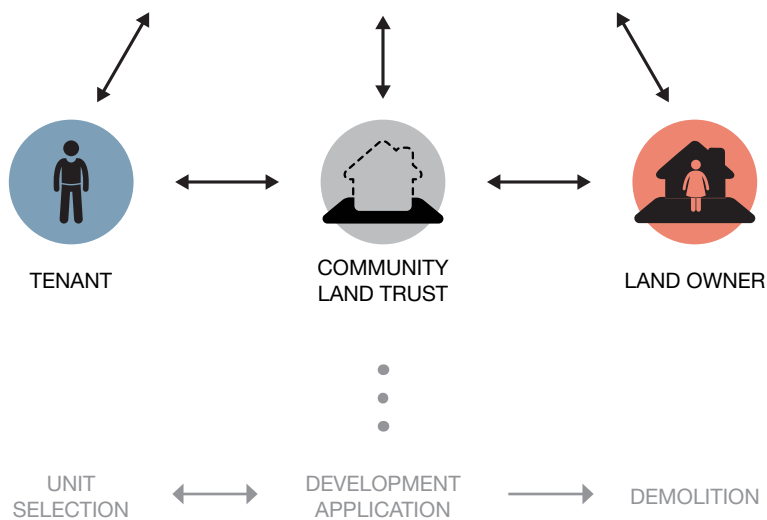


Figure 31 Cheapest 25% of East Side Vancouver Laneway Housing Lots

The map shows roughly 10,000 lots with an average land value of 1.2 million dollars. About 80% of these lots can be found in the following three neighborhoods: Hastings-Sunrise, Renfrew-Collingwood, and Kensington-Cedar Cottage



UNIT SELECTION

Process

Between the purchase of a lot and its development, the future CLT Tenant needs to select the housing unit they would like to occupy. Here, a representative of the CLT with financial expertise would aid the Tenant in unit selection based on their annual income. As the affordability limit is set at no more than 30% of annual income to go towards housing, the adjacent figure provides a general guideline as to what size unit a household's income may sustain.

Ideally, at any given point the CLT will always have its fees set so that each household pays right around 30% of their income on housing. As such, a household may choose to live in any size unit as long as the total costs associated with that unit do not exceed 30% of their annual income.

Economics

The adjacent figure sets out the goal of the CLT in terms of the range of household incomes it may serve. At the lower end of the spectrum, the CLT provides a Studio unit which aims to serve a range of incomes with a median household making 90% of the neighborhood's 1 person household AMI. In order to cover the major costs associated with a Studio unit, it is estimated that the CLT needs to set an absolute lower bound household income of 80% of the neighborhood's 1 person household AMI.

Similarly, at the upper end of the spectrum, the CLT provides a 2 Bedroom unit which aims to serve a range of incomes with an average household making 80% of the neighborhood's 2+ person household AMI. A few of the 2 Bedroom households will be selected with incomes as high as 90% of the neighborhoods 2+ person household AMI in order to partially subsidize the costs associated with the Studio units.

The unit layouts and costs associated with each one will be discussed in more detail within the next few pages.

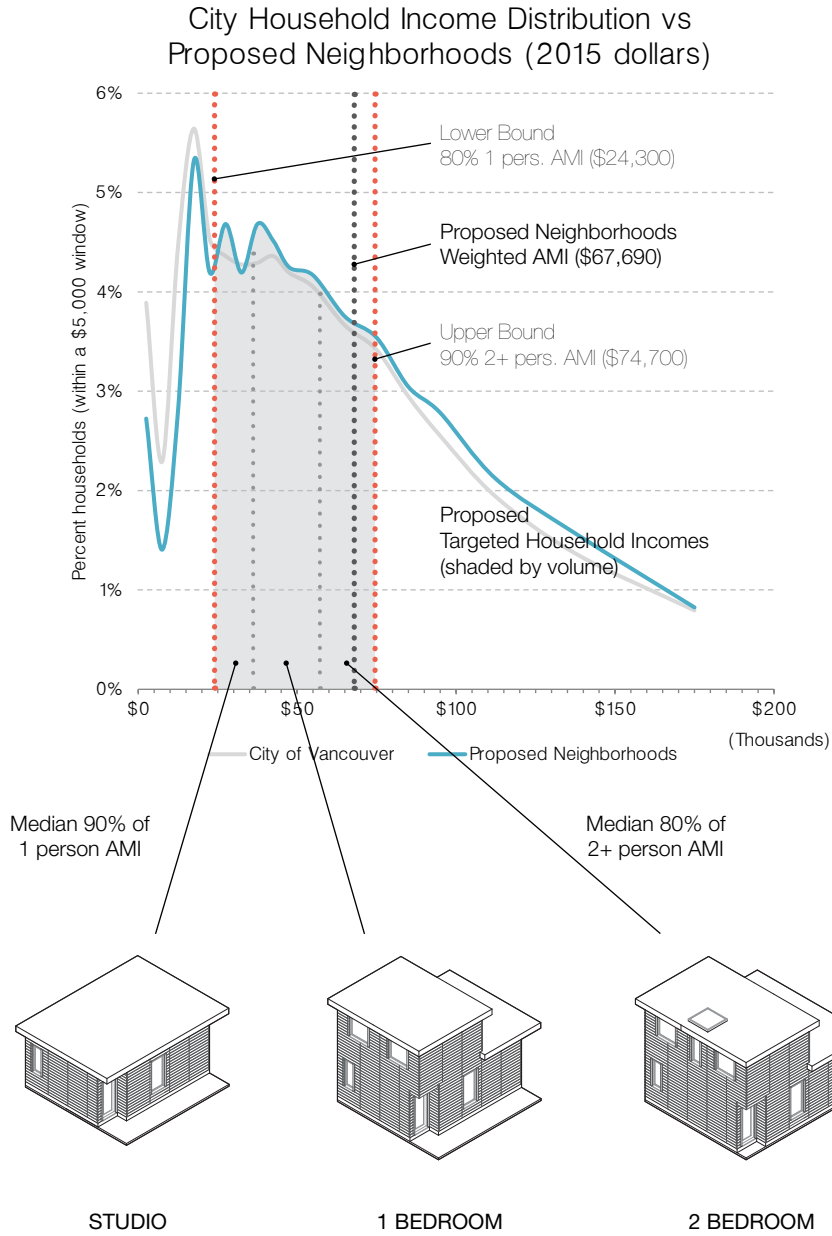


Figure 32 Household income distribution across the city and proposed neighborhoods - with proposed range of tenant incomes superimposed.

Figure 33 Proposed Laneway Home units by size - Studio, 1 Bedroom, and 2 Bedroom

STRATIFICATION AND DEVELOPMENT APPLICATION

Process

Once a laneway lot is deemed suitable for development and a housing unit has been selected by the Tenant, the CLT may successively commence with the purchase of the lot, its stratification, and all appropriate permit application processes.

The purchase of the laneway portion of a single family home lot (25% coverage) needs to occur simultaneously with its stratification. Currently, when a laneway lot is developed, stratification may occur only after the completion of a laneway home. As such, there are two special provisions that the CLT would need to be granted by the City of Vancouver for the purpose of my proposal: (1) the CLT may stratify LWH eligible lots pre-development; and (2) the CLT may stratify all LWH eligible lots (not just ones occupied by heritage homes - meaning built before 1940). These two provisions would allow the CLT to stratify and purchase most of the 10,000 lots earlier identified. The immediate benefit to the CLT would be the reduced capital needed for land acquisition. The community on the other hand would benefit by allowing the quick development of affordable housing within their neighborhood, while individuals within the community would benefit from an influx of capital that they may use to alleviate financial strain (possibly avoiding further gentrification).

Following the purchase and stratification of a lot, the following development applications may be submitted: demolition permit, tree removal permit, construction permit, and Laneway Approval.

Economics

As previously mentioned, the average cost of a laneway lot is estimated at \$300,000.

The costs associated with the aforementioned permit applications can be seen in the table below. While these fees will be accounted for as they stand, due to similarities across applications, the scope of creating affordable housing, and the not-for-profit nature of the CLT, a reduction in these fees by the City may be a future possibility.

Table 5 Potential 2018 Permit Application Fees*

Permit	Studio	1-Bed	2-Bed
Strata Application		\$4,960	
Demolition		\$356	
Tree Removal (2)		\$284	
Laneway Approval		\$1,920	
Development	\$611	\$790	\$909

These costs will be incorporated within either the site servicing budget or the unit construction budget shortly.

* *City of Vancouver, Schedule of Fees for Development & Building Related Permits (Vancouver: City of Vancouver,[2018d]).*

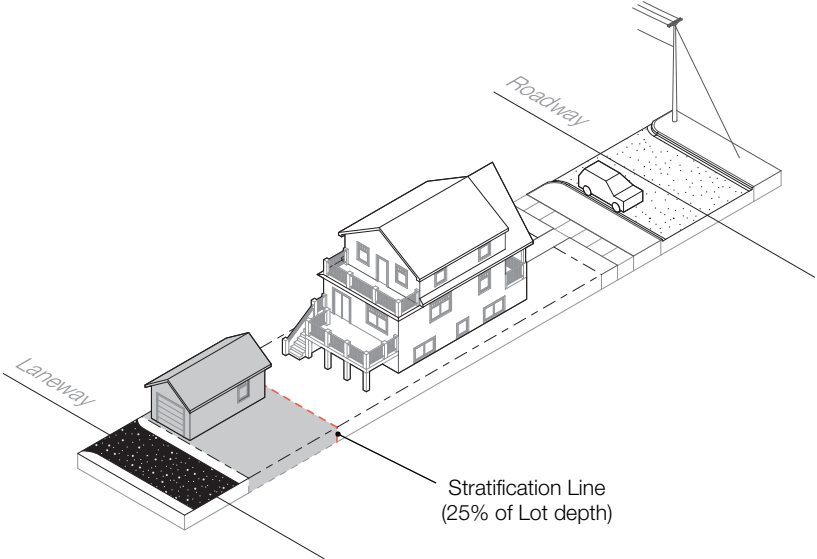


Figure 34 Stratification of Laneway Lot

DEMOLITION AND SERVICING + FOUNDATION

Process

The demolition of the existing structures located on the laneway lot may commence as soon as permitting allows. Similarly, once demolition is complete and the development application has been approved, the site servicing and foundation may be installed.

In terms of the site servicing, the electrical hook up will be provided via overhead wires coming from laneway hydro poles.* Sanitary and water connections will most often become an extension of the main house, while gas connections are optional.

Finally, the foundation will be a standard size that maximizes the use of the laneway lot per current regulations. In this way, if a smaller unit is originally opted for, any future expansions of the unit will not be hindered by the size of the foundation.** If the foundation is not fully occupied at any given point, it may be utilized as a patio or walkway.

Economics

The following table estimates the costs associated with the demolition of any existing structures on site, the servicing of the lot (sanitary, water, electrical, and gas), and the pouring of the foundation necessary to support the future placement of a laneway housing unit.

Table 6 Site Servicing Budget***

Service	Cost
Demolition	\$5,031
Servicing	
Sanitary	\$10,595
Water	\$5,400
Electrical	\$6,000
Gas	\$25
Foundation [§]	\$3,420
<hr/>	
Total	\$30,471
Contingency (Class C 15%)	\$4,571
Taxes (12%)	\$4,204
 Grand Total	 \$39,247

* Laneway hydro poles are the most common source of electricity for East Side Vancouver neighborhoods.

** The foundation will always be built to the maximum size the setbacks allow so as to promote the full use of the site if originally not exploited. The idea is also to reduce any difference in settlement that separate foundations may lead to.

*** A more detailed breakdown of these costs can be found in the Appendix
§ The frost line in Vancouver is situated at 18" (450mm) below grade

Proposal

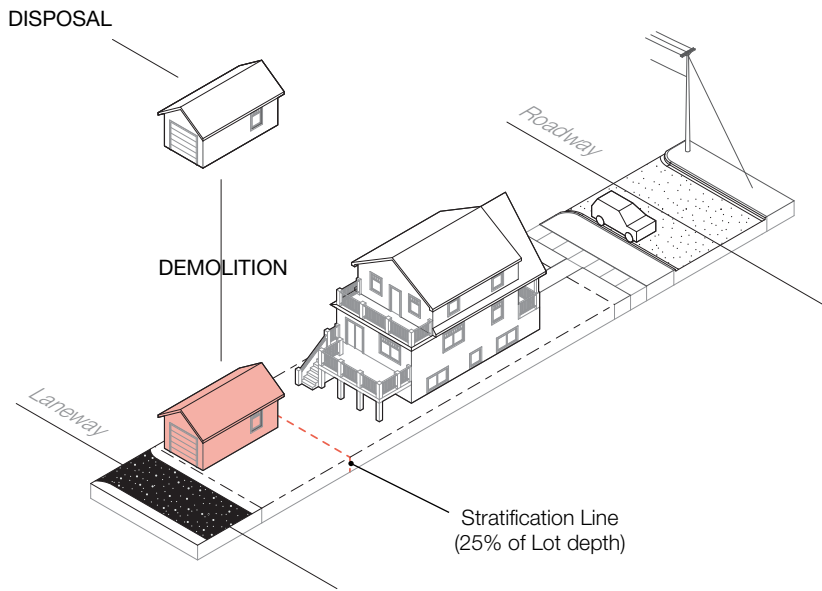


Figure 35 Demolition and disposal of existing detached garage

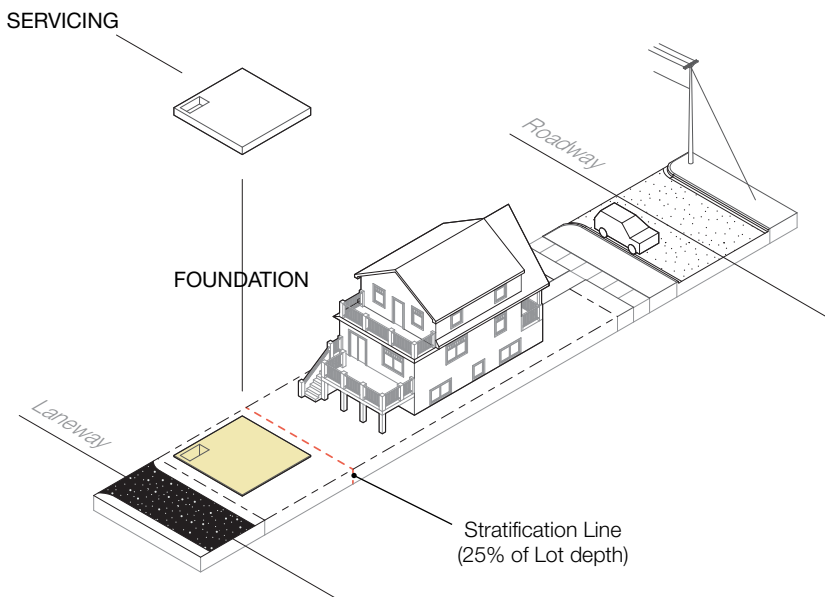


Figure 36 Foundation and site servicing installation

DELIVERY + INSTALLATION

Process

Up until this point, we have only been dealing with permanently fixed features to the site. From the laneway lot to the underground servicing and the foundation itself, these features are considered long term investments into the site and will be referred to as land oriented costs.

The only missing part left is the unit itself, whose costs will be considered separately. In fact, under a Tenant ownership model they will be borne by the Tenant exclusively. These costs will be grouped under the name of housing oriented costs and they will include: the price of the housing unit, delivery, site installation, and any permitting not covered under the site servicing budget.

In order to minimize the amount of time needed to activate the laneway lot as a productive site for affordable housing, the dwelling chosen by the Tenant will be constructed as modular units. Ideally, as the site is purchased, permitting is processed, the site is serviced, and the concrete foundation cures, the housing unit is built in a factory somewhere within proximity of the city.* As such, the on site construction time will be minimized and the project turn around period will be much shorter in comparison to a traditionally built home.

Economics

The table below summarizes the costs associated with the delivery and on site installation of the three different sized housing units proposed. Furthermore, the table will also cover all other permitting costs not included within the Site Servicing Budget.

Table 7 Total Unit Soft Costs**

Item	Studio	1-Bed	2-Bed
Permitting			
Laneway Approval		\$1,920	
Strata Application		\$4,960	
Development Permit	\$611	\$790	\$909
Delivery			
Site Installation	\$1,600	\$3,200	\$4,000
	\$2,250	\$4,500	\$5,400
<hr/>			
Total	\$11,595	\$15,627	\$17,446
Contingency (5/15%)	\$890	\$1,024	\$1,087
Taxes (5/12%)	\$894	\$1,320	\$1,530
Grand Total	\$13,338	\$17,971	\$20,063

* The following pages will highlight the three main types of units being proposed.

** A more detailed breakdown of these costs can be found in the Appendix

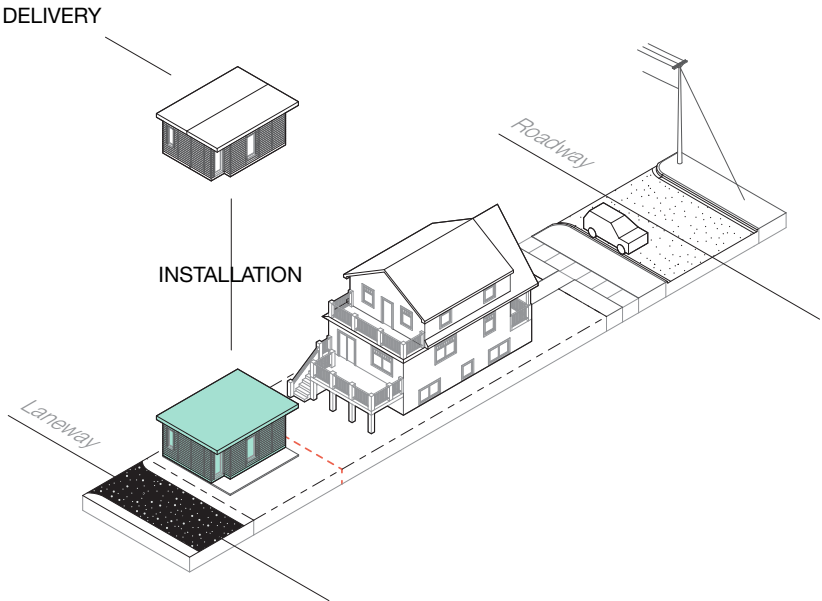


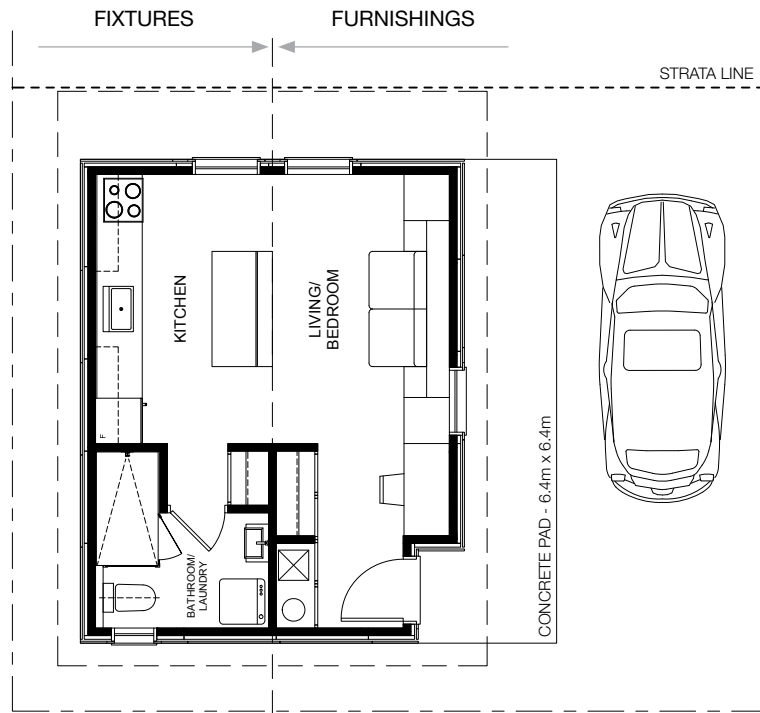
Figure 37 Delivery and Installation of CLT Laneway Housing Unit

UNITS

Figure 38 Main floor plan of proposed STUDIO unit.

The proposal for the exterior walls are standardized 4 foot wide panels built from cross laminated timber complete with exterior insulation and a wood siding finish. Each unit is 2 panels wide by 5 panels long, making it roughly 8'x20' by 9' tall.

The parking spot corresponds to the overall lot but does not belong to any particular unit.



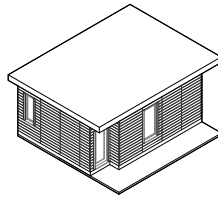
STUDIO - MAIN FLOOR

2 MODULE UNIT - 31.8 sq.m (342 sq.ft.)

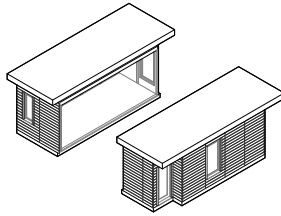
USEABLE AREA - 27.3 sq.m (294 sq.ft.)

Proposal

FINISHED UNIT
STUDIO - 342 ft²



MODULES
fixtures | furnishings



CONCRETE PAD
complete with services hookups

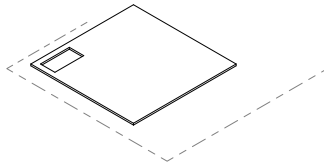
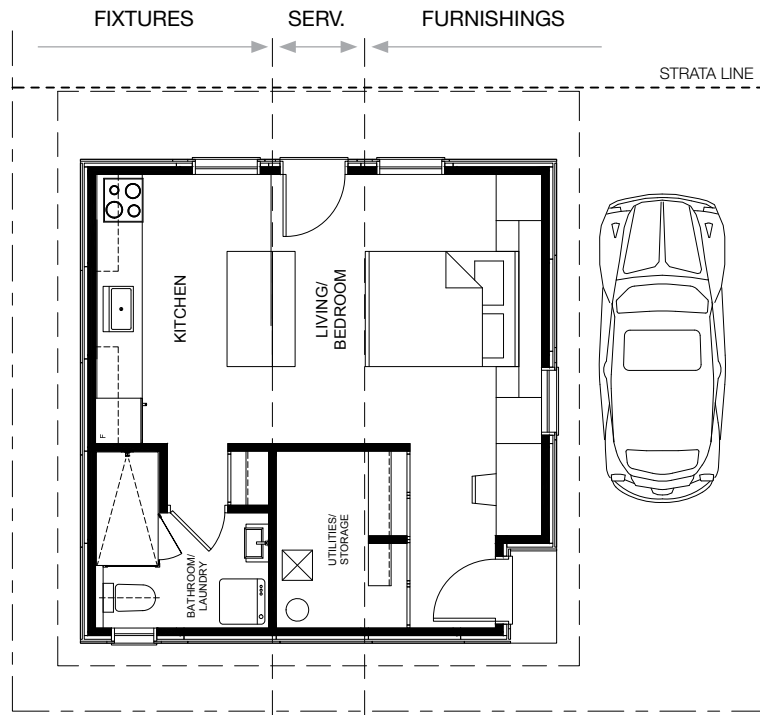


Figure 39 STUDIO unit modules assembly and placement on concrete pad

Each unit is roughly the size of a standard 20' shipping container. As the plan and figure shows, the left side module houses all of the fixtures and sits right over top of the service hookups pit which can be accessed through a bathroom floor hatch. Thus any subsequent units only house furnishings, making for an easy expansion of the house over time.

Figure 40 Main floor plan of proposed STUDIOplus unit.

A middle 4' module has been inserted to expand the living and storage space.



STUDIOplus - MAIN FLOOR

2.5 MODULE UNIT - 39.6 sq.m (426 sq.ft.)

USEABLE AREA - 34.7 sq.m (373 sq.ft.)

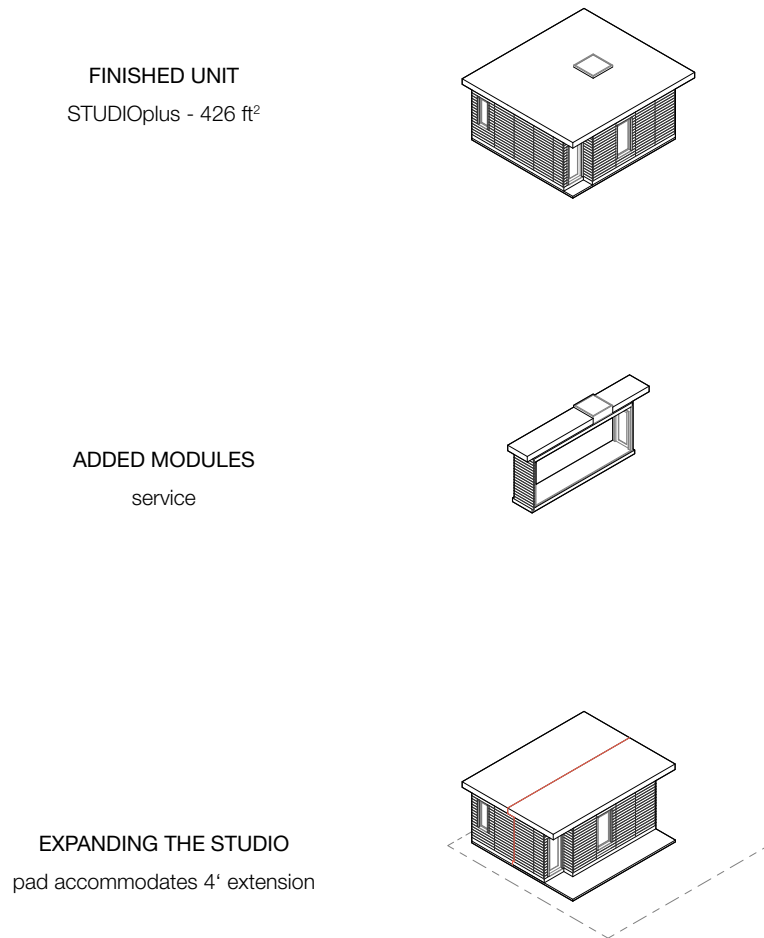
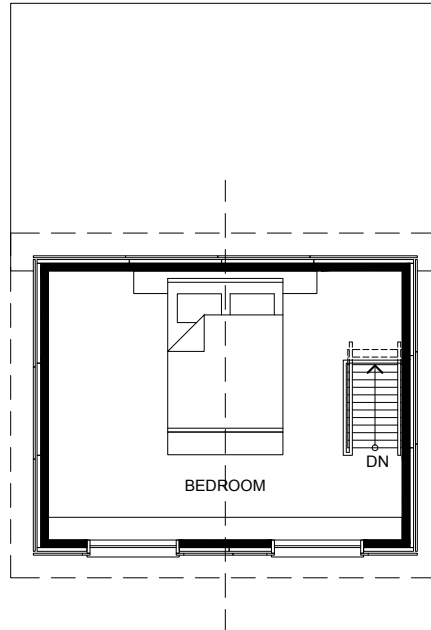


Figure 41 The STUDIOplus unit modules assembly based on a STUDIO upgrade.

The STUDIOplus is not part of the three standard units earlier highlighted, but an example of further diversity that could be provided in terms of housing options.

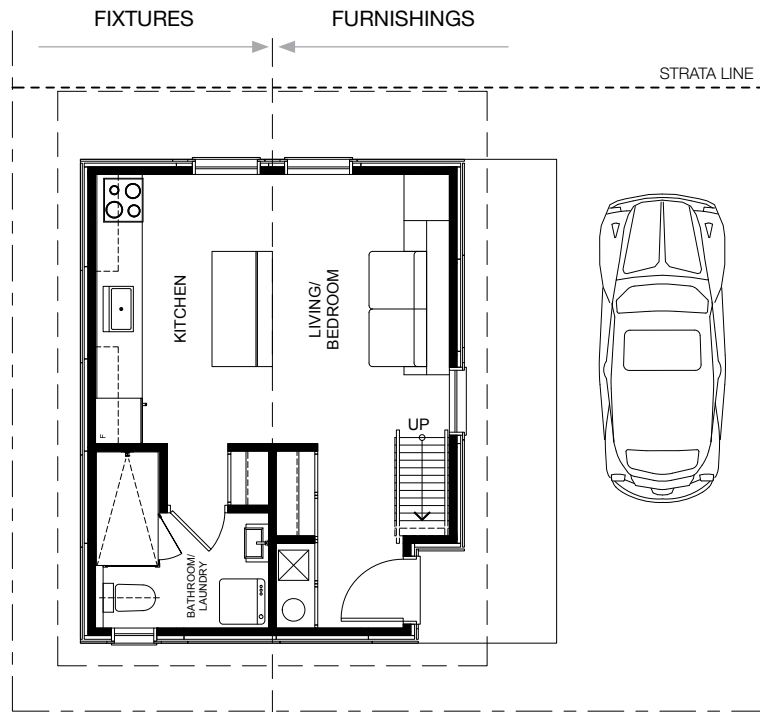
Changing Lanes



1-BEDROOM - SECOND FLOOR

Figure 42 Main and second floor plans of proposed 1-BEDROOM unit.

The upper floor is limited to an area 60% of the main floor by current regulations. As such, the upper floor is comprised of two 8'x12' modules.

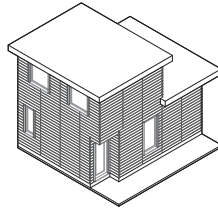


1-BEDROOM - MAIN FLOOR

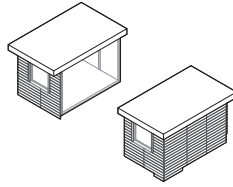
4 MODULE UNIT - 51.9 sq.m (559 sq.ft.)
USEABLE AREA - 44.0 sq.m (474 sq.ft.)

Proposal

FINISHED UNIT
1-BEDROOM - 559 ft²



ADDED MODULES
2nd floor
furnishings



EXPANDING THE STUDIO
second floor addition
roof modules modified

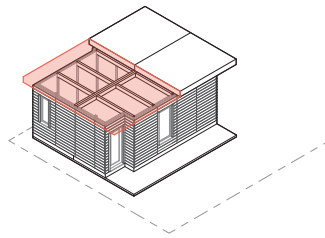
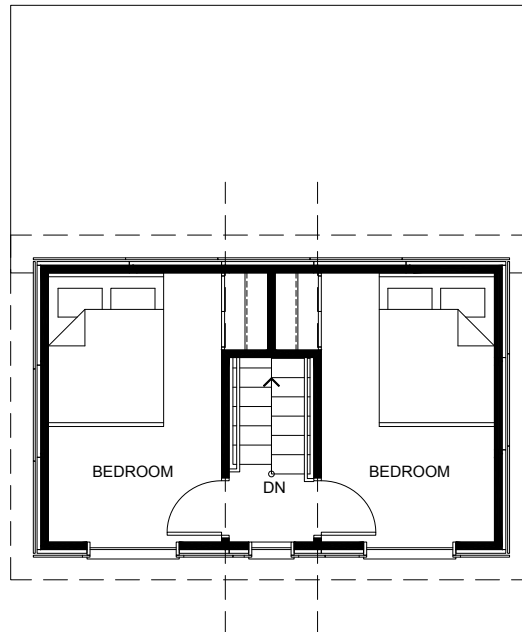


Figure 43 The 1-BEDROOM unit modules assembly based on a STUDIO upgrade.

The STUDIO is expanded by the partial modification of the roof and the addition of two second floor modules.

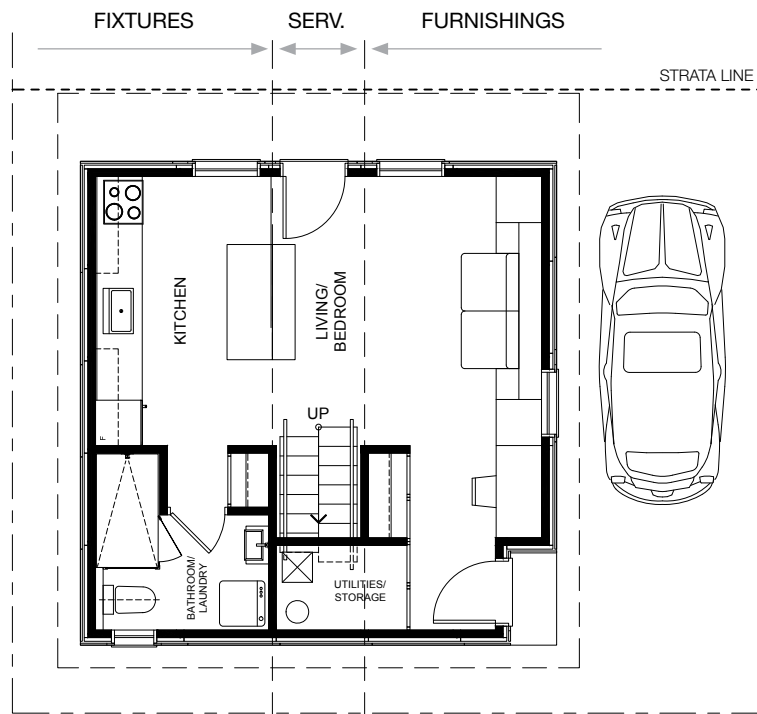
Changing Lanes



2-BEDROOM - SECOND FLOOR

Figure 44 Main and second floor plans of proposed 2-BEDROOM unit.

Following the previous modules, each floor is made up of one 4' wide service module sandwiched by two 8' wide modules.

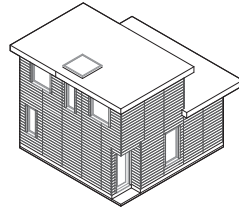


2-BEDROOM - MAIN FLOOR

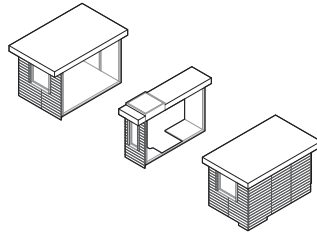
4.5 MODULE UNIT - 64.5 sq.m (695 sq.ft.)
 USEABLE AREA - 55.7 sq.m (599 sq.ft.)

Proposal

FINISHED UNIT
2-BED - 695 ft²



ADDED MODULES
2nd floor
furnishings | service | furnishings



EXPANDING THE STUDIOplus
second floor addition
roof modules modified

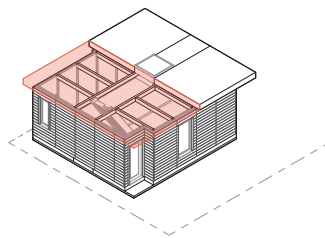


Figure 45 The 2-BEDROOM unit modules assembly based on a STUDIOplus upgrade.

The STUDIOplus is expanded by the partial modification of the roof and the addition of 2.5 second floor modules. A staircase is inserted within the middle service module while taking over part of the storage space present in the STUDIOplus unit.

PROPOSAL ECONOMICS

This chapter will focus on bringing together all of the pieces that have thus far been presented. First, it will select and discuss a number of financial options available to fund both the land and housing oriented costs. Secondly, it will explore the physical manifestation of the proposal within a specific location of Vancouver. Finally, the immediate and then further ramifying consequences of the proposal will mark the closing arguments.

Land oriented costs

As we have just seen, the land oriented costs can be divided into two subparts: one is the site servicing cost, while the second and much bigger portion is the land cost. Given the financial commitments observed with the creation of the 358 affordable units by the current Vancouver CLT, it is reasonable to assume that private investment could cover the site servicing costs. Here, we could assume a bond type investment with an interest rate of 6% for a period of 10 years.¹ Levels of funding exceeding the cost of site servicing could be diverted towards land costs, while if funding falls short, the difference could be covered by grants, private donations, or governmental support.²

As with the budget of the Vancouver CLT, part of the funds came from government grants or equity investments by other non-profit organizations. While it is tough to predict these types of financial sources, I will assume similar levels to those experienced by the Vancouver CLT.

When it comes to the biggest chunk of capital investment needed, as in the purchasing of land,

there are three strategies that I will consider.³ The first strategy involves the setup of a private Housing Bond similar to that observed with the Toronto Community Housing Corporation (TCHC). As you may remember, the TCHC was able to raise \$450 million worth of bonds with a maturity of 30 years. This strategy could work for the financing of land purchase, but would require governmental subsidy for the annual bond coupon payouts.⁴ The advantage with this option is that government would not have to front the \$300,000 per unit needed for land purchase – the private market bond would do this instead. The second strategy is somewhat comparable to the first in that similar levels of subsidy are needed from the government. Under this strategy, the government would be the main lender of the initial investment for land purchase. Much like the construction loan made out to the current Vancouver CLT (low interest (2.2%) 35-50 year payback period)⁵, this proposal could benefit from a similar type of investment. With either of these strategies, from the CLTs point of view, the advantage is that it gets the title of the land in perpetuity.

This brings us to the third and final strategy where land is held by the city and then leased out much like the existing deal the Vancouver CLT has secured. Under this strategy, the newly formed Affordable Housing Endowment Fund could be called upon to purchase the land needed by this proposal. Public sources of income from all levels of government could be pooled together in order to fund stratified laneway lots in East

¹ Davis, 2015

² Although I will be delineating investment sources and the costs they may cover, in reality funds are much more likely to be pooled and then diverted according to needs.

³ I will assume that the entirety of the average \$300,000 per unit needed to purchase land will be financing via the discussed strategy.

⁴ An annual 3% bond coupon over 30 years would necessitate almost \$200,000 (2018 dollars) per unit in government subsidy.

⁵ Flanigan, 2016

Side Vancouver.⁶ The disadvantage with this last strategy for the CLT is that it does not hold title to the land in perpetuity. This means that the CLT must now share part of the decision making and long term revenue with the city, while also rely on a constant renewal of the lease agreement upon the laneway properties.

Housing Oriented Costs

Given that the proposal argues for home ownership, the entirety of the housing oriented costs would need to be borne by the selected CLT Tenant. As seen in the next page 'Ownership Breakdown' table, the development of a laneway unit would include both hard and soft costs, which are estimated to be financed at 75% and 50% respectively⁷ by a lender such as Vancity. This leads to a sizeable down payment that would need to be covered by each applying household upon joining of the CLT. Although the CLT does not contribute any direct capital towards the housing oriented costs under this scenario, its role within this process will be to ensure Tenant solvency in both the short and long run. In the short term, the CLT needs to make sure a given household will not require more than 30% of their income to cover housing costs.⁸ In the long term, the CLT's role is to advise households on how to protect and leverage their equity, whether to relocate or grow in place, potential risks, and assist in case of foreclosure

6 Funding could be sourced from the following streams: Affordable Housing Endowment Fund (includes funds from capital budget, community amenity contributions, development levies, empty home tax and current Property Endowment Fund lessors – adds up to about \$200 million annually), National Housing Co-Investment Fund (makes available \$5.19 billion in loans and \$2.26 billion in capital contributions nationwide), and Affordable Housing Innovation Fund (makes available \$200 million over 5 years). Other potential capital could be sourced from speculators (such as the Foreign Home Buyer's Tax which might already fund some of the programs just mentioned and the earlier suggested capital gains tax which could create \$300 million annually from property sales within BC)

7 Here I have assumed lower than average loan coverages in order to reduce overall monthly payments.

8 This includes loan payments that the household might take on to cover the initial down payment.

amongst other things.⁹

While I am a strong supporter of bringing an affordable ownership model to the bottom half earners of Vancouver, under my proposal, I believe that rental could also have its place. The defining features that separate my proposal from that of the current Vancouver CLT are the community driven aspects of land and dwelling acquisition plus the density and location of these interventions. The current Vancouver CLT focuses on high density housing while employing a top-down governance structure. My proposal suggests the more classical grassroots approach in terms of governance while focusing on community driven development so that people are given the opportunity to change the city more after their heart's desire.

Of course, if someone was to rent under my proposed model they would benefit from the same grassroots community driven housing. As such, rental could have its place within this model without compromising much of the original intent to empower low to middle income households within the city. However, there are two aspects of rental that do need to be mentioned: (1) A negative for the tenant in that they do not accrue home equity, and (2) A positive for the CLT since revenue from rental is higher in the long run.¹⁰

Looking at the Ownership Breakdown and Rental Breakdown table to follow, a few differences can be observed. From a budgetary point of view, under a rental model the CLT would now have to cover the initial construction costs associated with the housing unit. The financing for these costs could be backed by government

9 The Burlington CLT has shown that if a CLT maintains an invested supporting relationship with its tenants, foreclosure is rare and can even be overcome with the help of the CLT. Davis and Stokes, 2009

10 Owners only contribute a small profit for the CLT through their lease contribution. Renters on the other hand contribute almost no profit while the housing unit has a mortgage, but after the unit is paid off the majority of the rent is pure profit for the CLT. Hence in the long run rental brings in more revenue for the CLT at the expense of bearing the unit replacement costs. (assuming similar unit lifetimes)

Changing Lanes

Table 8 Ownership Breakdown (2018 dollars)*

Item	Studio	1-Bed	2-Bed
Unit Size - m ² (sf)	32 (350)	52 (560)	65 (700)
Expected share of units	20%	40%	40%
Unit Cost			
Hard Costs	\$56,453	\$90,325	\$112,907
Soft Costs	\$13,338	\$17,971	\$20,063
Total	\$69,791	\$108,296	\$132,970
Downpayment	\$20,782	\$31,567	\$38,258
Financed Amount	\$49,009	\$76,729	\$94,712
Monthly Mortgage	\$496	\$777	\$959
CLT Monthly Fees			
Property Tax		\$70	
CLT Operation		\$225	
Maintenance Fees	\$123	\$196	\$245
Adjustment	-\$29	\$248	\$575
Total Fees	\$389	\$739	\$1,115
Total Monthly Payments	\$885	\$1,516	\$2,074
Income Required	\$35,380	\$60,640	\$82,960
Household Size	1 pers.	2x 1 pers.	2+ pers
Area Median Income	\$33,681	\$67,362	\$92,214
Percent of AMI	105%	90%	90%
Market Comparison			
Unit Type	Studio	1-Bed	2-Bed
Median Housing Costs	\$2,456	\$2,890	\$4,021
Est. Downpayment	\$40,750	\$48,200	\$67,600
Proposal vs. Market			
% of Mrkt. Housing Costs	36%	53%	52%
% of Mrkt. Downpayment	51%	65%	57%

Table 9 Rental Breakdown (2018 dollars)*

Item	Studio	1-Bed	2-Bed
Unit Size - m ² (sf)	32 (350)	52 (560)	65 (700)
Expected share of units	20%	40%	40%
Unit Cost - Payed by CLT			
Hard Costs	\$56,453	\$90,325	\$112,907
Soft Costs	\$13,338	\$17,971	\$20,063
Total	\$69,791	\$108,296	\$132,970
CLT Down Payment	\$17,448	\$27,074	\$33,242
Financed Amount	\$49,009	\$76,729	\$94,712
Monthly CLT Mortgage	\$493	\$766	\$940
CLT Monthly Fees			
Property Tax		\$70	
CLT Operation		\$225	
Maintenance Fees	\$123	\$196	\$245
Adjustment	-\$153	-\$45	\$179
Total Fees	\$265	\$446	\$719
Total Tenant Payments	\$758	\$1,212	\$1,659
Income Required	\$30,300	\$48,480	\$66,360
Household Size	1 pers.	2x 1 pers.	2+ pers
Area Median Income	\$33,681	\$67,362	\$92,214
Percent of AMI	90%	72%	72%
Market Comparison			
Unit Type	Studio	1-Bed	2-Bed
Med. Rent - All Units	\$1,194	\$1,221	\$1,666
Med. Rent - New Units**	\$1,458	\$1,539	\$2,108
Proposal vs. Market			
% of Mrkt. Rent - All Units	63%	99%	100%
% of Mrkt. Rent - New	52%	79%	79%

** These numbers can be observed to be much greater than the 'All Units' average due to: (1) the units are newer and therefore more desirable, and (2) Apartments just coming out for rent are not restricted as to what rate they come out onto the market with, only how much they can increase year over year for the same tenant.

* A detailed explanation of these numbers can be found in the Appendix

programs such as the aforementioned CMHC **Rental Construction Financing** low-interest and forgivable loans. In comparison to an expected 4.0% market interest rate from a lender such as Vancity, the rental model could benefit from a significantly lower government program rate of 2.5%.¹¹ Additionally, while under the ownership model the down payment is expected to be roughly 30% of Housing Oriented Costs, government loans could cover up to 100% of construction costs.¹²

Moving down the table, the 'Adjustment'¹³ rate under the 'CLT Monthly Fees' heading sits at a weighted average of +\$23 under Rental and +\$323 under Ownership. The \$300 dollar difference is a premium Owners have to pay in order to ensure the CLT can repay any outstanding long term loans.¹⁴ These numbers then translate into the overall affordability of each unit type under the two different tenure options. Averaging the three different unit sizes¹⁵, Rental necessitates a household income of \$52,000 which represents an overall affordability of 76% of the AMI. Given the Ownership model's premium, the overall affordability rates are slightly worse off, sitting at 93% of AMI or necessitating a household income of \$64,500. While the overall ownership affordability rates may seem a bit underwhelming, comparing the current market's expectations with the proposal shows an over 40% reduction in costs for both down payments and monthly mortgages.

¹¹ Flanigan, 2016

¹² Ibid. One Construction Financing tool was listed as providing up to 100% financing at a rate equivalent to the treasury rate + 1/16%. In September of 2016 this meant an interest rate of 1.15%

¹³ The purpose of this rate is to create a subsidy system within the CLT by having higher income individuals carry a bigger proportion of the financial burden needed to support the proposal. Furthermore, the CLT uses this fee to repay long term loans or expand its operation.

¹⁴ Rental Tenants do not have to pay this premium since they will be paying rent for the life of the building; long after its cost has been paid off.

¹⁵ The average is weighted as per the share each unit has within the proposal (20% Studio, 40% 1-Bed, and 40% 2-Bed)

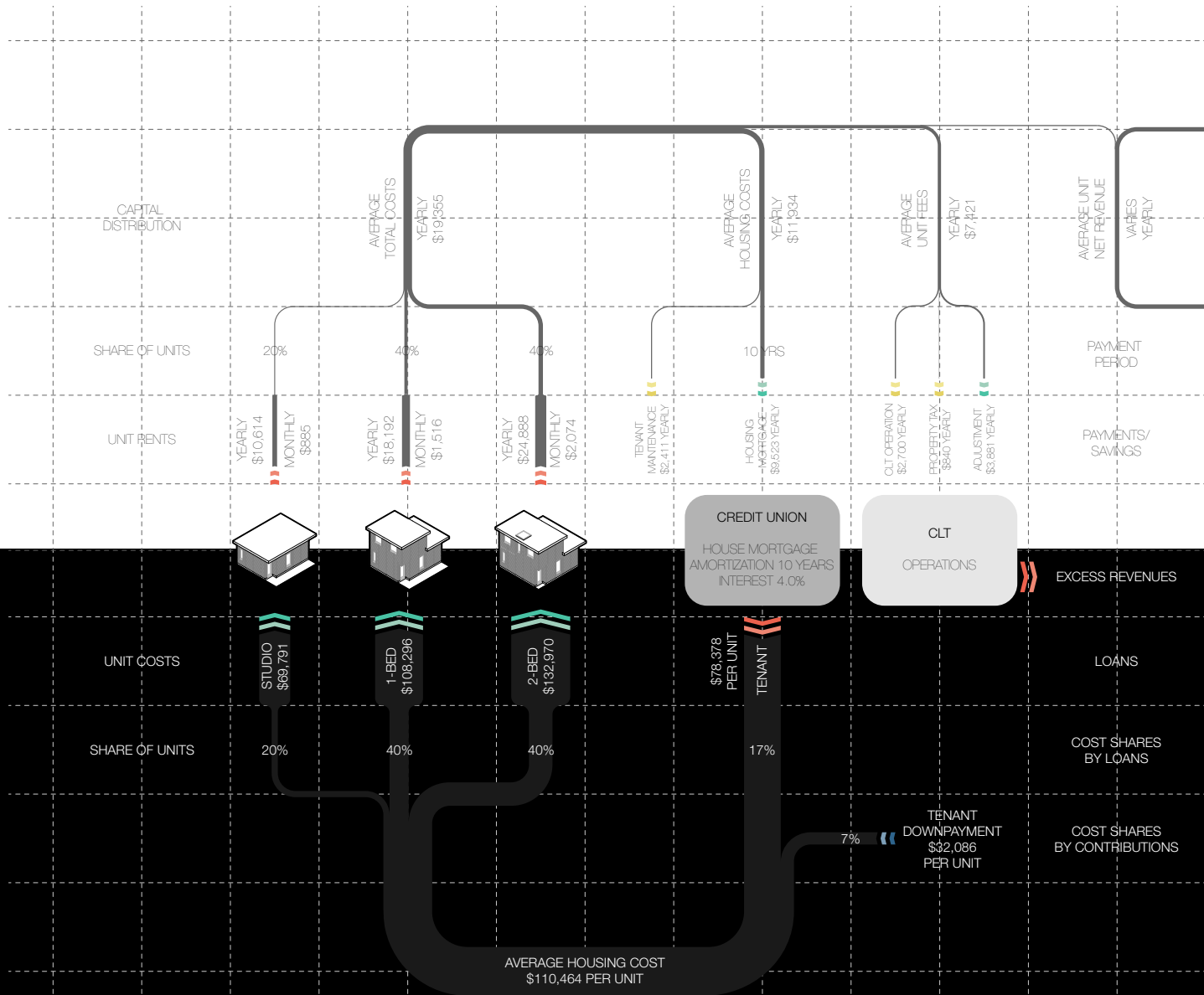
Similarly, comparing the rental model to the market reveals something important with respect to the types of tenants that may be attracted to the units created by this proposal. As the last few rows in the 'Rental Breakdown' table show, there is a significant difference between rent levels across all units and only newly built ones.¹⁶ The numbers show that this proposal may not be attractive to a local that has been renting the same apartment for a few years. However, for someone just looking to start renting, this proposal is expected to charge only 73% of what the market does.

One last significant point that I would like to touch upon is the difference in unit sizes between my proposal and the market. Sitting at 350/560/700 sf, my proposed units are estimated to be at least 100sf below market averages for equivalent unit types. While there are obvious advantages in terms of overall price for smaller units and disadvantages in terms of reduced space, I perceive it as a net incentive for both unit growth and tenant turn over. Although difficult to judge at this point, some tenants may perceive the proposal as too good an alternative within Vancouver's housing market to move out of even as their lives change. Therefore, I believe that the reduced size of the units will either promote growing in place via unit expansion or encourage tenants to leverage their accumulated equity by moving and hence freeing up space within the CLT for more people to benefit from this proposal.

Having discussed the various land & housing oriented costs, funding options & sources, and presented both an ownership & rental model, the following diagram is a representation of one of many plausible combined CLT operational & capital budgets. For more details, annual financial budget breakdowns can be found in the Appendix for both options.

¹⁶ In part due to no limit set on rental rates for new units. While annual rental increases a landlord may make are limited when it comes to a tenant, rental increases in-between tenants or for new units are not policed. Therefore new renters tend to encounter much higher rents than someone that has been renting the same unit for 5+ years for example.

Changing Lanes



Notes:

Start-up Phase - represents the initial investments to be made in the purchasing of the lot, its servicing, and the purchase of the laneway home

Operational Phase - represents the month to month loan and fee payments created as a result of the agreements made during the **Start-up Phase** and affordability limit goals set out by the CLT.

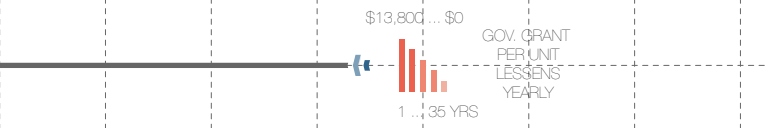
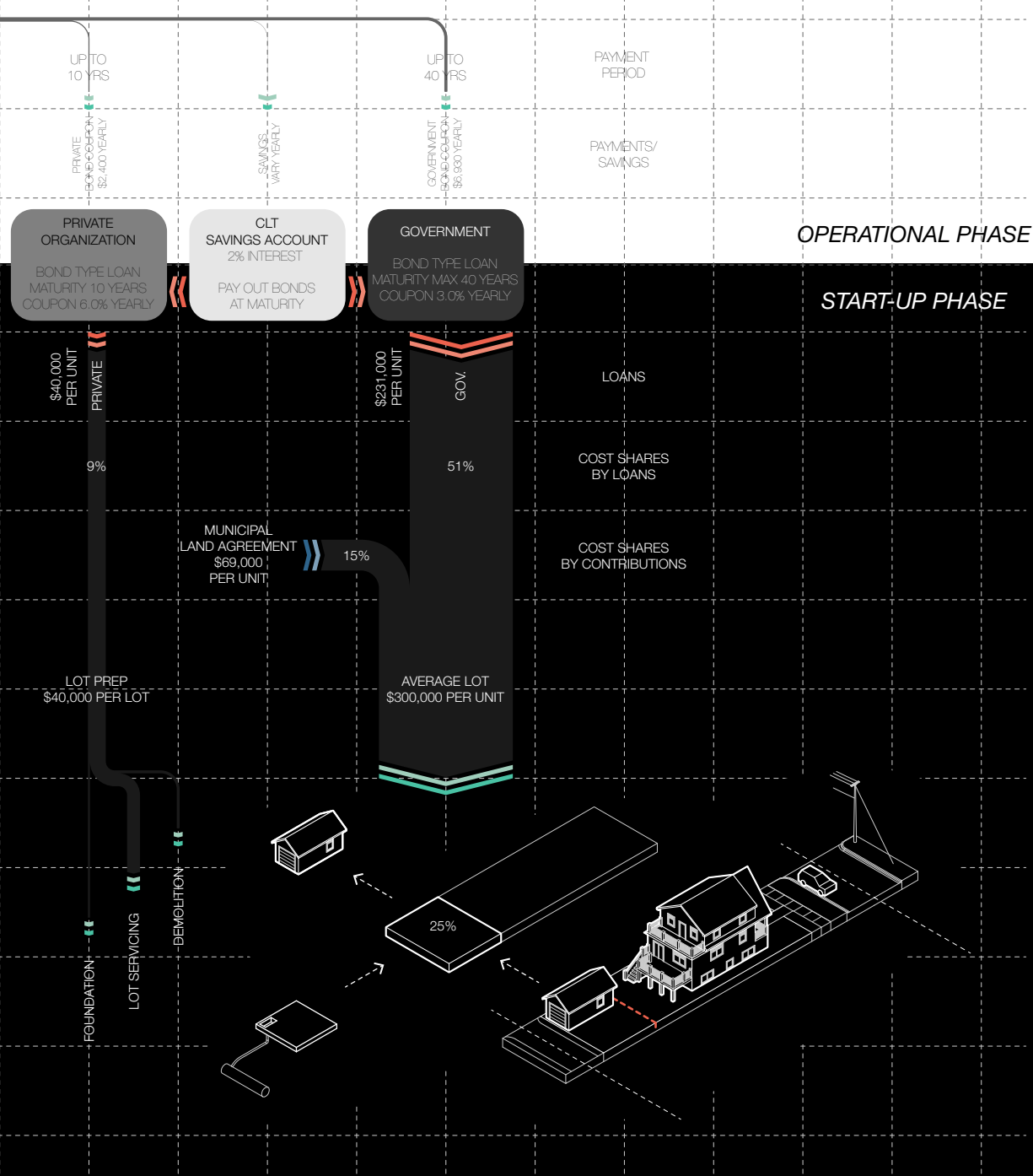
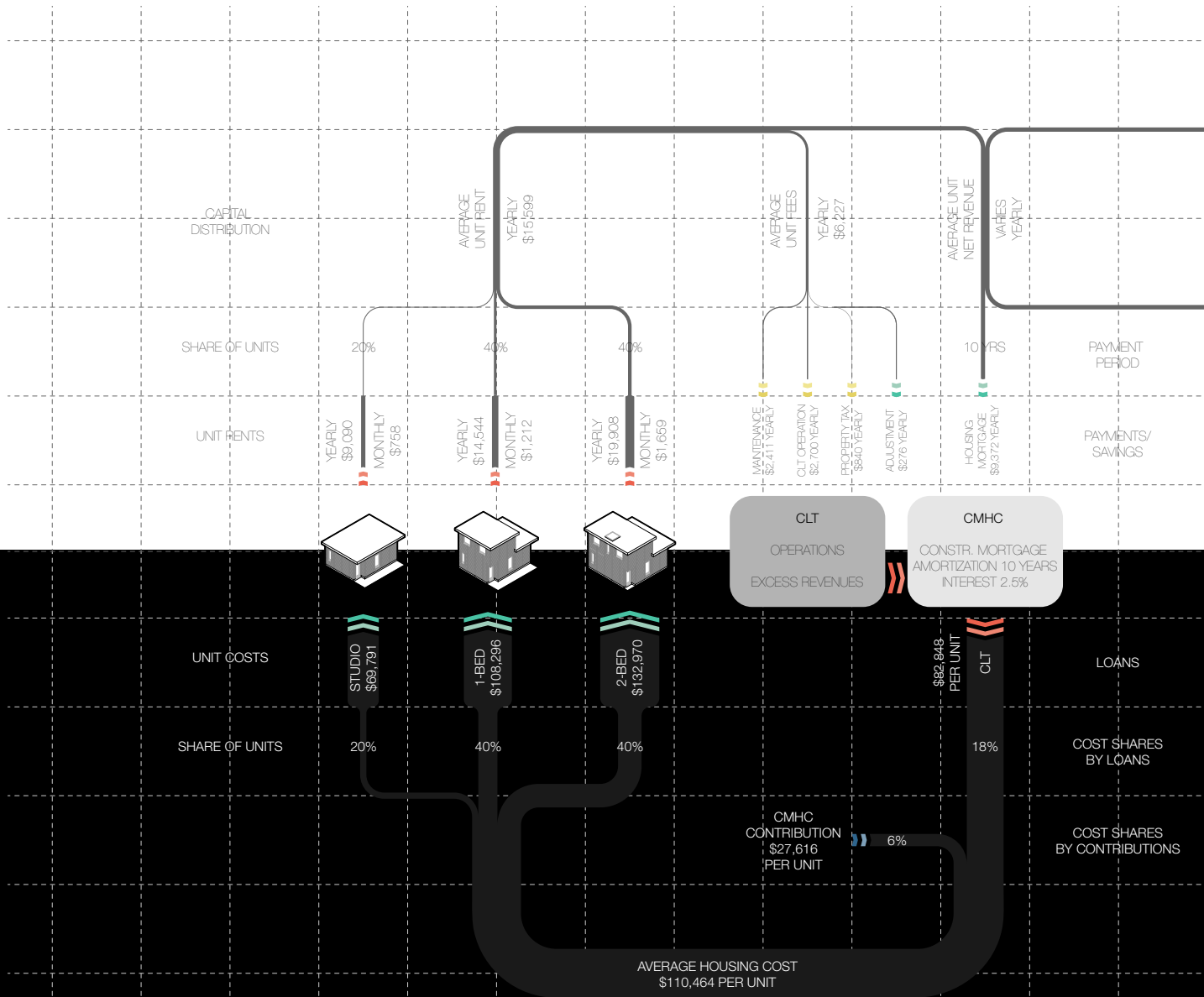


Figure 46 A visual representation of a plausible combined CLT operational & capital budget based on a home Ownership Model only



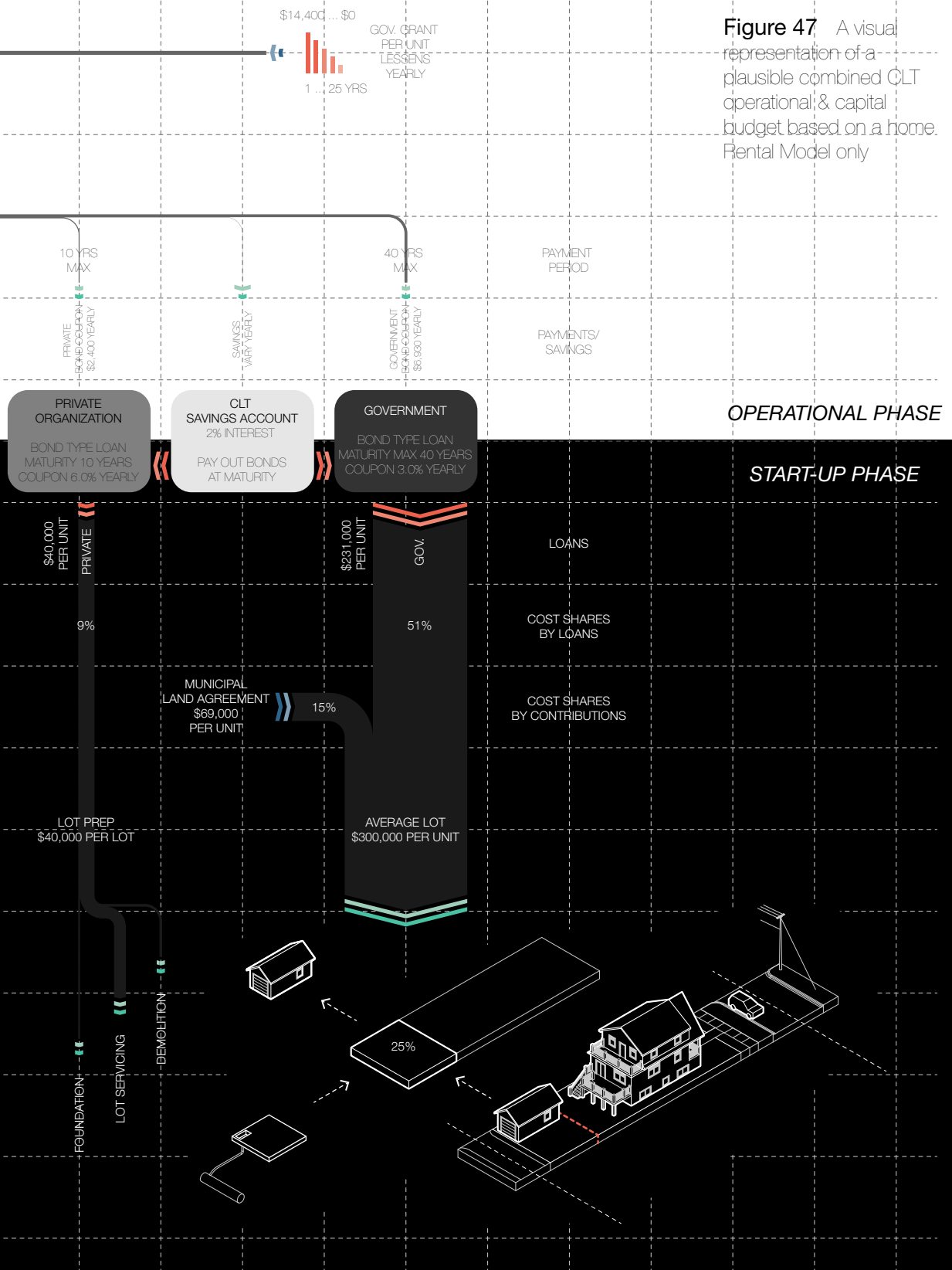
Changing Lanes

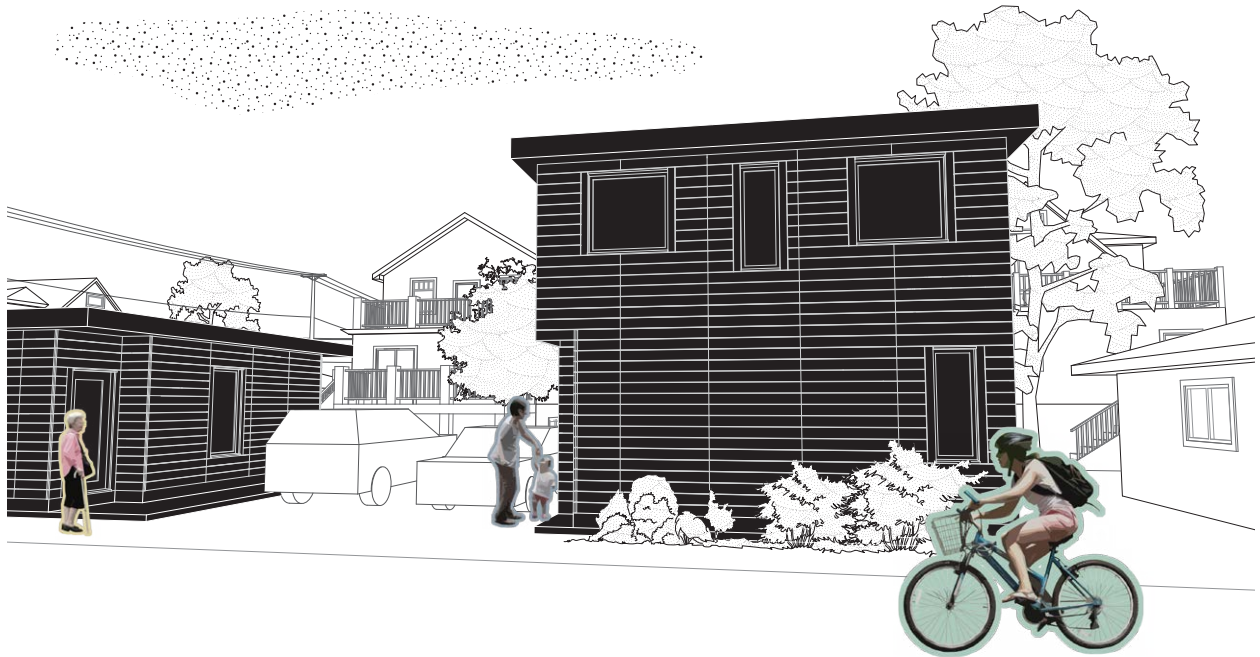


Notes:

Start-up Phase - represents the initial investments to be made in the purchasing of the lot, its servicing, and the purchase of the laneway home

Operational Phase - represents the month to month loan and fee payments created as a result of the agreements made during the **Start-up Phase** and affordability limit goals set out by the CLT.





PROPOSAL IMPLEMENTATION

CITY SCALE

Thus far, the analysis of the roughly 60,000 LWH lots across the City of Vancouver has culled that list down to the cheapest 25% situated within East Side Vancouver. This led to a number of roughly 10,000 lots of which nearly 8,000 are situated within three neighborhoods. As such, the neighborhoods of Hastings Sunrise, Renfrew Collingwood, and Kensington Cedar Cottage were selected as the site of the proposal.

While there are many areas within these three neighborhoods with a high concentration of eligible laneway lots for development, we will be focusing on a location near a public transit station. More specifically, the site of this proposal has been selected near the Nanaimo Station of the SkyTrain Expo Line, and can be seen circled in the adjacent figure.

(Previous Page):

Figure 48 2-Bed unit external view looking across laneway

CHEAPEST 25% OF EAST SIDE VANCOUVER LANEWAY LOTS

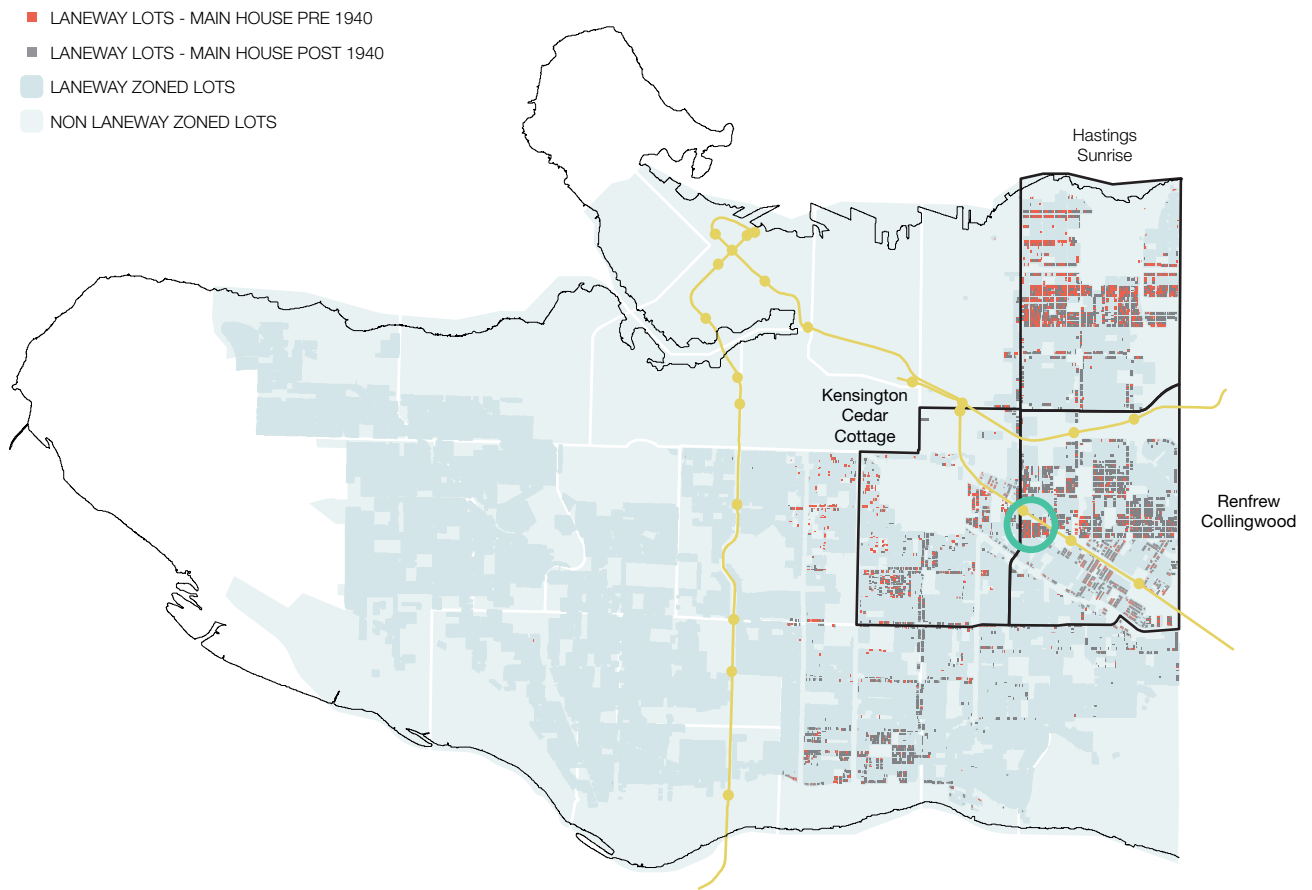


Figure 49 City scale map of laneway lots affordable for development under proposal.

The teal circle marks the area to be further studied

NEIGHBORHOOD SCALE

The adjacent figure represents a more detailed illustration of the area encircled on the previous page. The focus of the figure is a relatively small seven and half block neighborhood situated between the aforementioned SkyTrain line, the Kingsway thoroughfare, and just east of the north-south running Nanaimo Street. As the figure shows, the central blocks are mostly comprised of relatively affordable LWH zoned lots. In total, the 7.5 blocks hold 200 residential lots of which 136 are post war, 49 prewar, and 15 considered unaffordable for the purposes of this proposal.

Studying the neighborhood more closely, the following table shows that on average 65% of lots can be developed*, while to date only 3% have been.

Table 10 Proposed Neighborhood Laneway Lot Breakdown

	Pre War	Post War	Unaffordable
Number of Properties	49	136	15
LWH Compatible Lots			
Number	35	85	--
Percent	71%	62%	--
LWH Developed to Date			
Number	1	5	--
Percent	2%	4%	--

* This value is based on a Google Maps + Street View imagery study and CAD drawings of the neighborhood. The information was used to estimate whether there is enough room on each site for the development of a LWH.

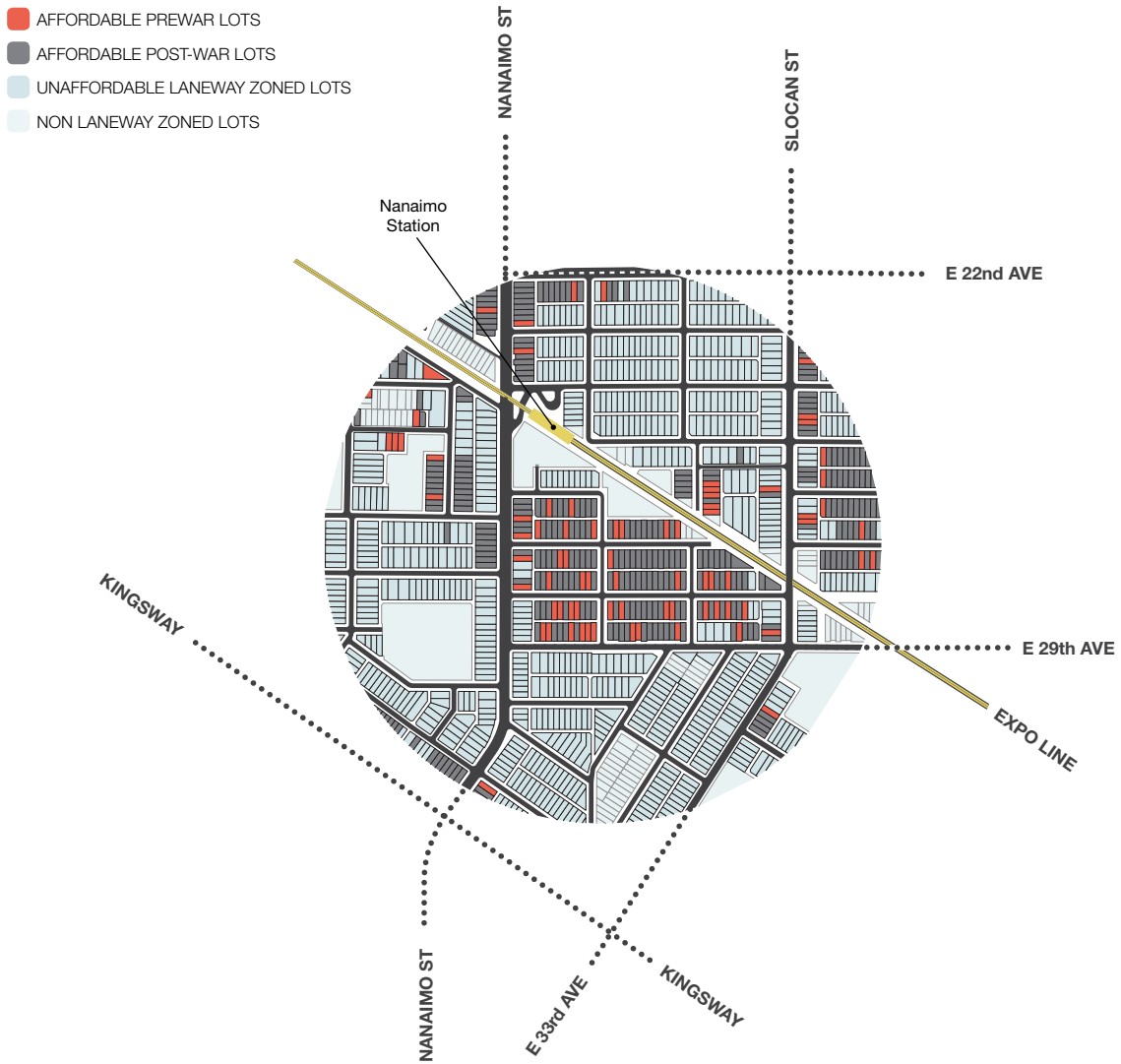


Figure 50 Mapping of affordable laneway lots at neighborhood scale

Proposal focuses in on the 7.5 blocks highly populated by affordable LWH eligible lots near Nanaimo Station.

BLOCK SCALE

The block singled out by the adjacent figure has been selected as the site to be addressed by the proposal due to its combination of a number of features. First, the laneway is T-shaped which means that it divides the block into a more typically seen longitudinal cut on the east side and a latitudinal cut on the west side with lots facing Nanaimo Street. What this leads to is a scenario in which we could expect higher density development along the main street, while lower along arterial streets. This expectation is then further exacerbated by the fact that the block is located within close proximity to a SkyTrain station. Finally, the block contains both affordable (prewar & post-war) and unaffordable LWH eligible lots which can potential show future interactions between stratified and non-stratified LWH lots.

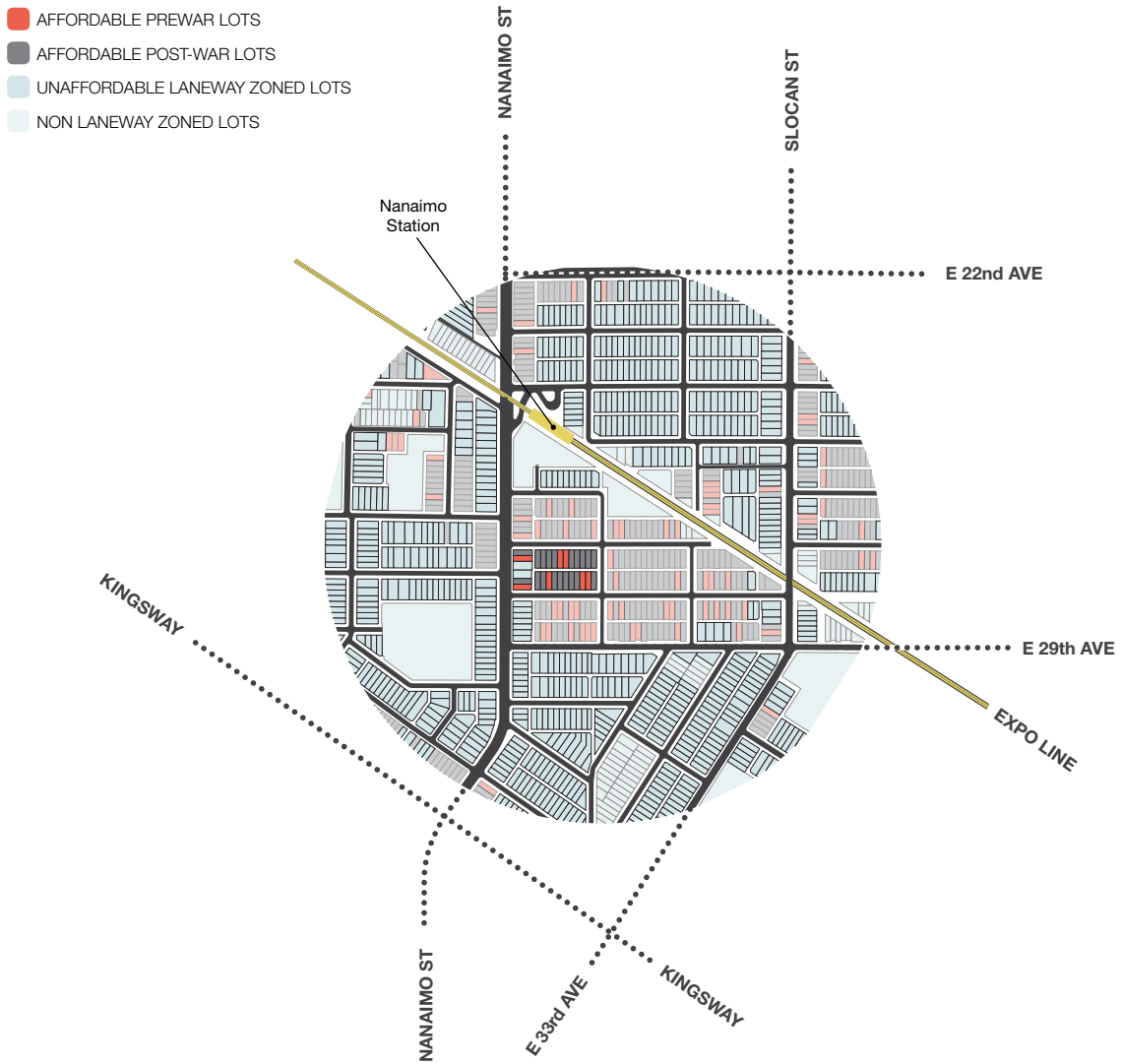
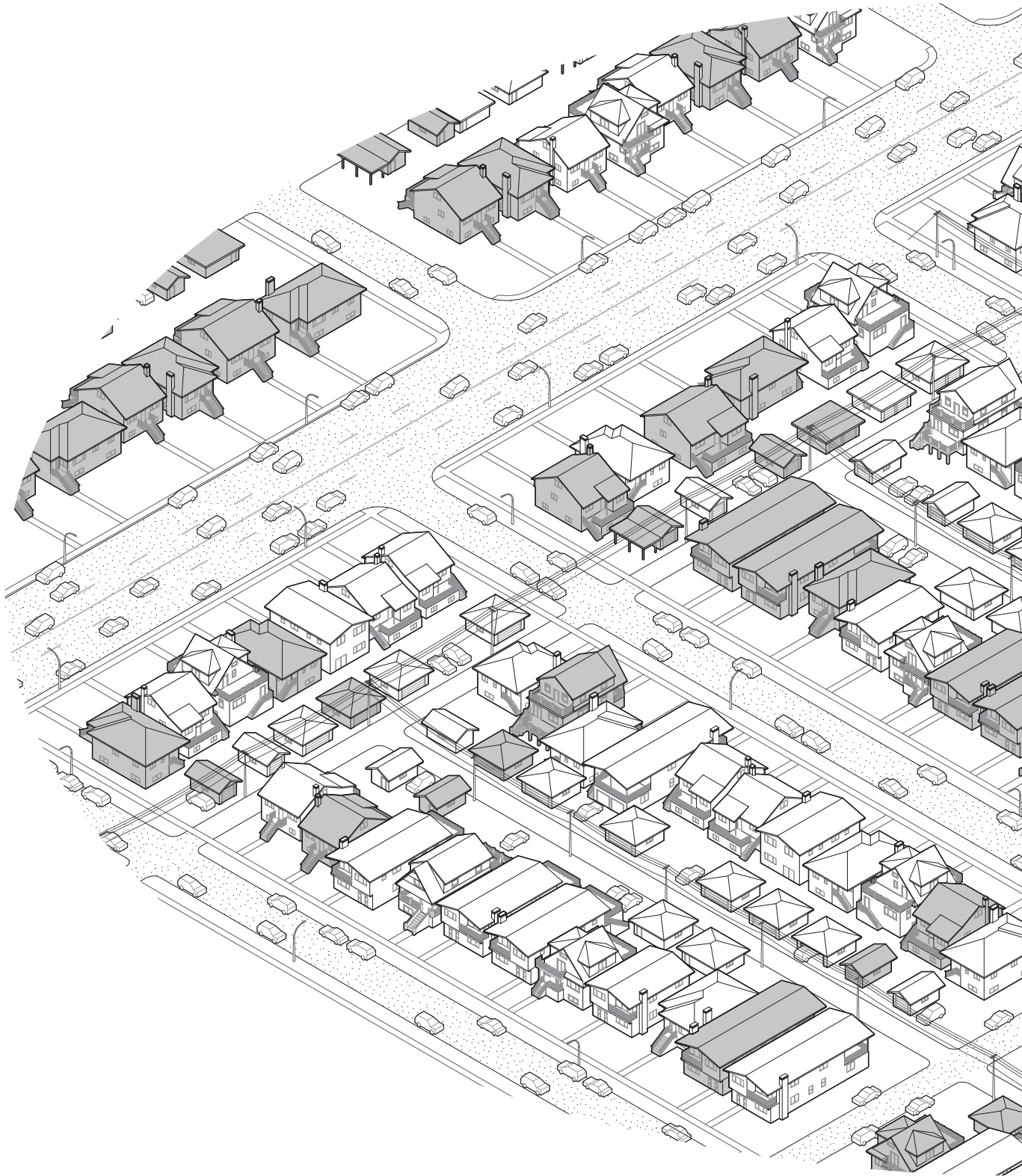


Figure 51 Mapping of block selected for the final proposal

CURRENT CONDITIONS



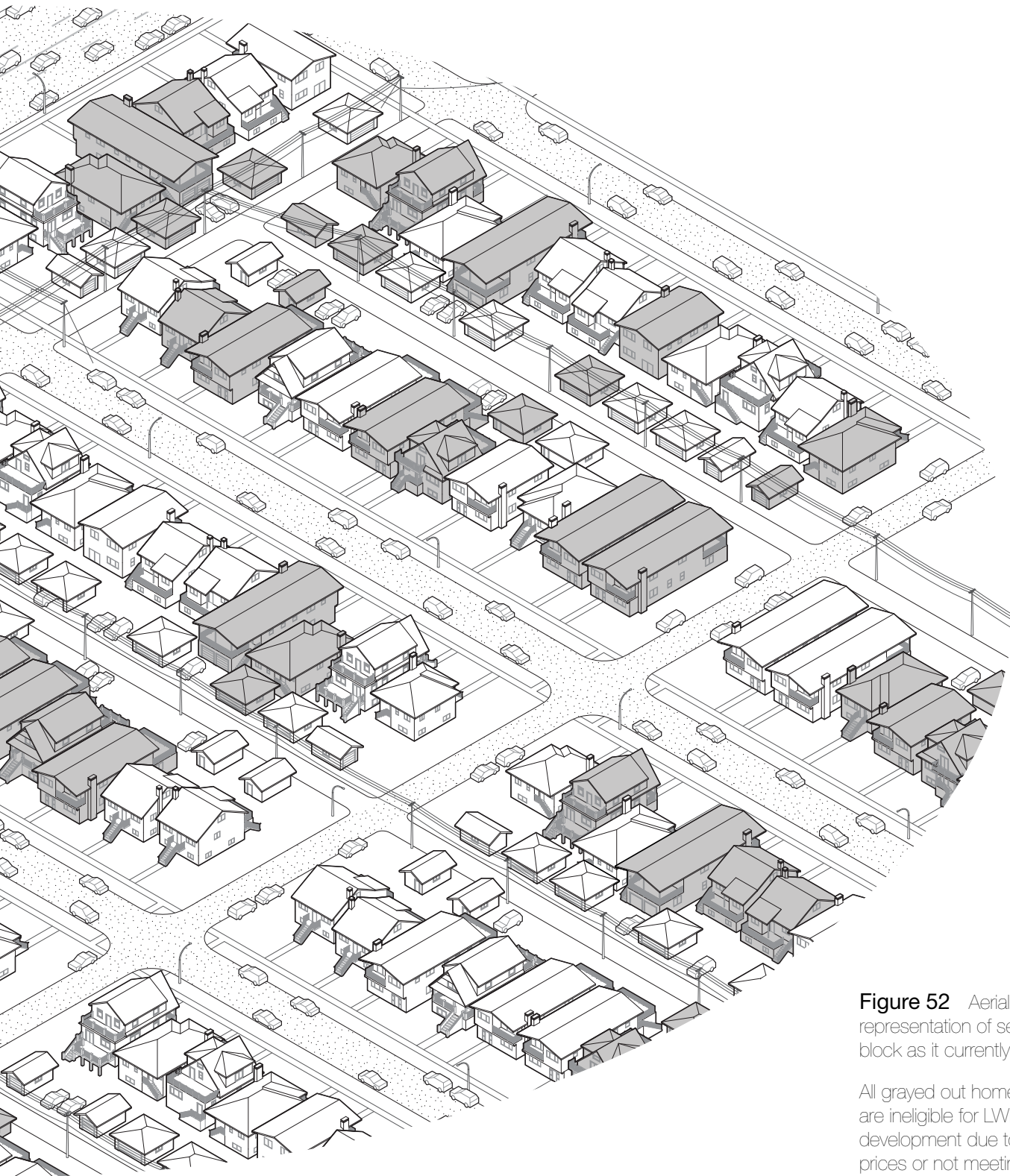


Figure 52 Aerial representation of selected block as it currently exists.

All grayed out homes are ineligible for LWH development due to high prices or not meeting setback limitations.

INDIVIDUAL ADDITIONS

Process

As previously discussed, this proposal sees the following as the preferred strategy for individual LWH additions to a given lot:

1. An application is submitted to the CLT by a given household. (qualifying criteria include: household earns below area median income, household currently rents and no individual has owned property within the last three years)
2. The CLT accepts households on a case by case basis given the current state of their portfolio
3. The CLT coordinates the purchasing, development application, stratification, cleaning, and servicing of a laneway lot, plus the construction of a prefabricated housing unit based on the preferences and financial abilities of the household in question. All tasks are to be coordination in order to minimize both the vacancy period of the lot as well as waiting time of the household before move in.
4. Household moves in, which triggers the start of rental or mortgage + lease payments.

Potential Tenant

A 25 year old working in the restaurant industry making an annual income of \$40,000.

Being single while still living at home, this individual's parents are able to help their daughter move out on her own by contributing up to \$50,000 towards a down payment. While looking for apartments in the area, a studio unit down payment of 10% works out to roughly \$40,000 which is within the budget that her parents gave her. However, monthly housing costs for such a unit would run around \$2,450* a month which represents over 70% of her annual income. If she were to rent instead, monthly studio rates for a relatively new unit would be expected to run around \$1,450**, or just over 40% of her annual income. Clearly, she cannot afford to either purchase an apartment or rent within the neighborhood while spending no more than 30% of her annual income on housing.

Under my proposition, this individual would qualify for either the rental of a STUDIOplus or the purchase of a STUDIO unit on any available laneway lot. Under the ownership option, the down payment would be roughly \$21,000 plus monthly payments of \$1,000 (30% of income). Conversely, the rental option would have the same monthly charge but allow for a slightly bigger unit and no down payment.

* *City of Vancouver, Housing Vancouver Strategy: Annual Progress Report and Data Book 2018 (Vancouver, BC: City of Vancouver,[2018a]).*

** *CMHC, Rental Market Report - Vancouver CMA 2018 (Vancouver: Canada Mortgage and Housing Corporation,[2018]).*

INDIVIDUAL ADDITIONS
SELF COMMISSIONED

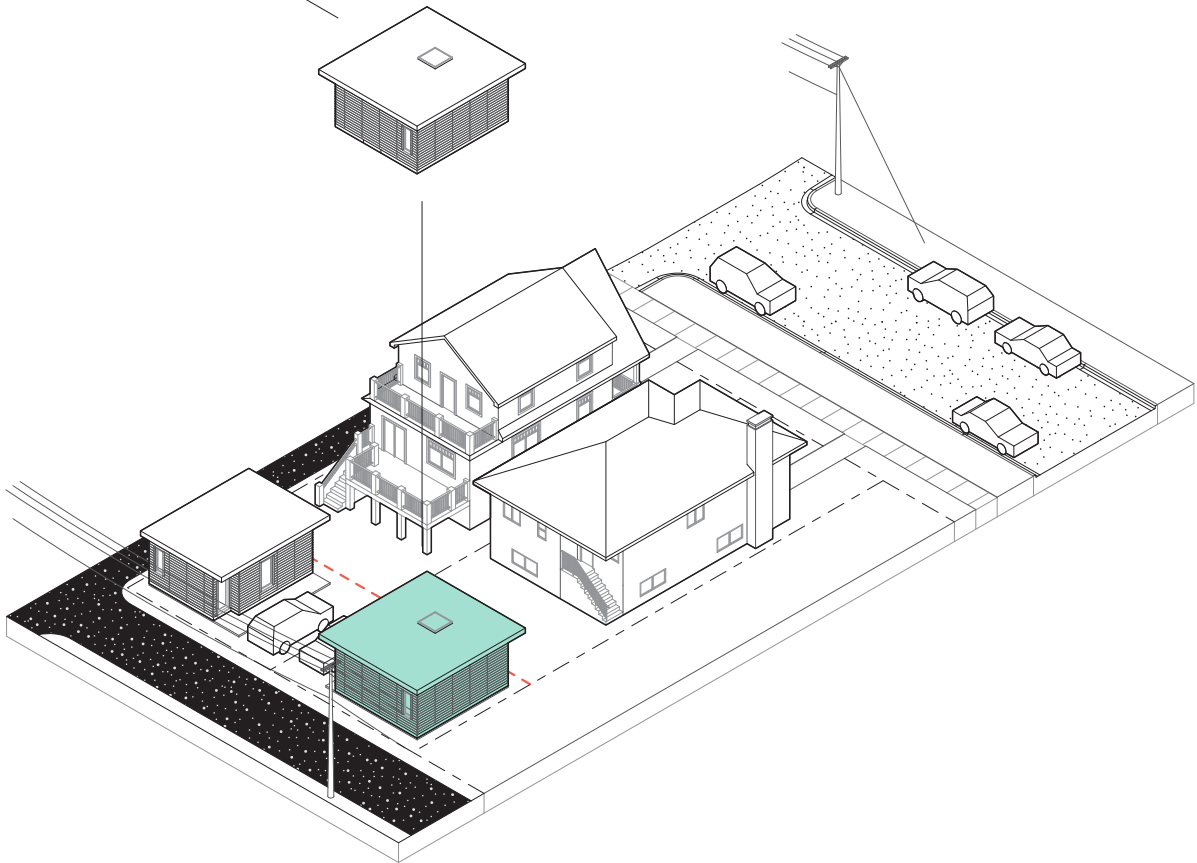
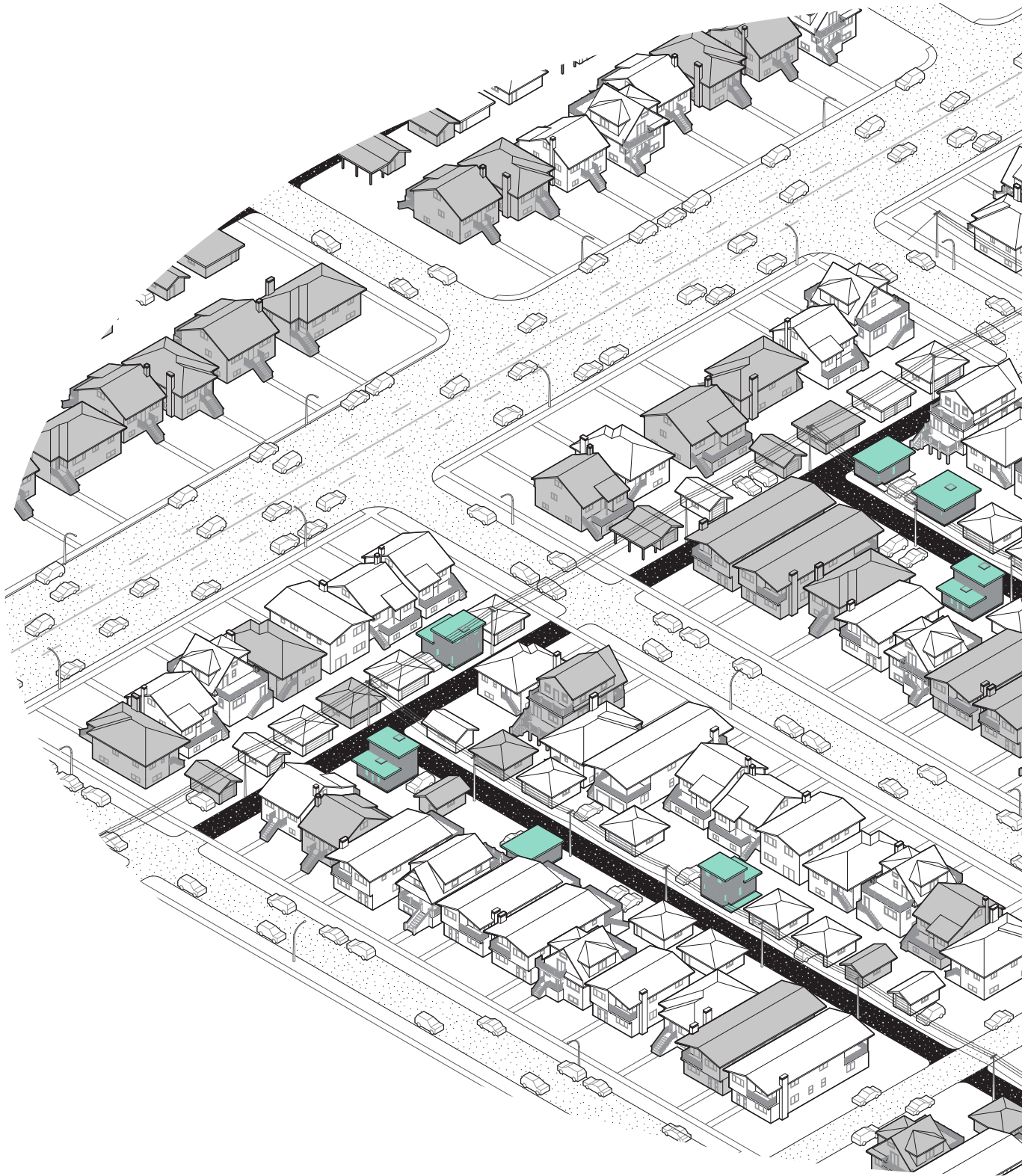


Figure 53 Individual LWH additions.

INDIVIDUAL ADDITIONS



Proposal



Units	LWH
Studio	3
1-Bed	6
2-Bed	6
Total	15
No. Lots	15
Units/Lot	1.0

Figure 54 Individual Additions scattered throughout the neighborhood

Illustrated density of CLT laneway lots is 13% of all lots, or 21% of developable lots.

ADDED DENSITY

STAYING WITHIN CURRENT REGULATIONS

Process

Once a household has moved in and some years have passed, the Champlain Housing Trust (CHT) shows us that one of the following scenarios may take place: (1) The household has built up enough equity that they may now leave the CLT and purchase a housing unit on the free market; (2) The household chose to move into rental as the responsibilities of home ownership are not for them; (3) The household opted to move to a different CHT house, perhaps due to change in job location or needed a different size home (marriage, kids, financial difficulties, etc)*

Based on the historical observations made under the CHT, it is clear that there are many reasons for changes within a household's life. These changes, not only influence the household, but also the laneway, the neighbors, and the community at large. As such, there need to be a variety of opportunities for a household to change with the community and vice versa.

One way I see fit for this to occur, is by giving individual households the opportunity to grow in place. The three self-provided housing models need not be forgotten. If a household grows in size, it should be given the opportunity to expand its dwelling by any of the three self-provided housing methods.

Potential Tenant

Lets assume 5 years have past and the individual we were previously discussing has now found a partner and they are expecting their first child.

Originally, she was able to secure the purchase of a STUDIOplus unit by contributing a bigger down payment (\$35,000) while maintaining monthly payments of \$1,000. Now that she's married and expecting a child, the couple is looking to move into a bigger unit. As five years have past, their equity in the unit has raised to roughly \$57,500 (2018 dollars).**

As they continue to wish to own, a market 2-Bedroom apartment is out of their reach since it would require monthly payments of \$4,000 or an annual household income of \$160,000 (their current household income is only \$80,000).

Therefore, given a household income of \$80,000, they have the option to continue living within the CLT while upgrading to a 2-Bedroom unit. This would require them to either move to an available 2-Bedroom unit or upgrade their own. Either way, the expected cost of a 2-Bedroom unit would be a \$38,250 down payment (which they already have as equity) plus \$2,000 monthly housing costs (which represents 30% of their annual household income).

*** Of the \$60,000 spent on housing over the course of 5 years: (1) \$22,500 is now equity; (2) \$8,500 went towards mortgage interest; (3) \$13,000 went towards property taxes and maintenance; and (4) \$16,000 went towards CLT fees and profit to pay off loans*

** Davis and Stokes, 2009*

ADDED DENSITY
SELF COMMISSIONED

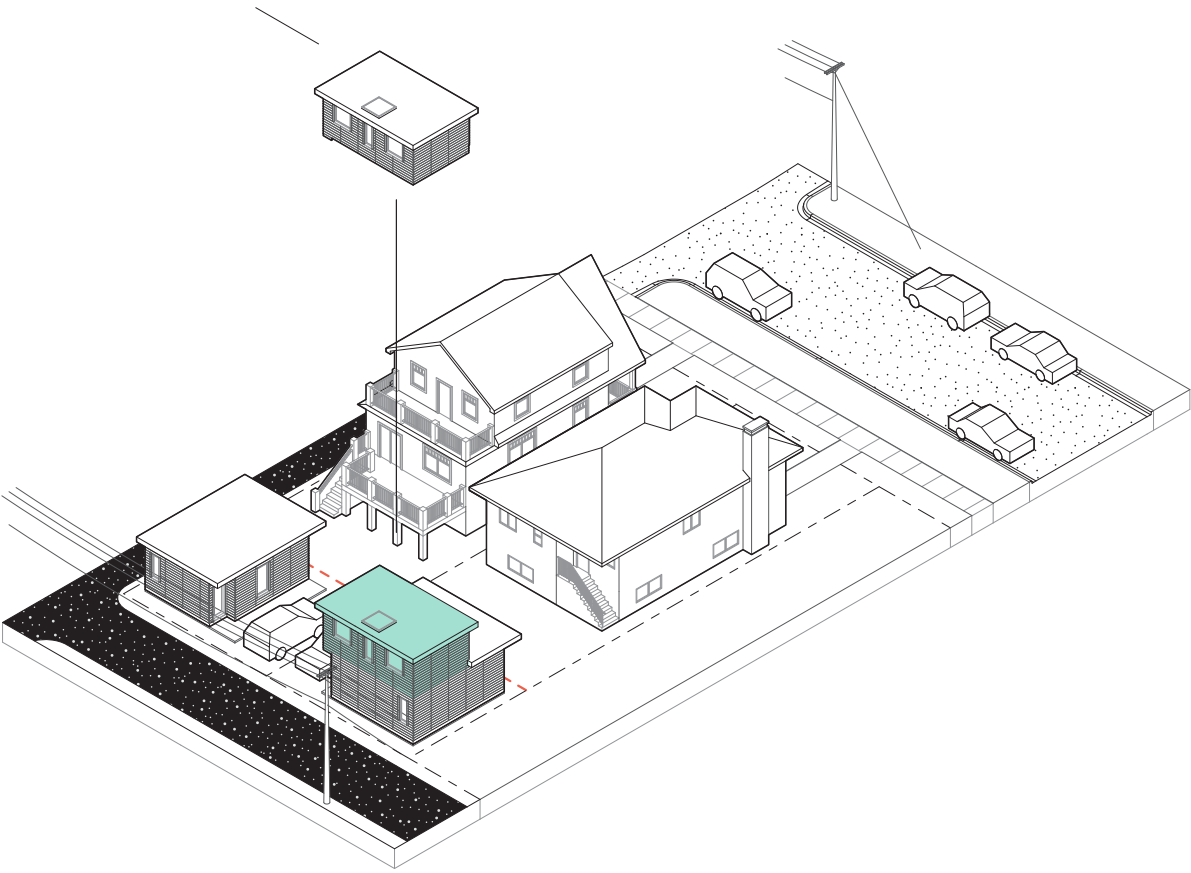


Figure 55 Added Density - Making a 2-Bedroom unit out of a STUDIOplus

ADDED DENSITY

MOVING BEYOND CURRENT REGULATIONS

Process

Current city regulations limit the total buildable area of a LWH to a maximum of 16% of the original single family lot.* Around the area this proposal focuses on, that translates to a maximum floor area of 650 square feet. Including area exclusions such as storage space, the maximum floor area can be pushed up to the size of the proposed 700 sf 2-Bedroom unit. However, like any zoning and development by-law, over time the city revisits and amends regulations based on the evolving needs of the community. In fact, the city is currently in the process of amending the original LWH regulations it put out roughly 10 years ago.** Therefore, given some more time plus a unified CLT voice, it is likely that LWH regulations may change again in the future.

The adjacent diagram is an example of an increase in allowable floor area and overall massing of a LWH that future regulations may allow for. Currently, the second floor of a LWH may only have an area equivalent to 60% of the main level.*** However, if this was to increase to 100%, then we could see two STUDIO units stacked one on top of the other. Under such a scenario, CLTs could pass on the benefits of not having to purchase new land by reducing the fees they charge Tenants.

Potential Tenant

Thus far we have only seen the self commissioned method of LWH acquisition. While this is likely to be the preferred method by most consumers, some may venture towards self-procurement or even self-build.

The individuals involved in the addition presented by the adjacent figure are interested in becoming more involved with the creation of their future STUDIO unit. As such, they go through similar steps in becoming part of the CLT as anyone else would. However, when it comes to the selection of the LWH unit, normally done with the help of the CLT, they elect to carry out this step themselves. From the CLTs perspective, this means a transfer of time and risk from the CLT to the new Tenants. In other words, the CLT incurs some cost savings which it can pass on to the Tenant in the form of reduced monthly operational fees. From the Tenants' perspective, they may opt to either save on monthly housing costs, or reinvest the savings into higher quality home features.

* *General Manager of Planning and Urban Design and Sustainability, 2018*

** *Ibid.*

*** *Ibid.*

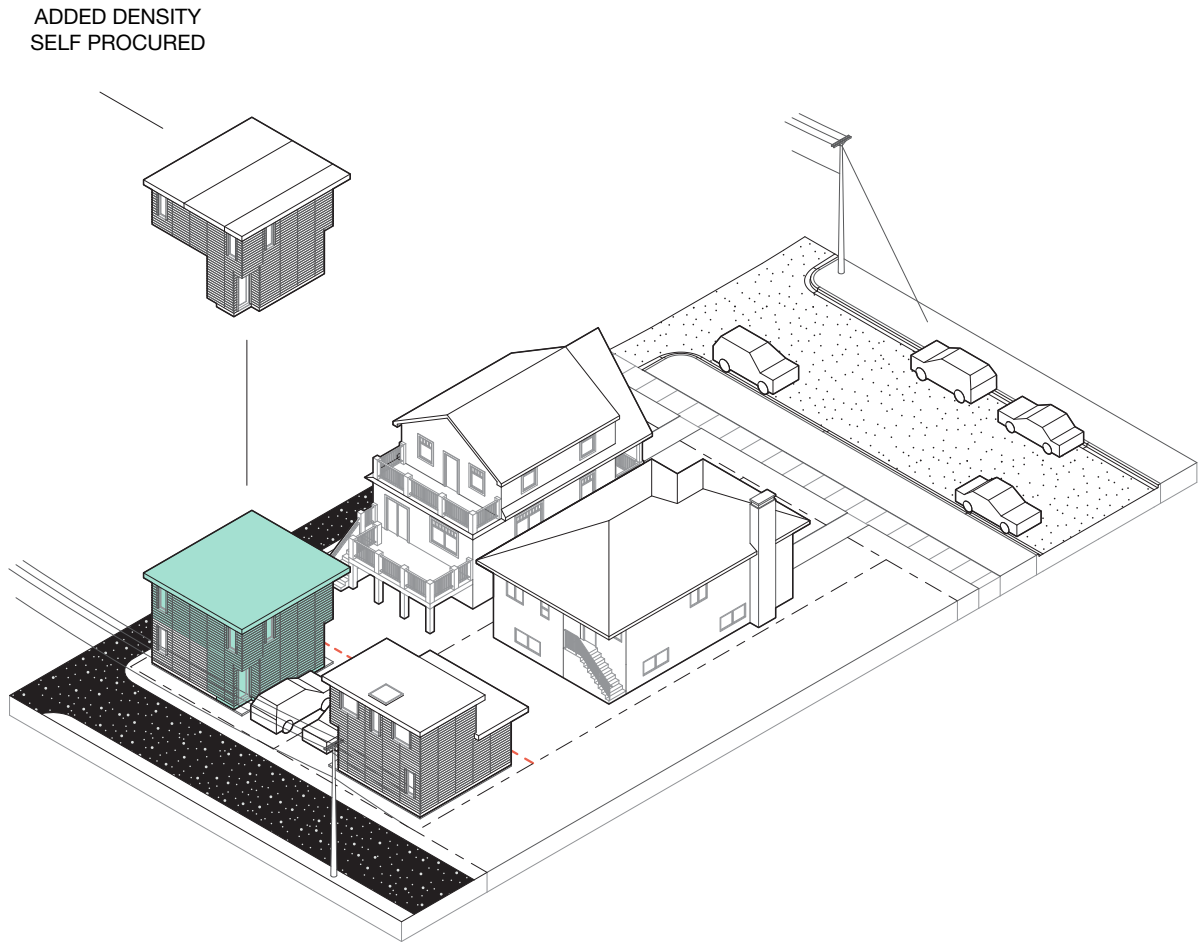
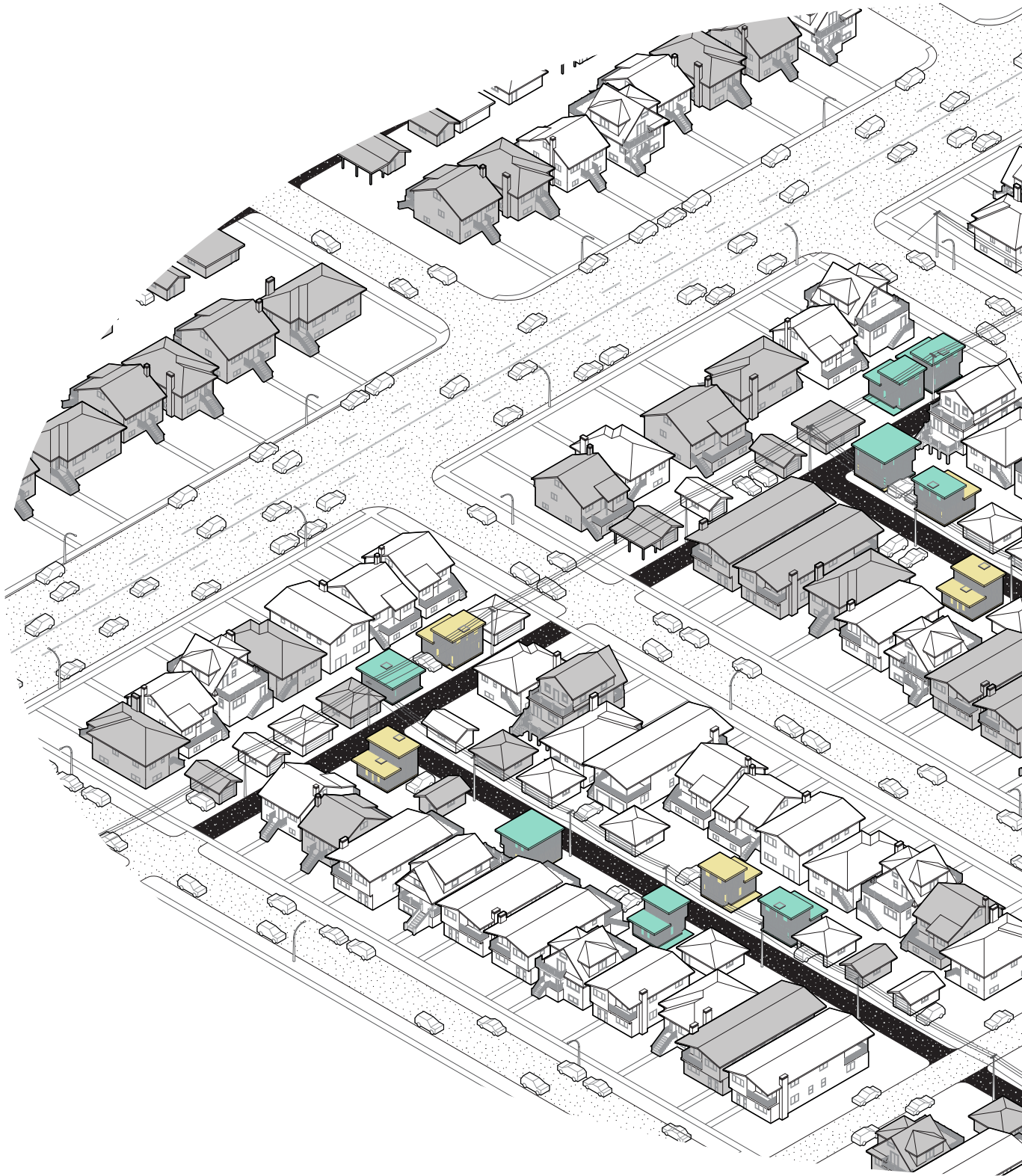
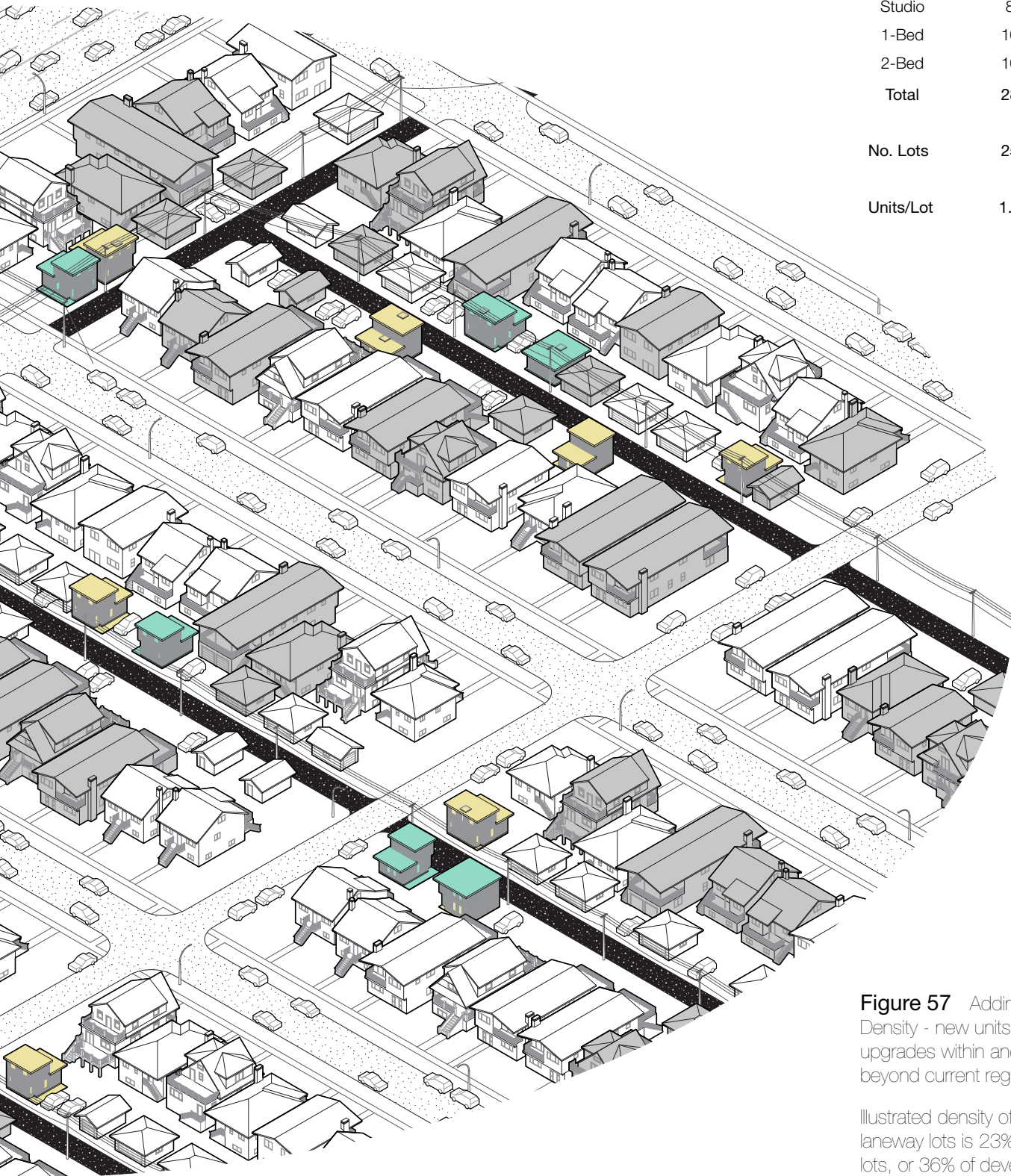


Figure 56 Added Density - Stacking two STUDIO units given changes in LWH regulations.

LOCAL AND GLOBAL DENSITY



Proposal



Units	LWH
Studio	8
1-Bed	10
2-Bed	10
Total	28
No. Lots	25
Units/Lot	1.1

Figure 57 Adding Density - new units plus upgrades within and beyond current regulations.

Illustrated density of CLT laneway lots is 23% of all lots, or 36% of developable lots.

MAXIMIZING ADDED DENSITY

Moving Beyond Current Regulations

Potential Tenant

As we have seen, the previous Tenant opted to create a STUDIO unit via the self-procured method. With the passing of time, this same Tenant may opt to maximize the potential of the new LWH regulations by building out over the parking space below. Given that the task does not influence the downstairs neighbor so much, the Tenants elect to complete the addition via a self-build method this time. In this way, not only are they benefiting from the CLT cost savings (as they have done before), but also from construction, labor, and some delivery fees as well.

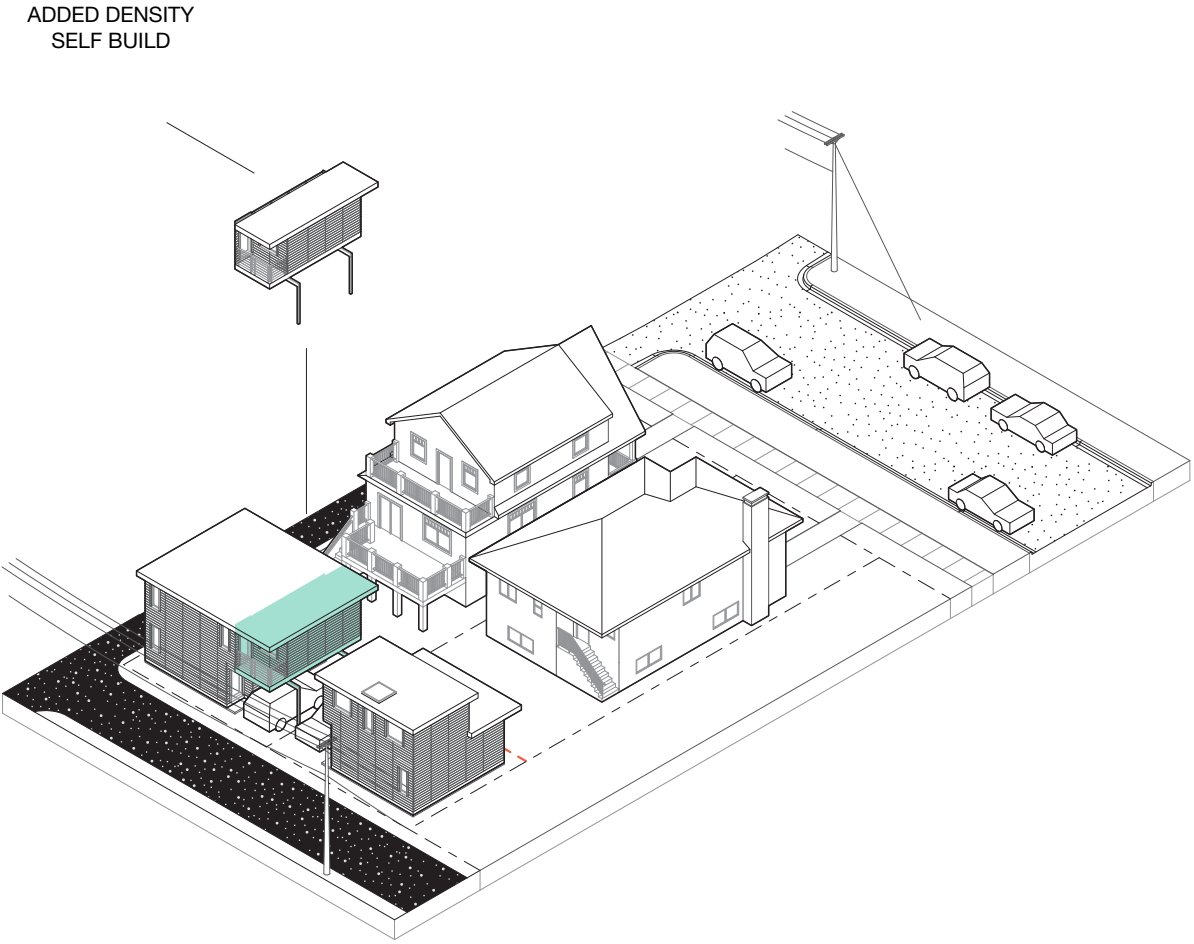


Figure 58 Added Density - Expanding the upper STUDIO into a 1-Bedroom unit via self-build method

PRIVATE PARTNERSHIPS

Process

I have previously stated that if a household grows in size, it should be given the opportunity to expand its dwelling by any of the three self-provided housing methods.

Conversely, if the community is transforming around the CLT owned laneway lots, there needs to be a way for both to grow in harmony. Given the tripartite governance of the CLT, there might come a time when a conversation amongst the broader community takes place with regards to the future of a given area. In the scenario that the land under a number of CLT laneway lots are needed for the construction of a larger development, an agreement for the future existence of CLT housing within that development will need to be made. In this way, both the CLT and the surrounding community benefit in that the growth of the city after everyone's heart's desire is upheld.

The Burlington CLT has shown us that, on average, a detached house is likely to be sold by the original owner 8.7 years after purchase, while subsequent resales occur every 6.3 years thereafter.* This means that upon sale, a Tenant is expected to have accumulated equity for an average minimum of 6.3 years. Over this period the following changes are statistically likely to occur: (1) The land+unit will appreciate by 5.9% annually; (2) Construction costs will rise by 2.2% annually; and (3) Mortgage interest rates will tend towards 5.0%. For more details see adjacent Table and the Appendix.

* Davis and Stokes, 2009

Potential Tenant

As time passes, a given household's life will change along with the neighborhood around it. Up until now we have seen relatively inexpensive ground oriented dwellings with little upfront investment required. This next typology is of higher entry cost meant to provide households with the ability to extend their housing equity. As such, these housing units are meant for the Tenant looking to perhaps ultimately make the leap towards the free market or are simply looking for larger ready made units.

Table 11 Unit size affordability for future higher density development[§]

Item	Studio	1-Bed	2-Bed
LWH Equity			
Initial Unit Size	350 sf	560 sf	700 sf
Initial Down Payment	\$20,782	\$31,567	\$38,258
Average Resale Period	6.3 years		
Equity at Resale (2018 \$)	\$64,600	\$99,900	\$122,500
Financial Capability after Resale			
Down Payment	\$64,600	\$99,900	\$122,500
Max Mortgage Payments	\$651	\$1,072	\$1,349
Max Attainable Loan	\$99,000	\$162,000	\$204,000
Given	20 year mortgage @ 5% interest		
Total Capital	\$163,600	\$261,900	\$326,500
Max Affordable Unit Size			
2.0 FSR Development	427 sf	684 sf	853 sf
Afford. Unit Size Increase	22%	22%	22%

[§] A detailed explanation of these numbers can be found in the Appendix

Proposal

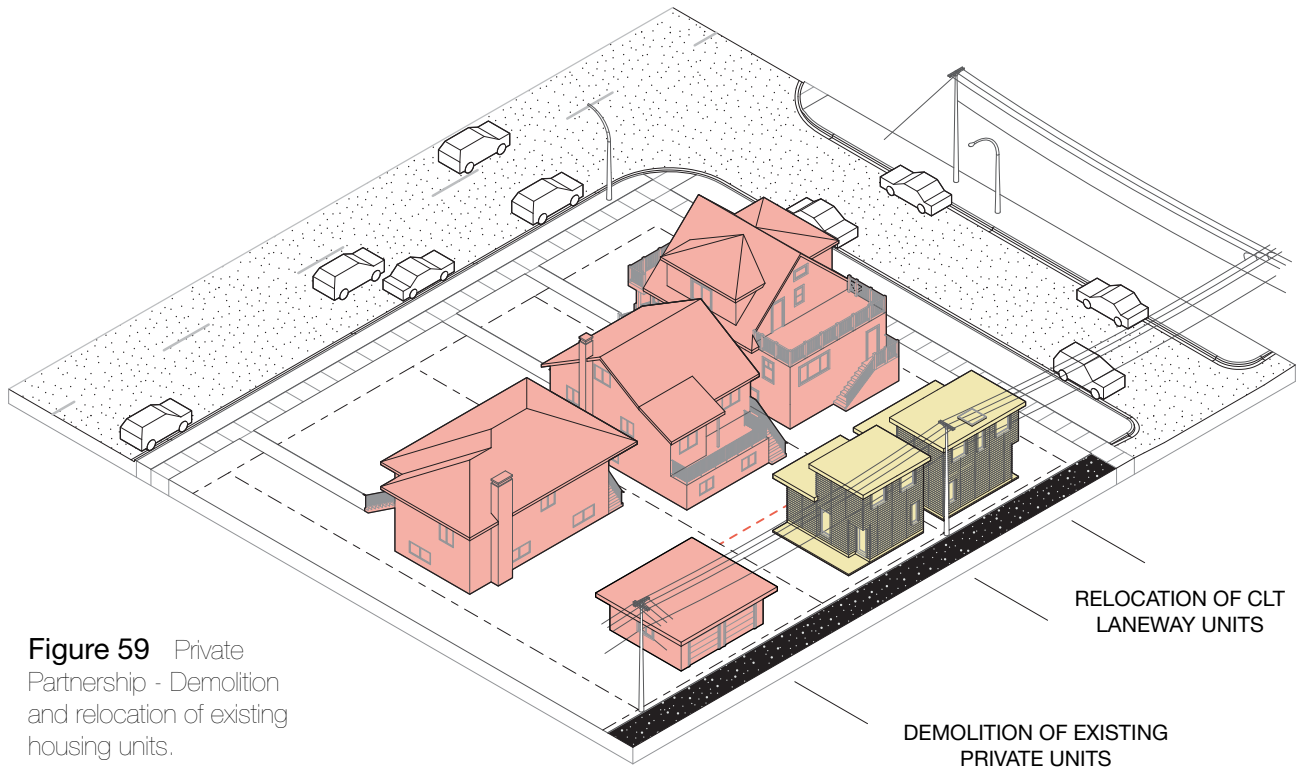


Figure 59 Private Partnership - Demolition and relocation of existing housing units.

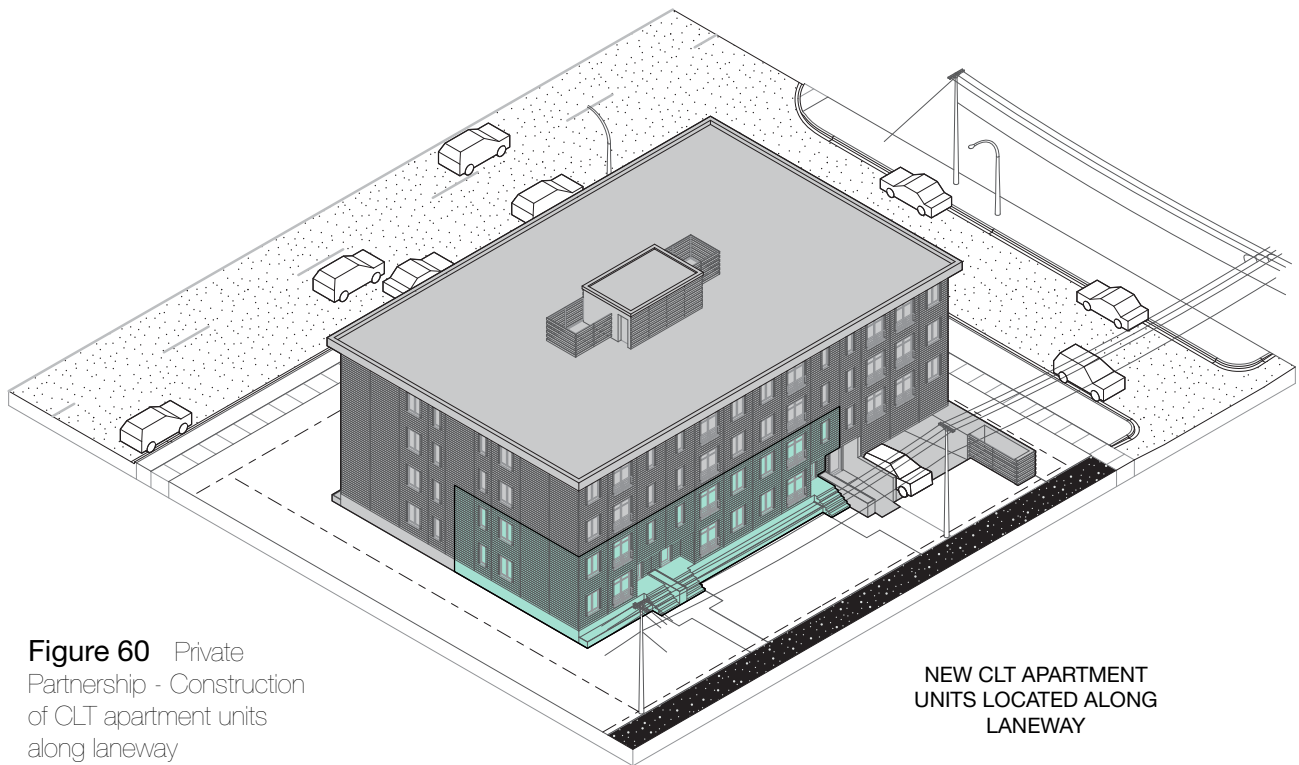


Figure 60 Private Partnership - Construction of CLT apartment units along laneway

Proposal Ramifications

Given the speculative land value appreciation rates that have been seen in Vancouver as of late, the developable housing units affordable to the median household are both shifting towards denser typologies as well as decreasing in size. By requesting for investments to be made in laneway lots, the proposed CLT model not only aims to lower housing costs, but help create a fine grained affordable housing intervention within the city.

Moreover, reverting to a more traditional CLT governance structure will empower marginalized households with the ability to better control land oriented decisions. This will not only better allow them to create the affordable housing needed by the community, but look to needs beyond just housing. Under the hands of a community, in great numbers these tiny laneway lots are charged with the ability to change the city.

While the original intent has been to create

affordable housing, by defining the root of the problem as private property, this proposal opens up many more opportunities for a given community. The laneway homes presented in this thesis are but a fragment of the possibilities made available by the proposition. However, they are a crucial start in providing the community with a unifying platform for future endeavors to be based upon.

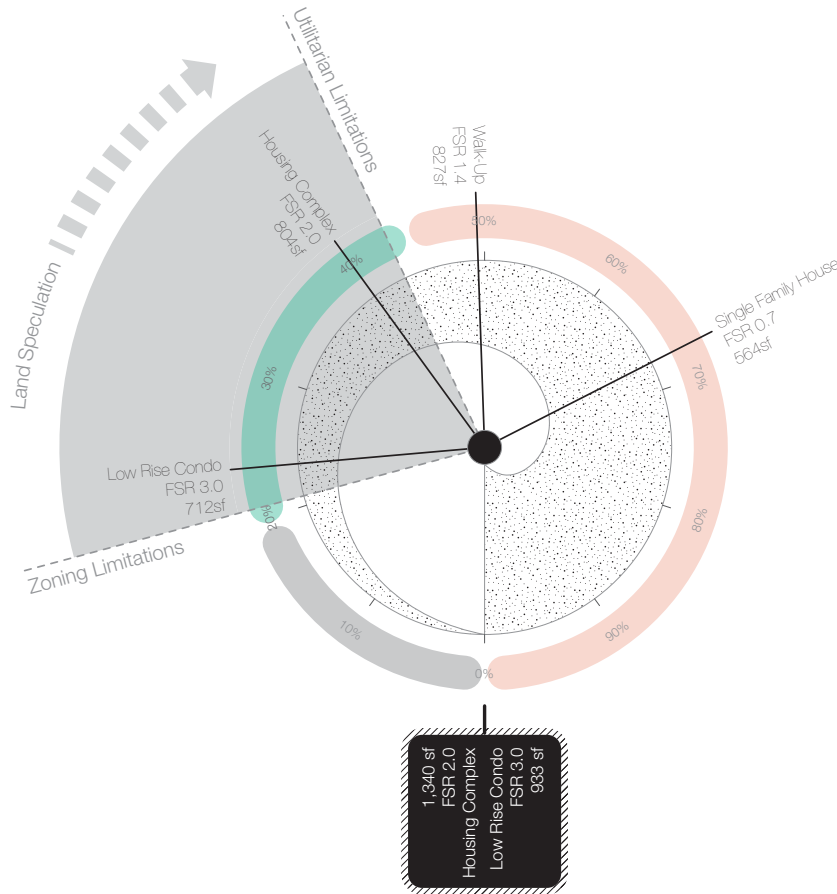


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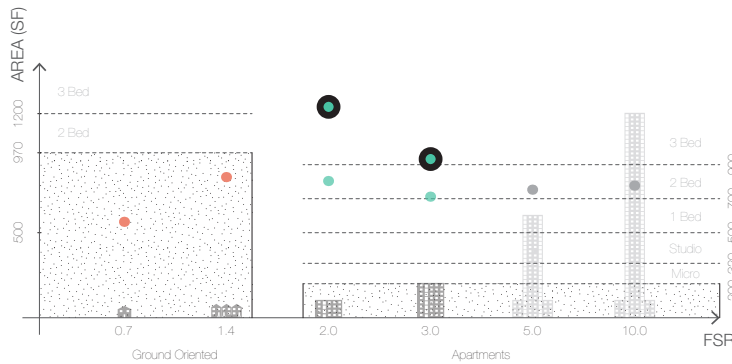
Figure 61 Laneway Perspective

2018

EAST SIDE VANCOUVER (SITE)
\$3,500/m²



1,340 sf
FSR 2.0
Housing Complex
Low Rise Condo
FSR 3.0
933 sf



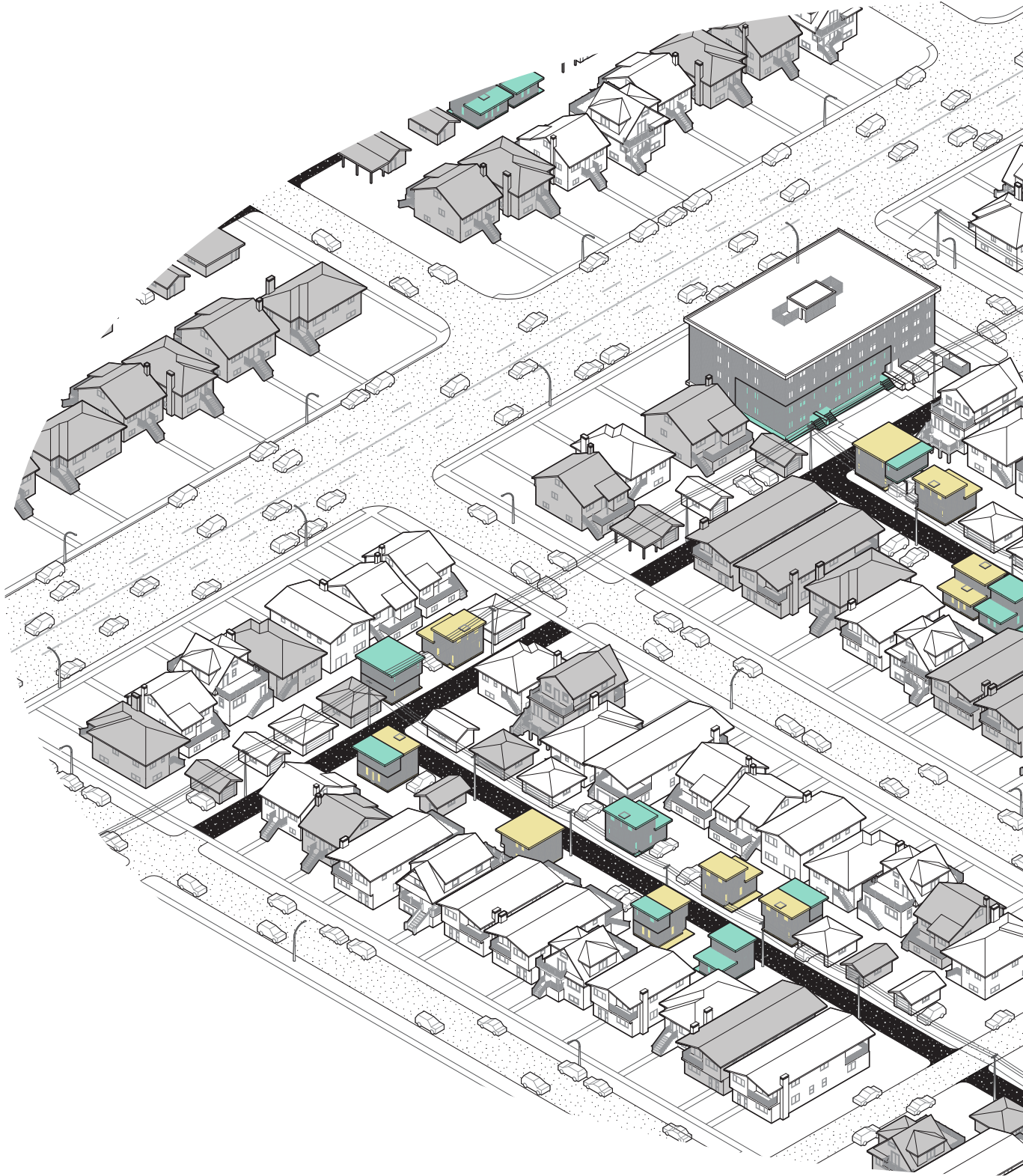
LEGEND

- Zoning Limitation
- Microunit (Condo)
- Studio (Condo)
- 1 Bedroom (Condo)
- 2 Bedroom (Condo)
- 2 Bedroom (Ground Oriented)
- Not Within Market Needs

Figure 62 Maximum unit size affordability limits of various housing typologies given the average value of land and development costs in 2018 for East Side Vancouver.

The numbers present at the 0% land cost mark are based on a mortgage expenditure of no more than 30% of income by a median 2+ person household. The lower FSR (2.0) is the more attractive option when we have no land costs due to the fact that in general, the higher you build, the higher the construction costs per square foot (moving from wood to concrete, digging deeper foundation, more parking levels, bigger core/structure, etc.).

FUTURE LANEWAYS



Proposal



Units	LWH	Condo
Studio	10	--
1-Bed	13	4
2-Bed	15	2
Total	44	
No. Lots	34	
Units/Lot	1.3	

Figure 63 Private Partnership - Appearance of apartment buildings with partial CLT stake

Illustrated density of CLT laneway lots is 31% of all lots, or 49% of developable lots.

CONCLUSIONS

Through my research and the completion of this thesis, I have come to perceive of housing policy as a juggling act between public perception and private interests. As the better part of the last century has shown us however, in the end most housing programs have focused on pleasing select private individuals and not improving housing for marginalized households. While explanations for the so called *Housing Crises* we find ourselves in every other decade or so are being regurgitated just as often, the reality is that the main culprit has been identified more than a century ago as the *unearned increment* the private property ownership model creates.

By weighing in the true importance of private property within the capitalist system we operate within, we realize that housing affordability levels are unlikely to redress in the long run under the current housing system - as was shown by an escalating historical home price to income ratio. Compounding the lack of housing affordability can also be tied to the resurgence of neoliberalism and globalization seen in recent past. Given increasing privatization, austerity and deregulation, housing affordability within Vancouver has not only plummeted within the past decade, but the private market has also marketed housing as a financial asset - obscuring its intended use value. Putting together the ideas of the unearned increment, the privatization of the housing system, and perceiving housing as a financial asset, what we realize is that the rights of private property and the profit rate trump all other in the world we live in today. Land ownership is power and if you do not own land you are essentially stripped of your ability to change the city more after your heart's desire.

By re-evaluation the concepts of private property and value of housing, this thesis investigated the possibility of turning one of the least dense & affordable housing typologies within Vancouver

into a powerful means of providing marginalized households with the opportunity to change the city more after their heart's desire.

I believe that the strength of the proposal does not lie in any one aspect it presents but in the overall message it attempts to convey. Yes community land trusts are important in that they distribute the value created by society back to the community that created it (rather than allowing it to become unearned increment capitalized upon almost exclusively by private individuals). Yes taxation can be used to capture and distribute part of the unearned increment towards affordable housing creation; or foreign home buyers be charged supplementary property transfer taxes while property owners not be exempt from capital gains taxes. Yes home owners can be encouraged to build their own homes rather than leave it up to private developers or government who prioritize profit margins and political value respectively. The strength of the proposal comes from the combination of the concepts presented which then focus on an intervention that provides an entire community with the ability to change the city more after their heart's desire.

While the City of Vancouver has recently created affordable housing under a community land trust model, the key differences found within this proposal argue for self provided housing under a grassroots community land trust governance system on stratified laneway lots. The advantages that this proposition brings over what currently exists within Vancouver's housing universe are as follows: (1) Provide an affordable ownership option for the bottom half earners as currently there practically exists none within the city; (2) Use the CLT model in order to maintain these ownership options affordable for generations to come; (3) Allow for the steady accumulation of equity so that households can either use it for retirement or as down payment upon opting

Conclusions

to enter the free market; (4) Give land and non land owning individuals and the surrounding community a voice in the development of the city over time; (5) Promote the idea of housing as lived space through the self-provided housing model, rather than developer driven housing that promotes housing as a financial asset; and lastly (6) Give individuals looking to own or rent (under the CLT model) the opportunity to chose what their housing looks like, rather than have developers make most decisions.

The ramifications of this proposal go beyond the number of households served at any given time. The expected transient nature of these tiny laneway homes should not be perceived as static dwellings, but as instruments for the bottom half earners of the city to rise out of pervasive reno-victions and gentrification in order to take back control of the neighborhoods they helped create. Under the hands of a community, in great numbers these tiny laneway lots are charged with the ability to change the city. No longer will these marginalized households have to sit and wait for affordable housing to be created in high density developments wherever land is available. The whole community will now be given the chance to decide when and where developments are made, what type of units are built, and how affordable they will be. This proposal is not simply about creating affordable units, but empowering the community that needs them with the ability to capture and redirect the value they have added to the city more after their heart's desire.

If the ideals set out by the Housing Vancouver Strategy report of promoting a healthy, diverse, and vibrant city is a true reflection of its citizens' desires, then I hope this thesis makes them realize that the current housing system is a major deterrent in achieving that goal. Decisions regarding housing policy, investment, and incentives made today will shape the future of the city, which in turn will shape its citizens. By not making the hard decisions that need to be made with regards to housing affordability, the city stands to be polarized while its health, diversity, and vibrancy deteriorate.

As for the influence these homes coupled with the land trust community will have on the laneways of Vancouver I can only speculate. As an architect I believe it is not my place to design lived space but merely provide the tools that allow people to fulfill their heart's desire.

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APPENDIX

LWH REGULATIONS

SETBACK + PARKING

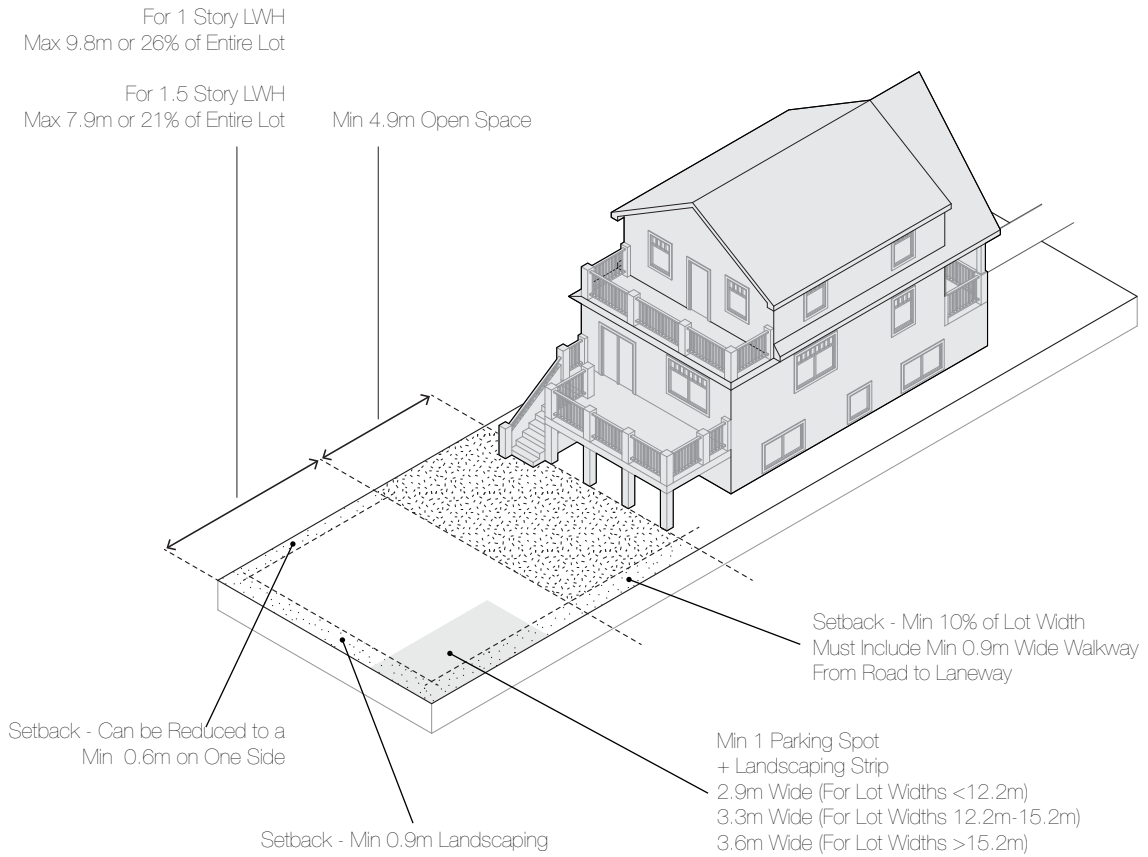


Figure 64 Lot Setback and Parking Regulations for LWH design.

LWH REGULATIONS

HEIGHT + FLOOR AREA

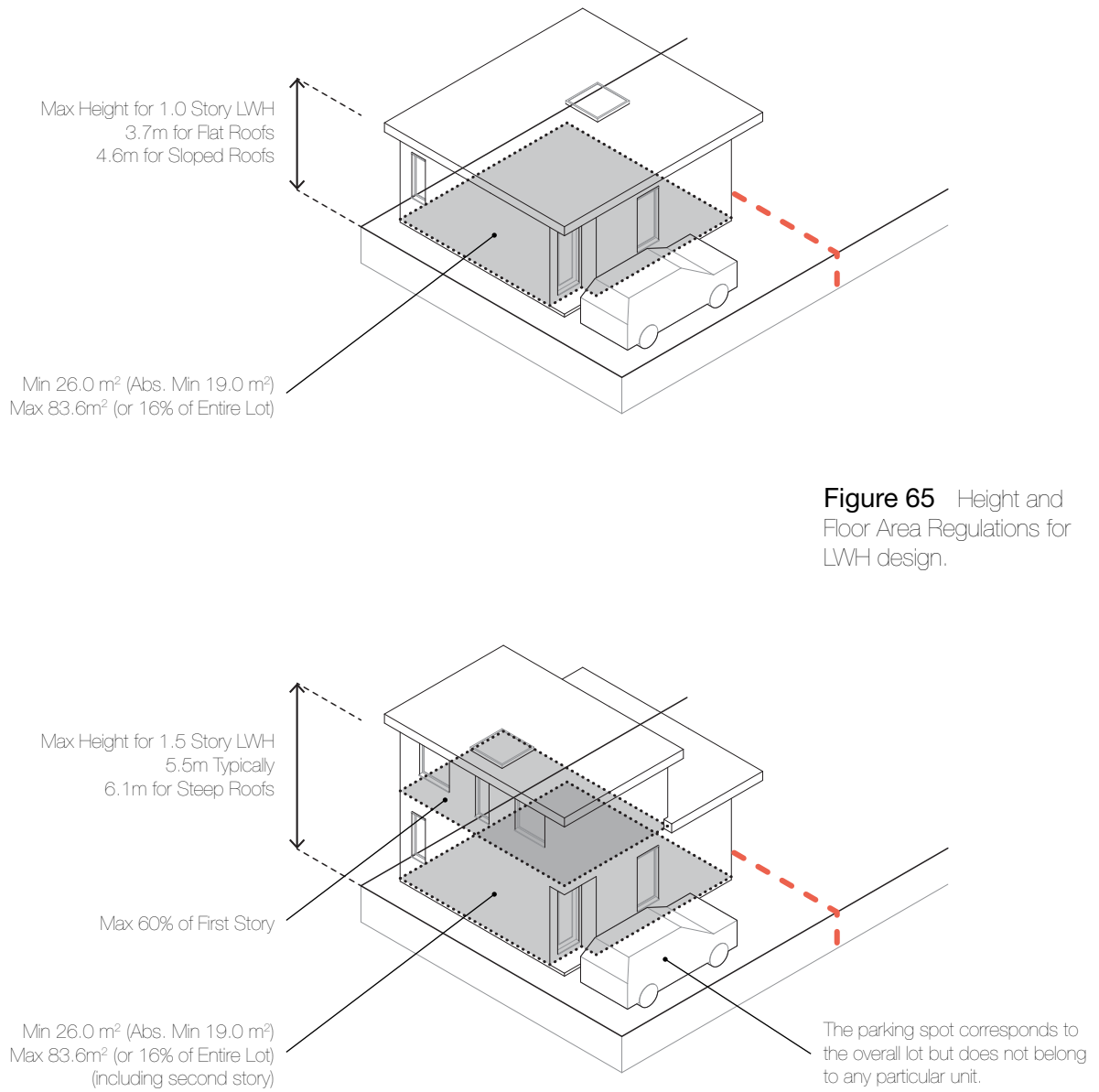


Figure 65 Height and Floor Area Regulations for LWH design.

LANEWAY PERMITS AND LOT DISTRIBUTIONS

LANEWAY HOUSE PERMITS FOR 2009-2018

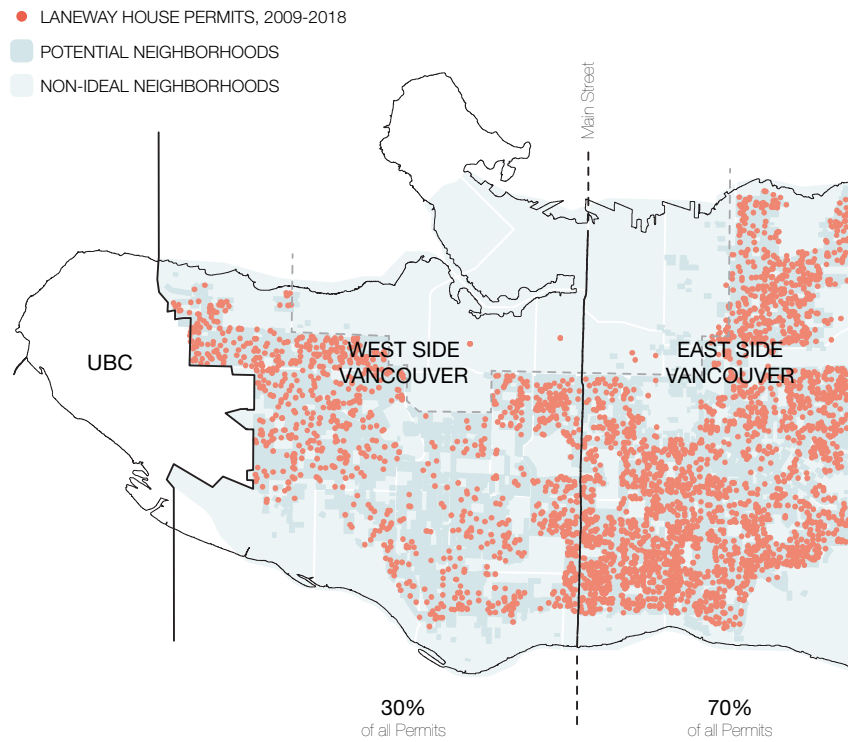


Figure 66 Mapping of Laneway House Permits across Vancouver from 2009-2018

CHEAPEST 25% OF EAST SIDE VANCOUVER LANEWAY LOTS

LANEWAY LOTS - MAIN HOUSE PRE 1940
 LANEWAY LOTS - MAIN HOUSE POST 1940
 LANEWAY ZONED LOTS
 NON LANEWAY ZONED LOTS

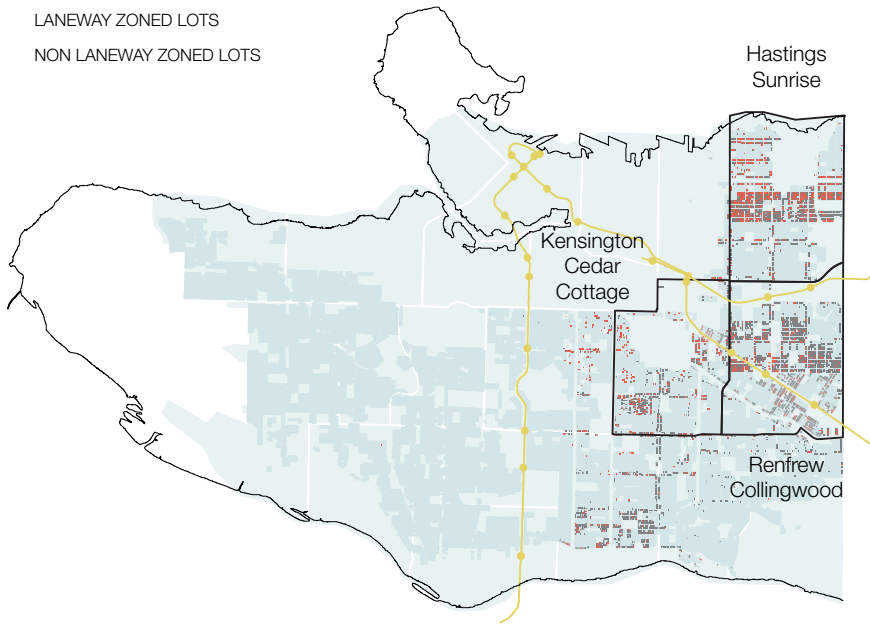


Figure 67 Cheapest 25% of East Side Vancouver Laneway Housing Lots

The map shows roughly 10,000 lots with an average land value of 1.2 million dollars. About 80% of these lots can be found in the following three neighborhoods: Hastings-Sunrise, Renfrew-Collingwood, and Kensington-Cedar Cottage

Table 12 All properties with a combined average land value of 1.2M as of October 2018

Neighborhood	Number of Properties			Area Median Income (AMI)		
	pre 1940	post 1940	Total	1 Person Household	2+ Person Household	All Households
Hastings-Sunrise	917	2,022	2,939	\$28,511	\$86,058	\$68,506
Renfrew-Collingwood	461	3,177	3,638	\$30,166	\$77,602	\$64,179
Kensington-Cedar Cottage	425	1,005	1,430	\$31,917	\$86,555	\$70,815
Riley Park	157	99	256	\$40,482	\$106,389	\$83,513
Sunset	121	938	1,059	\$25,791	\$80,680	\$68,855
Victoria-Fraserview	47	357	404	\$26,251	\$80,642	\$68,126
Grandview-Woodland	27	59	86	\$33,290	\$79,833	\$55,141
Killarney	15	187	202	\$36,579	\$84,936	\$71,559
Kerrisdale	1	0	1	\$42,972	\$100,276	\$75,419
Marpole	0	1	1	\$32,830	\$75,100	\$53,782
South Cambie	0	2	2	\$54,461	\$111,628	\$83,111
City of Vancouver	2,171	7,847	10,018	\$38,646	\$89,086	\$65,423
Top Three Neighborhoods	1,803	6,204	8,007	\$30,324	\$83,023	\$67,690
Percent of Total	83%	79%	80%	79%	93%	104%*

The Area Median Income values are based on the latest Census (2016) which states 2015 level incomes.

When needed, the AMI for a given area is translated into 2018 values with the help of a CPI conversion calculator such as the one found at the following address: <https://www.bankofcanada.ca/rates/related/inflation-calculator/>

* The reason this is greater than 100% while the other two clearly show that households within these neighborhoods have lower incomes than the overall City average is due to lower than City average number of 1 person households. (25% vs City average of 39%)

UNIT COSTS BREAKDOWN

The following notes are with reference to the adjacent Ownership Breakdown table. Each heading and item corresponds to the adjacent table and is meant to elaborate on the assumptions made and sources of information used to arrive at each figure.

Ownership Breakdown

Unit Size - based on the design of the units found under the Proposal Logistics section

Share of Units - based on area under the city household income distribution and the ability to afford the given price of a unit

Unit Cost

Hard Costs - assumed a cost of \$161.30/sf (including taxes) for the construction of the unit in a factory setting. Some Canadian pre-fab modular home companies consulted for pricing include: Frontenac Modular Homes, Comfort Homes, Westcoast Outbuildings.
<https://www.frontenacmodularhomes.com/the-process;>
[http://www.comforthomes.ca/index.html;](http://www.comforthomes.ca/index.html)
<https://www.outbuildings.ca/>

Soft Costs - The breakdown for soft costs can be seen in the table found on the next page. The costs are based on the following sources: (1) Permitting: City of Vancouver, Schedule of Fees for Development & Building Related Permits (Vancouver: City of Vancouver,[2018d]) - Assume Class A contingency; (2) Delivery: Assumed at \$800 per module per day of transport. As a local manufacturer would be selected a one day delivery would be expected - Assume Class C contingency; (3) Site installation: Design of module to require no additional on site work besides placement of units and minimal stitch work. Therefore only assuming 1.5 hours per module x 5 workers @ a rate of \$120/hr - Assume Class C contingency. Federal Government of Canada and Industry Cost Predictability Taskforce, Guide to Cost Predictability in Construction (Canadian Construction Association,[Nov 2012]).

Total - Includes only the items listed under hard and soft costs. Does not include demolition, site servicing, foundation, or any permitting related to these specific items. Please refer to the Site Servicing Budget table on the next page for these figures.

Downpayment - Assumed fairly conservative values here since they are highly dependent on the financial well-being of the applicant and the perceived risk the lender associates

Table 13 Ownership Breakdown (2018 dollars)*

Item	Studio	1-Bed	2-Bed
Unit Size - m ² (sf)	32 (350)	52 (560)	65 (700)
Expected share of units	20%	40%	40%
Unit Cost			
Hard Costs	\$56,453	\$90,325	\$112,907
Soft Costs	\$13,338	\$17,971	\$20,063
Total	\$69,791	\$108,296	\$132,970
Downpayment	\$20,782	\$31,567	\$38,258
Financed Amount	\$49,009	\$76,729	\$94,712
Monthly Mortgage			
	\$496	\$777	\$959
CLT Monthly Fees			
Property Tax		\$70	
CLT Operation		\$225	
Maintenance Fees	\$123	\$196	\$245
Adjustment	-\$29	\$248	\$575
Total Fees	\$389	\$739	\$1,115
Total Monthly Payments			
	\$885	\$1,516	\$2,074
Income Required	\$35,380	\$60,640	\$82,960
Household Size	1 pers.	2x 1 pers.	2+ pers
Area Median Income	\$33,681	\$67,362	\$92,214
Percent of AMI	105%	90%	90%
Market Comparison			
Unit Type	Studio	1-Bed	2-Bed
Median Housing Costs	\$2,456	\$2,890	\$4,021
Est. Downpayment	\$40,750	\$48,200	\$67,600
Proposal vs. Market			
% of Mrkt. Housing Costs	36%	53%	52%
% of Mrkt. Downpayment	51%	65%	57%

with such type of loans. Furthermore, it is also dependent on whether the CLT is willing to help the applicant in case of foreclosure. Therefore, I assumed a 75% loan on hard costs and only 50% on soft costs. This works out to an overall downpayment of approximately 30% of the total unit costs - to be made by the applicant. The overall downpayment could be fully or partially sponsored by some public or private body which would lower the cost incurred by the applicant. However, in order to maintain the same monthly mortgage, the overall 30% downpayment sum needs to be upheld.

Monthly Mortgage - based on the Financed Amount figure given a 4% interest rate over a period of 10 years (monthly payment frequency). <https://www.cmhc-schl.gc.ca/en/finance-and-investing/mortgage-loan-insurance/homebuying-calculators/mortgage-calculator>

Monthly Fees

Property Tax - A general levy is created each year for all different property classes within the city. This levy is based on the assessed value of all properties within that class and the corresponding annual budget it must support. The residential property tax levy for 2018 is set at \$2.47 per \$1000 of assessed property value. Given an assessed property value of \$340,000 that works out to about \$70 per month. <https://vancouver.ca/home-property-development/residential.aspx>

CLT Operation - This value is based on the Calgary CLT 2018 budget where they show operational administrative expenses of roughly \$2,500 per unit per year. <http://www.homespace.org/wp-content/uploads/2018/07/HomeSpace-YE18FS-Final-electronic-July-25-2018.pdf>

Maintenance Fees - Given the ground oriented nature of the proposed LWHs, the costs associated with the upkeep of these units could be considered on the lower side of the market. None the less, we have assumed monthly maintenance fees of \$0.35 per square foot. Sources put condo maintenance fees anywhere from \$0.20 to above \$1.00 per square foot, with an MLA Canada article stating that the Metro Vancouver average is \$0.37 per square foot. <https://mlacanada.com/newsfeed/understanding-strata-fees>

Adjustment - The purpose of this rate is to create a subsidy system within the CLT by having higher income individuals carry a bigger proportion of the financial burden needed to support the proposal. Furthermore, the CLT uses this fee to repay long term loans or expand its operation.

Total Monthly Payments

Income Required - This value is calculated so that the Total Monthly Payments figure, multiplied by 12 months, represents no more than 30% of a household's gross

annual income.

Area Median Income - Here an assumption is made that a Studio unit will most likely be occupied by a 1 person household, a 2-Bed unit by a 2+ person household, while a 1-Bed unit is approximated as twice a 1-person household. These assumptions are then correlated with the incomes seen in the three neighborhoods identified by this proposal (Hastings Sunrise, Renfrew Collingwood, and Kensington Cedar Cottage). Data is based on 2016 Census which states 2015 median incomes. These numbers were then translated to 2018 figures using the Consumer Price Index. <https://www.bankofcanada.ca/rates/related/inflation-calculator/> Statistics Canada, Vancouver, CY [Census Local Area Profiles], (Table). Census Profile. 2016 (Ottawa: Statistics Canada, [May 2016]). <https://data.vancouver.ca/datacatalogue/censusLocalAreaProfiles2016.htm>

Market Comparison

Median Housing Costs - The data summarized in the below referenced report was analyzed a projected to 2018 based on the observed historical average yearly trends. City of Vancouver, Housing Vancouver Strategy: Annual Progress Report and Data Book 2018 (Vancouver, BC: City of Vancouver, [2018a]).

Estimated Downpayment - back calculated based on the assumptions stated in the above mentioned report which included 10% downpayment, 5% mortgage rate, 25-year amortization period, \$150-\$250 monthly strata fees, applicable property taxes (assumed non mortgage monthly expenses to be roughly 10% of the stated Median Housing Costs.

Proposal vs Market

Percent of Market Mortgage - This figure is simply a division of Total Monthly Payments experienced under the CLT by the Median Housing Costs experienced under a corresponding unit on the Market. In general, a market unit is believed to be larger than what the CLT offers under the same name (ie. Studio), but at the same time the CLT offers ground oriented units while the market units we are making comparisons to are condominiums (ground oriented market units would be much more expensive and greater in size, hence making a relative fair comparison even harder to achieve) Therefore the figures compared represent relatively smaller ground oriented CLT units vs. bigger market condominiums.

Percent of Market Downpayment - This figure again is simply a division of the Downpayment needed under the CLT model by the Estimated Downpayment needed under a market purchase option. To note is the fact that the market downpayment is assumed at 10% while the CLT downpayment is set at nearly 30%.

Rental Breakdown

For the most part, the adjacent Rental Breakdown table is identical to the previously discussed Ownership Breakdown table. As such, the following notes only pick up on notable differences so they are to be used in conjunction with the notes found on the previous two pages.

Unit Cost

Downpayment - reduced from roughly 30% to exactly 25% of the Total unit cost.

Monthly Mortgage - While the CLT may receive a better loan to cost ratio than a prospective CLT Tenant, it is also in the interest of the CLT to maintain smaller monthly mortgage payments so as to keep overall rent charges down. Given governmental programs such as the CMHC Rental Construction Financing loans, we assumed a significant downpayment plus a lower 3% interest rate over the same 10 year payback period (monthly payment frequency).

<https://www.cmhc-schl.gc.ca/en/nhs/rental-construction-financing-initiative>

<https://www.cmhc-schl.gc.ca/en/finance-and-investing/mortgage-loan-insurance/homebuying-calculators/mortgage-calculator>

Monthly Fees

Adjustment - Similar to the Ownership model, the adjustment fee is meant to once again charge higher income households a premium so as to subsidize the lower income households. However, here the overall profit made by the CLT through this fee is \$300 lower than under the Ownership model. There are two reasons for this: (1) Rental should be cheaper than the ownership option, and (2) Once the 10 year mortgage payments are up, that portion of the rent charges will become profits for the CLT to be used towards the creation of more affordable housing.

Market Comparison

Median Rent - All Units - These figures are meant to represent the average rent found within the proposal's suggested area of the city. The numbers are a weighted average of Zones 8-10 (meaning Mount Pleasant/Renfrew Heights, East Hastings, and Southeast Vancouver) of Table 1.1.2 Private Apartment Average Rents of the following report

CMHC, Rental Market Report - Vancouver CMA 2018, Canada Mortgage and Housing Corporation,[2018]).

Median Rent - New Units - these numbers are calculated using Table 1.2.2 Private Apartment Average Rents by Year of Construction and Bedroom Type from the above

Table 14 Rental Breakdown (2018 dollars)*

Item	Studio	1-Bed	2-Bed
Unit Size - m ² (sf)	32 (350)	52 (560)	65 (700)
Expected share of units	20%	40%	40%
Unit Cost - Payed by CLT			
Hard Costs	\$56,453	\$90,325	\$112,907
Soft Costs	\$13,338	\$17,971	\$20,063
Total	\$69,791	\$108,296	\$132,970
CLT Down Payment	\$17,448	\$27,074	\$33,242
Financed Amount	\$49,009	\$76,729	\$94,712
Monthly CLT Mortgage			
	\$493	\$766	\$940
CLT Monthly Fees			
Property Tax		\$70	
CLT Operation		\$225	
Maintenance Fees	\$123	\$196	\$245
Adjustment	-\$153	-\$45	\$179
Total Fees	\$265	\$446	\$719
Total Tenant Payments			
	\$758	\$1,212	\$1,659
Income Required	\$30,300	\$48,480	\$66,360
Household Size			
	1 pers.	2x 1 pers.	2+ pers
Area Median Income	\$33,681	\$67,362	\$92,214
Percent of AMI	90%	72%	72%
Market Comparison			
Unit Type	Studio	1-Bed	2-Bed
Med. Rent - All Units	\$1,194	\$1,221	\$1,666
Med. Rent - New Units**	\$1,458	\$1,539	\$2,108
Proposal vs. Market			
% of Mrkt. Rent - All Units	63%	99%	100%
% of Mrkt. Rent - New	52%	79%	79%

referenced CMHC report. The numbers are weighed towards units built since 2005, located within the same Zones 8-10. The numbers can be observed to be much greater than the overall average due to: (1) the units are newer and therefore more desirable, and (2) Apartments just coming out for rent are not restricted as to what rate they come out onto the market with. Rental control only limits the amount an individual's rent can go up by, the first rate is not controlled.

Proposal vs Market

Percent of Market Rent - All Units - The median age of a private apartment rental unit within the City of Vancouver is somewhere over 20 years with an average turnover rate of 7.5 years. Given these figures, a current long term renter does not have very high incentives to take up residency within the proposed CLT units.

CMHC, Rental Market Report - Vancouver CMA 2018, Canada Mortgage and Housing Corporation,[2018]].

Percent of Market Rent - New Units - A new renter on the other hand has much higher incentives to join the CLT proposal given that CLT rents are below 80% of Newer Market Units.

Site Servicing Budget

Demolition - (1) Demo Permit: as per city fees. City of Vancouver, Schedule of Fees for Development & Building Related Permits (Vancouver: City of Vancouver,[2018d]). ; (2) Existing Garage: assume \$5.50 per square foot and an average 450sf garage. <https://www.homeadvisor.com/cost/landscape/house-demolition/#garage>; (3) Foundation Removal: rough estimate based on home foundation removal. Ibid.; and (4) Tree Removal: Assume an average of two tree to be removed at a cost of \$350 per tree. <http://www.treeremoval.com/ca/vancouver/>

Servicing - All estimates based on City of Vancouver Laneway Housing How-to Guide. City of Vancouver, Laneway Housing How-to Guide (Vancouver: City of Vancouver,[Nov 2016]).

Foundation - Assume 450 square foot slab with a cost of \$5.00 per square foot for excavation + Granular Fill and \$2.60 per square foot for the pouring of the Concrete Foundation.

<https://www.improvenet.com/r/costs-and-prices/concrete-slabs>

Contingency - Assume Class C cost estimate with a low project complexity Federal Government of Canada and Industry Cost Predictability Taskforce, Guide to Cost Predictability in Construction: An Analysis of Issues Affecting the Accuracy of Construction Cost Estimates (Canadian Construction Association,[Nov 2012]).

Table 15 Total Unit Soft Costs

Item	Studio	1-Bed	2-Bed
Permitting			
Laneway Approval		\$1,920	
Strata Application		\$4,960	
Development Permit	\$611	\$790	\$909
Delivery			
Site Installation	\$1,600	\$3,200	\$4,000
<hr/>			
Total	\$11,595	\$15,627	\$17,446
Contingency (5% & 15%)	\$890	\$1,024	\$1,087
Taxes (5% & 12%)	\$894	\$1,320	\$1,530
Grand Total	\$13,338	\$17,971	\$20,063

Table 16 Site Servicing Budget

Service	Cost
Demolition	
Demo Permit	\$5,031
Existing garage	\$356
Foundation Removal	\$2,475
Tree Removal	\$1,500
	\$700
Servicing	
Sanitary	\$22,020
Water	\$10,595
Electrical	\$5,400
Gas	\$6,000
	\$25
Foundation	
Excavation + Granular Fill	\$3,420
Concrete Foundation	\$2,250
	\$1,170
<hr/>	
Total	\$30,471
Contingency (15%)	\$4,571
Taxes (12%)	\$4,204
Grand Total	\$39,247

OVERALL FINANCIAL MODEL

The subsequent notes are with reference to the tables found on the following two spreads (Tables 17 & 18). It is recommended that they be read in conjunction with Figures 46 & 47. While Figures 46 & 47 are simplified snapshots of a moment in time, Tables 17 & 18 provide a more detailed schedule of loan repayments.

Ownership Option

Actors - The main actors involved in the **Ownership Option** are (1) the future CLT Tenant/Home Owner, (2) the Credit Union providing the Mortgage Loan to actor '1', (3) the CLT, (4) Private Lenders, (5) the government bodies providing Loans, and (6) the government bodies providing Grants

(1) **Home Owner** - the home owner is responsible for paying the **Yearly Mortgage** and **initial Down Payment** (~30%) associated with the unit they have purchased. Additionally, they also make an agreement with the CLT which involves certain mandatory **Yearly Fees** (previously identified as property taxes, CLT operations, and adjustment). Note that maintenance fees are not included within the **Yearly Fees** value since these are the responsibility of the Home Owner and they would not be charged by the CLT.

(2) **Credit Union** - the Home Owner would call upon a credit union such as Vancity in order to cover the **Financed Amount** which would then be paid back as a monthly mortgage over a period of 10 years at an assumed average rate of 4% exclusively by the Home Owner.

(3) **CLT** - the CLT's role for the purposes of this table involves the collection of the **Yearly CLT Fees**, part of which are comprised of the adjustment fee which then becomes the **CLT Profit less Expenses** line that makes it into the CLT's **Available Funds** for each year. Furthermore, the CLT also takes on the role of repaying all outstanding debts to all the various actors except for the **Credit Union**. Note that **CLT Available Funds** grow at a rate of 2.0% yearly as this is the assumed yearly fee increase that the CLT will impose upon the Home Owner.

(4) **Private Lenders** - called upon for a loan equivalent to the servicing costs of the laneway lot. The loan is assumed to be a bond type investment with a maturity of up to 10 years and an annual coupon of 6%. As the table shows, a coupon repayment schedule involves an annual coupon plus the initial loan returned at the end as a lump sum. Note that the **Private Lender** is the first to get paid (excluding the **Credit Union** which is part of a different agreement) - this is based on current Vancouver CLT repayment agreements.

(5) **Government Loans** - these cover the **Land Cost** and they may involve all three levels of government and a single or a number of loans under different affordable housing programs. As the current Vancouver CLT has shown us, **Government Loans** have much more favorable interest rates as compared to the private market. A bond type loan is assumed once again but this time the annual coupon is set at 3.0% with a maturity period of up to 40 years.

(6) **Government Grants** - these are assumed to come in two forms: (a) a one time municipal contribution equivalent to the value experienced by the current Vancouver CLT (note 2), and (b) a yearly grant that linearly diminishes over a period of 35 years as seen in the **Available Funds - Grants** column (at a rate of \$394.29 per year)

Repayment Logic - each year the **Available Funds - Total** is distributed in the following order: (1) the **Private Bond - Coupon** is paid, (2) the **Government Bond - Coupon** is paid, (3) the remainder is considered under **CLT Finances** as **Profit** and makes it into the **Account Balance**. The **Account Balance** is considered as a savings account that is assumed to gain an annual 2.0% in **Savings Interest**. Note that there are other potential sources of revenue that can be added to the **Account Balance** and I have assumed **Transaction Profits** equivalent to **Realtor Fees** as the CLT will be in charge of each laneway home resale throughout its life. (based on the Burlington CLT I assumed the first sale to take place after 8.7 years, while subsequent sales to take place every 6.3 years.)

As such the **Account Balance** grows each year up until the point it exceeds first the **Private Bond** loan, and second the **Government Bond** loan which then are paid back as lump sums in that order.

Lastly I will speak to the last three columns of the table under the general heading of **Incentives vs Reimbursements**. What the last two columns attempt to highlight is the difference between the overall incentives and reimbursements necessary for making this proposal possible in terms of 2018 dollars. Assuming an average yearly **Inflation Index** of 2.0% both **Gov. Grants** and **Gov. Bond Interest** are transformed into 2018 dollar value and then added up at the bottom of the table. What this then shows is that once the Government Loan has been paid back after 36 years, the overall investment by the government will be the difference between the two totals (ie. \$201,113.48 - \$180,170.43 = overall loss of \$20,943.05)

The financial model for the **Rental Option** outlined below functions very similarly to the just discussed **Ownership Option**. The main difference between the two options is that under the **Rental Option** the tenant does not contribute any up front investment into the chosen housing unit. This means that the CLT takes on the role of Home Owner which involves the initial **Down Payment** for financing the housing unit, **Housing Mortgage** payments, and ongoing maintenance responsibilities.

Rental Option

Actors - The main actors involved in the **Rental Option** are (1) the future CLT Tenant, (2) the creditor providing the Mortgage Loan to the CLT, (3) the CLT, (4) Private Lenders, (5) the government bodies providing Loans, and (6) the government bodies providing Grants

(1) **Tenant** - only responsible for paying the **Yearly Rent** to the CLT which consists of payments that will go towards loan repayments and a number of fees (home maintenance, property taxes, CLT operations, and adjustment). Note that the **Adjustment** is considered a fee that makes a minimal profit for the CLT (can also act as a buffer in case financing rates worsen beyond the assumed averages and the CLT does not wish to increase rents).

(2) **Home Mortgage Creditor** - the CLT would call upon a creditor such as CMHC (previously mentioned in the Economics section as Rental Construction Program) in order to cover the **Down Payment** and **Financed Amount** which would then be payed back as a monthly mortgage over a period of 10 years at an assumed favorable average rate of 2.5%. (these are governmental affordable housing program rates - see Economics section)

(3) **CLT** - the CLT's role for the purposes of this table involves the collection of the **Yearly Rent**, part of which is comprised of expenses and the adjustment fee. Subtracting expenses from the **Yearly Rent** leaves us with the **Profit less Expenses** line which then makes it into the CLT's **Available Funds** for each year. Furthermore, the CLT also takes on the role of repaying all outstanding debts to all the various actors involved in the financing of the proposal. Note that **CLT Available Funds** grow at a rate of 2.0% yearly as this is the assumed rent increase that the CLT will impose upon the **Tenant**.

(4) **Private Lenders** - same role/assumptions as under **Ownership Option**

(5) **Government Loans** - same role/assumptions as under **Ownership Option**

(6) **Government Grants** - same role/assumptions as under **Ownership Option** except for the yearly grant that linearly diminishes over a period of now 25 years as seen in the **Available Funds - Grants** column (at a rate of \$576.00 per year)

Repayment Logic - same as under the **Ownership Option** except that now the CLT is responsible for yearly home mortgage payments. This changes the annual distribution of the **Available Funds - Total** to the following: in order of payment (1) the **Housing Mortgage**, (2) the **Private Bond - Coupon**, (3) the **Government Bond - Coupon**, (4) the remainder is considered under **CLT Finances** as **Profit** and makes it into the **Account Balance**. The **Account Balance** is considered as a savings account that is assumed to gain an annual 2.0% in **Savings Interest**.

As with the **Ownership Option**, the **Account Balance** grows each year up until the point it exceeds first the **Private Bond** loan, and second the **Government Bond** loan which then are payed back as lump sums in that order.

The last three columns of the table fall once more under the general heading of **Incentives vs Reimbursements**. Following the same logic as previously outlined, what these numbers show is that once the **Government Loan** has been payed back after now 28 years, the overall investment by the government will be the difference between the two totals (ie. \$160,787.94 - \$150,428.80 = overall loss of \$10,450.14)

OWNERSHIP OPTION FINANCING

Table 17 Ownership Option Repayment Schedule

Unit Type	Yearly Mortgage	Yearly CLT Fees	CLT Profit less Expenses	Unit Cost	Down Payment (~30%)	Financed Amount	Servicing Costs			
Average	\$9,522.48	\$7,420.80	\$3,880.80	\$110,464.49	\$32,086.42	\$78,378.08	\$40,000.00			
Grants/Donations					\$0.00	\$0.00	\$0.00			
Funding Needed						- owner -	\$78,378.08	\$40,000.00 ¹		
Year	Housing Mortgage			Available Funds			Private Bond			
	Interest	Principal	Running Loan	CLT	Grants	Total	Coupon	Principal	Running Loan	
Annual Rate	-4.0%			2.0%	-\$394.29		-6.0%			
0			-\$78,378.08						-\$40,000.00	
1	-\$3,063.04	\$6,459.44	-\$71,918.64	\$3,880.80	\$13,800.00	\$17,680.80	-\$2,400.00		-\$40,000.00	
2	-\$2,756.74	\$6,765.74	-\$65,152.89	\$3,958.42	\$13,405.71	\$17,364.13	-\$2,400.00		-\$40,000.00	
3	-\$2,450.43	\$7,072.05	-\$58,080.85	\$4,037.58	\$13,011.43	\$17,049.01	-\$2,400.00		-\$40,000.00	
4	-\$2,144.13	\$7,378.35	-\$50,702.49	\$4,118.34	\$12,617.14	\$16,735.48	-\$2,400.00		-\$40,000.00	
5	-\$1,837.82	\$7,684.66	-\$43,017.84	\$4,200.70	\$12,222.86	\$16,423.56	-\$2,400.00	\$40,000.00	\$0.00	
6	-\$1,531.52	\$7,990.96	-\$35,026.88	\$4,284.72	\$11,828.57	\$16,113.29	\$0.00		\$0.00	
7	-\$1,225.22	\$8,297.26	-\$26,729.61	\$4,370.41	\$11,434.29	\$15,804.70	\$0.00		\$0.00	
8	-\$918.91	\$8,603.57	-\$18,126.05	\$4,457.82	\$11,040.00	\$15,497.82	\$0.00		\$0.00	
9	-\$612.61	\$8,909.87	-\$9,216.18	\$4,546.98	\$10,645.71	\$15,192.69	\$0.00		\$0.00	
10	-\$306.30	\$9,216.18	\$0.00	\$4,637.92	\$10,251.43	\$14,889.34	\$0.00		\$0.00	
11				\$4,730.67	\$9,857.14	\$14,587.82				
12				\$4,825.29	\$9,462.86	\$14,288.14				
13				\$4,921.79	\$9,068.57	\$13,990.36				
14				\$5,020.23	\$8,674.29	\$13,694.51				
15				\$5,120.63	\$8,280.00	\$13,400.63				
16				\$5,223.05	\$7,885.71	\$13,108.76				
17				\$5,327.51	\$7,491.43	\$12,818.94				
18				\$5,434.06	\$7,097.14	\$12,531.20				
19				\$5,542.74	\$6,702.86	\$12,245.60				
20				\$5,653.59	\$6,308.57	\$11,962.16				
21				\$5,766.66	\$5,914.29	\$11,680.95				
22				\$5,882.00	\$5,520.00	\$11,402.00				
23				\$5,999.64	\$5,125.71	\$11,125.35				
24				\$6,119.63	\$4,731.43	\$10,851.06				
25				\$6,242.02	\$4,337.14	\$10,579.17				
26				\$6,366.86	\$3,942.86	\$10,309.72				
27				\$6,494.20	\$3,548.57	\$10,042.77				
28				\$6,624.09	\$3,154.29	\$9,778.37				
29				\$6,756.57	\$2,760.00	\$9,516.57				
30				\$6,891.70	\$2,365.71	\$9,257.41				
31				\$7,029.53	\$1,971.43	\$9,000.96				
32				\$7,170.12	\$1,577.14	\$8,747.27				
33				\$7,313.53	\$1,182.86	\$8,496.38				
34				\$7,459.80	\$788.57	\$8,248.37				
35				\$7,608.99	\$394.29	\$8,003.28				
36				\$7,761.17	\$0.00	\$7,761.17				
37				\$7,916.39	\$0.00	\$7,916.39				
38				\$8,074.72	\$0.00	\$8,074.72				
39				\$8,236.22	\$0.00	\$8,236.22				
40				\$8,400.94	\$0.00	\$8,400.94				

Appendix

Land Cost

Assumptions

\$300,000.00
\$69,000.00²

1. Private Investment covers all Servicing Costs
2. Same level of Municipal investment in Land acquisition as seen by current Vancouver CLT
3. 15% Realtor fee profit (first sale at 8.7 years, subsequent every 6.3 years as per Burlington CLT report)

\$231,000.00

Year	Government Bond			CLT Finances					Incentives vs Reimbursements		
	Coupon	Principal	Running Loan	Profit	Transaction Profits ³	Account Balance	Savings Interest	Payout	Inflation Index	Gov. Grants (2018 \$)	Gov. Bond Interest (2018 \$)
	-3.0%				2.0%		2.0%		2.0%		
0			-\$231,000.00								
1	-\$6,930.00		-\$231,000.00	\$8,350.80		\$8,350.80	\$0.00	\$0.00	100.0	\$13,800.00	-\$6,930.00
2	-\$6,930.00		-\$231,000.00	\$8,034.13		\$16,551.95	\$167.02	\$0.00	102.0	\$13,142.86	-\$6,794.12
3	-\$6,930.00		-\$231,000.00	\$7,719.01		\$24,602.00	\$331.04	\$0.00	104.0	\$12,506.18	-\$6,660.90
4	-\$6,930.00		-\$231,000.00	\$7,405.48		\$32,499.52	\$492.04	\$0.00	106.1	\$11,889.42	-\$6,530.29
5	-\$6,930.00		-\$231,000.00	\$7,093.56		\$40,243.07	\$649.99	-\$40,000.00	108.2	\$11,292.03	-\$6,402.25
6	-\$6,930.00		-\$231,000.00	\$9,183.29		\$10,231.22	\$804.86	\$0.00	110.4	\$10,713.50	-\$6,276.71
7	-\$6,930.00		-\$231,000.00	\$8,874.70		\$19,310.54	\$204.62	\$0.00	112.6	\$10,153.32	-\$6,153.64
8	-\$6,930.00		-\$231,000.00	\$8,567.82		\$28,264.57	\$386.21	\$0.00	114.9	\$9,610.98	-\$6,032.98
9	-\$6,930.00		-\$231,000.00	\$8,262.69	\$1,200.00	\$38,292.55	\$565.29	\$0.00	117.2	\$9,086.01	-\$5,914.69
10	-\$6,930.00		-\$231,000.00	\$7,959.34		\$47,017.74	\$765.85	\$0.00	119.5	\$8,577.94	-\$5,798.71
11	-\$6,930.00		-\$231,000.00	\$7,657.82		\$55,615.92	\$940.35	\$0.00	121.9	\$8,086.29	-\$5,685.01
12	-\$6,930.00		-\$231,000.00	\$7,358.14		\$64,086.38	\$1,112.32	\$0.00	124.3	\$7,610.63	-\$5,573.54
13	-\$6,930.00		-\$231,000.00	\$7,060.36		\$72,428.47	\$1,281.73	\$0.00	126.8	\$7,150.51	-\$5,464.26
14	-\$6,930.00		-\$231,000.00	\$6,764.51		\$80,641.55	\$1,448.57	\$0.00	129.4	\$6,705.50	-\$5,357.12
15	-\$6,930.00		-\$231,000.00	\$6,470.63	\$1,265.23	\$89,990.25	\$1,612.83	\$0.00	131.9	\$6,275.21	-\$5,252.07
16	-\$6,930.00		-\$231,000.00	\$6,178.76		\$97,968.82	\$1,799.81	\$0.00	134.6	\$5,859.20	-\$5,149.09
17	-\$6,930.00		-\$231,000.00	\$5,888.94		\$105,817.13	\$1,959.38	\$0.00	137.3	\$5,457.10	-\$5,048.13
18	-\$6,930.00		-\$231,000.00	\$5,601.20		\$113,534.67	\$2,116.34	\$0.00	140.0	\$5,068.51	-\$4,949.15
19	-\$6,930.00		-\$231,000.00	\$5,315.60		\$121,120.96	\$2,270.69	\$0.00	142.8	\$4,693.07	-\$4,852.10
20	-\$6,930.00		-\$231,000.00	\$5,032.16		\$128,575.54	\$2,422.42	\$0.00	145.7	\$4,330.40	-\$4,756.97
21	-\$6,930.00		-\$231,000.00	\$4,750.95		\$135,898.00	\$2,571.51	\$0.00	148.6	\$3,980.14	-\$4,663.69
22	-\$6,930.00		-\$231,000.00	\$4,472.00	\$1,433.35	\$144,521.31	\$2,717.96	\$0.00	151.6	\$3,641.96	-\$4,572.25
23	-\$6,930.00		-\$231,000.00	\$4,195.35		\$151,607.09	\$2,890.43	\$0.00	154.6	\$3,315.51	-\$4,482.59
24	-\$6,930.00		-\$231,000.00	\$3,921.06		\$158,560.29	\$3,032.14	\$0.00	157.7	\$3,000.46	-\$4,394.70
25	-\$6,930.00		-\$231,000.00	\$3,649.17		\$165,380.66	\$3,171.21	\$0.00	160.8	\$2,696.49	-\$4,308.53
26	-\$6,930.00		-\$231,000.00	\$3,379.72		\$172,068.00	\$3,307.61	\$0.00	164.1	\$2,403.29	-\$4,224.05
27	-\$6,930.00		-\$231,000.00	\$3,112.77		\$178,622.13	\$3,441.36	\$0.00	167.3	\$2,120.55	-\$4,141.22
28	-\$6,930.00		-\$231,000.00	\$2,848.37	\$1,623.80	\$186,666.75	\$3,572.44	\$0.00	170.7	\$1,847.98	-\$4,060.02
29	-\$6,930.00		-\$231,000.00	\$2,586.57		\$192,986.65	\$3,733.33	\$0.00	174.1	\$1,585.27	-\$3,980.42
30	-\$6,930.00		-\$231,000.00	\$2,327.41		\$199,173.79	\$3,859.73	\$0.00	177.6	\$1,332.16	-\$3,902.37
31	-\$6,930.00		-\$231,000.00	\$2,070.96		\$205,228.23	\$3,983.48	\$0.00	181.1	\$1,088.37	-\$3,825.85
32	-\$6,930.00		-\$231,000.00	\$1,817.27		\$211,150.06	\$4,104.56	\$0.00	184.8	\$853.62	-\$3,750.83
33	-\$6,930.00		-\$231,000.00	\$1,566.38		\$216,939.44	\$4,223.00	\$0.00	188.5	\$627.66	-\$3,677.29
34	-\$6,930.00		-\$231,000.00	\$1,318.37	\$1,839.56	\$224,436.16	\$4,338.79	\$0.00	192.2	\$410.24	-\$3,605.19
35	-\$6,930.00		-\$231,000.00	\$1,073.28		\$229,998.16	\$4,488.72	\$0.00	196.1	\$201.10	-\$3,534.50
36	-\$6,930.00	\$231,000.00	\$0.00	\$831.17		\$235,429.30	\$4,599.96	-\$231,000.00	200.0	\$0.00	-\$3,465.19
37	\$0.00		\$0.00	\$7,916.39		\$17,054.28	\$4,708.59	\$0.00	204.0	\$0.00	\$0.00
38	\$0.00		\$0.00	\$8,074.72		\$25,470.09	\$341.09	\$0.00	208.1	\$0.00	\$0.00
39	\$0.00		\$0.00	\$8,236.22		\$34,215.70	\$509.40	\$0.00	212.2	\$0.00	\$0.00
40	\$0.00		\$0.00	\$8,400.94		\$43,300.96	\$684.31	\$0.00	216.5	\$0.00	\$0.00

Total Grant vs Interest Payments \$201,113.48 \$180,170.43

RENTAL OPTION FINANCING

Table 18 Rental Option Repayment Schedule

Unit Type	Yearly Rent	Yearly CLT Fees	Profit less Expenses	Unit Cost	25% Down Payment	Financed Amount	Servicing Costs		
Average	\$15,598.80	\$6,226.80	\$9,648.00	\$110,464.49	\$27,616.12	\$82,848.37	\$40,000.00		
Grants/Donations					\$27,616.12 ¹	\$0.00	\$0.00		
Funding Needed					\$0.00	\$82,848.37	\$40,000.00 ²		
Year	Available Funds			Housing Mortgage			Private Bond		
	CLT	Grants	Total	Interest	Principal	Running Loan	Interest	Principal	Running Loan
Annual Rate	2.0%	-\$576.00		-2.5%			-6.0%		
0						-\$82,848.37			-\$40,000.00
1	\$9,648.00	\$14,400.00	\$24,048.00	-\$1,976.89	\$7,395.23	-\$75,453.14	-\$2,400.00		-\$40,000.00
2	\$9,840.96	\$13,824.00	\$23,664.96	-\$1,779.21	\$7,592.92	-\$67,860.21	-\$2,400.00		-\$40,000.00
3	\$10,037.78	\$13,248.00	\$23,285.78	-\$1,581.52	\$7,790.61	-\$60,069.60	-\$2,400.00		-\$40,000.00
4	\$10,238.53	\$12,672.00	\$22,910.53	-\$1,383.83	\$7,988.30	-\$52,081.30	-\$2,400.00		-\$40,000.00
5	\$10,443.31	\$12,096.00	\$22,539.31	-\$1,186.14	\$8,185.99	-\$43,895.30	-\$2,400.00		-\$40,000.00
6	\$10,652.17	\$11,520.00	\$22,172.17	-\$988.45	\$8,383.68	-\$35,511.62	-\$2,400.00		-\$40,000.00
7	\$10,865.22	\$10,944.00	\$21,809.22	-\$790.76	\$8,581.37	-\$26,930.25	-\$2,400.00		-\$40,000.00
8	\$11,082.52	\$10,368.00	\$21,450.52	-\$593.07	\$8,779.06	-\$18,151.19	-\$2,400.00		-\$40,000.00
9	\$11,304.17	\$9,792.00	\$21,096.17	-\$395.38	\$8,976.75	-\$9,174.44	-\$2,400.00		-\$40,000.00
10	\$11,530.25	\$9,216.00	\$20,746.25	-\$197.69	\$9,174.44	\$0.00	-\$2,400.00	\$40,000.00	\$0.00
11	\$11,760.86	\$8,640.00	\$20,400.86						
12	\$11,996.08	\$8,064.00	\$20,060.08						
13	\$12,236.00	\$7,488.00	\$19,724.00						
14	\$12,480.72	\$6,912.00	\$19,392.72						
15	\$12,730.33	\$6,336.00	\$19,066.33						
16	\$12,984.94	\$5,760.00	\$18,744.94						
17	\$13,244.64	\$5,184.00	\$18,428.64						
18	\$13,509.53	\$4,608.00	\$18,117.53						
19	\$13,779.72	\$4,032.00	\$17,811.72						
20	\$14,055.31	\$3,456.00	\$17,511.31						
21	\$14,336.42	\$2,880.00	\$17,216.42						
22	\$14,623.15	\$2,304.00	\$16,927.15						
23	\$14,915.61	\$1,728.00	\$16,643.61						
24	\$15,213.92	\$1,152.00	\$16,365.92						
25	\$15,518.20	\$576.00	\$16,094.20						
26	\$15,828.57	\$0.00	\$15,828.57						
27	\$16,145.14	\$0.00	\$16,145.14						
28	\$16,468.04	\$0.00	\$16,468.04						
29	\$16,797.40	\$0.00	\$16,797.40						
30	\$17,133.35	\$0.00	\$17,133.35						
31	\$17,476.02	\$0.00	\$17,476.02						
32	\$17,825.54	\$0.00	\$17,825.54						
33	\$18,182.05	\$0.00	\$18,182.05						
34	\$18,545.69	\$0.00	\$18,545.69						
35	\$18,916.60	\$0.00	\$18,916.60						
36	\$19,294.93	\$0.00	\$19,294.93						
37	\$19,680.83	\$0.00	\$19,680.83						
38	\$20,074.45	\$0.00	\$20,074.45						
39	\$20,475.94	\$0.00	\$20,475.94						
40	\$20,885.46	\$0.00	\$20,885.46						

Appendix

Land Cost		Assumptions								
\$300,000.00		1. Housing Cost Downpayment is entirely covered by in kind Grants/Donations								
<u>\$69,000.00³</u>		2. Private Investment covers all Servicing Costs								
\$231,000.00		3. Same level of Municipal investment in Land acquisition as seen by current Vancouver CLT								
Year	Government Bond			CLT Finances				Incentives vs Reimbursements		
	Interest	Principal	Running Loan	Profit	Account Balance	Savings Interest	Payout	Inflation Index	Grants (2018 \$)	Bond Interest (2018 \$)
	-3.0%					2.0%		2.0%		
0			-\$231,000.00							
1	-\$6,930.00		-\$231,000.00	\$5,345.87	\$5,345.87	\$0.00	\$0.00	100.0	\$14,400.00	-\$6,930.00
2	-\$6,930.00		-\$231,000.00	\$4,962.83	\$10,415.62	\$106.92	\$0.00	102.0	\$13,552.94	-\$6,794.12
3	-\$6,930.00		-\$231,000.00	\$4,583.65	\$15,207.58	\$208.31	\$0.00	104.0	\$12,733.56	-\$6,660.90
4	-\$6,930.00		-\$231,000.00	\$4,208.41	\$19,720.14	\$304.15	\$0.00	106.1	\$11,941.11	-\$6,530.29
5	-\$6,930.00		-\$231,000.00	\$3,837.18	\$23,951.72	\$394.40	\$0.00	108.2	\$11,174.83	-\$6,402.25
6	-\$6,930.00		-\$231,000.00	\$3,470.04	\$27,900.79	\$479.03	\$0.00	110.4	\$10,434.02	-\$6,276.71
7	-\$6,930.00		-\$231,000.00	\$3,107.09	\$31,565.90	\$558.02	\$0.00	112.6	\$9,717.96	-\$6,153.64
8	-\$6,930.00		-\$231,000.00	\$2,748.39	\$34,945.60	\$631.32	\$0.00	114.9	\$9,025.97	-\$6,032.98
9	-\$6,930.00		-\$231,000.00	\$2,394.04	\$38,038.56	\$698.91	\$0.00	117.2	\$8,357.38	-\$5,914.69
10	-\$6,930.00		-\$231,000.00	\$2,044.12	\$40,843.45	\$760.77	-\$40,000.00	119.5	\$7,711.54	-\$5,798.71
11	-\$6,930.00		-\$231,000.00	\$1,347.86	\$15,131.18	\$816.87	\$0.00	121.9	\$7,087.81	-\$5,685.01
12	-\$6,930.00		-\$231,000.00	\$1,130.08	\$28,563.88	\$302.62	\$0.00	124.3	\$6,485.58	-\$5,573.54
13	-\$6,930.00		-\$231,000.00	\$1,279.00	\$41,929.15	\$571.28	\$0.00	126.8	\$5,904.24	-\$5,464.26
14	-\$6,930.00		-\$231,000.00	\$12,462.72	\$55,230.45	\$838.58	\$0.00	129.4	\$5,343.20	-\$5,357.12
15	-\$6,930.00		-\$231,000.00	\$12,136.33	\$68,471.39	\$1,104.61	\$0.00	131.9	\$4,801.90	-\$5,252.07
16	-\$6,930.00		-\$231,000.00	\$11,814.94	\$81,655.76	\$1,369.43	\$0.00	134.6	\$4,279.76	-\$5,149.09
17	-\$6,930.00		-\$231,000.00	\$11,498.64	\$94,787.51	\$1,633.12	\$0.00	137.3	\$3,776.26	-\$5,048.13
18	-\$6,930.00		-\$231,000.00	\$11,187.53	\$107,870.79	\$1,895.75	\$0.00	140.0	\$3,290.86	-\$4,949.15
19	-\$6,930.00		-\$231,000.00	\$10,881.72	\$120,909.92	\$2,157.42	\$0.00	142.8	\$2,823.04	-\$4,852.10
20	-\$6,930.00		-\$231,000.00	\$10,581.31	\$133,909.44	\$2,418.20	\$0.00	145.7	\$2,372.30	-\$4,756.97
21	-\$6,930.00		-\$231,000.00	\$10,286.42	\$146,874.05	\$2,678.19	\$0.00	148.6	\$1,938.16	-\$4,663.69
22	-\$6,930.00		-\$231,000.00	\$9,997.15	\$159,808.67	\$2,937.48	\$0.00	151.6	\$1,520.12	-\$4,572.25
23	-\$6,930.00		-\$231,000.00	\$9,713.61	\$172,718.46	\$3,196.17	\$0.00	154.6	\$1,117.74	-\$4,482.59
24	-\$6,930.00		-\$231,000.00	\$9,435.92	\$185,608.75	\$3,454.37	\$0.00	157.7	\$730.55	-\$4,394.70
25	-\$6,930.00		-\$231,000.00	\$9,164.20	\$198,485.13	\$3,712.18	\$0.00	160.8	\$358.11	-\$4,308.53
26	-\$6,930.00		-\$231,000.00	\$8,898.57	\$211,353.40	\$3,969.70	\$0.00	164.1	\$0.00	-\$4,224.05
27	-\$6,930.00		-\$231,000.00	\$9,215.14	\$224,795.61	\$4,227.07	\$0.00	167.3	\$0.00	-\$4,141.22
28	-\$6,930.00	\$231,000.00	\$0.00	\$9,538.04	\$238,829.56	\$4,495.91	-\$231,000.00	170.7	\$0.00	-\$4,060.02
29	\$0.00		\$0.00	\$16,797.40	\$29,403.55	\$4,776.59	\$0.00	174.1	\$0.00	\$0.00
30	\$0.00		\$0.00	\$17,133.35	\$47,124.97	\$588.07	\$0.00	177.6	\$0.00	\$0.00
31	\$0.00		\$0.00	\$17,476.02	\$65,543.49	\$942.50	\$0.00	181.1	\$0.00	\$0.00
32	\$0.00		\$0.00	\$17,825.54	\$84,679.90	\$1,310.87	\$0.00	184.8	\$0.00	\$0.00
33	\$0.00		\$0.00	\$18,182.05	\$104,555.54	\$1,693.60	\$0.00	188.5	\$0.00	\$0.00
34	\$0.00		\$0.00	\$18,545.69	\$125,192.34	\$2,091.11	\$0.00	192.2	\$0.00	\$0.00
35	\$0.00		\$0.00	\$18,916.60	\$146,612.79	\$2,503.85	\$0.00	196.1	\$0.00	\$0.00
36	\$0.00		\$0.00	\$19,294.93	\$168,839.98	\$2,932.26	\$0.00	200.0	\$0.00	\$0.00
37	\$0.00		\$0.00	\$19,680.83	\$191,897.61	\$3,376.80	\$0.00	204.0	\$0.00	\$0.00
38	\$0.00		\$0.00	\$20,074.45	\$215,810.01	\$3,837.95	\$0.00	208.1	\$0.00	\$0.00
39	\$0.00		\$0.00	\$20,475.94	\$240,602.15	\$4,316.20	\$0.00	212.2	\$0.00	\$0.00
40	\$0.00		\$0.00	\$20,885.46	\$266,299.65	\$4,812.04	\$0.00	216.5	\$0.00	\$0.00

Total Grant vs Interest Payments \$160,878.94 \$150,428.80

HIGHER DENSITY DEVELOPMENT

The subsequent notes are with reference to the adjacent table which is a more detailed version of Table 11 found at the end of the Proposal Implementation section.

Average Resale Period - assumption is made based on Burlington CLT observations (Davis and Stokes, 2009)

Equity Gain via Mortgage - this number represents the amount of principal accrued over the **Average Resale Period** (total monthly mortgage payments made minus interest)

Share of Appreciation - this value is based on a slightly modified resale formula to the one identified by the Burlington CLT. The proposed formula is as follows:

$$\frac{\text{Initial Purchase Price}}{\text{Appraisal}_1} \times (\text{Appraisal}_2 - \text{Appraisal}_1) \times 50\%$$

Given the values of the CLT units and laneway lot, the home equity appreciation resulting from the formula sits at 3.3%. (assuming an annual residential price appreciation of 5.9% as per the adjacent Figure, and a 0.0% appreciation in value of the housing unit which basically means a depreciation at the value of inflation), the resulting total equity appreciation of a CLT unit would be 3.3% annually. This value is ideal as it lines up with historical annual income increases which means that the CLT's Home price to Income ratio is likely to be maintained over time. (Statistics Canada, 1986-2016)

Expected Income - this value is based on the just mentioned historical annual income appreciation of 3.3%

Max Housing Payments - equivalent to 30% of annual gross income

Expected CLT Fees - given an increase in FSR with the densification of the lot, there would now be at least twice as many units occupying the same number of lots beneath them. This can potentially influence a number of the fees - especially the CLT 'Adjustment' fee which is used to repay loans on land investments. (note: CLT fees are conservatively assumed to appreciate at 3.3% annually as well)

Max Mortgage Payments - the value is simply a subtraction of the **Expected CLT Fees** from the **Max Housing Payments**

Max Attainable Loan - given the **Max Mortgage Payments** value, this number is a mortgage back calculation assuming a 20 year mortgage at 5% interest.

Table 19 Unit size affordability for future higher density development^{\$}

Item	Studio	1-Bed	2-Bed
LWH Equity			
Initial Unit Size	350 sf	560 sf	700 sf
Initial Down Payment	\$20,782	\$31,567	\$38,258
Average Resale Period	6.3 years		
Equity Gain via Mortgage	\$28,478	\$44,586	\$55,036
Share of Appreciation	\$15,316	\$23,766	\$29,180
Equity at Resale	\$64,576	\$99,919	\$122,474
Financial Capability after Resale			
Expected Income	\$43,410	\$74,403	\$101,789
Max Housing Payments	\$1,085	\$1,860	\$2,544
Expected CLT Fees	\$434	\$788	\$1,195
Max Mortgage Payments	\$651	\$1,072	\$1,349
Max Attainable Loan	\$99,000	\$162,000	\$204,000
Given	20 year mortgage @ 5% interest		
Down Payment	\$64,576	\$99,919	\$122,474
Total Capital	\$163,576	\$261,919	\$326,474
Max Affordable Unit Size			
2.0 FSR Development	427 sf	684 sf	853 sf
Afford. Unit Size Increase	22%	22%	22%

Total Capital - represents the maximum amount of money that each household is capable of spending on housing while maintaining their monthly payments within 30% of their annual gross income. (summation of **Max Attainable Loan** and **Down Payment**)

Max Affordable Unit Size - here I have selected the most optimal development based on a trade-off between cost of construction and density achieved. As such, given a **2.0 FSR Development** and annual construction costs appreciation of 2.2% (as per the adjacent figure), the identified **Max Affordable Unit Sizes** result.

Affordable Unit Size Increase - this percentage is the difference between the **Initial Unit Size** and the projected **Max Affordable Unit Size** just identified. As a result of living in an owner occupied laneway home for 6.3 years, it is expected that the owner may increase their living quarters by an estimated 22% across all unit sizes if they choose to move into a CLT 2.0 FSR condominium unit.

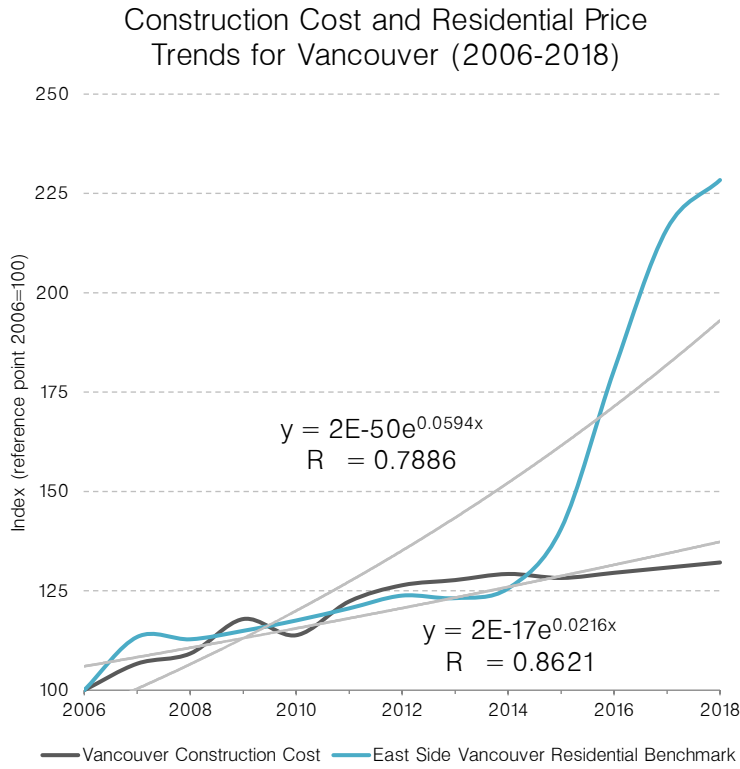


Figure 68 Construction Cost and Residential Price Trends for Vancouver (2006-2018)

The graph superimposes two exponential trend lines over the historical data. What they show is the Construction costs have been growing at an average annual rate of 2.2% for the past 12 years. Similarly, East Side Vancouver overall Residential Sale prices have been increasing at an average annual rate of 5.9%.