

HOUSING OPTIONS COST BENEFIT STUDY

HOUSING SOLUTIONS LAB













HOUSING SOLUTIONS LAB

3300-515 West Hastings Street Vancouver, B.C., Canada V6B 5K3

renewable_cities@sfu.ca +1778 652 4077

SENIORSHOUSINGNAVIGATOR.CA

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INTRODUCTION

Housing options such as home sharing, secondary suites and coach/laneway houses have excellent potential to offer scalable solutions to three urgent and critical challenges: housing supply and affordability, carbon emissions and older adults' health.

SFU Renewable Cities and Hollyburn Community Services Society partnered to launch the Housing Solutions Lab ("the Lab"). The lab focuses on increasing the uptake of different housing options such as home sharing, secondary suites and coach/laneway houses by solo and couple older adults (age 55+) living in single-detached houses on Vancouver's North Shore. The aim of the lab is to design and prototype scalable solutions, unlock implementation pathways, address barriers and encourage replication of these solutions across B.C. and Canada.

There are many ways to house more people in single-detached houses. This cost benefit study is intended to be a reference for people considering adopting housing options. In the context of the Lab, we consider three options:

- **Home share**: where the homeowner rents out a room.
- Secondary suites: where the homeowner rents out a unit within the main house.
- Coach houses: where the homeowner rents out a detached rental unit in the backyard.

There are many potential benefits and costs to each option, and the Lab explored a few that were most commonly identified by lab participants and informants, which are summarized below and explored in more detail in this report. The study explores potential financial, social and environmental costs and benefits for homeowners weighing options for their house, as well as the community more broadly.

This cost benefit study addresses the context of Vancouver's North Shore, which was the focus of this Housing Solutions Lab. Costs and variables may shift depending on context. Numbers were generated in 2023 for information purposes only and may not reflect current conditions.

Ultimately, whether the benefits outweigh the costs for these housing options depends on a multitude of factors within specific and varying contexts. Through this study, we attempted to illustrate a range of situations in this report, however these are not exhaustive and many more exist.

POTENTIAL COSTS AND BENEFITS FOR HOMEOWNERS

For homeowners considering these housing options, there are many costs and benefit to consider. Generally, homeowners may experience benefits for adopting these housing options, such as:

- **Rental income**: additional monthly income from rented space may be beneficial for older adults, especially those on fixed incomes.
- **Social engagement**: potential for increasing social engagement with home seekers and contacts nearby.
- **Aging in place**: potential for increasing length of time that aging adults can stay in their home, offering greater choices for homeowners.
- **Health**: potential to increase mental and physical health.







Homeowners also face certain costs for adopting these housing options, such as:

- Less control over physical spaces: loss of the use of, and control over, some physical spaces on the property.
- **Time investment**: some time is required to set-up and maintain a suite or a shared space.
- **Financial investment**: funds are required to set-up or create the shared space, and there may be additional ongoing maintenance costs.
- Potential loss of privacy: having additional people on property can feel less private
- **Legal responsibilities**: becoming a landlord comes with responsibilities, such as meeting the requirements of the Residential Tenancy Act.

Below, we explore a few of these in some more detail.

Weighing potential costs: Physical space requirements

Minimum requirements for a physical space vary depending on the type of housing option. Table 1 gives a snapshot of typical space needs for each arrangement.

- Home sharing: requires a spare bedroom.
- **Secondary suite**: requires **space in the main house** for a bedroom, washroom, and cooking facilities that are separated (locked off) from the rest of the house. Typically, this could be a basement or garden suite, and can sometimes have a separate entrance.
- Coach house: requires a sizable yard or garage that can be used to create a unit separate from the main house. Some restrictions from local governments may apply.

Weighing potential costs: Set up time

The time it takes to physically set up a legal rental unit depends on many factors.

We show multiple scenarios within three municipalities of Vancouver's North Shore including City of North Vancouver (CNV), District of North Vancouver (DNV) and District of West Vancouver (DWV).

For secondary suites specifically, this cost benefit study reviewed the following scenarios:

- **Operational:** A vacant, fully functioning legal¹ secondary suite exists. It needs to be cleaned to host tenants and may need to be registered with the local government.
- **Recommissioning:** A legal suite exists in usable condition, except the cooking facility (e.g., stove) has been removed. The suite usually needs to be registered with the local government and the cooking facility needs to be re-installed.
- **Minor/medium work:** A space exists but needs minor/medium renovations to become functional and legal. (*For more details, see section below:* <u>B.C. building code requirements for secondary suites.</u>)

¹ For a secondary suite to be legal, it needs to meet the local and provincial government requirements in the area it is located.



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• New/major work: A suite needs to be newly created or heavily/completely redone (e.g., widening entry ways, expanding/adding rooms, removing walls, changing electrical systems).

For coach houses, the table below shows:

- Simple project (DNV/DWV): A simple coach house project in the DNV or DWV
 - o In the DNV, simple projects are **one storey**, have **lane access** or are **on a corner** of local streets and are **not in a Development Permit Area** (areas that may entail special requirements due to environmental, safety or planning considerations).
 - o In the DWV, simple projects are **one storey**, **do not** materially **change the appearance** of the premises and **comply with the zoning bylaws**.
- Other projects (DNV/DWV): Coach house projects in the DNV or the DWV that do not fit the above requirements.
- All projects (CNV): All coach house projects in the CNV.

Permit times depend on the complexity and completeness of the application and conformity to the Zoning Bylaw and other applicable bylaws. Table 1 assumes that permit applications are complete and compliant when submitted, and that additional information or revisions are not required by the local government. Permit times depend on the complexity and completeness of the application and conformity to the Zoning Bylaw and other applicable bylaws.







Table 1. Estimated time to set up different housing options on the North Shore^{2,3}

Housing unit type	Home share		Sec	ondary suite			Coach house	
Scenario	All	Operational	Recommis- sioning	Minor / medium work	New / major work	Simple project (DNV / DWV)	Other projects (DNV / DWV)	All projects (CNV)
Space prep. (e.g., cleaning, furniture)	A few hours or days	A few days or weeks	A few days or weeks	A few days or weeks	A few days or weeks	A few days or weeks	A few days or weeks	A few days or weeks
Design, preparing applications	n/a	n/a	n/a	~ 1-2 month	~ 2-3 months	~ 5-6 months	~ 6-7 months	~ 6-7 months
Development (variance) permit	n/a	n/a	n/a	n/a	n/a	n/a	~ 4-6 months (if approved upon first council consideration)	~ 3-4 months (concurrent with building permit; staff review)
Building permit	n/a	n/a	n/a	~ 3-4 months	~ 3-4 months	~ 3-4 months	~ 3-4 months	~ 3-4 months
Construction	n/a	n/a	2-4 hours	~ 1 month	~ 1-2 months	~ 4-10 months	~ 5-12 months	~ 4-12 months
Total estimated set-up time	A few hours or days	A few days or weeks	A few days or weeks	~ 5-7 months	~ 6-9 months	~ 12-20 months	~ 18-29 months	~ 16-27 months

² Costs are estimates for information and reference purposes only. Length of time will differ depending on specific situations and location, as well as local government requirements and procedures. Please refer to <u>disclaimer</u> at the beginning of this document.







³ Data sources: local government websites, contractor websites, online discussion forums as of summer 2023.

Weighing potential costs: Set up expenses

Set up expenses depend on many factors.

For secondary suites, this cost benefit study covers the following scenarios:

- **Operational:** A vacant, fully functioning legal secondary suite exists. It needs to be cleaned to host tenants and may need to be registered with the municipality.
- **Recommissioning:** A legal suite exists, except the cooking facility (e.g., stove) has been removed. The suite may need to be registered and the cooking facility needs to be re-installed.
- Minor work: A space exists but needs minor renovations to be functional and legal.
- Medium work: A space exists but needs medium renovations to be functional and legal.
- New suite, house post-1980: A suite needs to be newly created or heavily redone. Because it is a house built after 1980, less work is required to bring it up to code.
- New suite, house 1950-1980: A suite needs to be newly created or heavily redone. Because it is a house built between 1950 and 1980, more work is required to bring it up to code.
- New suite, house pre-1950: A suite needs to be newly created or heavily redone. Because it is a house built before 1950, substantial work is required to bring it up to code.

For coach houses, this cost benefit study covers three scenarios:

- **Simple project**: A one storey coach house (no basement, with basic finishing) on a flat lot, with lane access (or a corner location) and good proximity to existing services. No development permit is required. There are no deviations from bylaws, minor aesthetic and municipal infrastructure capacity impacts.
- Average project: An average coach house on an average site.
- **Difficult project:** A coach house that has two storeys (or a basement, with higher-end finishes) that may be on a lot with a steep slope and/or no lane access or corner location that is further from existing services. A development permit is required; there is deviation from bylaws, aesthetic impact, and municipal infrastructure is at-capacity.

We assume that:

- All options require a minimum amount of (unpaid) work by the owner to prepare the space (e.g., cleaning, moving furniture), make decisions, hire and communicate with contractors, etc.
- All other work is contracted out. Lower costs are possible if part of the work is done by or some of the materials are provided by homeowners, their family/friends, or non-profits.
- All spaces are **legal**.
- Spaces have "standard" energy efficiency for their area. Increasing the energy efficiency of the space may involve greater upfront costs but lower ongoing costs, while also providing health and climate benefits. Some upfront energy efficiency costs listed in the table may be offset if they qualify for subsidy programs by governments or financial institutions.

These numbers are initial and not definitive. They reflect information gathered in summer 2023 from municipal documents, contractor websites, online discussion forums and key informants. Numbers change over time due to various policy and economic changes.







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Table 2. Estimated homeowner expenses to set up different housing options on the North Shore^{4, 5}

Unit type	II		Secondary	Suite (600 ft², one	bedroom and one ba	athroom)		Coach house (60	0 ft², one bedroom a	and one bathroo
Scenario	Home share or operational secondary suite	Recommission- ing	Minor work	Medium work	New suite, post- 1980 house	New suite, 1950's-1980's house	New suite, pre- 1950's house	Simple project	Average project	Difficult pro
Servicing upgrade charges ⁶	n/a	n/a	n/a	n/a	n/a	n/a	n/a	\$15-30K	\$30-45K	\$45-105K
Permit fees ⁷	n/a	Negligible	<\$500	\$500-1K	\$1-1.5K	\$1.5-2K	\$2-2.5K	\$3.5-4.5K	\$4.5-5K	\$5-6K
Design and other professional services ⁸	n/a	n/a	\$1-\$5K	\$5-15K	\$15-25K	\$15-25K	\$15-25K	\$25-40K	\$25-40K	\$25-40K
Construction cost ⁹	n/a	\$500-2000	\$15K-30K (\$25-50 / ft ²)	\$30K-55K (\$50-90 / ft ²)	\$55K-\$90K (\$90-150 / ft ²)	\$90K-120K (\$150-200 / ft²)	\$120K-155K (\$200-260 / ft ²)	\$180K-210K (\$300-350 / ft ²)	\$210K-240K (\$350-400 / ft ²)	\$240K-300 (\$400-500 /
Total estimated cost	Negligible	\$500-2000	\$15K-35K (\$25-60 / ft ²)	\$35K-\$70K (\$60-115 / ft ²)	\$70K-\$100K (\$115-170 / ft ²)	\$100-135k (\$170-225 / ft ²)	\$135K-170K (\$225-280 / ft ²)	\$240K-270K (\$400-450 / ft ²)	\$270K-330K (\$450-550 / ft ²)	\$330K-390 \$550-650 / 1

COST BENEFIT STUDY The information shared in this document is for illustrative purposes only and may not reflect current conditions. Please refer to the disclaimer.







⁴ Costs are estimates for information and reference purposes only. Costs will differ depending on specific situations and location, as well as local government requirements and procedures. Please refer to <u>disclaimer</u> at the beginning of this document.

⁵ Sources: Municipal documents, contractor websites, online discussion forums, key informants.

⁶ Examples of charges: water, sanitation, stormwater, hydro, gas.

⁷ Examples of fees: building permits, development permits. Some local governments may have licensing fees for secondary suites or coach houses.

⁸ Varies depending on the municipality since different consultants are required.

⁹ Excludes demolition costs. For secondary suites, assume the project does not need to raise the house off of its foundation.

Weighing potential costs: B.C. building code requirements for secondary suites

According to the District of West Vancouver, to meet the secondary suite B.C. Building Code requirements, property owners must:

- "Provide a separate heating system for the suite;
- Add or alter an existing sprinkler system;
- Provide a fire separation between the suite and dwelling with a fire resistance rating of 45 minutes or greater;
- Provide both an ionized and photo-electric interconnected hard-wired smoke alarm in the suite and dwelling;
- Provide exit stairs or corridors to the suite of at least 86 cm wide:
- Provide a self-closing solid core door between the dwelling and the suite;
- Provide an exit door to the suite which swings on a vertical access (no sliders);
- Remove or provide protection to doors and windows of the dwelling that could expose the suite exit stairs to fire;
- Enclose exposed combustible plumbing piping in the suite as it is not permitted to pass through the rated floor system;
- Upgrade the electrical and plumbing systems to those code standards;
- Make any other alterations necessary to bring the suite and the dwelling into compliance with the BC Building Code or other provincial regulations."¹⁰

Moreover, while not part of building code requirements, a secondary suite usually has its own cooking facilities and bathroom. In North Shore municipalities, a space without a functioning cooking facility (e.g., a cooking range) is not technically considered a secondary suite.

RESOURCES

In addition to consulting with municipal staff and/or construction professionals, the following resources could be used to better understand scope of cost and work required:

- B.C. Government's <u>Home Suite Home Guide</u> about secondary suites
- Secondary suite guide for the City of Nelson
- B.C. building code, Part 9 housing and small buildings

¹⁰ West Vancouver, <u>Secondary suites website</u>.







Weighing potential benefits: Monthly rental revenue

Homeowners can expect to gain monthly revenue from creation of an additional housing unit on their property. We catalogued 39 home share, secondary suite and coach house online rental listings in July 2023 on the North Shore, Vancouver, and Burnaby with a maximum of one bedroom and one bathroom. Using multivariate regression, we found a set of variables that explained about 91% of the differences in rental prices. The resulting equation was used to estimate likely rental rates for a variety of rental offerings for three levels of bikeability on the North Shore.

Notes about Table 3:

- We show market-rate rent. In practice, landlords may opt to charge lower rent for various reasons, such as renting to friends or family or the tenant providing 'in kind' services such as housework, driving to appointments, pet care or yard work.
- Numbers below are based on online rental listings in July 2023 on Vancouver's North Shore and Burnaby, B.C. with a maximum of one bedroom and one bathroom. Rent rates may change over time, but increases are capped by B.C. provincial law for continuing rental agreements.
- All figures **exclude utilities**. The actual utilities amount depends on many factors including the energy efficiency of the space, how much time tenants spend at home, lifestyles, etc.
- For simplicity, we assume that these **spaces are furnished**. Unfurnished units generally rent for \$50 to \$350 less per month, as of summer 2023.
- Landlords may not be able to collect the rent every month, as the unit may be vacant between tenancies and tenants may miss payments. One may reasonably expect to miss about 5% of payments, which is roughly equal to a month every two years.
- **Bike Score** measures how bikeable an area is. Although not everyone bikes, the "bikeability" of an area may correlate to other measures people commonly care about, such as livability, and was found to strongly relate to rental rates in this study. The score is based on an area's bike lanes, steepness, nearby destinations, road connectivity and bike commuting mode share of all trips in an area. To find the Bike Score for a location, visit the <u>Walk Score</u> website.







Table 3. Estimated monthly rents for 1-bedroom living spaces on the North Shore (Summer 2023)^{11, 12}

Bike Score	Example location	Home share, shared bathroom	Home share, private bath, one person	Home share, private bath, two people	Secondary suite, shared laundry ¹³	Coach house
25 (Somewhat bikeable)	Rental near Sentinel Secondary, DWV	\$550-800	\$1100-1500	\$1400-1950	\$1550-2550	\$2000-2750
50 (Bikeable)	Rental near Delbrook Park, DNV	\$750-1050	\$1250-1750	\$1600-2200	\$1700-2800	\$2150-3000
75 (Very bikeable)	Rental near Queen Mary Elementary, CNV	\$950-1300	\$1450-2000	\$1750-2450	\$1900-3050	\$2350-3250







¹¹ Amounts charged are estimates for information and reference purposes only. Charges will differ depending on specific situations and location, as well as local government requirements and procedures. Please refer to <u>disclaimer</u> at the beginning of this document.

¹² Sources: Estimates are based on online rental listings in July 2023 of units with a maximum 1 bed, 1 bathroom on the North Shore, Vancouver and Burnaby.

¹³ This analysis found that some private landlords listed higher monthly rent rates for a unit if a two people (instead of one) are renting a suite.

Weighing the costs: Maintenance expenses¹⁴

Additional housing units will require the homeowner to cover ongoing maintenance expenses. The table below shows estimated monthly expenses incurred by the new living space to the homeowners.

This cost benefit study assumes that all **financial costs are paid for by loans**. It may be possible to reduce the loan required through savings/grants or low/no-interest loans of varying lengths (e.g., from homeowners, non-profits, the government, etc.). For the potential set up costs of each type of housing option, please see <u>Table 2</u>.

Financing will depend on each homeowner's unique situation. This study assumes that **costs are entirely financed by refinancing a mortgage** with an interest rate of 6.75%/year with a variable rate, \$0 balance and 10-year amortization (i.e., the loan is paid off in 10 years). This cost benefit study also assumes that the property is owner-occupied and one unit is rented. For different situations, consult calculators on websites such as <u>ratehub.ca</u> or <u>Vancity.com</u>, or see professionals.

Insurance costs depend on many factors. The numbers in Table 4 made many assumptions, including the year the house was constructed or when the roof was last replaced. Insurance rates typically reflect property condition and other risk factors. For more accurate estimates, consult online calculators such as <u>Square One Insurance</u> or professionals.

Emergency/replacement costs cover unforeseen expenses/repairs or replacing capital structures (e.g., roof, windows, pipes). They are estimated at 10% of other expenses excluding interest payments. Even if no actual emergency/replacement costs are incurred in a month or year, it is prudent to set that amount aside in case they do occur.

Notes about Table 4:

- These are initial numbers generated in **summer 2023** and do not account for future changes such as in inflation, interest rates or natural hazard risks.
- Homeowners need to manage various ongoing expenses (e.g., property taxes, insurance, maintenance costs, etc.) whether they chose these housing options or not. The numbers below are the *additional* costs due to create of a new living space. Table 4 does not include the total costs of the whole property.
- The Districts of West Vancouver charges a separate **registration fee** for secondary suites to fund municipal services, ranging from \$85 to \$450 a year depending on the use of the suite, which is not included in the table below.
- Utilities are excluded from this cost benefit study, which assumes those costs are passed onto tenants, either through separate charges or through rent. Utilities typically cost a few hundred dollars a month and can vary greatly depending on the type of living space, type of heat source, municipal rate structure (e.g., flat rate vs. usage rate) and actual usage.

¹⁴ The external links provided in this section are for reference only and do not reflect an endorsement.







- **Property taxes** are calculated in Table 4 with the assumption that the size of the loan is equal to the additional value of the property created by adding the housing unit. This cost benefit study uses an average mean residential property tax rate (0.02%/month across the three municipalities). The greater the value of the renovation/building, the greater the additional property tax payments. Since buildings depreciate, the additional property taxes would decline over time. Land values change over time; this cost benefit study assumes those changes to be external and to happen regardless of the changes being made to the living space, thus other changes to land value are not included in this table.
- For **maintenance costs**, the table assumes coach houses have higher costs given that they have their own exteriors (e.g., roof, walls), foundation and utility infrastructure.





Table 4. Estimated additional monthly homeowner expenses when managing a new living space on the North Shore 15,16

Additional monthly expenses	Home share (private bathroom)	Secondary suite (No loan)	Secondary suite (\$50K loan)	Secondary suite (\$100K loan)	Coach house (\$300K loan)	Coach house (\$500K loan)
Loan repayments	\$0	\$0	\$572	\$1143	\$3430	\$5717
Property taxes	\$0	\$0	\$11	\$22	\$67	\$112
Insurance	\$47	\$56	\$63	\$79	\$195	\$222
Additional building coverage	\$0	\$6	\$12	\$29	\$0	\$0
Detached structures, fences and landscaping coverage	\$0	\$0	\$0	\$0	\$145	\$172
Landlord's property coverage	\$18	\$18	\$18	\$18	\$18	\$18
Rental income coverage	\$13	\$17	\$17	\$17	\$17	\$17
Premises liability coverage	\$7	\$7	\$7	\$7	\$7	\$7
Landlord legal protection coverage	\$9	\$9	\$9	\$9	\$9	\$9
Maintenance	\$29	\$50	\$50	\$50	\$60	\$60
Size of space	350 ft ²	600 ft ²	600 ft ²	600 ft ²	600 ft ²	600 ft ²
Estimated maintenance	\$0.08/ ft ²	\$0.08/ ft ²	\$0.08/ ft ²	\$0.08/ ft ²	\$0.10/ ft ²	\$0.10/ ft ²
Emergency/replacement	\$8	\$11	\$12	\$15	\$32	\$39
TOTAL	\$84	\$117	\$708	\$1310	\$3785	\$6151







¹⁵ Expenses are estimates for information and reference purposes only. Expenses will differ depending on specific situations and location, as well as local government requirements and procedures. Please refer to <u>disclaimer</u> at the beginning of this document.

¹⁶ Sources: Municipal documents, online calculators, real estate finance-related webpages.

Potential homeowner benefits: Net rental income

Once the collected rent and additional homeowner expenses are accounted for, the result is considered taxable rental income, which is presented in the table below. The left columns provide government income tax rates, based on income brackets.

Earning additional rental income would not in itself increase the amount of taxes paid on other sources of income. For example, if one earned \$45,654 a year (pre-tax) previously and now earns an additional \$6,000 (pre-tax) from rent, the \$45,654 would still only be taxed 20.06% (in 2023 tax amounts), whether they earn the rental income or not. The additional \$6,000 would be subject to the higher tax rate (22.70%). It is possible however, for rental income to disqualify someone from income assistance programs or reduce the benefits they are eligible for when they are based on total income. Each person needs to assess their own situation as they weigh these options.

Given the assumptions and in the current context of the North Shore, coach houses likely would not earn positive taxable or net rental income. Coach houses may still be attractive for other reasons, such as housing family/friends at lower cost than purchasing a separate property.

Notes about Table 5:

• Net rental income is presented in the body of the table. It is calculated from the taxable rental income, less tax rate on the left, we get the, presented in the body of the table.







Table 5. Estimated 2023 after-tax net monthly rental income for a homeowner 17, 18

How to use table: Find the monthly net rental income by cross referencing annual personal income with monthly taxable rental income. An example below, indicated by the red arrows, is included for annual personal income of \$80,000 with taxable rental income of \$400.

A	Annual	In	come tax	rate												
	oersonal ncome	Federal	ВС	Total			Monthl	y taxable	rental ir	ncome an	d net mon	thly rental	l income at	fter taxes		
	tax bracket)	A	В	(A+B)	\$200	\$400	\$600	\$800	\$1000	\$1200	\$1400	\$1600	\$1800	\$2000	\$2200	\$2400
	\$0 to \$45,654	15%	5.06%	20.06%	\$160	\$320	\$480	\$640	\$799	\$959	\$1,119	\$1,279	\$1,439	\$1,599	\$1,759	\$1,919
	\$45,654 to \$53,359	15%	7.70%	22.70%	\$155	\$309	\$464	\$618	\$773	\$928	\$1,082	\$1,237	\$1,391	\$1,546	\$1,701	\$1,855
	\$53,359 to \$91,310	20.5%	7.70%	28.20%	\$144	\$287	\$431	\$574	\$718	\$862	\$1,005	\$1,149	\$1,292	\$1,436	\$1,580	\$1,723
	\$91,310 to \$104,835	20.5%	10.50%	31.00%	\$138	\$276	\$414	\$552	\$690	\$828	\$966	\$1,104	\$1,242	\$1,380	\$1,518	\$1,656
	\$104,835 to \$106,717	20.5%	12.29%	32.79%	\$134	\$269	\$403	\$538	\$672	\$807	\$941	\$1,075	\$1,210	\$1,344	\$1,479	\$1,613
	\$106,717 to \$127,299	26%	12.29%	38.29%	\$123	\$247	\$370	\$494	\$617	\$741	\$864	\$987	\$1,111	\$1,234	\$1,358	\$1,481
	\$127,299 to \$165,430	26%	14.70%	40.70%	\$119	\$237	\$356	\$474	\$593	\$712	\$830	\$949	\$1,067	\$1,186	\$1,305	\$1,423
	\$165,430 to \$172,602	29%	14.70%	43.70%	\$113	\$225	\$338	\$450	\$563	\$676	\$788	\$901	\$1,013	\$1,126	\$1,239	\$1,351
	\$172,602 to \$235,675	29%	16.80%	45.80%	\$108	\$217	\$325	\$434	\$542	\$650	\$759	\$867	\$976	\$1,084	\$1,192	\$1,301
	\$235,675 to \$240,716	33%	16.80%	49.80%	\$100	\$201	\$301	\$402	\$502	\$602	\$703	\$803	\$904	\$1,004	\$1,104	\$1,205
	\$240,716 +	33%	20.50%	53.50%	\$93	\$186	\$279	\$372	\$465	\$558	\$651	\$744	\$837	\$930	\$1,023	\$1,116







¹⁷ Source: Government of Canada, 2023. Income tax rates for individuals.

Potential homeowner costs and benefits: Social connection and privacy

There are a few different potential social costs and benefits for homeowners considering these housing solutions that depend on specific context of individuals and settings. In Canada, a 2021 survey found that 1 in 10 adults experience loneliness frequently. The US Surgeon General recently released a report on the health impacts of isolation, equivalent to smoking a dozen cigarettes a day. ¹⁹ Social connection between homeowners and tenants can reduce social isolation and loneliness. It can also foster agency, mutual aid, which can translate into well-being.

Below are some examples to consider.

SOCIAL CONNECTION AND INTERACTIONS WITH TENANTS

When sharing space on a property, encounters will happen between tenants and homeowners. The extent of shared space varies greatly between the three options. Homeowners should consider the following questions when deciding on which of the housing options seem appealing, if at all:

- How do I feel about sharing space with a home seeker? What spaces do I feel okay sharing? Are there any spaces I do not want to share?
- Am I open to connecting with a home seeker socially? To what extent?3
- If homesharing, does it matter if our schedules align (e.g., am I okay if they work night shifts)?
- Am I interested in participating in social events or outings with a home seeker (e.g., making dinner together once in a while, going to the movies)?

Clear communication and clear expectations can reduce conflict. A homeowner-tenant matchmaking program could include optional check-ins; these might proactively mitigate potential conflicts between matches. That said, homeowners and tenants will need to feel comfortable communicating with each other without relying on the third-party matchmaking organization.

Some questions for consideration when considering these housing options:

- How do I feel about communicating expectations of sharing my space?
- How comfortable do I feel raising concerns (e.g., if someone is not following our agreement, if one person is not maintaining cleanliness at the agreed level)?
- Does it matter if my home seeker and I share similar lifestyles (e.g., cleanliness, alcohol consumption)?

SOCIAL CONNECTIONS OUTSIDE OF HOUSING ARRANGEMENTS

With the extra income from housing a tenant, some older adults may be able to spend more time connecting with people in their communities. Canada HomeShare reported that participants in their









program were able to go for dinner more often with friends or participate in more social gatherings with a couple hundred extra dollars each month.²⁰

PRIVACY CONSIDERATIONS

Depending on the context, increased social connectedness in housing can also be experienced as loss of privacy. Coach houses offer the most separation between homeowners and tenants out of the options, as they are separate buildings. A secondary suite may have some noise transfer between the units and home sharing involves communal spaces within the home.

Sharing spaces can also affect the degree of independence homeowners feel in their homes. For secondary suites and coach houses there are legal rules about how and when they can enter their tenant's spaces (e.g., the B.C. Residential Tenancy Act).

Expectations for privacy vary person to person, especially in their home. For people considering sharing their home, they should think about which areas they are comfortable sharing (e.g., kitchen, bathroom, laundry). Here are some additional questions to consider:

- How much do I value being unobserved and/or undisturbed?
- Am I looking to be more socially available to people around me?
- Am I comfortable with all of my belongings being seen in common spaces?
- Am I sensitive to smells if someone else is cooking? Am I comfortable with smoking in my home or on my property?
- How quiet do I want my home to be? Am I okay hearing noises from another person living in a space? What are preferred arrangements for the tenant having guests over?

Potential homeowner costs and benefits: health

These living arrangements have the overall potential to affect both the physical and mental health of the homeowner. The following are potential factors that could influence health and wellbeing:

- **Financial situation**: Steady finances can relieve stress and may increase access to extracurricular and social activities. Finances can also be a stressful burden, depending on a person's situation.
- **Social engagement**: A person's level of social engagement and connection can impact their health and affect their sense of loneliness and social isolation.
- **Sense of security**: Feeling secure at home can reduce a person's anxiety and stress; this may be affected by sharing space within a home.
- **Independence**: Maintaining independence as a person ages is an important component to health.

²⁰ Healthy Aging CORE webinar: On aging: Canadian conversations – housing and aging in community: An intergenerational approach. https://www.youtube.com/watch?v=RQrNwfZ3DYU



HOLLYBURN Community Services Society



- **Having people nearby:** in case of an emergency such as a fall, or in extreme weather events, having a tenant on the same property can make it easier for them to check in on an older homeowner, and potentially reduce stress about going through an incident alone.
- **Household support:** Receiving assistance with yard work or other chores can reduce physically difficult and risky tasks for an older homeowner, enabling them to live in their home for longer.

COMMUNITY COSTS AND BENEFITS

At a community level there are a number of potential benefits and costs to communities, such as:

- More housing in the community for workers means that workers serving the community (e.g., employees of schools, hospitals, businesses) can live in the community they serve.
- Potential to revitalize neighbourhoods by adding more diverse ages and types of households
 to neighbourhoods where population has generally declined in the past decades,
 neighbourhoods can experience increased social activities and connections with new
 neighbours.
- **Potential to increase demand for businesses** due to neighbourhood revitalization with more efficient use of existing homes.
- **Potential to increase public transit ridership** due to growth in local population can help add fare revenue for local transit routes.
- **Potential to reduce property tax pressure** as additional revenue from rentals can support maintenance of infrastructure costs in existing neighbourhoods.²¹
- Potential for net decrease in carbon emissions when comparing the carbon emissions
 associated with constructing new housing units, versus adapting existing buildings to create
 additional units. Depending on the location of new housing units, as well as proximity to
 public transit and community amenities, there can be a net decrease in transportation
 emissions.

Many of the benefits for individual homeowners explored in the previous sections can also affect the broader community. For example, a more socially engaged person can lead to more socially engaged community members in general, depending on their actions and activities. These connections and benefits may also interest groups or individuals trying to advance community-wide objectives like social connectivity and community resiliency

There are also potential costs to communities for these housing solutions, such as **potential challenges building social connections**: if a renter's tenancy is shorter term, it could be harder to build relationships of trust and connection, which are closely linked with tenure length, according to Happy Cities.²²

²² Happy Cities, Tenure website.







²¹ Significant increases in neighbourhood density can lead to more infrastructure spending, including on roads. The level of density changes for the housing options explored in this lab would not normally require major infrastructure costs such as roadworks, although coach houses and some secondary suites may require upgrades and municipal charges for services such as water or sewage.

Communities may experience different costs and benefits of the housing solutions explored by this lab. While many costs and benefits may exist, this study looked specifically at **driving-related impacts** and **building-related carbon emissions**. This information may be relevant for homeowners who are interested in understanding these effects, as well as for local governments that are looking for low carbon options to address housing shortages.

Driving-related impacts

An individual's transportation decisions and behaviours vary vastly depending on their context and can be an important consideration when deciding where to build or create new units of housing in a community. This cost benefit study looked at average driving distance of individuals on the North Shore, as it relates to different neighbourhoods. The average distance travelled can directly contribute to driving-related impacts include carbon emissions, congestion, wear and tear on roads, number of collisions, reduced sense of public safety (due to increased risks of collisions), increased healthcare costs and more. The B.C. government aims to **reduce total driving distances by 25%** between 2020 and 2030. Electric vehicles help to reduce driving emissions but still cause congestion, wear and tear on roads and can be involved in collisions.²³

Organizations interested in coordinating matchmaking between home seekers and home providers could consider prioritizing home providers who live in transit-accessible locations. As shown, across most of the North Shore, if the tenant behaves like a typical resident, they will drive more than the Metro Vancouver or municipal averages. This should not single-handedly rule out the densification of single-detached houses on the North Shore, as these effects could be mitigated or other benefits may outweigh the transportation cost.

To reduce daily vehicle kilometres traveled, residents can be supported to use other modes of transportation, such as biking, walking or using public transit, through measures by community organizations, local and provincial governments, transportation authorities and industry. In the long term, a larger population may justify more transit service and local businesses and amenities, which may help reduce overall neighbourhood-level driving. If, after accounting for these measures, densifying single-detached neighbourhoods would still increase the amount of driving, this drawback should be weighed against other costs and benefits of densification and other needs in the community.

²³ For more information about this, see SFU Renewable Cities' discussion paper, <u>Beyond Electric Vehicles</u>.







Table 6. Estimated average daily distance driven per person in various North Shore neighbourhoods^{24, 25}

Municipality	Distric	t of West Va	District of North Vancouver						City of North Vancouver	
Average municipal daily distance* (A)		18 km/day			21 km/day					
Target municipal daily distance ²⁶ (A x 75% = B)		13.5 km/day 15.8 km/day						12 km/day		
Neighbourhood	Hollyburn	British Properties	Gleneagles	Norgate	Canyon Heights	Lynn Valley	Seymour Heights	Deep Cove	Keith- Lynn	Central Lonsdale
Estimated average driving per person ²⁷ (C)	26 km/day	21 km/day	33 km/day	21 km/day	26 km/day	25 km/day	17 km/day	35 km/day	17 km/day	12 km/day
Reduction needed to meet 25% reduction of municipal average (C-B)	12.5 km/day	7.5 km/day	19.5 km/day	5.2 km/day	10.2 km/day	9.2 km/day	1.2 km/day	19.2 km/day	5 km/day	0 km/day

^{*}The average daily distance in Metro Vancouver is 18 km/day







²⁴ Distances are estimates for information and reference purposes only. Distances will differ depending on specific situations and location. Please refer to <u>disclaimer</u> at the beginning of this document.

²⁵ Sources: SFU Renewable Cities analysis based on TransLink 2017 Trip Diaries; Google Maps; StatsCan 2016 Census; WalkScore.com

²⁶ Target assumes that the provincial target is to be achieved by every municipality reducing their driving by at least 25%.

²⁷ SFU Renewable Cities anlaysis used mid-points of the estimated average driving per person for each neighbourhood. These numbers were generated using an equation generated by multivariate regression performed on data collected from TransLink, Google Maps, StatCan and WalkScore.com on municipalities in Metro Vancouver and informed by recent VKT research. Given the issues around geographical scale, choice of variables and sample size, these estimates should only be used for reference.

Embodied carbon emissions

Each housing option may generate different amounts of embodied carbon emissions, that is, carbon emissions arising from the manufacturing, transportation, installation, maintenance and disposal of building materials. Embodied carbon emissions make up a significant percentage of global emissions and emissions intensity varies by material (e.g., wood has a lower embodied carbon than concrete or steel). The level of embodied carbon emissions depends largely on which and how many materials are used.

Embodied emissions of buildings are typically considered Scope 3 emissions. Scope 3 emissions are the result of activities from assets not owned or controlled by a person or organization, but that the organization or individual indirectly affects in the value chain of a product or service.²⁸ In other words, while homeowners do not emit these emissions themselves, by using materials to create a space or renovate, the corresponding emissions from the creation of the materials may be attributed to the homeowner. Combined, the sum of embodied emissions plus the sum of the operational emissions constitutes 'total emissions in the built environment.'²⁹ Table 7 explores the embodied emissions of each housing option, while Table 8 covers the operational emissions.

Notes about Table 7:

- Embodied emissions are based on typical numbers for some Canadian homes. These are emissions that would be generated as a result of renovating or creating space for an additional housing unit.
- There is a broad range listed for secondary suites in the moderate renovation range, depending
 on what is needed to upgrade it to become a legal suite (e.g., insulation or other products
 needed).

²⁹ Sector supplement for measuring and accounting for embodied emissions in the build environment report.







²⁸ Value chain includes the "activities and processes involved in creating a product or performing a service." (<u>Harvard Business School</u>). Scope 3 data from US EPA <u>Scope 3 Inventory Guidance website</u>.

Table 7. Estimated additional embodied housing carbon from adding the living space^{30,31}

	Home share (350 ft ²)	Secondary suite minor renovation (600 ft²) ³²	Secondary suite moderate renovation (600 ft ²) ³³	Secondary suite new/ major renovation (600 ft²)	Coach house (600 ft ²)	Average single- detached house (2000 ft²)
Additional embodied housing carbon ³⁴	Negligible	$600-1,300 \text{ kg}$ CO_2e $(4-9 \text{ kg}$ $CO_2e / \text{ft}^2)$	1,300-3,400 kg CO ₂ e (4 - 11 kg CO ₂ e / ft ²)	2,500-5,300 kg CO ₂ e (4 - 9 kg CO ₂ e / ft ²)	8,400-10,600 kg CO ₂ e (14 - 18 kg CO ₂ e / ft ²) ³⁵	28,000-35,000 kg CO ₂ e (14 - 18kg CO ₂ e / ft ²)
Equivalent carbon emissions driving round trip from Vancouver to Los Angeles ³⁶	Negligible	1 to 2 round trips	2 to 5 round trips	4 to 8 round trips	13 to 16 round trips ³⁷	42 to 54 round trips







³⁰ These are estimates for information and reference purposes only. Amounts will differ depending on specific situations and location. Please refer to <u>disclaimer</u> at the beginning of this document.

³¹ Sources: Green Building Advisor; Natural Resources Canada, Greenhouse Gas Equivalencies Calculator; Canada Energy Regulator; Google Maps.

³² Assuming that minor renovations only involve a quarter of the unit.

³³ Assuming that moderate renovations only involve half the unit. The range also depends on current state of the suite, the types of upgrades needed to upgrade it to become a legal suite and the materials and products used.

³⁴ CO₂e = carbon dioxide equivalent, or the equivalent global warming effect if all greenhouse gases released were carbon dioxide

³⁵ The per-square foot carbon costs are the same for all secondary suite scenarios but different for coach houses because renovation has different carbon implications than constructing a new building.

³⁶ Driving from the North Shore of Vancouver to Los Angeles, USA (~600 CO₂e). Assuming driving trip is completed in a 2018 Toyota Corolla LE Eco 1.8 L, 4 cylinder, automatic (variable gear ratios), using regular gasoline, consisting of 45% highway driving, 55% city driving. This reference point was chosen to provide a tangible example of the scale of the emissions for readers.

³⁷ The per-square foot carbon costs are the same for all secondary suite scenarios but different for coach houses because renovation has different carbon implications than constructing a new building.

Operational carbon emissions

Each housing option can generate different amounts of operational emissions, or carbon emissions produced from living in a space. Adding people to a household increases the amount of energy used. While homeowners do not emit these emissions themselves, they could be considered scope 3 emissions.

Operational emissions could be decreased with energy efficient products and materials, such as having heat pumps in a home. Numbers in Table 8 are based on average emissions from B.C. homes in 2023. They reflect current typical energy efficiency and use in B.C. homes.

Calculation notes:

- These are estimates only. Actual level of additional operational emissions resulting from additional tenant(s) depends on many factors, including the space's size, energy efficiency and the number of people using the house. Emissions generated by the homeowner without the additional tenant(s) are not included in the calculation.
- The calculations only include emissions generated from energy use in the home. They do not cover emissions generated from occupants' transportation, consumption or waste.







Table 8. Estimated average additional annual operating housing carbon from adding the living space^{38, 39}

	Home share (350 ft²)	Secondary suite (600 ft²)	Coach house (600 ft²)	Average house (2000 ft²)
Average additional annual operational carbon emissions	460 kg CO ₂ e / year ⁴⁰ (1.3 kg CO ₂ e / ft ² / year)	790 kg CO ₂ e / year (1.3 kg CO ₂ e / ft² / year)	860 kg CO_2e / year $(1.4 \text{ kg } CO_2e \text{ / ft}^2 \text{ / year})$	2,900 kg CO ₂ e / year (1.4 kg CO ₂ e / ft ² / year)
Average equivalent in round trips in a Toyota Corolla between the North Shore and Los Angeles 41	0.5 round trips / year	1 round trips / year	1 round trips / year	4 round trips / year







³⁸ These are estimates for information and reference purposes only. Amounts will differ depending on specific situations and location. Please refer to <u>disclaimer</u> at the beginning of this document.

³⁹ Sources: Natural Resources Canada, Province of B.C., Canada Energy Regulator.

⁴⁰ Carbon emissions can be measured in kilograms of carbon dioxide equivalent (kg CO₂e), or the amount of carbon dioxide in kilograms that would have the same global warming effect as the greenhouse gases released.

⁴¹ Assumes driving trip is completed in a 2018 Toyota Corolla LE Eco 1.8 L, 4 cylinder, automatic (variable gear ratios), using regular gasoline, consisting of 45% highway driving, 55% city driving.