APPENDIX II

HOUSING NEEDS ASSESMENT REPORT – REGIONAL

DETAILED METHODOLOGY

INTRODUCTION

This section provides a detailed methodology for the Cowichan Valley Regional District (CVRD) housing needs assessment process and is presented in five sections:

Quantitative:

1. Data Sources
2. Assumptions
3. Limitations

Qualitative:

4. Data Sources
5. Limitations

QUANTITATIVE DATA SOURCES

This research was supported by land economists GP Rollo & Associates who:

- completed analysis of historic data;
- projected population, households, income, tenure distribution and housing needs;
- modelled housing affordability and future housing needs; and
- modelled cost of new residential development.

The following section describes historic data sources as well as the data used to develop projections.

Historic Data

Data on the demographics, income, economy and housing for this report was collected from the following sources:

- Demographic profile:
  - Population, age, household size, tenure and transportation from the Statistics Canada Census (2006, 2011, 2016)
  - Unhoused population from the Summer Point-in-Time Homeless Count and Homeless Needs Survey Community Report (2017)
  - Transit data from BC Transit (2019)
- Income and economy:
  - Household income, employment and industry from the Statistics Canada Census (2006, 2011, 2016)
- Housing profile:
  - Dwelling types, age, bedroom number and renter households from the Statistics Canada Census (2006, 2011, 2016)
  - BC Housing-supported non-market housing based on BC Housing data
  - Average assessed values of ownership housing from BC Assessment

Projections

To produce a projection for 2020–2025, historic data from the 2016 Census of Canada and 2019 Property Assessment Rolls was combined with projections from Environics Analytics[i] and rennie intelligence[ii]. This report contains projections for:

- Population
- Households
- Household income
- Tenure distribution
- Housing needs by number of bedrooms

To project housing needs by number of bedrooms:

- Rental rate data was integrated from the following sources to produce a model of rental housing costs throughout the CVRD:
  - Canadian Rental Housing Index (2016)
  - Canada Mortgage and Housing Corporation Housing Data Portal
  - Interviews with property managers
- The relationship between income and housing expenses for owner households was analyzed through combining BC Assessment data with the household income projection.

To project affordability of new development, financial models (*pro formas*) were developed based on the following data sources:

- Altus Construction Cost Guide (2020)
- Each jurisdiction's development costs such as permit fees, development cost charges, etc.
- Parking requirements defined in each jurisdiction's zoning bylaw
- Market research drawn from current listings on realtor.ca.

QUANTITATIVE ASSSUMPTIONS

Our quantitative work is based on the following assumptions by topic area.

Demographic Profile and Housing Profile

Demographic data is taken directly from custom census reports published by the Ministry of Municipal Affairs expressly for use in housing needs assessments.

Income and Economy

Household Income and Tenure Distribution Projection Assumptions

The two COVID-recovery scenarios used to project household income and tenure distribution were built on the following assumptions:

- Rapid recovery scenario: This projection assumes a rapid economic recovery from the COVID-19 pandemic, putting household incomes in 2025 close to where they might have been if the pandemic had not occurred. This projection is based directly on Environics Analytics.
- Slow recovery scenario: This projection assumes a slower economic recovery from the

COVID-19 pandemic, reducing household incomes significantly compared to the first scenario. This projection is based on the income distribution Environics Analytics anticipated for 2022 when they created their projections in 2019 before the COVID-19 pandemic began. The nominal income brackets for 2022 are used, meaning that in terms of 2025 real income, this income distribution is particularly low.

Tenure is correlated with income and geography. Some jurisdictions have a greater proportion of renter households than others as a function of their built form, urban amenities, amount of purpose-built rental and other local factors, but in all jurisdictions wealthier households tend to be homeowners and less affluent households tend to rent.

To create a projection of housing tenure, the projection assumes that the split between owner households and renter households by real[iii] income group and jurisdiction in 2019 and 2025 resembles the split indicated in the 2016 Census.

Housing Profile

Housing profile data is taken directly from custom census reports published by the Ministry of Municipal Affairs expressly for use in housing needs assessments.

Projections

Household Projection Assumptions

In previous CVRD projections work[iv], four different scenarios for residential development were identified based on different assumptions of how residential development in the CVRD is likely to be distributed in the future[v]. These four scenarios included:

- Baseline scenario: Continuation of 2006-2016 trends
- Scenario 1: Municipal projections identical to baseline, 90% of future electoral area growth within urban containment boundaries
- Scenario 2: 90% of future regional growth within urban containment boundaries
- Scenario 3: 75% of future regional growth within urban containment boundaries

rennie's projections are based on the following assumptions:

- Continuation of historical growth trends in the region, based on a household maintainer model.
- Allocation of growth within the region based on the urban containment boundaries that were present in 2019, with the four scenarios varying only in terms of how closely the urban containment boundaries are observed.

To project growth to 2025, this report assumes that each jurisdiction will reach the household count described in the highest growth option of the four available scenarios. The exception to this approach is electoral area I: a lower-growth scenario (scenario 3) is selected for this jurisdiction because scenarios 1 and 2 would have the electoral area's population double between 2019 and 2025, which is deemed unrealistic in electoral area I.

Selecting the highest-growth option for all other jurisdictions is justified by the following reasoning:

- Increased housing demand: There is land scarcity and unmet demand throughout southwestern BC. Housing prices throughout Metro Vancouver and Victoria have been increasing for several years because supply has failed to keep up with demand. This

creates a spillover effect as households seek more affordable accommodation nearby. The CVRD is already subject to these effects, which include land scarcity and rising prices. Engagement with local stakeholders confirms that this is unlikely to change in the next five years. Housing demand in the CVRD is therefore expected to continue to increase as market factors push more households to seek affordable accommodation in the Cowichan Valley. Supply factors, such as development entitlements and servicing infrastructure, are currently limiting growth, rather than lack of demand, throughout the CVRD. As such, demand will likely be present to exceed any of rennie's scenarios if land supply is available.

- Focus on housing affordability: Market housing is captured by the highest bidder, so scarcity is correlated with costliness. For example, if 100 single-detached homes were developed in 2021, they would be purchased by the 100 highest bidders, whereas if 200 single-detached homes were developed in 2021, they would be purchased by the 200 highest bidders, producing a lower average price. In other words, if more development occurs in a location during a given time period, the average market price will tend to be lower. Therefore, since housing need is the focus of this study, the scenario that is most likely to produce affordable housing outcomes was selected.
- COVID-19 market research: Market research suggests that the COVID-19 pandemic may be increasing demand for housing in the CVRD and Vancouver Island in general.

Tenure Projection Assumptions

To estimate each jurisdiction's tenure distribution in 2019, this report assumes that the relationship within each jurisdiction between real household income and tenure remained constant from 2016 to the present. That is, jurisdictions with increasing real household incomes are assumed to shift towards homeownership whereas jurisdictions with decreasing real household incomes are assumed to shift towards renting. This has the significant limitation of being merely a "best guess" based on 2016 data. If real shifts in the region's tenure distribution have occurred between 2016 and the present, these would be missed by this methodology for lack of data.

As for rental rates, precise rental rate data from 2016 for North Cowichan, Ladysmith, Duncan and the region as a whole is available from the Canadian Rental Housing Inventory (2016), but more recent rental rate increases have needed to be estimated based on a number of sources, including CMHC's Housing Portal and conversations with local property managers. The survey data collected as part of this report is instructive but not statistically valid. As such, the rental rates reported here are approximate.

Housing Needs

Household Need by Number of Bedrooms Assumptions

For the purpose of estimating housing need, housing need by bedroom count is defined as one bedroom per cohabitating couple plus one bedroom per individual (including children) not in a cohabitating couple. Average people per household is based on Environics data and in the 2025 projection is adjusted to be compatible with the population per household defined by rennie. Assumptions about how many households contain couples is based on the 2016 Census data.

Affordability of New Development

Types of Built Forms Analyzed

Three residential built forms under two housing tenures were analyzed to produce a total of five product options (rental single-detached is not analyzed because purpose-built single-detached rental is exceptionally rare). The three built form options are as follows:

- Single-detached homes: Hypothetical single-detached subdivisions of five acres at a density of six parcels per acre, for a total of 30 single-detached homes per subdivision. The average unit size is assumed to be 2,250 ft^2.
- Townhouses: Hypothetical townhouse subdivisions of five acres at a density of 15 units per acre, for a total of 75 units per subdivision. The average unit size is assumed to be 1,500 ft^2 for a total floor space ratio (FSR) of 0.52.
- Apartments: Hypothetical apartment buildings of wood-frame construction with underground parking. Each building is assumed to contain 45 units with an average size of 800 ft^2 and a building efficiency of 85% to produce 42,353 ft^2 of gross floor area per building. If such a building occupied a one-acre site, it would produce an FSR of 0.97.

The two tenure options are as follows:

- Builder sells the products, achieving profit-to-cost of 10%, which is the bare minimum that a developer or building would require to consider a project.
- Builder holds the products as purpose-built-rental, achieving and internal rate of return (IRR)[vi] of 5%, which similarly is the bare minimum that a developer or building would require to consider a project. The builder is assumed to hold each property for 30 years and then sell it.

Affordability Assumptions

Affordability for owner households involves an estimation of the relationship between income and housing expenses. This requires the following assumptions:

- The share of owner households with a mortgage in each jurisdiction in 2019 resembles the share for that jurisdiction indicated in the 2016 Census.
- Renter households and owner households of the same income are likely to live in units with similar property value. That is, more affluent households of either tenure will live in higher-value units.
- Similarly, owner households with and without mortgages are assumed to occupy units of similar value.

For the purposes of this analysis, housing expenses include:

- Mortgage payments, if applicable, using a 20% down-payment, 3.5% interest rate, 25-year amortization and the property prices of ten years earlier (2009)
- $1,212 per year in hydro per household, the BC average
- Municipal service fees of $465 (this would vary by jurisdiction, but details were hard to find)
- Strata and/or maintenance expenses of $1,200 per year
- Property taxes, including the BC Homeowner's Grant.

The analysis of housing affordability for owner households assumes that the wealthiest 1% of households will occupy the most expensive 1% of homes, the wealthiest 10% of households in the most expensive 10% of homes, etc. Assigning homes to income groups in this way reveals

which income groups might struggle to pay for housing in which jurisdictions.

Development Cost Assumptions

The following development costs were assumed:

- Land cost: The cost of developable land varies considerably based on site-specific characteristics, but based on market research the following assumptions are used:
  - Single-detached: $3 million for the five-acre site described above
  - Townhome: $4.88 million for the five-acre site described above
  - Apartments: $900,000 for the one-acre site described above
  - Other land purchase closing costs: $50,000
- Hard costs:
  - Land clearing and preparation: $300,000 for the single-detached and townhouse developments or $45,000 for the apartment developments
  - Site servicing: $1.5 million for the single-detached and townhouse developments or $45,000 for the apartment developments
  - Onsite road construction: $300,000 for the single-detached and townhouse developments or $45,000 for the apartment developments
  - Building construction costs: $132 per ft^2 for single-detached homes, $152 per ft^2 for townhomes and $160 per ft^2 for apartments. These costs are quite low to reflect the most affordable possible products
  - Underground parking construction: $31,000 per underground stall, which is only relevant for the apartment developments
  - Hard cost contingency: An additional 10% to the hard costs listed above
- Soft costs: various cost items totalling about 15% of hard costs, including:
  - Project management
  - Architect and engineering fees
  - Other consultants research and appraisal
  - Surveying and accounting
  - Legal costs
  - Insurance
  - Finance fees
  - Development permit fees
  - Building permit fees
  - Development cost charges or equivalent servicing costs
  - School site acquisition charges
  - Utilities during construction
  - Property taxes
  - Advertising and promotion
  - New home warranty
  - Post-construction strata fees
  - Post-construction customer service
  - Corporate overhead
  - A soft cost contingency

Cost and Rental Escalation Assumptions

Development potential was analyzed in both 2020 and 2025. The cost assumptions listed above are based on 2020 estimates, but most of these costs will rise due to inflation and market factors in the next five years. Based on market research, the following amounts of escalation were

projected:

- Construction and development costs are expected to increase by 2.5% per year, reaching 13% above current levels by 2025 (based on historical trends evident in data published by Altus)
- Single-detached land is expected to increase by 3.9% per year, reaching 21% above its current value by 2025 (based on the CVRD's property assessment data from 2007–2019)
- Townhouse land is expected to increase by 6% per year, reaching 34% above its current value by 2025 (based on the CVRD's property assessment data from 2007–2019)
- Apartment land is expected to increase by 2.8% per year, reaching 15% above its current value by 2025 (based on the CVRD's property assessment data from 2007–2019)
- Rental rates are expected to increase at 4% per year, reflecting a mix of rent-controlled escalation and faster escalation due to occupant turnover.

New Development Costs Assumptions

A financial model analyzing the cost of residential development for a variety of housing types and tenures was created. Using this model, the lowest sale price or rental rate per unit that a builder could afford to charge for the finished product while still achieving a minimal level of profit (this is called the "economic price") was identified. These minimum prices and rental rates imply what levels of household income would be required to purchase or rent new units without paying more than 30% of one's household income. This analysis was performed for 2020 and 2025.

QUANTITATIVE LIMITATIONS

In addition to the quantitative data limitations discussed in the methodology summary in the Regional Housing Needs Assessment Report, the following limitation should be kept in mind:

Variation in Expenses Between Jurisdictions

This analysis consists of the creation of *pro forma* financial models estimating the cost of new residential developments of various types and tenures within each jurisdiction. Many expenses vary predictably between jurisdictions, such as development cost charges and similar fees. Other expenses are likely to be identical between jurisdictions, such as hard construction costs, project management fees, etc. These financial models should adequately account for these factors.

However, there are certain expenses—most notably servicing costs and land costs—that vary significantly *within* jurisdictions because they depend on site characteristics that are beyond the scope of this analysis. It would therefore always be possible for new housing in the CVRD to be more affordable or less affordable than indicated here due to site-specific factors. These results should therefore be viewed as a general guideline rather than a strict affordability limit.

Qualitative Data Sources

Qualitative information was collected through a regional engagement process guided by a communications and engagement strategy. Given the COVID-19 health context and ministerial order limiting the size of gatherings, public, stakeholder and First Nations engagement on this project was focused on online, phone and virtual engagement activities designed to gather qualitative information on current and future housing needs and opportunities. The information from all engagement activities helped us understand community perspectives as they relate to demographics, income and economy, housing profile and housing needs.

The engagement strategy included the following engagement activities:

Community Cafés

Three virtual Community Cafés were carried out to facilitate discussion about current and future housing needs, separated into the following three themes and audiences, which supported information on demographic profile, housing needs, economy and affordability:

- Health and housing: Health authorities, community health organizations and First Nation health organizations
- Youth/families and housing: Youth-specific organizations, community service organizations, school districts and independent schools
- Economy and housing: Developers, local chambers of commerce, realtors, First Nations, business improvement associations and tourism organizations

Sixty organizations were invited to Community Cafés and 16 organizations participated.

Key Stakeholder Interviews

A series of background information interviews were conducted with key stakeholders to fill in gaps in the quantitative data and to better understand the current state of housing and trends in market and non-market housing. Stakeholders from 33 organizations were invited to participate including community organizations, housing organizations, housing providers, First Nations housing coordinators, realtors and developers.

PlaceSpeak

Residents from across the CVRD, including all nine electoral areas and four member municipalities, were invited to participate in an online PlaceSpeak questionnaire that ran from September 1 to October 13, 2020. Residents were also invited to participate in a PlaceIt activity, where they indicated on a map what kind of housing is needed where and why. Over that time, 251 respondents participated in the online questionnaire or PlaceIt activity including nine who submitted paper copies of the questionnaire.

Table 1 summarizes how many residents per electoral area and member municipalities participated in the PlaceSpeak questionnaire.

Table 1: Questionnaire participants count by location

		Number of Respondents
Electoral Areas	Electoral Area A – Mill Bay / Malahat	8
	Electoral Area B – Shawnigan Lake	12
	Electoral Area C – Cobble Hill	7
	Electoral Area D – Cowichan Bay	13
	Electoral Area E – Cowichan Station / Sahtlam / Glenora	15
	Electoral Area F – Cowichan Lake South / Skutz Falls	5
	Electoral Area G – Saltair / Gulf Islands	10
	Electoral Area H – North Oyster Diamond	6
	Electoral Area I – Youbou / Meade Creek	6
	SUBTOTAL	**82**
Member Municipalities	Town of Lake Cowichan	12
	City of Duncan	23
	Town of Ladysmith	52
	Municipality of North Cowichan	72
	SUBTOTAL	**159**
Non-Resident	Non-resident	4
	SUBTOTAL	**4**
TOTAL		**245**

QUALITATIVE LIMITATIONS

Rather than implementing 13 separate engagement processes—one per jurisdiction—a regional communications and engagement strategy was designed and delivered to support the development of all housing needs reports. The purpose of the regional engagement strategy was to collect general information in specific topic areas. Qualitative information is designed to dig beyond statistics and to complement and illustrate quantitative data collection and analysis to highlight community perspectives. Our engagement efforts achieved this purpose.

When possible, sub-regional reports present qualitative data specific to their respective jurisdictions; however, in some cases the number of respondents by specific electoral area were low.

When reviewing the engagement results weaved into this report it is important to keep in mind that they represent a point in time reflection of views held by those who participated in the

engagement activities and do not represent a statistically valid representation of CVRD residents. It is worth noting, however, that responses from the online questionnaire were in all cases consistent with what was observed in the quantitative data, which validates the results of the housing needs assessment. For example, rental rate data from the Canadian Rental Housing Index (2016) and Canada Mortgage and Housing Corporation Housing Data Portal were consistent with the low rental rates reported by respondents of the questionnaire.

---

[i] Environics Analytics (2019) Demostats Income and Housing Projections

[ii] rennie (2019). Long-range Projections of Population, Housing, and Employment in the Cowichan Valley Regional District

[iii] "Real" here means that currency inflation is removed so that household incomes can be compared directly between time periods because they have been brought to parity in terms of true spending power.

[iv] rennie (2019). Long-range Projections of Population, Housing, and Employment in the Cowichan Valley Regional District

[v] These are referred to in rennie intelligence's 2019 Long-Term Projections Report simply as the baseline scenario, scenario 1, scenario 2 and scenario 3. They are based on different assumptions about how residential development in the CVRD is likely to be distributed.

[vi] Internal rate of return (IRR) is the interest rate of a hypothetical asset that produces interest at the same pace as the project in question. It is a measure of project performance. A higher IRR represents faster profit or greater profit over the same timeframe. IRR is a better measure of project viability than simple profit-to-cost for long-term projects, such as commercial development, because the former reflects the time value of money whereas the latter does not.