

Population, Housing & Employment Projections for the Cowichan Valley Regional District's Modernized Official Community Plan

by rennie
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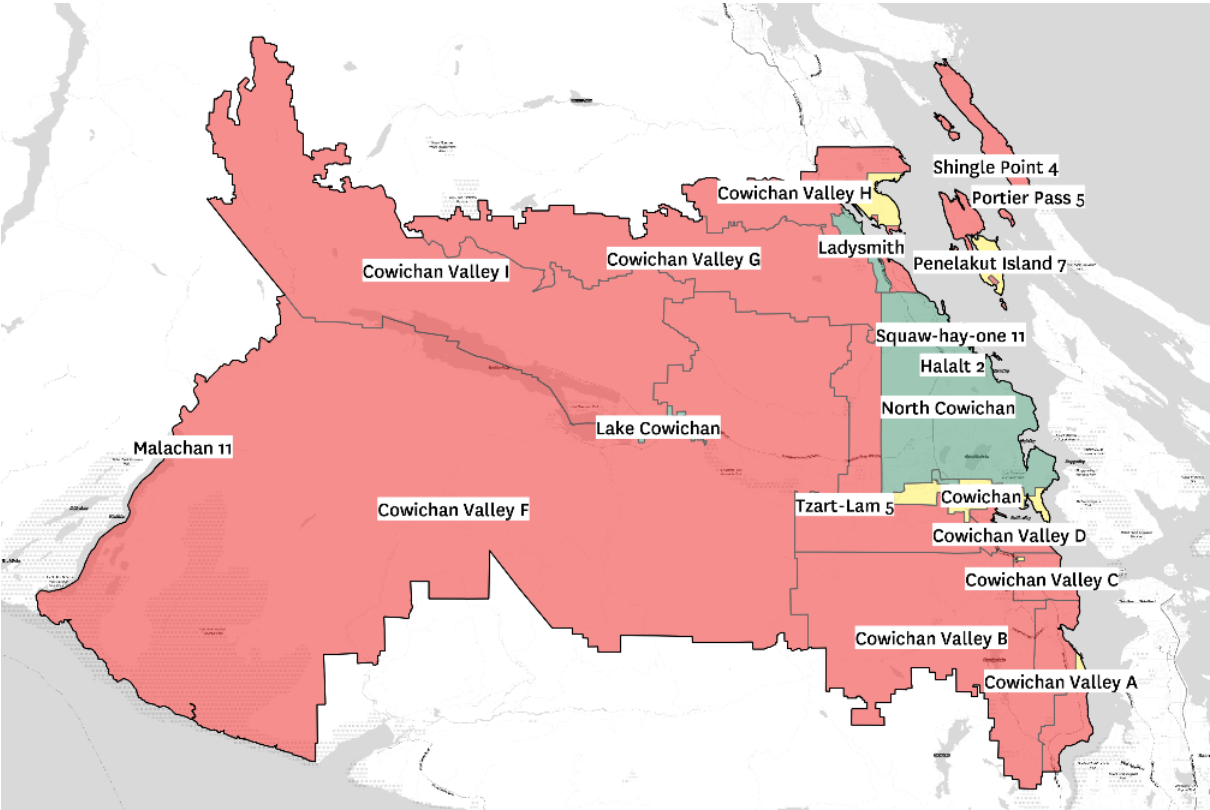
EXECUTIVE SUMMARY



This report is intended to function as an executive summary of the below-described research, including a summary overview of the modelling approach used, followed by summary tabular output at the regional and sub-regional levels.

Project Overview

The Cowichan Valley Regional District (CVRD) engaged rennie to produce long-term projections of population, housing and employment (to the year 2051) for the Cowichan Valley region as a whole, as well as for individual census subdivisions (CSDs) within the region. These CSDs include nine electoral areas (A through I) and four incorporated municipalities (Duncan, Ladysmith, Lake Cowichan and North Cowichan). Individual Indian Reserves (IRs) have not been explicitly considered but have been implicitly accounted for in aggregate within the projection framework.



These projections are intended to inform, among other things, a modernized official community plan for the CVRD. In addition to these projections, data have been compiled on commuting flows and housing needs.

All projections are rooted in the most recent (2016) federal census data and extend to the year 2051. However, while census-based, all projections have been adjusted for net census under-coverage. The output from the projections has been summarized into broad age groups for population, two dwelling structural forms



(ground-oriented homes and apartments) for housing, and broad sectoral aggregates for employment, and presented in 10-year increments.

Additionally, the projections contained herein are not intended to be prescriptive (i.e., they do not reflect a particular regional “destiny”). Rather than serving as predictions, which they are not, they are collectively intended to be used as a planning tool to help the CVRD and its member electoral areas and municipalities to achieve the future the projections describe or, alternatively, to implement policies that will steer the region away from the projected path in order to achieve a different set of future outcomes.

Finally, the projections presented herein are draft in nature and therefore subject to refinement based on feedback received by rennie from the CVRD once all output has been presented (a meeting is currently scheduled for 27 March 2019). A final report containing detailed data tables, charts, and maps, as well as an analysis of the findings, will be completed by the end of May 2019.

Approach & Data Sources

National & Provincial Outlooks

A geographically nested, hierarchical approach to forecasting growth and change for and within the CVRD has been adopted. The starting point is a demographic projection for Canada as a whole that acknowledges, along with the other components of population change (namely aging, fertility and mortality), the federal government’s new immigration targets. These targets will aim to welcome up to 350,000 immigrants to Canada by 2021 and will have direct and indirect impacts on the country’s metropolitan and non-metropolitan areas alike, including those in British Columbia (a province that accommodates 16% of Canada’s annual immigration flow). This then becomes the next geographic level of focus for the research.

As at the national level, the projection of population for the province of B.C. reflects trends in age-specific fertility and age- and sex-specific mortality, along with trends in international and interprovincial migration, delineated by age and sex. This provincial forecast of demographic growth and change establishes, among other things, the inflow of interprovincial and international migrants that will ultimately settle in regions throughout the province, including in the CVRD, which represents the next step in the modelling process.



Regional Projections

For the CVRD, trends in fertility, mortality and each migration flow (including international and interprovincial in- and out-flows, as well as those moving within the province, intraprovincial movers) are combined with the existing population, described by age and sex, to develop a long-run projection of **population** growth and change for the 2017 to 2051 period.

In order to transition from the demographics to the implications for **housing** at the regional level, data on household maintainers from the 2016 and previous censuses have been combined with the regional population projection (by age) to derive an outlook of future housing occupancy demand. The housing projections are presented over the 2017 to 2051 time period for two dwelling structural types (ground-oriented and apartment).

Finally, a projection of **employment** is presented for the CVRD. As a starting point, the employment outlook is rooted in historical census data (from 2006, 2011 and 2016) that describe the number of jobs associated with various industry sectors that are located within the boundaries of the CVRD. (Note that these data contrast the more common “place of residence” definition of employment, which describes the number of jobs held by residents of a particular jurisdiction, regardless of where those jobs are located.)

An industry-specific shift-share approach has been utilized that reflects both historical structural changes to the CVRD’s employment base (again, described by industry) and the evolving outlook for provincial industry-specific employment. (The provincial employment forecast relies on a robust set of employment, labour force and GDP data and a forecasting framework that ensures reconciliation between the future demand for, and supply of, workers in B.C. via the unemployment rate.) The projections are presented for ten aggregate sectors over a time horizon that extends to 2051.

Census Subdivision-level Projections

The regional projections of residents by age, housing by type and employment by sector serve as the foundations for next considering where within the CVRD people, homes and jobs could locate.

For **population**, a complex interrelated set of 14 models was used to reconcile the aggregate future population, described by age, in all parts of the CVRD with the outlook developed for the region as a whole in each year to 2051. This CSD-level framework has been structured as a set of cohort-survival models that consider trends in age-specific fertility, age- and sex-specific mortality, age- and sex-specific mobility (both into new homes and into and out of existing



homes), and aging at the individual CSD level. Due to the relatively small population counts in some of the CVRD's CSDs, these sub-regional projections have been aggregated to ten-year age groups and organized into ten-year increments to 2051.

The above-described population projections are predicated on, among other things, an assessment of the spatial distribution of new **housing** throughout the region. As a baseline, historical trends in each CSD's share of regional net additional housing over the 2006 to 2016 census period (for each of ground-oriented housing and apartments) have been used to allocate future net additions to the CVRD's housing stock to each of the region's nine electoral areas and its four municipalities. Note that the consideration of two dwelling types is important in the context of yielding potential future CSD-level populations, as the size and age composition of households in ground-oriented formats differs demonstrably from those in apartments.

The final forward-looking consideration made for electoral areas and municipalities within the CVRD is in relation to **employment**. While it becomes increasingly difficult to source relevant and detailed historical data on employment the more geographically focused the research is, rennie has been able to utilize its extensive database of historical custom place-of-work-based employment data to inform a shift-share approach to allocating future jobs from the regional level (for the CVRD) down to the CSD level (for electoral areas and municipalities).

As a baseline, each CSD's industry-specific share of regional employment has been held constant at its 2016 level to 2051. The benefits of this approach are twofold. One, the specific industry composition of employment at the local level (which itself reflects local comparative advantages as well as the implicit scale of the local population) is reflected in both the short- and long-term outlook of employment at the CSD level. Two, regional sector-specific trends are reflected (or imposed) on the underlying communities where the jobs are located, ensuring consistency between the sub-regional and regional projections of employment. These projections have been presented for ten broad sectors in ten-year increments to 2051.

Commuting Flows

Developed separately from the projections described above is a summary of commuting flow origins and destinations for the CVRD and its CSDs. These data have been collected by Statistics Canada as part of its most recent (2016) census, and they describe the places of work of residents of the Cowichan Valley region.



While the focus of these commuting flow data in the context of this project is at the CSD level, a more detailed analysis could be undertaken (for instance, at the dissemination area level) at a future date. To this end, additional custom commuting flow data would be required, at a cost and with a significant time lag, from Statistics Canada.

Bill 18 Requirements

Another complementary component of this research project includes a snapshot of various income and employment data that are consistent with Bill 18 re (Local Government Statutes (Housing Needs Reports) Amendment Act, 2018 requirements. Such elements include median household income estimates (for each CSD, covering electoral areas and municipalities, in the CVRD) and the prominence of economic sectors per data on the employed labour force by industry at the CSD level.

While it has not been possible to specifically consider core housing needs at the CSD level due to a lack of availability of such data, the CSD-level projections of housing by dwelling type described above provide a robust baseline of future housing needs, to the extent the regional population projection is achieved. (Note that if the core housing need data are deemed to be an important element of consideration, it may be possible to place a custom order for them with Statistics Canada, again with an associated cost and time lag.)



Summary of Output

Cowichan Valley Regional District

Total Population					
Cowichan Valley Regional District					
Age Group	Year				
	2017	2021	2031	2041	2051
0..14	12,434	12,855	14,298	15,309	15,701
15..24	9,622	8,943	9,198	9,984	10,956
25..34	7,541	8,686	8,883	9,274	10,069
35..44	8,471	8,521	10,059	10,383	10,787
45..54	11,778	10,784	10,525	12,111	12,448
55..64	14,540	14,950	13,076	12,967	14,557
65..74	12,007	13,699	15,552	14,016	14,047
75..84	6,248	7,443	11,664	13,492	12,490
85+	2,593	2,957	4,418	6,909	8,326
Total	85,234	88,837	97,673	104,444	109,380

Total Housing Occupancy Demand					
Cowichan Valley Regional District					
Dwelling Type	Year				
	2017	2021	2031	2041	2051
Ground Oriented	32,037	33,774	37,503	39,923	41,534
Apartment	3,390	3,652	4,333	4,807	5,033
Total	35,427	37,426	41,836	44,730	46,567

Total Employment					
Cowichan Valley Regional District					
Industry Sector	Year				
	2017	2021	2031	2041	2051
Primary	1,841	1,710	1,654	1,539	1,441
Transport, Warehousing, Utilities	996	941	998	1,062	1,120
Construction	2,999	2,937	3,215	3,550	3,882
Manufacturing	2,933	3,007	3,248	3,256	3,183
Wholesale & Retail Trade	5,192	5,273	5,892	6,386	6,758
Finance, Real Estate, Other Business	4,203	4,277	4,960	5,603	6,094
Education, Health, Information	8,018	8,510	9,810	10,941	11,869
Accommodation & Food Services	2,417	2,589	2,823	3,010	3,221
Other Services	1,612	1,532	1,591	1,655	1,726
Public administration	918	940	1,007	1,036	1,057
Total	31,129	31,715	35,200	38,039	40,351



CVRD Census Subdivisions (current trends scenario)

Total Population					
Cowichan Valley Regional District Census Subdivisions					
Census Subdivision	Year				
	2017	2021	2031	2041	2051
Electoral Area A	4,880	5,165	5,876	6,335	6,589
Electoral Area B	8,801	9,360	10,555	11,419	11,894
Electoral Area C	4,840	5,136	5,805	6,301	6,735
Electoral Area D	3,419	3,773	4,617	5,242	5,618
Electoral Area E	4,246	4,238	4,281	4,337	4,367
Electoral Area F	1,668	1,594	1,482	1,418	1,389
Electoral Area G	2,430	2,355	2,302	2,274	2,323
Electoral Area H	2,515	2,549	2,657	2,753	2,820
Electoral Area I	1,266	1,318	1,413	1,457	1,499
Duncan	5,032	4,787	4,664	4,796	4,951
Ladysmith	8,814	9,285	10,363	11,217	11,890
Lake Cowichan	3,376	3,807	4,742	5,367	5,762
North Cowichan	29,922	31,324	34,375	36,561	38,255
CVRD Total*	85,234	88,837	97,673	104,444	109,380

Total Occupied Housing					
Cowichan Valley Regional District Census Subdivisions					
Census Subdivision	Year				
	2017	2021	2031	2041	2051
Electoral Area A	1,981	2,144	2,506	2,746	2,894
Electoral Area B	3,326	3,573	4,112	4,464	4,693
Electoral Area C	2,231	2,361	2,648	2,836	2,956
Electoral Area D	1,424	1,601	2,016	2,297	2,455
Electoral Area E	1,619	1,664	1,760	1,823	1,864
Electoral Area F	704	704	704	704	704
Electoral Area G	1,043	1,074	1,140	1,182	1,211
Electoral Area H	1,080	1,136	1,263	1,347	1,397
Electoral Area I	595	623	684	723	749
Duncan	2,371	2,371	2,371	2,371	2,371
Ladysmith	3,740	3,991	4,542	4,903	5,134
Lake Cowichan	1,504	1,663	2,036	2,288	2,430
North Cowichan	12,811	13,452	14,828	15,721	16,315
CVRD Total*	35,427	37,426	41,836	44,730	46,567

Total Employment					
Cowichan Valley Regional District Census Subdivisions					
Census Subdivision	Year				
	2017	2021	2031	2041	2051
Electoral Area A	1,749	1,790	2,005	2,192	2,348
Electoral Area B	1,760	1,786	1,983	2,154	2,300
Electoral Area C	1,824	1,846	2,042	2,205	2,340
Electoral Area D	1,076	1,084	1,175	1,243	1,302
Electoral Area E	2,038	2,029	2,208	2,340	2,442
Electoral Area F	259	260	283	304	323
Electoral Area G	309	307	335	359	380
Electoral Area H	635	637	695	742	782
Electoral Area I	166	167	184	197	207
Duncan	4,574	4,715	5,327	5,861	6,298
Ladysmith	2,755	2,813	3,114	3,349	3,539
Lake Cowichan	836	851	945	1,025	1,094
North Cowichan	11,310	11,549	12,809	13,793	14,578
CVRD Total*	31,129	31,715	35,200	38,039	40,351



Commuting Flows

Commuting Flows
Based on Places of Residence & Places of Work, 2016 Census, CVRD Census Subdivisions

Places of Residence	Places of Work											Total				
	Electoral Area A	Electoral Area B	Electoral Area C	Electoral Area D	Electoral Area E	Electoral Area F	Electoral Area G	Electoral Area H	Electoral Area I	Duncan	Ladysmith		Lake Cowichan	North Cowichan	Capital Region	RDN
Electoral Area A	255	70	65	75	35					110			195	670	40	1,515
Electoral Area B	330	340	245	140	95				180	180			290	1,255	75	3,000
Electoral Area C	115	75	295	90	65				150	150			180	420	50	1,440
Electoral Area D	40	25	90	170	45				155	245			245	160		930
Electoral Area E		30	55	140	140				295	35			430	130	35	1,290
Electoral Area F				55	45	60			60	60		60	125			405
Electoral Area G						85			25	60			155		110	435
Electoral Area H							125		25	110			85		390	710
Electoral Area I								20	50			65	60			195
Duncan	20	35	50	160	60				415	25			435	110	25	1,335
Ladysmith			45	45	50		45		105	950			440	65	920	2,660
Lake Cowichan	165	55	240	885	535	20			95	230	335	250	65	50	30	825
North Cowichan									1,800	470	65	4,370	695		470	9,620
Total	925	630	1,040	1,800	1,095	80	85	170	20	3,440	1,410	525	7,260	3,555	2,145	180



Bill 18 Requirements (selection)

Gross Median Household Income			
2015 Full-year Income, 2016 Census; CVRD Census Subdivisions			
Census Subdivision	Household Type		
	One-person	2+-persons	Total
Electoral Area A	\$38,912	\$93,212	\$77,568
Electoral Area B	\$38,485	\$93,440	\$81,169
Electoral Area C	\$41,600	\$90,688	\$77,349
Electoral Area D	\$39,232	\$85,120	\$71,360
Electoral Area E	\$27,712	\$83,680	\$70,144
Electoral Area F	\$30,688	\$71,339	\$60,544
Electoral Area G	\$34,880	\$86,080	\$71,595
Electoral Area H	\$37,312	\$86,067	\$72,285
Electoral Area I	\$24,768	\$69,376	\$52,992
Duncan	\$25,344	\$61,248	\$40,320
Ladysmith	\$34,414	\$83,929	\$67,674
Lake Cowichan	\$27,776	\$65,829	\$53,440
North Cowichan	\$32,454	\$80,109	\$64,169
CVRD Total*	\$32,260	\$80,631	\$65,191

Distribution of Household Income			
2015 Full-year Income, 2016 Census; CVRD Census Subdivisions			
Census Subdivision	Income Distribution of Households		
	<\$50K	\$50-100K	\$100K+
Electoral Area A	28%	36%	36%
Electoral Area B	27%	36%	37%
Electoral Area C	28%	37%	35%
Electoral Area D	32%	35%	33%
Electoral Area E	37%	33%	31%
Electoral Area F	42%	36%	22%
Electoral Area G	31%	37%	32%
Electoral Area H	32%	35%	33%
Electoral Area I	48%	32%	21%
Duncan	60%	29%	11%
Ladysmith	35%	36%	29%
Lake Cowichan	46%	36%	18%
North Cowichan	38%	35%	27%
CVRD Total*	38%	35%	28%

