

Comments on the Electoral Boundaries Commission Act White Paper

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Abstract

The changes proposed in the "White Paper on Amending the BC *Electoral Boundaries Commission Act*" do a poor job of ensuring effective representation throughout British Columbia.

The population of the current districts, and the dispersion of population in those districts were analyzed for this paper, and I conclude that:

- The proposed changes will **permanently protect** districts that do not require protection.
- The proposed changes will leave **permanently unprotected** districts that are quantifiably just as difficult to serve as some of the most northerly districts in the province.

If the government is determined to provide rural areas protection in an 85 seat legislature, I recommend **against** protecting **particular regions** in legislation. Rather, the government should simply increase the allowed deviation from the average from 25% to 35%, and allow the deliberative Commission process to determine the appropriate relative populations of different districts within that rule.

Please see the spreadsheet submitted with this document for complete statistics.

Purpose of the Commission

Reading the white paper and the proposed changes to the Act, it is clear that the thrust of the changes is to pre-decide the principle of “effective representation”, as discussed in the *Saskatchewan Reference*.

The current form of the Act already makes provision for ensuring that “effective representation” is maintained: it appoints an expert Boundary Commission that will evaluate all the data available, entertain submissions from the public and balance the concerns of equality of population with difficulty of representation. The Commission process generates a set of boundaries that provide effective representation.

The proposed changes preempt that process by stipulating in advance that a large swath of the province must receive disproportionate representation. Ignoring for the moment that the Act and Commission process already protect effective representation, it is worth quantifying: would the government proposal provide effective representation province-wide?

Current Population Balance

An analysis of the population as measured in the 2011 census shows the following situation in BC's electoral districts:

- The current **provincial average population** is **51,765** per riding.
- The current population distribution is extremely lopsided, with the most heavily populated riding (Surrey-Cloverdale, 73,042) having well over 3 times the population of the least populated (Stikine, 20,238)
- The average population in the 17 "protected" ridings is 35,609, **31% less** than the provincial average.
- The average population in the 68 "unprotected" ridings is 55,804, 8% higher than the provincial average.
- A vote in the protected regions will be over 1.5 times more "powerful" than one in the unprotected regions.

The current population figures are already three years old, and will be seven years old by the time of the next election, using the newly redistributed electoral districts. The deviation of the "protected" regions from the provincial average, already 31% below average, **can only be expected to get worse.**

Current Population Deviations

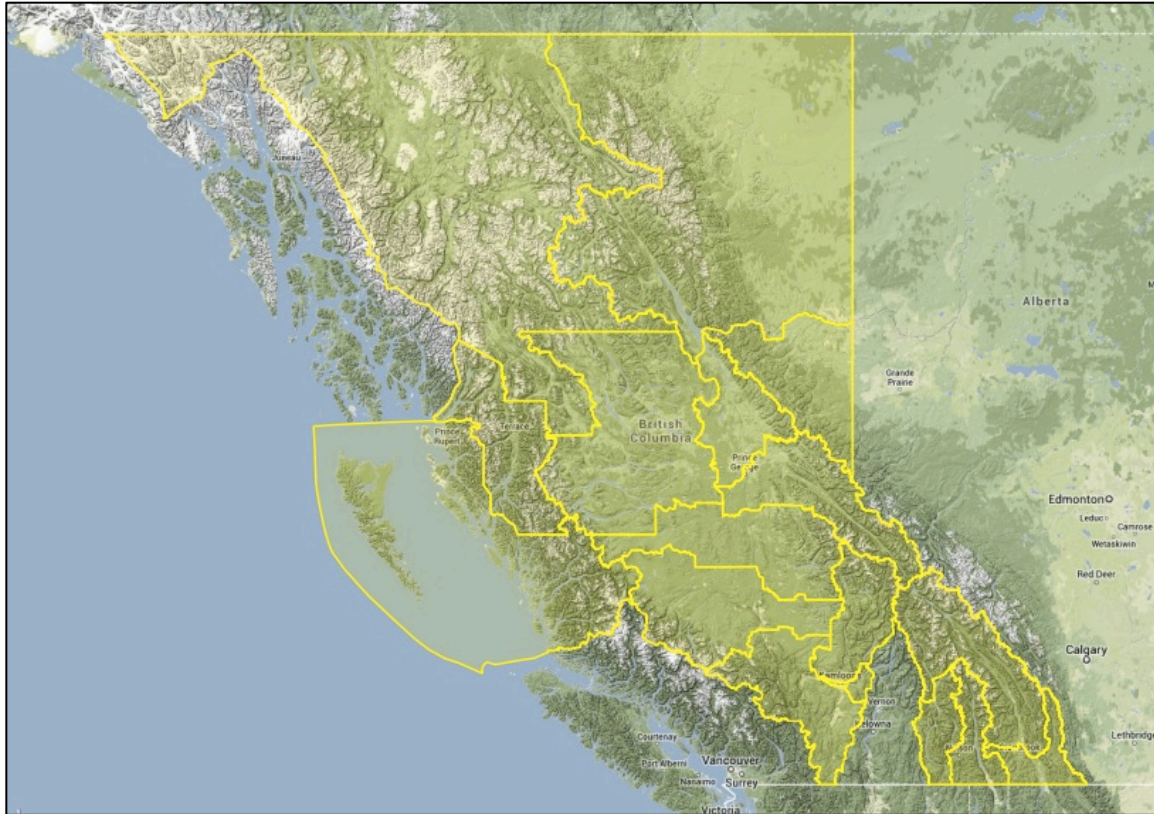
RIDING	REGION	2011 POP'N	DEVIATION
Stikine	North	20238	-61%
North Coast	North	22322	-57%
Peace River South	North	26349	-49%
Nechako Lakes	North	26975	-48%
Skeena	North	29575	-43%

RIDING	REGION	2011 POP'N	DEVIATION
Cariboo-Chilcotin	Cariboo-Thompson	29632	-43%
Fraser-Nicola	Cariboo-Thompson	30536	-41%
Columbia River-Revelstoke	Columbia-Kootenay	32242	-38%
Cariboo North	Cariboo-Thompson	32755	-37%
Nelson-Creston	Columbia-Kootenay	37045	-28%
Boundary-Similkameen	Okanagan	38163	-26%
Kootenay East	Columbia-Kootenay	38869	-25%
Peace River North	North	39311	-24%
Kootenay West	Columbia-Kootenay	40650	-21%
Alberni-Pacific Rim	Vancouver Island & South Coast	43423	-16%
Prince George-Mackenzie	North	45011	-13%
Delta South	Richmond & Delta	46648	-10%
Prince George-Valemount	North	46951	-9%
Powell River-Sunshine Coast	Vancouver Island & South Coast	48328	-7%
Vancouver-West End	Vancouver	48596	-6%
Oak Bay-Gordon Head	Vancouver Island & South Coast	48889	-6%
Victoria-Swan Lake	Vancouver Island & South Coast	50118	-3%
Esquimalt-Royal Roads	Vancouver Island & South Coast	50183	-3%
Chilliwack-Hope	Fraser Valley	50737	-2%
Abbotsford West	Fraser Valley	50783	-2%
Saanich South	Vancouver Island & South Coast	50827	-2%
Victoria-Beacon Hill	Vancouver Island & South Coast	51550	0%
Parksville-Qualicum	Vancouver Island & South Coast	52037	1%
Chilliwack	Fraser Valley	52248	1%
Surrey-White Rock	Surrey	52281	1%
Juan de Fuca	Vancouver Island & South Coast	52325	1%
Kamloops-North Thompson	Cariboo-Thompson	52479	1%
West Vancouver-Sea to Sky	North Shore	52569	2%
Nanaimo	Vancouver Island & South Coast	52695	2%
Nanaimo-North Cowichan	Vancouver Island & South Coast	52710	2%
Port Moody-Coquitlam	Tri-Cities	52740	2%
Abbotsford-Mission	Fraser Valley	53039	2%
Abbotsford South	Fraser Valley	53376	3%
Burnaby-Lougheed	Burnaby & New Westminster	53383	3%
North Vancouver-Seymour	North Shore	53407	3%
Delta North	Richmond & Delta	53771	4%
Vancouver-Mount Pleasant	Vancouver	54238	5%
Kamloops-South Thompson	Cariboo-Thompson	54417	5%
Coquitlam-Burke Mountain	Tri-Cities	54418	5%
North Island	Vancouver Island & South Coast	54510	5%
Burnaby-Deer Lake	Burnaby & New Westminster	55074	6%
Maple Ridge-Pitt Meadows	Fraser Valley	55226	7%

RIDING	REGION	2011 POP'N	DEVIATION
Vancouver-Fairview	Vancouver	55361	7%
Penticton	Okanagan	55492	7%
Shuswap	Okanagan	55520	7%
Coquitlam-Maillardville	Tri-Cities	55576	7%
Vancouver-Hastings	Vancouver	55796	8%
West Vancouver-Capilano	North Shore	55955	8%
Port Coquitlam	Tri-Cities	55963	8%
Maple Ridge-Mission	Fraser Valley	56107	8%
Vancouver-False Creek	Vancouver	56218	9%
Saanich North and the Islands	Vancouver Island & South Coast	56270	9%
Vancouver-Quilchena	Vancouver	56448	9%
Burnaby-Edmonds	Burnaby & New Westminister	56893	10%
Surrey-Fleetwood	Surrey	56925	10%
Vancouver-Langara	Vancouver	57032	10%
Vancouver-Point Grey	Vancouver	57056	10%
North Vancouver-Lonsdale	North Shore	57091	10%
Cowichan Valley	Vancouver Island & South Coast	57357	11%
Westside-Kelowna	Okanagan	57590	11%
Surrey-Green Timbers	Surrey	57695	11%
Vancouver-Kensington	Vancouver	57796	12%
Kelowna-Mission	Okanagan	57977	12%
Burnaby North	Burnaby & New Westminister	58134	12%
Surrey-Tynehead	Surrey	58306	13%
Kelowna-Lake Country	Okanagan	58782	14%
Richmond-Steveston	Richmond & Delta	59125	14%
Vancouver-Kingsway	Vancouver	59342	15%
Vancouver-Fraserview	Vancouver	59782	15%
Surrey-Newton	Surrey	59828	16%
Surrey-Whalley	Surrey	60399	17%
Vernon-Monashee	Okanagan	61400	19%
Comox Valley	Vancouver Island & South Coast	63557	23%
Langley	Columbia-Kootenay	64025	24%
Richmond East	Richmond & Delta	65312	26%
Fort Langley-Aldergrove	Fraser Valley	65799	27%
New Westminister	Burnaby & New Westminister	65893	27%
Richmond Centre	Richmond & Delta	66036	28%
Surrey-Panorama	Surrey	69528	34%
Surrey-Cloverdale	Surrey	73042	41%

Protected Electoral Districts

A map of the protected electoral districts shows that they cover huge a contiguous area that includes the majority of the land area of the province.



Visually, it appears that these districts are indeed distinct from the other areas of the province. But **members of the legislature do not represent rocks and trees, they represent people.**

The distribution of **people** in the protected districts is not unique at all. Many unprotected electoral districts have exactly the same distribution of people as protected districts.

Effective Representation

The "*White Paper on Amending the BC Electoral Boundaries Commission Act*" presents a succinct and correct understanding of the tension between the roles of a Member of the Legislative Assembly (MLA).

- The "legislator role" requires district populations to be as equal as possible, so that citizens have equal votes.
- The "ombudsperson role" requires the MLA to access the citizens personally, so that "a large district with a number of distant communities requires the MLA to travel to those communities to meet with constituents".

This characterization of difficult districts for the "ombudsperson role" has **one substantial error** in it. It is true that a district with "distant communities" will be

hard to services, and the more communities in a district, and the further apart they are, the harder the district will be to service. However, the **area of the district**--how physically large it is--is **irrelevant**.

Population Density is a Misleading Statistic

Calculating the population density of a district is a simple matter: divide the district's area by its population. However, the population density is only a useful measure of "difficulty to service" if the population is uniformly distributed over the area. This is almost never the case.

For example, the protected riding of *Skeena* is the 10th largest by area and 10th least dense. But two thirds of the population of Skeena resides in just two cities: Kitimat and Terrace, separated by a 1 hour highway drive. (The number rises to almost 90% if you include the portions of Terrace outside city limits.)

Compare that to *Powell River-Sunshine Coast*, which by population density is twice as dense as *Skeena*. However, only 50% of the population resides in the three major communities (Powell River, Sechelt and Gibsons) which are in turn separated by a two hour road and ferry route. The remainder of the district population is spread out in numerous islands.

Despite the disparity in ease of access, *Skeena* currently has a deviation of **43% below** the provincial average while *Powell River-Sunshine Coast* is only 7% below.

Population density is a poor measure of how difficult a riding is for an MLA to service.

Population Dispersion is Better Statistic

Population dispersion is calculated by looking at the distribution of **people** throughout a district. Empty areas with no people do add to the dispersion measure of a district. Areas with people that are close together add less to the measure than areas with people far apart.

The dispersion is calculated using census blocks. Each electoral district contains between 600 and 800 census blocks. The dispersion measurement calculates the population-weighted distance between every pairing of blocks in the district.

- Block pairings with low populations will be weighted very low.
- Block pairings with low distances will also receive low weights.
- Block pairings with large populations and large distances will contribute more to the final statistic.

It's fairly easy to visualize how a district with only one large community will have a lower dispersion than one with two or more separated communities. The more communities, and the further apart they are, the higher the dispersion will be.

The formula for dispersion is:

$$\frac{\sum_{i=1}^n \sum_{j=1}^n p_i p_j d_{ij}}{\sum_{i=1}^n \sum_{j=1}^n p_i p_j}$$

Where **p** is the population of a block and **d** is the distance between blocks.

Current Population Dispersions

The following tables shows dispersion calculated using the 2011 census.

Note that while many of the "protected" ridings are quite dispersed, some "unprotected" ones are as well: *North Island, Boundary-Similkameen, West Vancouver-Sea to Sky, and Powell River-Sunshine Coast.*

RIDING	DISPERSION	REGION	POP'N	DEVIATION
North Coast	126.9	North	22322	-57%
Columbia River-Revelstoke	111.6	Columbia-Kootenay	32242	-38%
Stikine	109.8	North	20238	-61%
Peace River North	94.9	North	39311	-24%
Nechako Lakes	84.0	North	26975	-48%
Fraser-Nicola	75.1	Cariboo-Thompson	30536	-41%
Cariboo-Chilcotin	64.7	Cariboo-Thompson	29632	-43%
North Island	64.0	Vancouver Island & South Coast	54510	5%
Cariboo North	47.4	Cariboo-Thompson	32755	-37%
Peace River South	46.2	North	26349	-49%
Nelson-Creston	46.1	Columbia-Kootenay	37045	-28%
Boundary-Similkameen	46.1	Okanagan	38163	-26%
West Vancouver-Sea to Sky	45.7	North Shore	52569	2%
Powell River-Sunshine Coast	43.1	Vancouver Island & South Coast	48328	-7%
Kootenay West	37.8	Columbia-Kootenay	40650	-21%
Prince George-Valemount	37.6	North	46951	-9%
Skeena	35.3	North	29575	-43%
Kootenay East	34.7	Columbia-Kootenay	38869	-25%
Prince George-Mackenzie	30.9	North	45011	-13%
Alberni-Pacific Rim	30.6	Vancouver Island & South Coast	43423	-16%
Kamloops-North Thompson	27.6	Cariboo-Thompson	52479	1%
Shuswap	25.7	Okanagan	55520	7%
Chilliwack-Hope	21.0	Fraser Valley	50737	-2%
Nanaimo-North Cowichan	16.2	Vancouver Island & South Coast	52710	2%
Kamloops-South Thompson	15.2	Cariboo-Thompson	54417	5%
Parksville-Qualicum	14.4	Vancouver Island & South Coast	52037	1%
Saanich North and the Islands	14.4	Vancouver Island & South Coast	56270	9%
Cowichan Valley	13.7	Vancouver Island & South Coast	57357	11%

Penticton	11.8	Okanagan	55492	7%
Juan de Fuca	10.8	Vancouver Island & South Coast	52325	1%
Comox Valley	9.8	Vancouver Island & South Coast	63557	23%
Maple Ridge-Mission	9.5	Fraser Valley	56107	8%
Vernon-Monashee	9.2	Okanagan	61400	19%
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Abbotsford-Mission	7.6	Fraser Valley	53039	2%
Kelowna-Mission	5.9	Okanagan	57977	12%
Abbotsford South	5.5	Fraser Valley	53376	3%
Delta South	5.2	Richmond & Delta	46648	-10%
Surrey-Cloverdale	5.0	Surrey	73042	41%
Chilliwack	4.6	Fraser Valley	52248	1%
Surrey-Panorama	4.4	Surrey	69528	34%
Esquimalt-Royal Roads	4.2	Vancouver Island & South Coast	50183	-3%
Richmond East	4.1	Richmond & Delta	65312	26%
Nanaimo	4.0	Vancouver Island & South Coast	52695	2%
Maple Ridge-Pitt Meadows	3.9	Fraser Valley	55226	7%
North Vancouver-Seymour	3.9	North Shore	53407	3%
Langley	3.8	Columbia-Kootenay	64025	24%
Saanich South	3.6	Vancouver Island & South Coast	50827	-2%
Oak Bay-Gordon Head	3.4	Vancouver Island & South Coast	48889	-6%
West Vancouver-Capilano	3.3	North Shore	55955	8%
Port Moody-Coquitlam	3.1	Tri-Cities	52740	2%
Abbotsford West	3.1	Fraser Valley	50783	-2%
Surrey-Tynehead	3.0	Surrey	58306	13%
Burnaby-Lougheed	3.0	Burnaby & New Westminster	53383	3%
Surrey-White Rock	2.8	Surrey	52281	1%
Coquitlam-Maillardville	2.8	Tri-Cities	55576	7%
Vancouver-Point Grey	2.7	Vancouver	57056	10%
Port Coquitlam	2.6	Tri-Cities	55963	8%
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Surrey-Newton	2.3	Surrey	59828	16%
Victoria-Swan Lake	2.3	Vancouver Island & South Coast	50118	-3%
Burnaby North	2.2	Burnaby & New Westminster	58134	12%
Surrey-Fleetwood	2.1	Surrey	56925	10%
New Westminster	2.1	Burnaby & New Westminster	65893	27%
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Burnaby-Deer Lake	2.0	Burnaby & New Westminster	55074	6%
Vancouver-Langara	1.9	Vancouver	57032	10%
North Vancouver-Lonsdale	1.8	North Shore	57091	10%
Vancouver-Mount Pleasant	1.8	Vancouver	54238	5%
Victoria-Beacon Hill	1.7	Vancouver Island & South Coast	51550	0%
Vancouver-Hastings	1.6	Vancouver	55796	8%
Vancouver-Kensington	1.6	Vancouver	57796	12%
Vancouver-Kingsway	1.5	Vancouver	59342	15%
Vancouver-Fairview	1.5	Vancouver	55361	7%
Vancouver-False Creek	1.2	Vancouver	56218	9%
Vancouver-West End	0.7	Vancouver	48596	-6%

Marginal Cases

Kamloops-South Thompson

The least dispersed of the "protected" ridings is *Kamloops-South Thompson*. Even on the basis of population density, it is not particularly thin, and in dispersion it is extremely low. The basic geography of *Kamloops-South Thompson* is a big chunk of Kamloops and a string of smaller communities laid out to the east for 50KM along Highway 1.

Nanaimo-North Cowichan is an "unprotected" district, and only slightly more dispersed than *Kamloops-South Thompson*. In layout, it is almost identical, only oriented north/south rather than east/west: it consists of a hunk of Nanaimo, and a string of smaller communities laid out to the south for 45KM along Highway 1 (and some settled islands).

Parksville-Qualicum is an "unprotected" district, and is slightly less dispersed than *Kamloops-South Thompson*. In layout, it is also very similar: it consists of a piece of north Nanaimo, the city of Parksville and a string of smaller communities laid out to the north for 25KM along Highway 1 (and some settled islands).

There is **absolutely nothing exceptional about *Kamloops-South Thompson***. It has the same basic geography and population dispersion as other "unprotected" district. There many far more dispersed districts in the province deserving of protection: *Shuswap*, *Alberni-Pacific Rim*, *Powell River-Sunshine Coast*, *North Island* and others.

North Coast

The most dispersed of the "unprotected" districts is *North Island*. It is the 8th most dispersed district in the province, and yet currently has a population **5% above** the provincial average.

Although two thirds of the population of 54,510 live in metro Campbell River, the remaining third is spread out sparsely along the three hour drive north to Port Hardy, and in remote towns like Port Alice, Zeballos, Tahsis, and Gold River.

Like the MLA from *Skeena*, the MLA from *North Island* will require about four hours to get home from the Legislature (driving the Island highway, rather than flying). However, the MLA from *North Island* will represent almost twice as many people spread out over many more communities, placed further apart. The drive time from Terrace to Kitimat is one hour. The drive from Campbell River to Port Hardy is three.

In terms of geographical layout, rural economy, population dispersion, and even raw area, North Island is just as deserving of protection as any in BC, but the region-oriented white paper proposal leaves it unprotected.

Conclusion & Recommendations

There are other measures and factors that could be brought into the evaluation of dispersion and effectiveness of representation.

However, even the simple dispersion measurement presented here is a useful tool to evaluate the proposed changes to the Electoral Boundaries Commission Act:

- The proposed changes will **permanently protect** districts (e.g. *Kamloops-South Thompson*) that do not require protection.
- The proposed changes will leave **permanently unprotected** districts (e.g. *North Island*) that are quantifiably just as difficult to serve as some of the most northerly districts in the province.
- About the middle, the proposed changes protect and leave unprotected districts that are, from a population dispersion point of view, basically identical.

Retaining an 85 seat Legislature is a reasonable goal. There is little enough space in the chamber, and a larger province can support larger districts.

Protecting difficult to represent districts is also a reasonable goal. However, the proposal prejudices the work of the Commission in determining which districts require special protection.

If the government is concerned about rural representation in an 85 seat house, I recommend that it should instead **simply increase the allowed deviation to 35% below average**, and let the Commission figure out the best way to ensure effectiveness, rather than enshrining the current regions in law.

However, at some point in the future, the continued urbanization of BC will require representation reductions from rural areas, both in the north and on the remote coasts. Perhaps this redistribution cycle is the time to grasp the nettle, leave the deviation unchanged at 25%, and leave the Commission process to do the necessary and difficult work.