

STV+Circuits

Voter Choice

+

A Voice for Communities

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Nanaimo

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STV+Circuits

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This submission contains the following recommendations:

1. As part of the voting-reform package, the Assembly should recommend creation of a permanent, non-partisan B.C. Democracy Commission, which would be charged with the review of the voting system and the administration of political parties, its mandate to uphold the democratic right of citizens to meaningful participation in all aspects of the political process.
2. British Columbia should use a modified form of Single Transferable Vote (STV).
3. In remote areas (Peace, Cariboo, Kootenays), the ideal district magnitude is 2 or 3.
In settled areas (Okanagan, Nanaimo), the ideal district magnitude is 4 or 5.
In urban areas (GVRD, Victoria), the ideal district magnitude is 5 to 7.
4. "Circuits" should be used so that each community is represented by an individual MLA.
5. The districts should be based strongly on existing Regional Districts and municipalities.
6. Parties should not be able to limit the number of candidates seeking election under their banner in a given district.
7. The 2009 election should be held with the 21-district map presented in section 7.
8. After the 2009 election (using STV-C) the B.C. Democracy Commission should consult with voters in Powell River—Lillooet and North Shore, and issue a decision about whether they should be combined into a single 5-member electoral district.
After the 2013 election, the B.C. Democracy Commission should consult with northern voters and decide whether to combine the districts of Skeena—Nechako and Cariboo, and whether to combine Upper Fraser—Prince George and Peace River—Northern Rockies.
9. The Assembly should create Aboriginal Electoral Districts.

1. We should never stop trying to improve our democracy

The Citizens' Assembly is a marvellous achievement, one which has captured the imaginations of many in British Columbia and around the world. It was launched to address what were seen as urgent failures of our single-member-plurality voting system, notably the extreme (though not particularly anomalous) results of the 1996 and 2001 elections. In 1996, British Columbians did not get the government they voted for; the second-largest party won a majority. In 2001, British Columbians did not get the opposition they voted for; despite over 40% of the vote being cast for opposition parties (and not particularly fragmented, being almost entirely settled on four parties, all of them ostensibly left-leaning and/or populist) they did not among them receive enough seats to form a caucus.

I have considerable confidence in the ability of this Assembly to reach a wise conclusion and to offer British Columbia a voting system which will serve it well in the new century. However, we should not think that the task of reforming democracy can be achieved in one great effort, however lofty. It is an ongoing process.

Moreover, the very act of reforming the voting system may have unforeseen consequences which will themselves have to be addressed.

In the past, anyone finding a deficiency in the voting system had no remedy but to go to the courts. This has led to such landmark decisions as *Fisher*, the Saskatchewan reference case and *Figueroa*. It opens up genuine constitutional issues when the courts and the legislatures are competing to set the voting rules.

This could best be addressed by setting up a separate body with a broad mandate to consult with citizens about what they want in a voting system. It could issue recommendations to the legislature on a range of issues. Should the voting age be lowered? Should membership in a political party be a right? Under what circumstances could that right be lost? What should be the requirements to appear on a ballot?

The Democracy Commission could set standards the democratic functioning of political parties (currently there are none). It could require all registered parties to have certain democratic provisions in their constitutions, and could also provide a place for party members to appeal if they believe those constitutions have been violated.

Although this may seem to be outside the Assembly's mandate, I argue that it is not, if the Assembly believes that this measure would be necessary to ensure the smooth functioning of the system whose adoption it recommends. Similarly, there may be other important measures which are consequential to the adoption of a new voting system; when list-PR was used in the U.K. (for the European Parliament elections of 1999) legislation had to be enacted recognizing political parties for the first time!

I therefore recommend:

1. As part of the voting-reform package, the Assembly should recommend creation of a permanent, non-partisan B.C. Democracy Commission, which would be charged with the review of the voting system and the administration of political parties, its mandate to uphold the democratic right of citizens to meaningful participation in all aspects of the political process.
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2. The values which should underpin voting reform

I have been an active member of the electoral reform community in Canada for the past eight years. During that time I have read and written extensively on voting systems, presenting models of possible systems for Vancouver, for British Columbia, and for Canada, always concentrating on the geographical, historical and cultural realities of the jurisdiction being considered. Until the present paper, I had not made up my mind about what system to recommend for British Columbia.

I now recommend:

2. British Columbia should use a modified form of Single Transferable Vote (STV).

It is accepted wisdom that the way to design a voting system is to agree first on what values and principles are appropriate to incorporate. Within the Canadian voting reform community, there is remarkable unanimity on what values are important for Canadian voters. In the constitution of Fair Vote Canada (to the council of which I have been elected twice), we express these values as follows:

- 1) *broad proportionality,*
- 2) *extended voter choice,*
- 3) *stable and responsive government, and*
- 4) *maintaining a link between representatives and geographic constituencies.*

This list has a distinguished pedigree. It is similar to the list of requirements issued by the British government to the Jenkins commission, and was first proposed in the Canadian context by Nick Loenen, then adopted, with minor modifications, by Fair Voting B.C. and by Fair Vote Canada. A similar, but slightly longer, list was used by the New Zealand Royal Commission and was this year adapted by the Law Commission of Canada.

I cannot emphasize enough that there is wide agreement about these values. Politicians and electoral reformers on both the left and the right, and from all political parties both big and small have accepted them with some enthusiasm; I have never once heard them seriously attacked. At the founding meeting of Fair Vote Canada, they were adopted by a roomful of grassroots members, with consensus being reached after one member had proposed the inclusion of the words “and responsive”, having articulately questioned whether “stability” alone might not be too much of a good thing.

Where the voting reform community divides is on how these ideals are best met in practice. I actually believe there is a good reason underlying this division: it depends to some extent on where you live. In Ontario, which is thickly populated with the exception of ten northern ridings (and even in those, the population is largely concentrated in Sudbury, Thunder Bay, and a few smaller communities), there tends to be a greater tolerance for increasing the size of ridings. In British Columbia, where even ridings on our southern border would qualify as remote and sometimes inaccessible, there is a greater emphasis on geographic representation.

Then too, reformers closely associated with political parties tend to think that “proportionality” only means being proportional to the “party vote”; that is, that the purpose of an election is only for a voter to register a preference for one or another of a small group of political parties.

Independent reformers tend to place more emphasis on the importance of the individual candidates running, the men and women who will actually end up as MLAs, sit on legislative committees, and serve their constituents.

It is felt by many that Single Transferable Vote (STV) is the system which provides the most voter choice. The question has generally been whether it also provides enough geographic representation.

Many people have suggested that Mixed-Member systems (MMM, MMP) provide better geographic representation, because they offer a single member per district. I considered such systems. However, I have not heard anyone advocate MMP propose setting aside fewer than one-third of the seats as list seats. (Moreover, a smaller set-aside, such as one-sixth, would not have corrected the problems of the last two elections: in 1996, the NDP would still have won more seats than the Liberals, while in 2001 the Liberals would still have had a huge majority with 64 seats.) Reserving one-third of the seats as list seats would make each riding 50% larger (not “about one-third larger” as is sometimes erroneously claimed). It is my strong believe that, while this might be acceptable in Ontario, it would never be accepted in British Columbia.

This realisation brought the focus back on to STV. Could something be done to mitigate the way STV groups representatives in to multi-member ridings? Could STV be made to function more like a single-member system?

In his submission, “Preferential Plus”, Nick Loenen has proposed one way to do this: by using single-member ridings in remote areas, and multi-member ridings in more densely settled areas. Loenen has identified with precision the problem posed by British Columbia’s geography; however I believe his solution goes too far in the remote areas, and not far enough in the rest of the province.

In this submission, I argue for a more balanced approach.

3. STV-C, a new system meeting B.C.’s needs

I propose using two measures to enhance STV for the differing geographic realities around British Columbia. First, district magnitudes should be larger in urban areas:

3. In remote areas (Peace, Cariboo, Kootenays), the ideal district magnitude is 2 or 3.
In settled areas (Okanagan, Nanaimo), the ideal district magnitude is 4 or 5.
In urban areas (GVRD, Victoria), the ideal district magnitude is 5 to 7.

In the accompanying maps and tables, I lay out a 21-district model for the province. These ideals have been met with a few minor exceptions. However, in the GVRD I propose a fairly natural districting which uses only the low end of the range: most districts elect five members. This is so that future growth may be accommodated by adding members rather than redistricting. I propose that districts be capped at seven members: if population growth would carry a district to eight, split it into two fours.

The second enhancement to STV is more radical. I suggest that each n -member district should be subdivided – for representational, but not electoral, purposes – into n single-member areas which I call “circuits”. Following the count, each elected member would be assigned

responsibility for one individual circuit. The details of how these assignments would be made remain to be specified. Most likely, the candidates could be ranked according to the order in which they were declared elected, or the number of first-preference vote they received. The highest-ranked candidate would be given first choice of circuit. One would hope that in many cases there would be relatively few conflicts as the STV system should broadly work to ensure that the elected members are dispersed across the multi-member district.

4. “Circuits” should be used so that each community is represented by an individual MLA.
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It is important to realize that the circuits have no meaning on voting day and that ballots are the same across an electoral district. However, circuits would apply in the following ways:

- A voter who had no particular party allegiance would likely turn to her “circuit MLA” rather than one representing another circuit within her electoral district.
- The “circuit MLA” would usually be the one to make appearances at nonpartisan public events within his or her circuit
- Members would be recognized in the assembly by the name of their circuit; for instance “the member for Vernon”, not “the third member for North Okanagan—Columbia”

Some parties might wish to use the circuits to organize their nomination contests; thus in a three-member district each circuit would separately nominate one of the party’s three candidates; this would further help ensure that the elected members were well distributed across the circuits in a district.

One could imagine that sometimes the division of the circuits among the elected members might be quite amicable. Indeed, two (or more) members might agree to take on a pair of circuits initially, and then switch at mid-term; this would help candidates who planned to run for re-election to become better known to more of their electors.

“Circuit STV” (STV-C) is a better bridge between STV and single-member constituencies than is Nick Loenen’s “Preferential Plus”. It provides the benefits of a local member to all British Columbians, not just the few living in remote communities. It also provides proportionality and minority representation to all voters, including those in the north, which “Preferential Plus” does not. Looked at another way, STV-C is a more moderate approach which has only a small quantitative difference in the treatment of urban and rural areas, whereas “Preferential Plus” makes a qualitative distinction.

4. Drawing the map

I have already recommended that a larger district magnitude should be used in urban areas. This shifts the balance subtly toward proportionality in urban B.C., but toward distinct geographic representation in rural B.C.

I also believe that

5. The districts should be based strongly on existing Regional Districts and municipalities.
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In my proposals, no electoral district crosses a Regional District boundary. Outside the GVRD, every electoral district consists of one or more entire Regional Districts. The GVRD has been

split into eight electoral districts, and here I have almost entirely respected existing municipal boundaries.

Basing the electoral districts on existing political boundaries has several advantages:

- it harmonizes jurisdiction between two levels of government, making it easier for Regional Districts to communicate with their representatives in Victoria;
- it makes it easier for local media, who already use Regional Districts as catchment areas, to provide links between candidates and voters;
- it helps make regional government a natural stepping-stone to higher office; and
- it encourages future boundaries commissions to respect the existing district boundaries, simply adding new members to a district where necessary, thus further enhancing voter identification with their districts.

5. An optional feature

In this section I make a recommendation which could be adopted independently of the choice of voting system, providing ranked ballots are used:

6. Parties should not be able to limit the number of candidates seeking election under their banner in a given district.

Because under STV votes are perfectly transferable, it does not harm a party's chance of election if ten people rather than three are standing in a certain five-member district. The party vote will eventually coalesce on the most popular of the candidates. If a party is allowed to limit the number of candidates running, this will become a mechanism for the leadership to ensure that only orthodox loyalists approved by the leader are nominated. Why not allow any other candidate to demonstrate that she has support from within her party to run? Let her have access to the ballot if she collects, say, 50 signatures from party members anywhere in B.C., and 50 more from registered electors within her district.

6. A defence of STV

In this section, I address two criticisms of STV which I have heard at some of the earlier public hearings.

First, MMP is described as 'more proportional'. MMP is, indeed, slavishly proportional to the expressed first-party-preferences of voters. But to what extent do these preferences represent the full richness of the voter's beliefs? Perhaps as a voter my real first preference is for Rick Mercer or Louis Riel. Finding neither of them on my ballot, I force myself to pick one of the parties which actually is there. How much does that really say about me? Does it say enough that that party should then take my vote as their property, to assign at their will to the election of their candidates?

STV is a completely proportional system in that it allows identical fractions of the electorate to stand behind the candidates of their choice: actual people whose names were on their ballots and whom they personally approved. The only deviation from proportionality lies in the group of voters whose ballots elected nobody: at most $1/(n+1)$ of the voters in a district, but in practical terms often less. It also allows a voter for a small party, like Marijuana and Unity in the last

election, which did not meet the MMP threshold, to nevertheless use her lower-order preferences meaningfully to select among the remaining candidates.

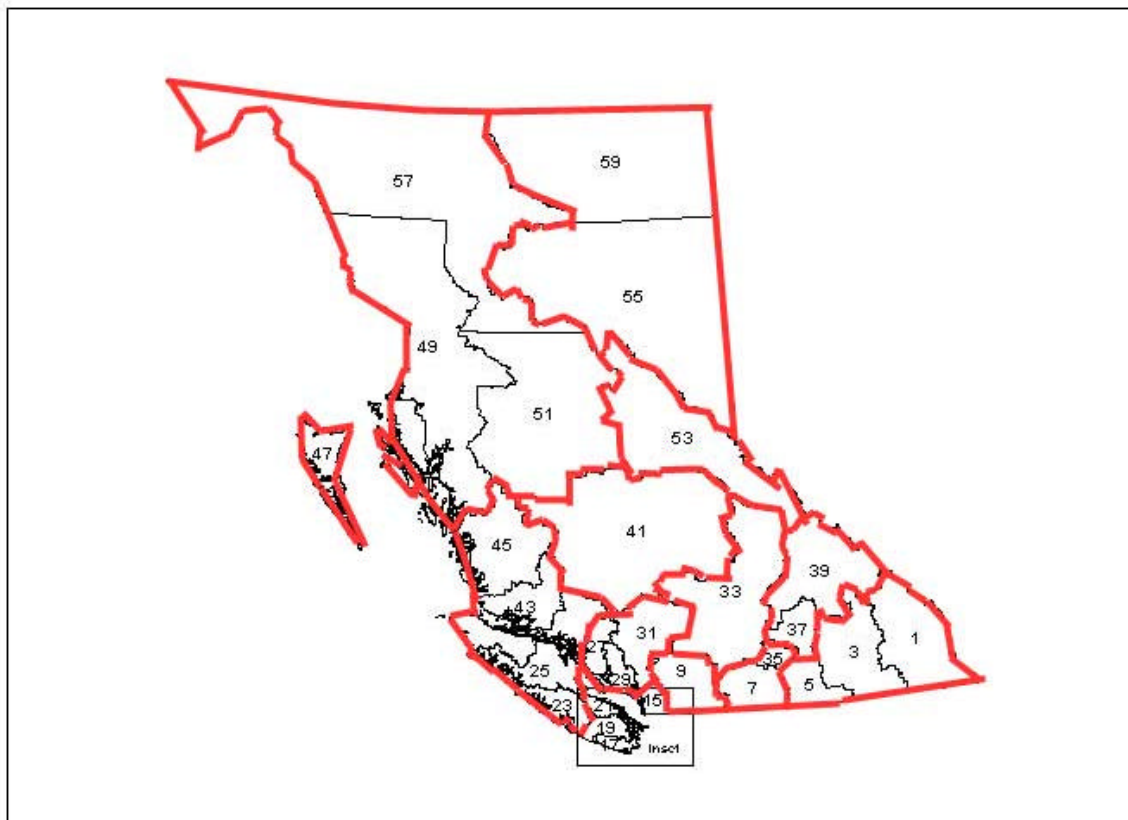
Second, I have heard that, while STV may be in principle a superior system, that MMP is less 'disruptive' because it is a smaller change to our established system. Again I disagree. Doubling the size of a riding (as is required if half the seats come off lists) or even increasing it by 50% (if one-third come from lists) would be seen as extremely disruptive in rural areas. By contrast my circuit-STV proposal leaves the same number of MLA representing similar-sized geographic areas in similar places -- they are simply *circuits* rather than *electoral districts*.

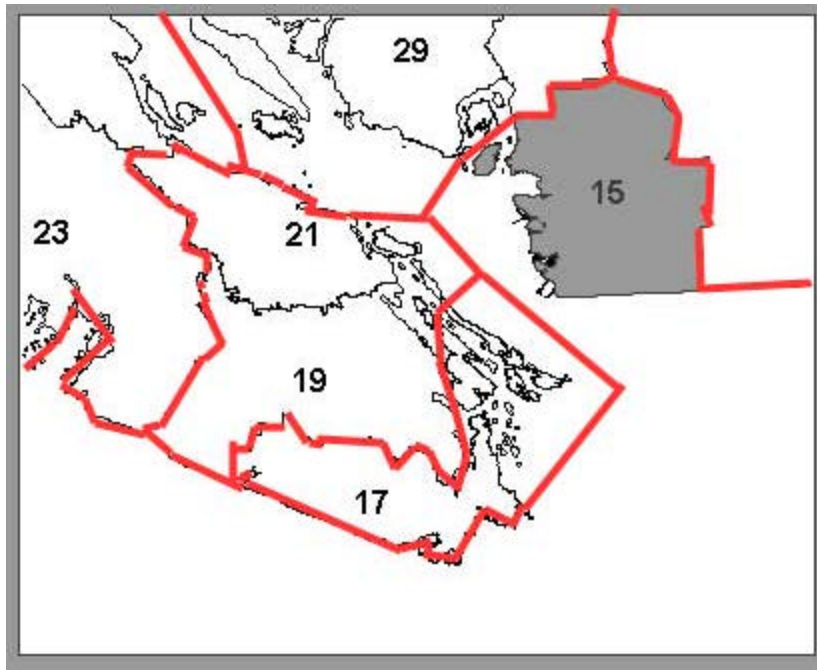
7. Dividing B.C. into electoral districts

All of B.C. outside the Greater Vancouver Regional District has been divided into 13 electoral districts, each one consisting of one or more complete regional districts. In more populated areas of the province, the goal is to construct a district which will elect 4 or 5 MLAs using STV. In more remote areas (north of Kamloops, the Kootenays) the districts will elect only 2 or 3 MLAs.

Because the provincial quota (obtained by dividing the 2001 census population by the number of districts, 79) is just under 50,000, in southern B.C. the ideal population of a district is about $5 \times 50,000 = 250,000$. In northern B.C., the ideal population is about $3 \times (.75) \times 50,000 = 112,500$, since the *Fisher* decision on provincial boundaries allows a deviation of -25% from the provincial quota, without invoking special circumstances.

A possible division of the province into 21 electoral districts is given in a series of three maps, and in **table 1**.





The residents of these 13 districts (which elect a total of 42 MLAs) are distributed as follows:

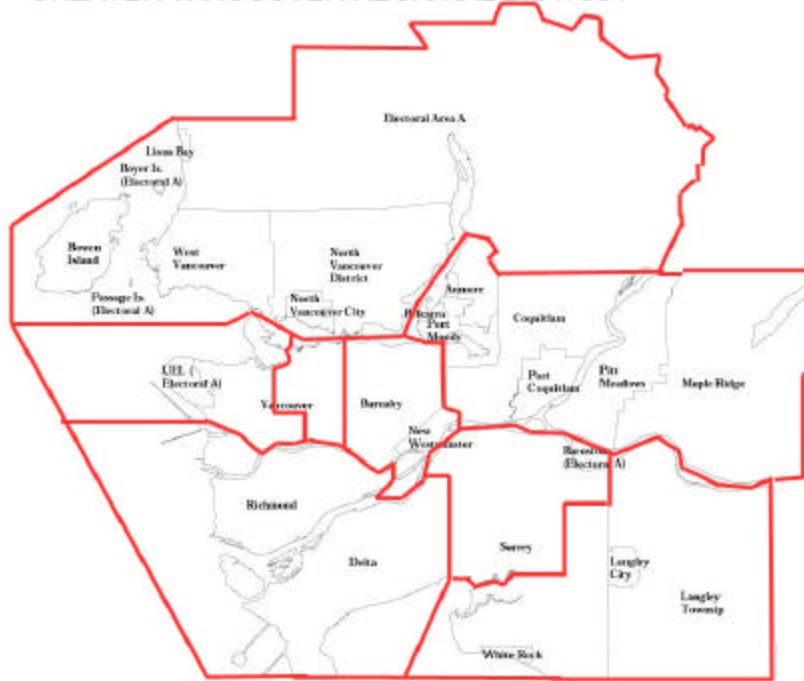
42 MLAs outside the GVRD			
district magnitude	number of such districts	MLAs representing such districts	British Columbians living in such districts
2	3	6	204,834
3	6	18	729,247
4	3	12	660,938
5	0		
6	1	6	325,754

The GVRD has been divided into 8 electoral districts, for the most part by putting together municipalities. (The populations of municipalities in this table include any adjacent reserves.) Vancouver has been divided into two halves following the official neighbourhoods. Surrey has also been split following its official neighbourhood plan; the urban neighbourhoods within the GVRD's growth concentration area form the electoral district of Surrey Centre, while the suburban neighbourhoods of Cloverdale, South Surrey and the city of White Rock have been grouped with Langley.

The great majority of GVRD residents live in 5-member ridings:

37 MLAs for the GVRD			
district magnitude	number of such districts	MLAs representing such districts	British Columbians living in such districts
3	1	3	176,196
4	1	4	214,427
5	6	30	1,588,193

GREATER VANCOUVER REGIONAL DISTRICT



In total, nearly two-thirds of British Columbians live in either a 4- member or a 5- member district:

all 79 MLAs				
district magnitude	number of such districts	MLAs representing such districts	British Columbians living in such districts	as a percentage
2	3	6	204,834	5%
3	7	21	905,443	23%
4	4	16	875,365	22%
5	6	30	1,588,193	41%
6	1	6	325,754	8%

I think this is a good electoral map. Because it is based on existing political structures, it is free from charges of gerrymandering. I believe that each of the various districts builds upon an existing sense of community. People in Cloverdale can relate to the same issues as people in Langley; Maple Ridge and Pitt Meadows feel close to Coquitlam; the three Kootenays face similar challenges, quite different to those in the Okanagan. With the addition of members to reflect future population growth, this map could stand for some time.

I recommend:

7. The 2009 election should be held with the 21-district map presented in section 7.
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Skeena--Nechako	104,741	3	34,914	-29%
47000 Skeena-Queen Charlotte Regional District	21,693			
49000 Kitimat-Stikine Regional District	40,876			
51000 Bulkley -Nechako Regional District	40,856			
57000 Stikine Region	1,316			
Peace River--Northern Rockies	60,800	2	30,400	-39%
55000 Peace River Regional District	55,080			
59000 Northern Rockies Regional District	5,720			
Upper Fraser--Prince George	95,317	3	31,772	-36%
53000 Fraser-Fort George Regional District	95,317			
Cariboo	65,659	2	32,830	-34%
41000 Cariboo Regional District	65,659			
Thompson--Nicola	119,222	3	39,741	-20%
33000 Thompson-Nicola Regional District	119,222			
North Okanagan--Columbia	121,446	3	40,482	-18%
37000 North Okanagan Regional District	73,227			
39000 Columbia-Shuswap Regional District	48,219			
Okanagan--Similkameen	224,374	4	56,094	+13%
7000 Okanagan-Similkameen Regional District	76,635			
35000 Central Okanagan Regional District	147,739			
Kootenays	145,153	3	48,384	-2%
1000 East Kootenay Regional District	56,291			
3000 Central Kootenay Regional District	57,019			
5000 Kootenay Boundary Regional District	31,843			
Powell River--Lillooet	78,375	2	39,188	-21%
27000 Powell River Regional District	19,765			
29000 Sunshine Coast Regional District	25,599			
31000 Squamish-Lillooet Regional District	33,011			
North Island--Central Coast	143,368	3	47,789	-3%
23000 Alberni-Clayoquot Regional District	30,345			
25000 Comox-Strathcona Regional District	96,131			
43000 Mount Waddington Regional District	13,111			
45000 Central Coast Regional District	3,781			
Cowichan--Nanaimo	199,014	4	49,754	+1%
19000 Cowichan Valley Regional District	71,998			
21000 Nanaimo Regional District	127,016			
Capital Region	325,754	6	54,292	+10%
17000 Capital Regional District	325,754			
GVRD (multiple districts)	1,986,965	37	53,702	+9%
15000 Greater Vancouver Regional District	1,986,965			
Fraser Valley	237,550	4	59,388	+20%
9000 Fraser Valley Regional District	237,550			

3,907,738 79 49,465

source for projections: <http://www.bcstats.gov.bc.ca/data/pop/pop/popproj.htm>

division of the GVRD into electoral districts				
North Shore	176,196	3	58,732	19%
North Vancouver District	83,567			
North Vancouver City	44,642			
West Vancouver	43,651			
Bowen Island	2,957			
Lions Bay	1,379			
Vancouver Westside	277,962	5	55,592	12%
Vancouver (part)	277,962			
Greater Vancouver A	8,034			
Vancouver Eastside	268,924	5	53,785	9%
Vancouver (part)	268,924			
Fraser Delta	261,774	5	52,355	6%
Delta	97,429			
Richmond	164,345			
Burnaby--New Westminster	248,610	5	49,722	1%
Burnaby	193,954			
New Westminster	54,656			
Tri-Cities	268,077	5	53,615	8%
Coquitlam	112,890			
Belcarra	682			
Anmore	1,344			
Port Coquitlam	51,277			
Port Moody	23,816			
Pitt Meadows	14,894			
Maple Ridge	63,174			
Surrey Centre	262,846	5	52,569	6%
Whalley	78,500			
Guildford	49,300			
Fleetwood	43,300			
Newton	91,700			
Barnston Island 3	46			
Semiahmoo--Langley	214,427	4	53,607	8%
Cloverdale	30,900			
South Surrey	54,100			
Langley District	87,403			
Langley City	23,643			
White Rock	18,250			
Semiahmoo	131			

source for Surrey neighbourhoods:

<http://www.city.surrey.bc.ca/Doing+Business/>

Population+and+Demographics/Population+Esitimates+and+Projections.htm

Table 1: Dividing B.C. into 21 electoral districts, based on existing regional districts

8. Dividing the districts into circuits

Because the circuits would have no electoral meaning whatsoever -- the ballot would be the same across all the circuits in a district -- there would be no particular need to balance them in size. This is an extra benefit of the circuit system; we should put it to use. In my proposal I have suggested a set of circuits designed to give voters in the most remote areas reasonable access to their MLAs.

Table 2 shows the 21 districts divided into 79 circuits, with between 2 and 6 circuits in each district. Population figures are from the 2001 census. In this table, I have used the electoral areas to indicate a division of the province into regions, even though many residents do not live in electoral areas but in incorporated communities or on First Nations reserves. Each electoral area in this table should therefore be understood as also including those communities which have been sectioned out of it. Thus, for instance, "Okanagan-Similkameen G" includes the electoral area of Okanagan-Similkameen G, but also the village of Keremeos, and the Chuchuwayha 2, Alexis 9 and Ashnola 10 reserves.

For greater clarity, where regional districts are divided, I indicate where larger communities have been counted. The division into circuits wherever possible respects regional-district, electoral-area, municipal and neighbourhood boundaries.

Because there are so many ways to draw circuits, I stop short of recommending this particular set.

Table 2: Division of the 21 Districts into 79 Circuits

Skeena--Nechako	104,741		Cariboo	65,659
Skeena-Haida Gwaii	21,693		Quesnel	24,426
Skeena-Queen Charlotte Regional District	21,693		Cariboo A (inc. Quesnel)	16,561
Kitimat--Stikine	42,192		Cariboo B	4,338
Kitimat-Stikine Regional District	40,876		Cariboo C	1,558
Stikine Region	1,316		Cariboo I	1,969
Bulkley--Nechako	40,856		Cariboo South	41,233
Bulkley-Nechako Regional District	40,856		Cariboo D	3,469
Peace River--Northern Rockies	60,800		Cariboo E (inc. Williams Lake)	16,680
Peace River South	26,449		Cariboo F	4,963
Peace River D (inc. Dawson Creek)	17,444		Cariboo G	6,740
Peace River E (inc. Chetwynd)	9,005		Cariboo H	2,091
Alaska Highway	34,351		Cariboo L	4,244
Peace River B	5,624		Cariboo J	1,628
Peace River C (inc. Fort St. John)	23,007		Cariboo K	1,418
Northern Rockies Regional District	5,720			
Upper Fraser--Prince George	95,317		Thompson--Nicola	119,222
Prince George South	45,611		Nicola	22,705
Prince George tracts 1-9, 15-17	37,342		Thompson-Nicola M	9,684
Fraser-Fort George C	3,178		Thompson-Nicola N	1,142
Fraser-Fort George D	4,527		Thompson-Nicola E	2,056
Fraser-Fort George E	564		Thompson-Nicola I (Ashc., Cache C. Logan L.)	8,073
Prince George North	38,576		Thompson-Nicola J	1,750
Prince George tracts 10-14, 18-23	35,064		Kamloops	80,040
Fraser-Fort George A	3,512		Kamloops tracts 1-20	74,613
Mackenzie--Robson Valley	11,130		Thompson-Nicola L (inc. Chase)	5,427
Fraser-Fort George F	1,412		Thompson	16,477
Fraser-Fort George G (inc. Mackenzie)	5,755		Thompson-Nicola A	4,399
Fraser-Fort George H	3,963		Thompson-Nicola B	368
			Thompson-Nicola O	3,526
			Thompson-Nicola P (inc. Kamloops 1, R)	4,106
			Kamloops tracts 21, 22	4,078

Table 2, continued

North Okanagan--Columbia	121,446
Vernon	56,926
North Okanagan B (inc. Vernon)	38,797
North Okanagan C	3,627
North Okanagan D (inc. Coldstream)	13,564
North Okanagan E	938
Shuswap	42,618
North Okanagan F (Spa'ch'n, Armst., Enderby)	16,301
Columbia-Shuswap C	6,896
Columbia-Shuswap D (inc. Salmon Arm)	19,421
Columbia	21,902
Columbia-Shuswap A (inc. Golden)	7,155
Columbia-Shuswap B (inc. Revelstoke)	8,125
Columbia-Shuswap E (inc. Sicamous)	4,211
Columbia-Shuswap F	2,411
Okanagan--Similkameen	224,374
Kelowna--Mission	52,491
Kelowna tracts 1-3, 8-15	52,491
Kelowna--Lake Country	58,715
Kelowna tracts 4-7, 16-19, 105	58,715
Westbank	49,235
Central Okanagan G (inc. Peachland)	20,598
Central Okanagan H	15,935
Okanagan-Similkameen F (inc. Summerland)	12,702
Penticton--Similkameen	57,174
Okanagan-Similkameen A (inc. Osoyoos)	6,759
Okanagan-Similkameen B	1,241
Okanagan-Similkameen C (inc. Oliver)	8,378
Okanagan-Similkameen D (inc. Penticton)	37,589
Okanagan-Similkameen E	1,996
Okanagan-Similkameen G (inc. Keremeos)	3,391
Okanagan-Similkameen H (inc. Princeton)	4,579
Kootenays	145,153
East Kootenay	56,291
East Kootenay Regional District	56,291
Central Kootenay	57,019
Central Kootenay Regional District	57,019
Kootenay Boundary	31,843
Kootenay Boundary Regional District	31,843
Powell River--Lillooet	78,375
Powell River--Sunshine Coast	45,364
Powell River Regional District	19,765
Sunshine Coast Regional District	25,599
Squamish--Lillooet	33,011
Squamish-Lillooet Regional District	33,011
North Island--Central Coast	143,368
Alberni	30,345
Alberni-Clayoquot Regional District	30,345
Campbell River--Comox	91,238
Comox-Strathcona A (inc. Cumberland)	7,398
Comox-Strathcona B (inc. Comox, Courtenay)	37,671
Comox-Strathcona C	7,584
Comox-Strathcona D (inc. Campbell River)	33,872
Comox-Strathcona G (inc. Gold River)	2,731
Comox-Strathcona K	1,982
Central Coast	21,785
Comox-Strathcona H	1,164
Comox-Strathcona I	1,000
Comox-Strathcona J	2,729
Mount Waddington Regional District	13,111
Central Coast Regional District	3,781

Cowichan--Nanaimo	199,014
Ladysmith--North Cowichan	53,532
Cowichan Valley D (inc. North Cowichan)	29,064
Cowichan Valley G (inc. Ladysmith)	9,247
Cowichan Valley H	2,865
Cowichan Valley F (inc. Lake Cowichan)	4,784
Cowichan Valley I	1,149
Nanaimo A	6,423
Cowichan Valley	24,889
Cowichan Valley A	3,514
Cowichan Valley B	7,081
Cowichan Valley C	4,545
Cowichan Valley E (inc. Duncan; Cowichan 1)	9,749
Nanaimo	82,763
Nanaimo B	3,522
Nanaimo C	929
Nanaimo D (inc. Nanaimo)	78,312
Parksville-Qualicum	37,830
Nanaimo E	4,820
Nanaimo F	5,546
Nanaimo G (inc. Parksville, Qualicum Beach)	24,285
Nanaimo H	3,179
Capital Region	325,754
North Saanich--Gulf Islands	35,308
North Saanich	10,793
Sidney	10,929
Capital F	9,279
Capital G	4,307
Saanich Peninsula	64,351
Central Saanich	17,363
Saanich tracts 126-129, 132, 133	46,988
Saanich--Oak Bay	74,464
Saanich tracts 120-125, 130, 131	56,666
Oak Bay	17,798
Victoria	74,125
Victoria	74,125
Esquimalt--Metchosin	44,033
Esquimalt	18,001
View Royal	7,271
Colwood	13,745
Metchosin	5,016
Langford--Sooke	33,473
Langford	18,840
Highlands	1,674
Sooke	8,892
Capital H (Part 1)	3,801
Capital H (Part 2)	266
GVRD (see below)	1,986,965
Greater Vancouver Regional District	1,986,965
Fraser Valley	237,550
Hope--Kent	16,839
Fraser Valley A	763
Fraser Valley B (inc. Hope)	7,504
Fraser Valley C (inc. Kent, Harrison)	8,572
Chilliwack	66,376
Fraser Valley D (inc. Chilliwack)	66,376
Mission	34,837
Fraser Valley F (inc. Mission)	32,509
Fraser Valley G	2,328
Abbotsford	119,498
Fraser Valley E	3,400
Fraser Valley H (inc. Abbotsford)	116,098

Table 2, continued

division of the GVRD into electoral districts		
North Shore		176,196
North Vancouver District	83,567	83,567
North Vancouver City	44,642	44,642
West Vancouver	47,987	47,987
West Vancouver	43,651	
Bowen Island	2,957	
Lions Bay	1,379	
Vancouver Westside		292,267
Burrard	70,091	
Downtown	27,937	
West End	42,154	
Kitsilano	67,789	
Fairview	28,403	
Kitsilano	39,386	
Point Grey	56,286	
West Point Grey	12,911	
Dunbar-Southlands	21,308	
UEL	8,034	
Kerrisdale	14,033	
Arbutus-Cambie	30,523	
Arbutus Ridge	14,515	
Shaughnessy	9,012	
South Cambie	6,996	
Vancouver South	67,578	
Marpole	22,416	
Oakridge	11,739	
Sunset	33,423	
Vancouver Eastside		262,653
Downtown East	36,076	
Mount-Pleasant	24,539	
Strathcona	11,537	
Hastings	62,140	
Grandview-Woodlands	29,085	
Hastings-Sunrise	33,055	
Kensington	66,554	
Riley Park	21,998	
Kensington-Cedar Cottage	44,556	
Renfrew-Collingwood	44,946	
Renfrew-Collingwood	44,946	
Fraserview	52,937	
Killarney	25,785	
Victoria-Fraserview	27,152	
Fraser Delta		261,774
Richmond Centre	54,008	54,008
Richmond 142.3, 143.2, 145, 147.6, 148, 149	54,008	
Steveston	55,863	55,863
Richmond 140.2, 141, 142, 143.1,3,4, 144	55,863	
Richmond East	54,474	54,474
Richmond 140.3,4, 146, 147.1,2,3,4,5, 150, 151	54,474	
Ladner--Tsawassen	45,321	45,321
Delta tracts 160, 161	45,321	
Delta North	52,108	52,108
Delta tracts 162, 163	52,108	
Burnaby--New Westminster		248,610
Burnaby Heights	47,049	47,049
Burnaby tracts 238-243.1	47,049	
Burnaby Mountain	47,377	47,377
Burnaby tracts 232-237, 243.2	47,377	
Burnaby Edmonds	46,099	46,099
Burnaby tracts 220-224, 227	46,099	
Burnaby Willingdon	53,429	53,429
Burnaby tracts 225, 226, 228-231	53,429	
New Westminster	54,656	54,656
New Westminster	54,656	
Tri-Cities		268,077
Coquitlam Centre	51,118	51,118
Coquitlam tracts 286.2, 287	51,118	
Coquitlam Maillardville	61,772	61,772
Coquitlam tracts 280-285, 286.1,3	61,772	
Pitt River	66,171	66,171
Port Coquitlam	51,277	
Pitt Meadows	14,894	
Port Moody	23,816	25,842
Belcarra	682	
Anmore	1,344	
Maple Ridge	63,174	63,174
Maple Ridge	63,174	
Surrey Centre		262,846
Whalley	78,500	78,500
Whalley	78,500	
Guildford	49,300	49,346
Guildford	49,300	
Barnston Island 3	46	
Fleetwood	43,300	43,300
Fleetwood	43,300	
Newton	38,411	38,411
Newton less Panorama Ridge	38,411	
Panorama Ridge	53,289	53,289
existing electoral district	53,289	
Semiahmoo--Langley		214,427
Cloverdale	30,900	30,900
Cloverdale	30,900	
Fort Langley	64,770	64,770
Langley District tracts 501, 504-506	64,770	
Langley City	22,633	46,276
Langley District tract 502	22,633	
Langley City	23,643	
South Surrey-White Rock	54,100	72,481
South Surrey	54,100	
White Rock	18,250	
Semiahmoo	131	

The names of the 21 districts in this table would be used in campaigning and elections; a candidate would seek election as one of the candidates for Kootenays, for example.

The names of the 79 circuits would be used for representation; a member might sit in the legislature as “the member for Vernon”.

9. Population projections

In this section we consider the stability of the STV-C proposal as British Columbia's population continues to grow. Supposing that the system to be put in place after May 2005 will use the 2001 census data to determine the number of MLAs per region, the boundaries will be eight years out of date by the time they are used in 2009.

One of the potential advantages of an STV system is that one can leave the boundaries unchanged for long periods of time. Systems based on single-member ridings (FPTP, AV, MMP) require radical surgery every time the boundaries are redrawn, in order to balance the population in each riding. With STV, it might be possible to keep the districts intact, and simply add members where necessary. Thus a five-member district might become a six-member district, and later a seven-member district. Once a district reaches eight members, it could be cut in two.

This long-term stability could further enhance the bond between electors and their representatives. Under our current system, voters often forget the name and boundaries of their electoral district. If the district boundaries stayed the same through many revisions, a voter might come to know that she as always lived in, for instance, North Island—Central Coast.

In **table 3**, we look at the population of each district in three years: the census year 2001, the election year 2009, and the census year 2011, using the population projections compiled by B.C. stats. This shows that by 2009 each northern district would be about 3% *further* below quota than it was in 2001. In the other direction, the GVRD, which had been 9% underrepresented in 2001, is now 11% underrepresented, and the FVRD is up to +25%. This is, just barely, within the 25% deviation permitted by *Fisher*.

If the 2011 reveals populations similar to those estimated by B.C. stats, the continuing population growth in the Lower Mainland will require the addition of seats to the legislature. A fifth seat in the FVRD will bring it back down to +6%, while three seats will suffice to bring the GVRD to +8%, similar to the +9% that we had assumed would be acceptable when we looked at the 2001 data.

To determine which specific districts within the GVRD would likely gain an additional member, we again looked at the population growth estimates. Unfortunately, these are only available for *local health areas*. This required us to divide Vancouver in a slightly different way, putting three local health areas on each side. It also required some guesswork in Surrey, since the local health area boundary does not match our proposed district boundary. We made the assumption that Cloverdale would continue to represent about 10.5% of the Surrey local health area, as it does at present. Using these forecasts, we see that the three highest-population districts within the GVRD will be Vancouver Westside, Tri-Cities, and Surrey Centre, and we have awarded each a sixth member. This makes all the deviations from quota in the new 83-member legislature quite reasonable. The next districts in line to gain an additional member are Semiahmoo—Langley and Okanagan—Similkameen.

Of course, changing the number of members in a district requires realigning the *circuits* within that district. If one is committed to the idea that circuits may vary considerably in population, one could simply take the highest-population circuit and cut it in half. Otherwise, more radical redrawing may be necessary.

Table 3: Adjusting for population growth to 2011 by adding 4 seats

2001 census data				2009 (election held)				2011 (next census)				Loenen measure *	
Skeena--Nechako				116,207	3	38,736	-32%	118,168	3	39,389	-29%	26,185	52,371
47000 Skeena-Queen Charlotte RD	21,693												
49000 Kitimat-Stikine RD	40,876												
51000 Bulkley-Nechako RD	40,856												
57000 Stikine Region	1,316												
Peace River--Northern Rockies				70,254	2	35,127	-38%	71,714	2	35,857	-35%	20,267	30,400
55000 Peace River RD	55,080												
59000 Northern Rockies RD	5,720												
Upper Fraser--Prince George				104,431	3	34,810	-39%	106,032	3	35,344	-36%	23,829	47,659
53000 Fraser-Fort George RD	95,317												
Cariboo				71,144	2	35,572	-37%	71,850	2	35,925	-35%	21,886	32,830
41000 Cariboo RD	65,659												
Thompson--Nicola				131,727	3	43,909	-23%	134,812	3	44,937	-19%	29,806	29,806
33000 Thompson-Nicola RD	119,222												
North Okanagan--Columbia				136,226	3	45,409	-20%	139,903	3	46,634	-16%	30,362	30,362
37000 North Okanagan RD	73,227												
39000 Columbia-Shuswap RD	48,219												
Okanagan--Similkameen				257,317	4	64,329	+13%	265,734	4	66,434	+20%	44,875	44,875
7000 Okanagan-Similkameen RD	76,635												
35000 Central Okanagan RD	147,739												
Kootenays				154,746	3	51,582	-9%	156,138	3	52,046	-6%	36,288	36,288
1000 East Kootenay RD	56,291												
3000 Central Kootenay RD	57,019												
5000 Kootenay Boundary RD	31,843												
Powell River--Lillooet				94,086	2	47,043	-17%	98,605	2	49,303	-11%	26,125	26,125
27000 Powell River RD	19,765												
29000 Sunshine Coast RD	25,599												
31000 Squamish-Lillooet RD	33,011												
North Island--Central Coast				154,005	3	51,335	-10%	155,969	3	51,990	-6%	35,842	35,842
23000 Alberni-Clayoquot RD	30,345												
25000 Comox-Strathcona RD	96,131												
43000 Mount Waddington RD	13,111												
45000 Central Coast RD	3,781												
Cowichan--Nanaimo				226,065	4	56,516	-1%	233,968	4	58,492	+5%	39,803	39,803
19000 Cowichan Valley RD	71,998												
21000 Nanaimo RD	127,016												
Capital Region				352,183	6	58,697	+3%	356,638	6	59,440	+7%	46,536	46,536
17000 Capital RD	325,754												
GVRD (multiple districts)				2,337,534	37	63,177	+11%	2,404,599	40	60,115	+8%		
15000 Greater Vancouver RD	1,986,965												
Fraser Valley				284,533	4	71,133	+25%	294,640	5	58,928	+6%	47,510	47,510
9000 Fraser Valley RD	237,550												
3,907,738				4,490,458				4,608,770					
79				79				83					
49,465				56,841				55,527					

source for projections: <http://www.bcstats.gov.bc.ca/data/pop/pop/popproj.htm>

division of the GVRD into electoral districts			
North Shore		183,985	ε 61,328 24%
North Vancouver (44)		133,811	
West Vancouver--Bowen Island (45)		50,174	
Vancouver Westside		303,917	ε 60,783 23%
Vancouver City Centre		94,695	
Vancouver Westside		122,515	
Vancouver Midtown		86,707	
Vancouver Eastside		275,076	ε 55,015 11%
Vancouver Downtown Eastside		51,093	
Vancouver Northeast		97,825	
Vancouver South		126,158	
Fraser Delta		273,195	ε 54,639 10%
Delta (37)		101,678	
Richmond (38)		171,517	
Burnaby--New Westminster		259,463	ε 51,893 5%
Burnaby (41)		202,419	
New Westminster (40)		57,044	
Tri-Cities		279,798	ε 55,960 13%
Coquitlam (43)		198,316	
Maple Ridge (42)		81,482	
Surrey Centre		276,150	ε 55,230 12%
Surrey (201)		308,548	
(less 10.5% for Cloverdale)		(32,398)	
Semiahmoo--Langley		222,088	4 55,522 12%
South Surrey--White Rock (202)		73,802	
(plus Cloverdale transfer)		32,398	
Langley (35)		115,888	

191,964	3	63,988	13%
333,402	5	66,680	17%
299,801	5	59,960	5%
292,482	5	58,496	3%
292,659	5	58,532	3%
335,326	5	67,065	18%
335,287	5	67,057	18%
256,613	4	64,153	13%

193,565	3	64,522	16%
340,300	6	56,717	2%
305,538	5	61,108	10%
297,017	5	59,403	7%
302,847	5	60,568	9%
349,756	6	58,293	5%
349,299	6	58,216	5%
266,277	4	66,568	20%

45,996	45,996
50,653	50,653
45,846	45,846
45,533	45,533
43,244	43,244
46,633	46,633
46,025	46,025
44,418	44,418
797,661	868,752
20.4%	22.2%

Table 3, continued

source for Surrey neighbourhoods: <http://www.city.surrey.bc.ca/Doing+Business/Population+and+Demographics/Population+Estimates+and+Projections.htm>
source for local health area projections: <http://www.bcstats.gov.bc.ca/data/pop/pop/lha/lhaproj2.htm>

* In the final columns we calculate the maximum possible number of ballots which will not contribute to electing anyone, using the 2001 populations.
In the first column, we assume the use of STV-C throughout the province; in the second column we assume single-member districts in the North.

The 2001 population estimates for local health areas use the data from postcensal estimates, and so are a little higher than the figures used elsewhere in this report.

10. The Northern MLAs

Nick Loenen has suggested a measure in which one counts the theoretical maximum possible number of “wasted votes”, by which he means ballots which do not contribute to the election of any member. In an n -member district of population P , the Hare quota is $P/(n+1)$ and the count terminates with n members elected, accounting for a total of $nP/(n+1)$ ballots. The remaining $P/(n+1)$ ballots are either the surplus for the last-elected candidates, or are in other piles, although many of them may have previously been in the piles of elected candidates, and been transferred as part of various surpluses.

In a single-member district using AV, $P/(n+1) = P/2$ is again the maximum number of votes which might remain with defeated candidates after the winner is declared elected.

Loenen therefore counts $P/(n+1)$ ballots, and sums this number over all electoral districts. Dividing this total by the provincial population produces a fraction (percentage) which we can call the Loenen measure. Carrying out this calculation for the proposed STV-C model gives a the number 20% (meaning that the average district size for the model is, in this sense, 4). This would rise to 21.8% if the 10 northern seats were reorganized into single-member districts. Although this is not a great difference provincewide, it does represent an increase from 28% to 50% in the northern seats, another way of saying that AV would not begin to provide proportionality for northern residents.

On the other hand, proportionality could be increased (and “wasted votes” decreased) in the north if residents there were willing to use 5-member districts, as in southern B.C. This could neatly be achieved by combining Skeena—Nechako and Cariboo into one 5-member district, and combining Upper Fraser—Prince George and Peace River—Northern Rockies into another. This would reduce the Loenen measure for the province to 19.0% and for the north to one-sixth, 16.7%.

Where would northern residents set the balance between greater proportionality or smaller district magnitude? It is too early to know this, and quite likely opinions would not be formed until British Columbians had had an opportunity to observe STV through one or two elections. It would therefore seem prudent to begin with the smaller northern districts, and then to examine after two elections whether there was support for combining them.

We should also consider whether to create a single 5-member district at the other location in the province where a 2-member district, Powell River—Lillooet, adjoins a 3-member district, North Shore. This would create an extremely natural 5-member district; however, it would be an exception to the rule about not crossing regional district boundaries. It would also immediately solve the problem that these two districts have the most anomalous populations in the province, at -21% below quota and $+19\%$ above quota respectively. The combined district would have a population of $254,571/5 = 50,914$ per member, about $+3\%$ above quota.

I therefore recommend:

8. After the 2009 election (using STV-C) the B.C. Democracy Commission should consult with voters in Powell River—Lillooet and North Shore, and issue a decision about whether they should be combined into a single 5-member electoral district.

After the 2013 election, the B.C. Democracy Commission should consult with northern voters and decide whether to combine the districts of Skeena—Nechako and Cariboo, and whether to combine Upper Fraser—Prince George and Peace River—Northern Rockies.

11. Aboriginal Electoral Districts

Separately from my STV-C proposal, I recommend that:

9. The Assembly should create Aboriginal Electoral Districts.

Aboriginal Electoral Districts are used in New Zealand and the U.S. state of Maine, and were recommended by the Lortie Commission in 1991, which recommended one aboriginal MP for each quotient equal to 85 percent of the provincial quotient. This recommendation was repeated by the Law Commission of Canada in 2004., who wrote:

[Recommendation 12] The federal government, in consultation with First Nations, Metis and Inuit peoples, should explore the possibility of introducing Aboriginal Electoral Districts as recommended by the Royal Commission on Electoral Reform and Party Financing, or a “House of Aboriginal Peoples”, consistent with the recommendations of the Royal Commission on Aboriginal Peoples.

The New Zealand model is to allow aboriginal voters to opt whether they wish to vote on the general rolls or in separate Maori rolls. As the 2001 census identifies an “Aboriginal identity” population of about 170,000, and 85 percent of the provincial quota is about 42,000, there should be three Aboriginal MLAs if approximately 75% of First Nations voters opt to enroll on the aboriginal lists.

STV-C would be an excellent system to use in conjunction with Aboriginal Electoral Districts, as the three Aboriginal MLAs could simply be elected in one province-wide district, with three circuits. This would be consistent with the multi-member districts being used for the non-aboriginal electorate, which would reduce confusion about voting methods, and also make it obvious that the principle of equality of the vote was observed.

A possible set of three circuits is shown in **table 4**, namely Northern First Nations (Aboriginal identity population 50,185), Southern First Nations(50,735) and Urban First Nations (69,105).

Table 4: Creating a province-wide Aboriginal Electoral District

					2001 census data				2001 aboriginal population				2001 non-aboriginal population						
Skeena--Nechako					104,741	3	34,914	-29%			25,225	+24%			79,516	3	26,505	-44%	50,185
47000 Skeena-Queen Charlotte RD					21,693					7,705				13,988					
49000 Kitimat-Stikine RD					40,876					10,965				29,911					
51000 Bulkley-Nechako RD					40,856					6,020				34,836					
57000 Stikine Region					1,316					535				781					
Peace River--Northern Rockies					60,800	2	30,400	-39%			8,225	+14%			52,575	2	26,288	-44%	50,735
55000 Peace River RD					55,080					7,175				47,905					
59000 Northern Rockies RD					5,720					1,050				4,670					
Upper Fraser--Prince George					95,317	3	31,772	-36%			8,870	+9%			86,447	3	28,816	-39%	
53000 Fraser-Fort George RD					95,317					8,870				86,447					
Cariboo					65,659	2	32,830	-34%			7,865	+12%			57,794	2	28,897	-39%	69,105
41000 Cariboo RD					65,659					7,865				57,794					
Thompson--Nicola					119,222	3	39,741	-20%			11,590	+10%			107,632	3	35,877	-24%	
33000 Thompson-Nicola RD					119,222					11,590				107,632					
North Okanagan--Columbia					121,446	3	40,482	-18%			5,665	+5%			115,781	3	38,594	-18%	
37000 North Okanagan RD					73,227					3,505				69,722					
39000 Columbia-Shuswap RD					48,219					2,160				46,059					
Okanagan--Similkameen					224,374	4	56,094	+13%			6,815	+3%			217,559	4	54,390	+15%	
7000 Okanagan-Similkameen RD					76,635					2,865				73,770					
35000 Central Okanagan RD					147,739					3,950				143,789					
Kootenays					145,153	3	48,384	-2%			5,745	+4%			139,408	3	46,465	-2%	
1000 East Kootenay RD					56,291					2,895				53,396					
3000 Central Kootenay RD					57,019					1,745				55,274					
5000 Kootenay Boundary RD					31,843					1,105				30,738					
Powell River--Lillooet					78,375	2	39,188	-21%			6,075	+8%			72,300	2	36,150	-24%	
27000 Powell River RD					19,765					1,165				18,600					
29000 Sunshine Coast RD					25,599					1,215				24,384					
31000 Squamish-Lillooet RD					33,011					3,695				29,316					
North Island--Central Coast					143,368	3	47,789	-3%			14,845	+10%			128,523	3	42,841	-9%	
23000 Alberni-Clayoquot RD					30,345					4,905				25,440					
25000 Comox-Strathcona RD					96,131					5,125				91,006					
43000 Mount Waddington RD					13,111					2,575				10,536					
45000 Central Coast RD					3,781					2,240				1,541					
Cowichan--Nanaimo					199,014	4	49,754	+1%			11,630	+6%			187,384	4	46,846	-1%	
19000 Cowichan Valley RD					71,998					6,255				65,743					
21000 Nanaimo RD					127,016					5,375				121,641					
Capital Region					325,754	6	54,292	+10%			9,095	+3%			316,659	6	52,777	+12%	
17000 Capital RD					325,754					9,095				316,659					
GVRD (multiple districts)					1,986,965	37	53,702	+9%			36,855	+2%			1,950,110	37	52,706	+11%	
15000 Greater Vancouver RD					1,986,965					36,855				1,950,110					
Fraser Valley					237,550	4	59,388	+20%			11,525	+5%			226,025	4	56,506	+19%	
9000 Fraser Valley RD					237,550					11,525				226,025					
					3,907,736	79	49,465				170,025	4%			3,737,713	79	47,313		

Table 4, continued

division of the GVRD into electoral districts

North Shore			176,196	3	58,732	19%	2,959			2%	173,237			3	57,746	22%
	North Vancouver District	83,567						1,079				82,488				
	North Vancouver City	44,642						1,210				43,432				
	West Vancouver	43,651						630				43,021				
	Bowen Island	2,957						30				2,927				
	Lions Bay	1,379						10				1,369				
Vancouver Westside			277,962	5	55,592	12%	2,585			1%	275,377			5	55,075	16%
	Vancouver (part)	277,962						2,585				275,377				
	Greater Vancouver A	8,034						50				7,984				
Vancouver Eastside			268,924	5	53,785	9%	8,440			3%	260,484			5	52,097	10%
	Vancouver (part)	268,924						8,440				260,484				
Fraser Delta			261,774	5	52,355	6%	2,870			1%	258,904			5	51,781	9%
	Delta	97,429						1,700				95,729				
	Richmond	164,345						1,170				163,175				
Burnaby--New Westminster			248,610	5	49,722	1%	4,740			2%	243,870			5	48,774	3%
	Burnaby	193,954						3,145				190,809				
	New Westminster	54,656						1,595				53,061				
Tri-Cities			268,077	5	53,615	8%	5,119			2%	262,958			5	52,592	11%
	Coquitlam	112,890						1,485				111,405				
	Belcarra	682						5				677				
	Anmore	1,344						10				1,334				
	Port Coquitlam	51,277						1,050				50,227				
	Port Moody	23,816						480				23,336				
	Pitt Meadows	14,894						529				14,365				
	Maple Ridge	63,174						1,560				61,614				
Surrey Centre			262,846	5	52,569	6%	3,946			2%	258,900			5	51,780	9%
	Whalley	78,500						3,900				74,600				
	Guildford	49,300										49,300				
	Fleetwood	43,300										43,300				
	Newton	91,700										91,700				
	Barnston Island 3	46						46				0				
Semiahmoo--Langley			214,427	4	53,607	8%	6,206			3%	208,221			4	52,055	10%
	Cloverdale	30,900						3,000				27,900				
	South Surrey	54,100										54,100				
	Langley District	87,403						2,230				85,173				
	Langley City	23,643						745				22,898				
	White Rock	18,250						100				18,150				
	Semiahmoo	131						131				0				

source for regional district data: <http://www12.statcan.ca/english/Profil01ab/PlaceSearchForm1.cfm>
some values within GVRD have been estimated

The effects on the general electoral of removing 100% of the aboriginal population from each electoral district is also shown in **table 4**. I have assumed that the three aboriginal seats are created by enlarging the legislature to 82 seats, rather than by decreasing the number of general-electorate MLAs to 76.

The provincial quota is decreased to 47,313, and the underrepresentation of the GVRD increases from 9% to 11%. More critically, however, the range of overrepresentation in northern ridings increases from 29%-39% to 39%-44%. This is because over 50,000 aboriginal people have been removed from those 10 circuits, a full provincial quota, and much more than a typical northern quota. In practical terms, this might make it necessary to reorganize the northern seats into three 3-member districts, with the tenth northern MLA being the member for Northern First Nations.

A possible solution might be as follows:

		102,474
Skeena-Queen Charlotte Regional District	13,988	
Kitimat-Stikine Regional District	29,911	
Stikine Region	781	
Cariboo Regional District	57,794	
		87,411
Peace River Regional District	47,905	
Northern Rockies Regional District	4,670	
Bulkley-Nechako Regional District	34,836	
		86,447
Fraser-Fort George Regional District	86,447	