

BC-STV counting votes

BC-STV

Members of the Citizens' Assembly on Electoral Reform have recommended BC adopt BC-STV for future elections because it is a system in tune with the values of a great many British Columbians.

BC-STV is fair because it produces **proportional** results, it provides voters with more **choice** and more control, and it strengthens **local representation**. BC-STV is designed to **make every vote count**.

BC-STV basics

- There are fewer ridings, each electing between two and seven MLAs – depending on the population of the riding. Because each riding elects a number of MLAs, over-all results are more proportional – that is, each party's share of seats in the riding reflects its share of votes.
- Generally, parties will put forward more than one candidate in each riding – giving voters more options.
- BC-STV does not change the number of MLAs province-wide or the number of MLAs representing each region.
- BC-STV ballots allow you to vote by ranking candidates (1, 2, 3, etc).
- If your vote is not needed to elect your first choice candidate, it can be transferred to the candidate you marked on the ballot as your second preference – and so on.
- BC-STV is designed to ensure vote counting can be accurately checked and replicated.
- It is also designed to use ballot papers that can be counted by hand or by machine.

Counting the ballots

Calculating the quota

To win a seat in the legislature, a candidate must receive a minimum number of votes – called a *quota*. This quota is calculated using the number of valid ballots cast in the riding as well as the number of MLAs to be elected in that riding.

$$\text{Quota} = \frac{\text{Number of valid ballots in riding}}{\text{Number of MLAs in riding} + 1} + 1$$

Counting first preferences

After the polls close, all valid ballots are sorted and counted according to the first-preference candidate marked on each.

Eliminating candidates

If no candidate has the minimum number of votes (quota) needed to be elected, the candidate with the fewest votes is eliminated.

All of the eliminated candidate's votes are then redistributed to the second-preference candidates as marked on each ballot.

Transferring surpluses

It is rare for an elected candidate to gain exactly the quota of votes required to be elected. Successful candidates usually receive more votes than needed to win a seat. Since these *surplus* votes are not needed to elect the candidate, they could be considered wasted.

But, because BC-STV is designed to make as many votes as possible count fully and fairly, these surplus votes are redistributed. But which votes should be selected to redistribute?

To be fair and to ensure vote counting can be precisely repeated, every ballot cast for the newly elected candidate is redistributed to the next-ranked candidate marked on each ballot. But, not at full value, because a portion of each vote has already been used to elect a candidate.

The portion of each vote used to give the elected candidate a quota, stays with that candidate. The unused portion is transferred. To determine what fraction of the vote should move on to the next preference, the *transfer value* is calculated.

$$\text{Transfer Value} = \frac{\text{Candidate's surplus votes}}{\text{Candidates' total votes}}$$

So, if a winning candidate has twice as many votes as needed to be elected, instead of transferring half those votes at full value, all of the votes are transferred at half value to the candidates ranked next on each ballot. The *transfer value* in this case is .5 – or ½.

Counting continues until all seats are filled

Counting continues as follows:

- The surpluses of elected candidates are redistributed at the appropriate transfer value;
- If there are still unfilled seats and no surpluses from elected candidates to redistribute, the least popular candidate is eliminated and those votes are redistributed at full value;
- This continues until all seats have been filled.

Exhausted ballots

If, in the course of counting, a ballot should be transferred, but there are no more preferences indicated on the ballot, it is considered *exhausted* and is put aside.

This can happen when:

- The voter marks very few preferences, or
- All the preferred candidates have already been elected and/or excluded.

By-elections

If a seat becomes vacant between elections, a

by-election is held in that riding to elect a new MLA. BC-STV specifies that by-elections will use the same type of ballot used in regular BC-STV elections – called a *preferential ballot*.

If only one MLA is to be elected, candidates require a majority of votes (50% + 1) to be elected. If more than one vacancy is to be filled in a district, the normal BC-STV vote counting procedures and quota calculation are used.

Elections BC

As today, Elections BC will supervise elections and scrutineers will ensure accurate ballot counts.

Further information

For a wealth of information on the Citizens' Assembly, BC-STV or other electoral systems, see www.citizensassembly.bc.ca. In particular, for more detail on BC-STV ballot counting, see:

- the technical volume of the Final Report
- an animation of BC-STV ballot counting

Step 1

All the votes are counted and sorted by the voters' first preferences.

Step 2

The minimum number of votes required to win a seat is determined. This number depends on how many valid votes are cast and how many MLA seats are available to be filled.

Step 3

Does any candidate have enough votes to win a seat? If no, go to Step 4. If yes, go to Step 5.

Step 4

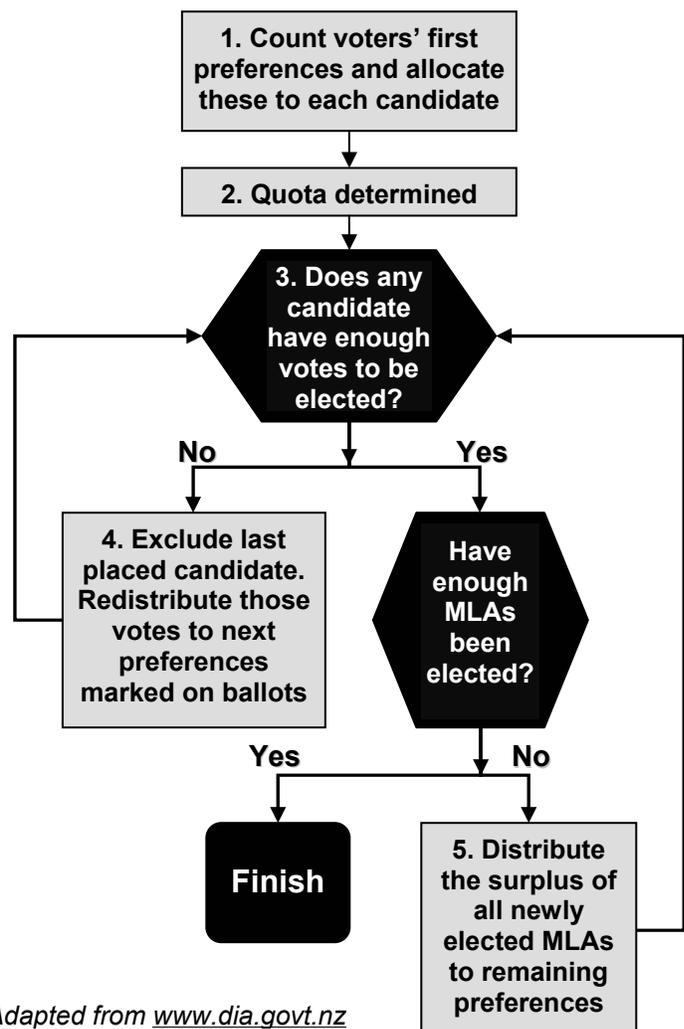
Exclude the candidate with the fewest votes. Redistribute these votes – at full value – to the next preference shown on each ballot. Add up new vote totals and return to Step 3.

Step 5

If the successful candidate has more votes than needed to win a seat, these *surplus* votes are redistributed to the remaining candidates – at a calculated transfer value – based on the next preference listed on each ballot. Add up new vote totals and return to Step 3.

Counting Continues...

Repeat Steps 3 to 5 until all seats are filled.



Adapted from www.dia.govt.nz