

The Superiority of Single Transferable Vote and Alternative Vote for Local Representation

Reed Clements

1. Introduction

The following brief proposes that Canada adopt a voting system that combines Single Transferable Vote (STV) with Alternative Vote (AV). The brief will show that these systems combine especially well and that the addition of AV offers a solution to the geographical obstacles facing STV in Canada.

2. Problems with the current system

First past the post (FPTP) is demonstrably less representative than other major voting methods. Mathematically, voting systems can be evaluated according to criteria of fairness. One example is the Majority criterion, which states that "If more than half of the voters rank candidate X over every other candidates, then the winner should be candidate X" (Green-Armytage). In other words, a candidate with more than half the votes should win. FPTP passes this criterion, as does AV and every other majoritarian voting system.

In contrast, FPTP fails the Mutual Majority criterion, which states that "If there is a single majority of the voters who rank every candidate in a set over every candidate outside that set, then the winner should always be a member of that set" (Green-Armytage). Consider the following example of voter preferences:

- 35% prefer A, but would rather have B over C
- 25% prefer B, but would rather have A over C
- 25% prefer C, but would rather have A over B
- 15% prefer C, but would rather have B over A

In this example, A and B form a mutual majority set, because a majority of voters (60%) would prefer either of them to candidate C. Under FPTP, candidate C would be elected with 40% of the vote, leading the majority of voters to have their last choice. Such a situation is a clear failure of representation. Under a system that elected candidate A, while only 35% of voters would have their first choice, a further 50% would have their second choice, resulting in more voters overall who felt comfortable approaching their representative with issues and concerns.

To combat this failure of representation, many Canadians feel they must vote strategically. In the above example, supporters of B may feel pressured to vote for A in order to try to prevent C from being elected. Furthermore, FPTP strongly incentivizes voters who support a smaller party to vote for a candidate from a larger party, because a vote for a small party candidate is effectively wasted. In brief, because FPTP fails the Mutual Majority criterion, it incentivizes voters to vote dishonestly. A good voting system should instead incentivize honest voting.

3. The advantages of Single Transferable Vote

Single Transferable Vote "has long been advocated by political scientists as one of the most attractive electoral systems" (Reynolds 71). In contrast to FPTP, STV results in good local representation and encourages honest voting. In particular, STV is the only major system that produces proportional representation on a local level: in the above example, a three-seat STV election would elect each of A, B, and C, giving all voters a local representative whom they support.

Other methods of proportional representation do not achieve this quality of local

representation. List-based PR determines representatives on the basis of party rather than on the basis of geography, and Mixed-member PR uses FPTP for local elections and List to determine the additional candidates, combining the flaws of both of those systems. Thus STV is the best form of PR at giving voters local representation.

Furthermore, because its ballot is ranked, STV does not punish honest voting. A voter who supports a fringe candidate is free to rank that candidate as a first preference, knowing that their vote will likely transfer to their second or third choice. In short, there is no possibility of "wasting" one's vote by expressing honest preferences.

4. The geographical obstacle to STV in Canada

However, STV has one obstacle in Canada. The proportionality of an STV election increases proportionally to the number of seats in a given district: a district with seven seats is able to provide more proportional results than a district with three seats (Reynolds 77, 82). At the same time, an elected member should be geographically accessible to all of her constituents. As a result of these details, densely populated regions such as urban centres can support a larger number of seats than sparsely populated rural areas.

Since Canada has many sparsely populated regions across its vast geography, there will inevitably be regions that cannot support multiple seats, and where STV is therefore impossible. For example, each of the three territories have only one seat; if those seats were combined into a single STV district, then voters from Nunavut might in a given election find themselves represented exclusively by members living in Whitehorse. Such a situation would be a failure of local representation.

5. Hybridization with Alternative Vote

One way to implement STV in Canada is to have STV wherever the population density will support it and a single-seat electoral system in regions that will not. However, such a hybrid system could easily encounter the problem that it provides a double standard between urban and rural voters. For example, if most of Canada used STV while a few regions still used FPTP, then elections would in fact work differently based on where one lived.

Fortunately, STV has a single-seat equivalent method in Alternative Vote. This equivalence comes from the quota that STV uses to determine whether a candidate is elected:

$$\text{Quota} = \text{votes}/(\text{seats} + 1) + 1 \quad (\text{Reynolds } 76)$$

In a five-seat district, a candidate need more than one sixth of the vote. In a three-seat district, a candidate needs more than one quarter of the vote. In a two-seat district, a candidate needs more than one third of the vote. Following this pattern, therefore, in a one-seat district, a candidate needs more than one half of the vote: a majority.

STV with one seat is thus identical to Alternative Vote, since both use ranked ballots and a transfer of votes to elect a candidate with more than half of the vote.

Compared to FPTP, AV passes the Mutual Majority criterion: in the above example, AV would elect candidate A rather than candidate C. AV thus provides superior local representation to FPTP. Furthermore, AV is a ranked ballot, like STV, which thus allows voters to rank their first preference without "wasting" their vote.

If STV were supplemented with AV in ridings which could only support a single seat, then

all voters would see an improvement in their voting systems, regardless of region. Furthermore, all of Canada would use the same form of ballot, regardless of region. Strictly speaking, in fact, all of Canada would use the same voting system, since AV is only as different from STV with three seats as STV with three seats is from STV with five seats.

Finally, while the particular combination of STV and AV that this brief proposes is unprecedented, the use of AV to elect a single candidate in an electoral system that uses STV is not: Ireland uses AV to elect its president, and shows the equivalence of the two systems by referring to their method as “single transferable vote” (“Presidential Election in Ireland”).

6. Conclusion

The committee's mandate sets out five principles: effectiveness and legitimacy, engagement, accessibility and inclusiveness, integrity, and local representation. This brief's proposed system, a STV-AV hybrid, fulfills these goals as follows.

Effectiveness and legitimacy: STV and AV are both proven systems used by other nations. Both systems are extremely effective at accounting for the will of voters because they account for preferences beyond simply the first preference. Furthermore, STV achieves proportional representation, ensuring that Parliament will better reflect the beliefs of all voters.

Engagement: The proposed system would use ranked ballots, which would ensure that no vote feels “wasted,” thus encouraging voter engagement. Furthermore, voters would be incentivized to learn about all candidates, since their ballot would reflect their views of all candidates.

Accessibility and inclusiveness: The successful use of both STV and AV in other Western nations shows that the proposed system can be understood and participated in by any citizen with a standard education, i.e. literacy and numeracy.

Integrity: As with the current system, the proposed system would produce physical ballots that could be recounted if necessary.

Local representation: As outlined in sections 3 and 5 of this brief, the proposed system is by far the best system for ensuring strong local representation. FPTP fails to elect local candidates who necessarily represent the majority of voters, and other forms of PR fail to tie all elected members to specific geographical regions. If the committee considers local representation a primary goal, then the proposed STV-AV hybrid deserves serious consideration.

References

- Green-Armytage, James. "Voting methods: definitions and criteria." *Alternative Voting Methods*. Bard College, April 2005. inside.bard.edu/~armytage/personal/voting/define.htm.
- Reynolds, Andrew, et al. *Electoral System Design: The New International IDEA Handbook*. Trydells Tryckeri AB, 2008.
- "Presidential Election in Ireland." *Citizens Information*. 2 June 2016.
http://www.citizensinformation.ie/en/government_in_ireland/elections_and_referenda/national_elections/presidential_election.html