

How Instant Runoff Voting Works in Multi-Seat Elections

Ensuring Fair and Accurate Representation

While the Minneapolis mayor, city council members and some Park Board commissioners are elected one at a time (single-seat elections), more than one member of the Library Board, Park Board and Board of Estimate and Taxation are elected at the same time (multi-seat or at-large elections).

For multi-seat elections, the ranked ballot is the same as for a single-seat election, but the vote tallying process involves a few more steps. The difference is that when a candidate has more than the number of votes needed to be elected, the excess portion of each vote for that candidate is transferred to the next ranked candidate on each ballot.

To understand the value of this method, consider how the traditional New England town meeting is direct democracy and perfectly representative, since the residents are the legislature. The challenge comes when the community becomes too large to act as a responsible, deliberative lawmaking body. How do we create a body that fairly represents all voters?

The current “vote for up to the number of seats to be filled” does not accomplish the goal of creating a representative body because it over-represents the largest grouping of voters and under-represents everyone else.

By limiting each voter to one vote it becomes possible to achieve accurate, proportional representation, in which each voter helps elect someone to represent his/her point of view.

The pitfalls of limiting each voter to a single vote are that groupings of like-minded voters may concentrate their votes on too few candidates or spread their votes thinly among too many candidates.

The solution is to make each vote transferable so that if a candidate has more than enough votes to win, part of each vote will go to help elect additional candidates. Or if a candidate has low support and cannot win, the voters who supported that candidate can have their vote count for another candidate who has a better chance of winning. The order in which candidates would benefit from a transferred vote is determined by the voter using a ranked choice ballot, on which the voter names a first choice, second choice, and so on.

This is called single transferable vote (STV), in which each voter casts a single vote which can transfer during steps of the runoff to ensure that no votes are "wasted" and that voters win their fair share of representation.



The following is a demonstration of how fair representation can be achieved in multi-seat elections.

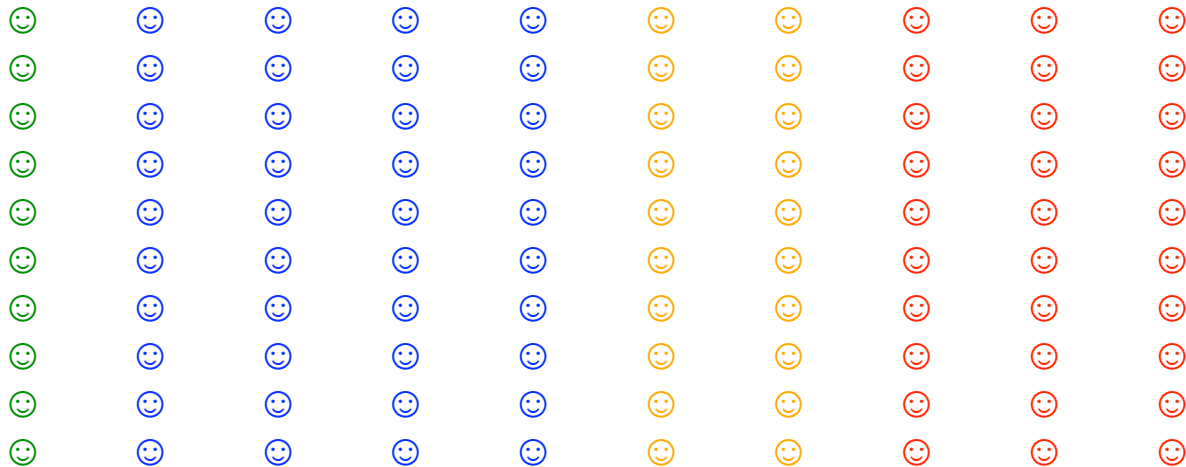
Direct Democracy – New England Town Meeting

The New England town meeting is direct democracy and perfectly representative, since the residents are the legislature.

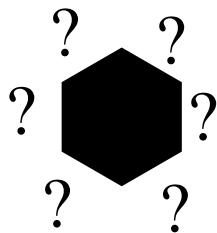


The challenge comes when the community becomes too large to act as a responsible, deliberative lawmaking body. How do we create a representative body?

100 Voters



Representative Democracy – Minneapolis Library Board (6 at-large seats)



Each grouping of voters has six candidates



John Adams' Principle of Representative Government:

“[The legislature] should be in miniature an exact portrait of the people at large. It should think, feel, reason, and act like them.”

John Adams, Thoughts on Government

The familiar “vote for up to the number of seats to be filled” cannot accomplish the goal of creating a representative body because the simple mathematical reality is that it over-represents the largest grouping of voters and under-represents everyone else.

Current Voting Method: Two-round, 6-Vote Plurality

Round One – Primary election: each voter has up to 6 votes to narrow the field to 12 candidates

Result: Blue voters advance 6 candidates, Red voters advance 6 candidates

| | | | | | | | |
|----------|----|---------|-----|-----------|----|--------|-----|
| Green 1: | 10 | Blue 1: | 40* | Yellow 1: | 20 | Red 1: | 30* |
| Green 2: | 10 | Blue 2: | 40* | Yellow 2: | 20 | Red 2: | 30* |
| Green 3: | 10 | Blue 3: | 40* | Yellow 3: | 20 | Red 3: | 30* |
| Green 4: | 10 | Blue 4: | 40* | Yellow 4: | 20 | Red 4: | 30* |
| Green 5: | 10 | Blue 5: | 40* | Yellow 5: | 20 | Red 5: | 30* |
| Green 6: | 10 | Blue 6: | 40* | Yellow 6: | 20 | Red 6: | 30* |

* Winning candidates in Primary election



Are the voters represented?



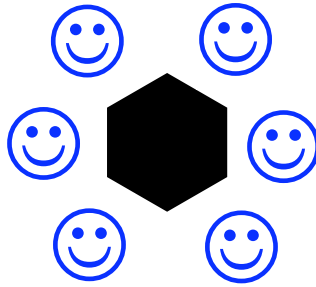
Round Two – General election: each voter has up to 6 votes and 6 candidates with plurality win the election

| | | | |
|---------|-----|--------|----|
| Blue 1: | 50* | Red 1: | 40 |
| Blue 2: | 50* | Red 2: | 40 |
| Blue 3: | 50* | Red 3: | 40 |
| Blue 4: | 50* | Red 4: | 40 |
| Blue 5: | 50* | Red 5: | 40 |
| Blue 6: | 50* | Red 6: | 40 |

* Winning candidates in General election

Result: Twenty Green and Yellow voters voted for Blue and Red candidates. Ten Green and Yellow primary voters didn’t vote in general election

Are the voters represented?



Conclusion: Voting for up to the number to be elected cannot be representative.

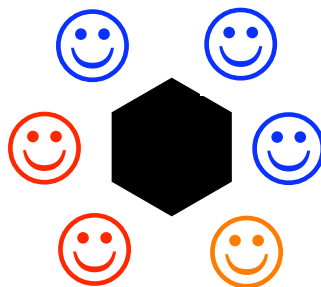
By limiting each voter to one vote, it becomes possible to achieve accurate, proportional representation, in which each voter helps elect someone to represent his/her point of view.

Alternative Voting Method: One-round Single-Vote Plurality

General election: Each voter has 1 vote

| | | | | | | | |
|----------|----|---------|-----|-----------|-----|--------|-----|
| Green 1: | 10 | Blue 1: | 14* | Yellow 1: | 20* | Red 1: | 15* |
| Green 2: | 0 | Blue 2: | 13* | Yellow 2: | 0 | Red 2: | 15* |
| Green 3: | 0 | Blue 3: | 13* | Yellow 3: | 0 | Red 3: | 0 |
| Green 4: | 0 | Blue 4: | 0 | Yellow 4: | 0 | Red 4: | 0 |
| Green 5: | 0 | Blue 5: | 0 | Yellow 5: | 0 | Red 5: | 0 |
| Green 6: | 0 | Blue 6: | 0 | Yellow 6: | 0 | Red 6: | 0 |

*Winning candidates in General election



Are the voters represented?



Tentative conclusion: Limiting voters to one vote makes John Adams' principle possible.

The pitfalls of limiting each voter to a single vote are that groupings of like-minded voters may 1) concentrate their votes on too few candidates or 2) spread their votes thinly among too many candidates.

Pitfall 1: Concentrating votes on too few candidates

| | | | | | | | |
|----------|-----|---------|-----|-----------|-----|--------|-----|
| Green 1: | 10* | Blue 1: | 40* | Yellow 1: | 10* | Red 1: | 15* |
| Green 2: | 0 | Blue 2: | 0 | Yellow 2: | 10* | Red 2: | 15* |
| Green 3: | 0 | Blue 3: | 0 | Yellow 3: | 0 | Red 3: | 0 |
| Green 4: | 0 | Blue 4: | 0 | Yellow 4: | 0 | Red 4: | 0 |
| Green 5: | 0 | Blue 5: | 0 | Yellow 5: | 0 | Red 5: | 0 |
| Green 6: | 0 | Blue 6: | 0 | Yellow 6: | 0 | Red 6: | 0 |

* Winning candidates in General election



Are the voters represented?



Pitfall 2: Spreading votes over too many candidates

| | | | | | | | |
|----------|-----|---------|---|-----------|-----|--------|-----|
| Green 1: | 10* | Blue 1: | 7 | Yellow 1: | 10* | Red 1: | 10* |
| Green 2: | 0 | Blue 2: | 7 | Yellow 2: | 10* | Red 2: | 10* |
| Green 3: | 0 | Blue 3: | 7 | Yellow 3: | 0 | Red 3: | 10* |
| Green 4: | 0 | Blue 4: | 7 | Yellow 4: | 0 | Red 4: | 0 |
| Green 5: | 0 | Blue 5: | 6 | Yellow 5: | 0 | Red 5: | 0 |
| Green 6: | 0 | Blue 6: | 6 | Yellow 6: | 0 | Red 6: | 0 |

* Winning candidates in General election

Are the voters represented?



Upon further consideration: Achieving John Adams' principle requires enormous coordination of candidate- and voter behavior.

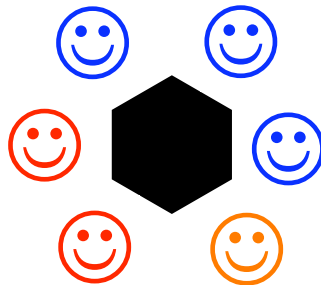
Proportional Representation (Fair Share) Voting Method

The solution is to make each vote transferable so that if a candidate has more than enough votes to win, part of each vote will go to help elect additional candidates. Or if a candidate has low support and cannot win, the voters who supported that candidate can have their vote count for another candidate who has a better chance of winning.

If votes are concentrated on a few candidates, each voter gets to use part of his/her vote to elect other candidates.

If votes are spread thinly, candidates with fewest votes are defeated and those who voted for the defeated candidate get to vote for someone else instead.

The result is the optimal distribution of votes such that as many people as possible help elect someone.



Are the voters represented?



Final conclusion: John Adams' principle is assured.