

Ballot designs for Balanced Ranked Choice Voting

Ballot Design W

Candidates	1 st choice	2 nd choice	3 rd choice	4 th choice
Adam	Yes No <input type="checkbox"/> <input type="checkbox"/>	Yes No <input type="checkbox"/> <input type="checkbox"/>	Yes No <input checked="" type="checkbox"/> <input type="checkbox"/>	Yes No <input type="checkbox"/> <input type="checkbox"/>
Barbara	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	Yes No <input type="checkbox"/> <input type="checkbox"/>	Yes No <input type="checkbox"/> <input type="checkbox"/>	Yes No <input type="checkbox"/> <input type="checkbox"/>
Craig	Yes No <input type="checkbox"/> <input type="checkbox"/>	Yes No <input checked="" type="checkbox"/> <input type="checkbox"/>	Yes No <input type="checkbox"/> <input type="checkbox"/>	Yes No <input type="checkbox"/> <input type="checkbox"/>
Denise	Yes No <input type="checkbox"/> <input type="checkbox"/>	Yes No <input type="checkbox"/> <input type="checkbox"/>	Yes No <input type="checkbox"/> <input type="checkbox"/>	Yes No <input checked="" type="checkbox"/> <input type="checkbox"/>

Each voter may choose either YES or NO for each candidate and rank the choice. In the above example, the NO vote against Barbara will be counted as minus 1. If Barbara is eliminated in the first round, this voter's vote will be added to his/her second choice which is a YES vote for Craig (unless Craig is also eliminated, then the vote will be added to 3rd choice Adam and so on).

If, in spite of this voter's NO against Barbara, she survives through the last round, this voter's NO vote will still be counted in the last round.

Algorithm of Balanced Ranked Choice Voting

(Note that this does NOT rule out the probability that some winner will emerge with a majority of 50%+1.)

1. Sort the ballots by first choice. If someone's positive votes is a majority (of all votes cast for all candidates), he/she wins. Otherwise the candidate who has the least net favorability (YES vote minus NO votes) is eliminated.
2. Transfer each of those ballots to the next choice still in the running. If someone's positive vote is a majority of all the votes after re-allocation, he/she wins. Otherwise the candidate who has the least net favorability (YES vote minus NO votes) is eliminated.
3. Repeat step 2 until there are only two candidates left, if someone's positive vote is a majority of all the votes after re-allocation, he/she wins. If neither one gets positive vote count that is a majority of all votes cast, the one with higher net positive vote wins

If no candidate gets a net positive vote, the election will be re-held and previously

rejected candidates may not participate in the second round. This possibility is very remote in any large election district because we have partisan politics and loyal partisan voters who will vote YES and not all non-partisan voters will vote NO. The research surveys we have done to-date have all shown total negative votes are fewer than total positive votes.

Another two potential ballot designs, these should not require any significant additional cost of altering existing RCV ballot machine?

Ballot Design X

Candidate	1 st choice	2 nd choice	3 rd choice	4 th choice
For Adam	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
For Barbara	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
For Craig	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
For Denise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Against Adam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Against Barbara	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Against Craig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Against Denise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Ballot Design Y

Candidate	1 st choice	2 nd choice	3 rd choice	4 th choice
For Adam	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Against Adam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
For Barbara	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Against Barbara	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
For Craig	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Against Craig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
For Denise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Against Denise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>