

# **The IRV Hand Count In San Francisco**

August 2003

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# What is Instant Runoff Voting? An IRV Primer.

Instant Runoff Voting (IRV) is a ranked ballot method of voting that results in a winner chosen by a majority of the voters in a SINGLE election. The voters rank the candidates in order of preference. Each voter has one vote which counts for the highest preferred candidate that can use it. The term "Instant Runoff Voting" was coined because the method of transferring votes from defeated candidates to continuing candidates is just like a runoff election except that it is accomplished on one ballot. It is also known as Single Transferable Vote (single winner version), Alternative Vote, and Majority Preferential Vote.

**Rank the candidates in order of preference – your first choice and your runoff choices:**

	1st choice	2nd choice	3rd choice
Roberto	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maria	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Frank	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

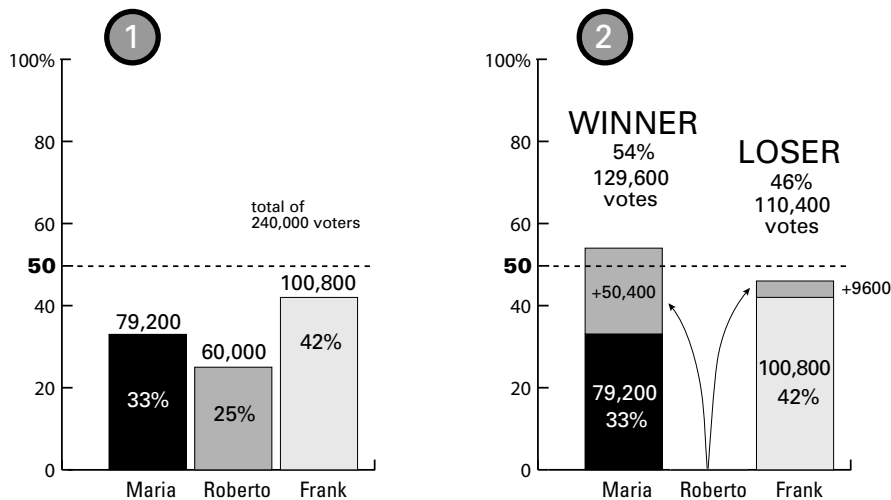
## How are the votes counted in IRV?

First choices are counted. If no candidate receives a majority, the candidate with the fewest votes is defeated, and those votes are transferred to the next ranked candidate on each ballot. The votes are recounted. The process continues until one candidate has a majority of the votes and is declared the winner.

	1st Choices	Instant Runoff	Final Results
Roberto	60,000 (25%)	x	x
Maria	79,200 (33%)	+50,400 of Roberto's votes	<b>129,600 (54%) Winner</b>
Frank	100,800 (42%)	+9600 of Roberto's votes	110,800 (46%) Loser
<b>Total</b>	240,000 (100%)		

Winning Threshold must be at least 50%+1.

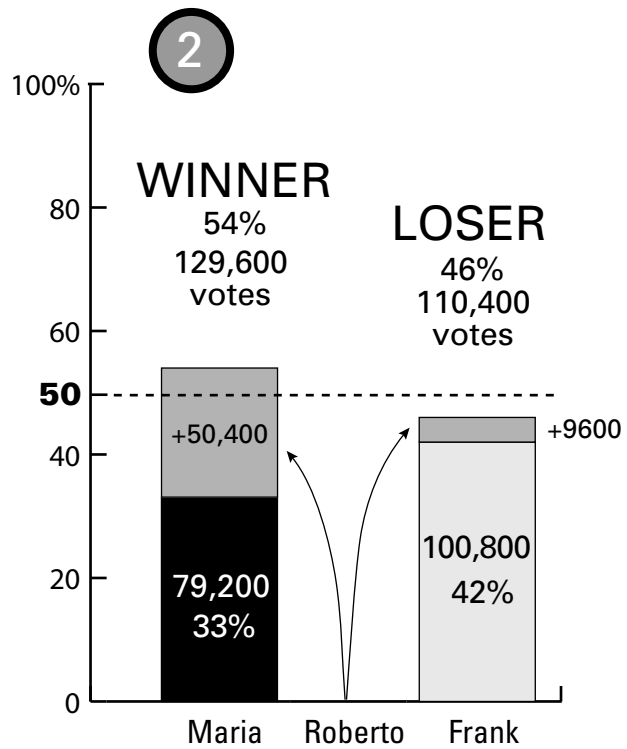
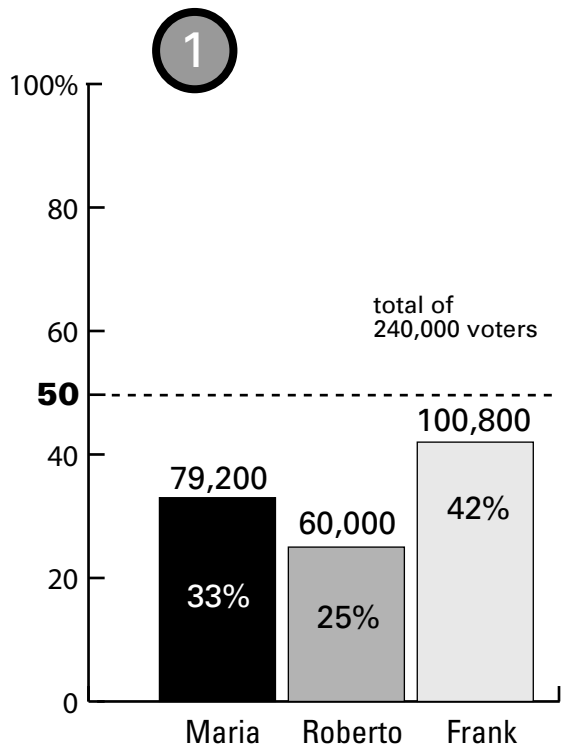
## Instant Runoff Example



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Adapted from FairVote Minnesota's website at fairvotemn.org.

# Instant Runoff Example



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# A Time Line for an IRV Hand Count Election

DAY

1

300 IRV workers, working in 100 teams of 3, sort ballots from 550 precincts by first rankings. This includes ballots from the precincts, and the first batch of absentee, provisional, and write-in ballots.

DAY

2

300 IRV workers, working in 100 teams of 3, continue to SORT ballots by first rankings. The sorting is finished and each candidate's pile is COUNTED. Sorting and counting of first rankings finished by the end of Day 2. 290 workers are dismissed until the rest of the absentee, provisional, and write-in ballots have been processed later in the week.

DAY

3-7

approx.

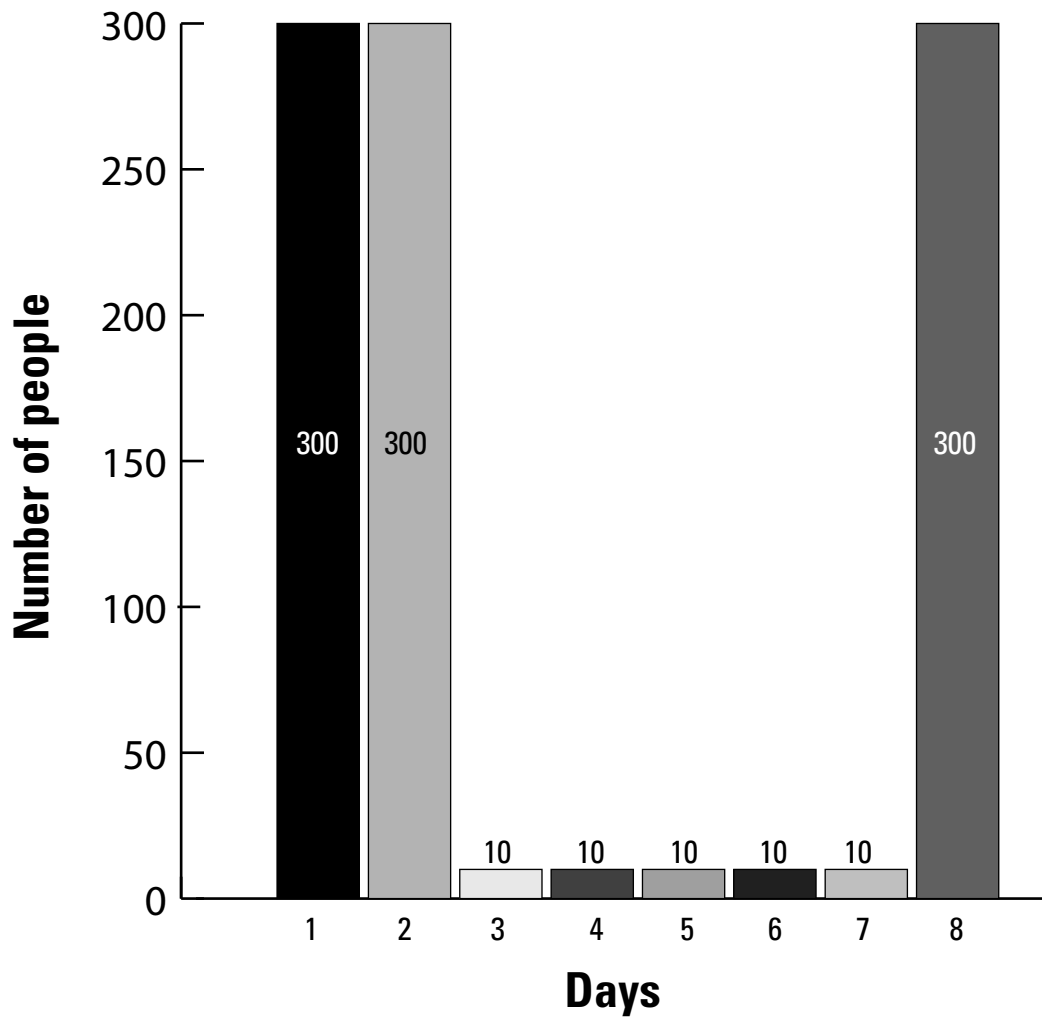
Department of Elections (DOE) personnel continue to process the remainder of absentee, provisional, and write-in ballots. Ten IRV workers sort and count the remaining absentee, provisional, and write-in ballots by first rankings. These 10 workers add these ballots to candidates' piles according to first rankings. Daily results of total first rankings for all candidates are released at the end of each day. Finally, all ballots, including those from the precincts, plus absentees, provisionals and write-ins, have been processed, sorted, and counted by first rankings. If no candidate has a majority, the instant runoff begins.

DAY

8

300 IRV workers, working in 100 teams of 3, do the final count and movement of ballots. They count ballots in 550 precincts, eliminating candidates with least numbers of votes in successive rounds, and reporting new totals to the Counting Leader. The Counting Leader tells each precinct which candidate to eliminate, and then ballots are moved to piles of continuing candidates based on next-rankings. By the end of the day, a winner is announced.

# How Many People Per Day Are Needed for IRV?



Day 1 - 300 needed, working in 100 teams of 3.

Day 2 - 300 needed, working in 100 teams of 3.

Day 3 - 10 needed, sorting absentee and other ballots as they are available

Day 4 - 10 needed, sorting absentee and other ballots as they are available

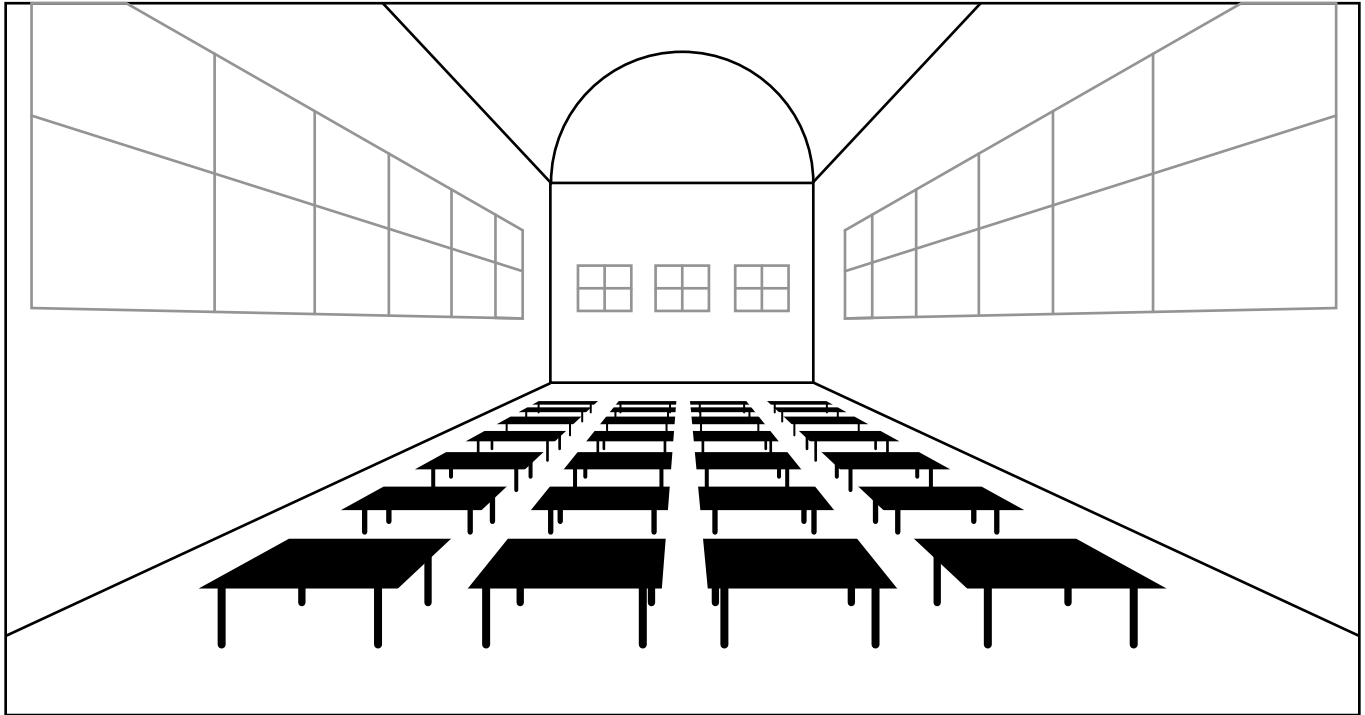
Day 5 - 10 needed, sorting absentee and other ballots as they are available

Day 6 - 10 needed, sorting absentee and other ballots as they are available

Day 7 - 10 needed, sorting absentee and other ballots as they are available

Day 8 - 300 needed, working in 100 teams of 3. Count is finished.

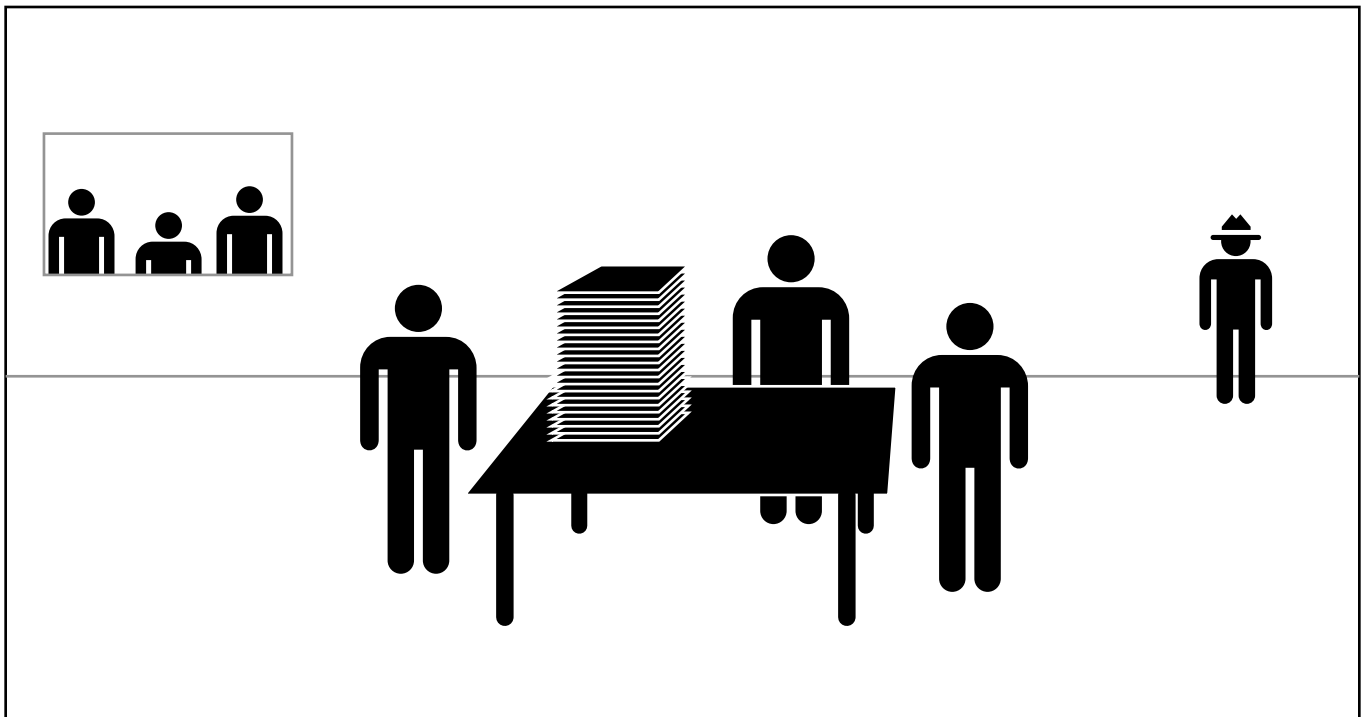
# An Illustrated, In-Depth Look at Hand Counting & IRV



**Day 1**  
300 workers

550 precincts. One table per precinct. 450 ballots per precinct, on average. Ballots are delivered from the precincts and kept together by precinct.

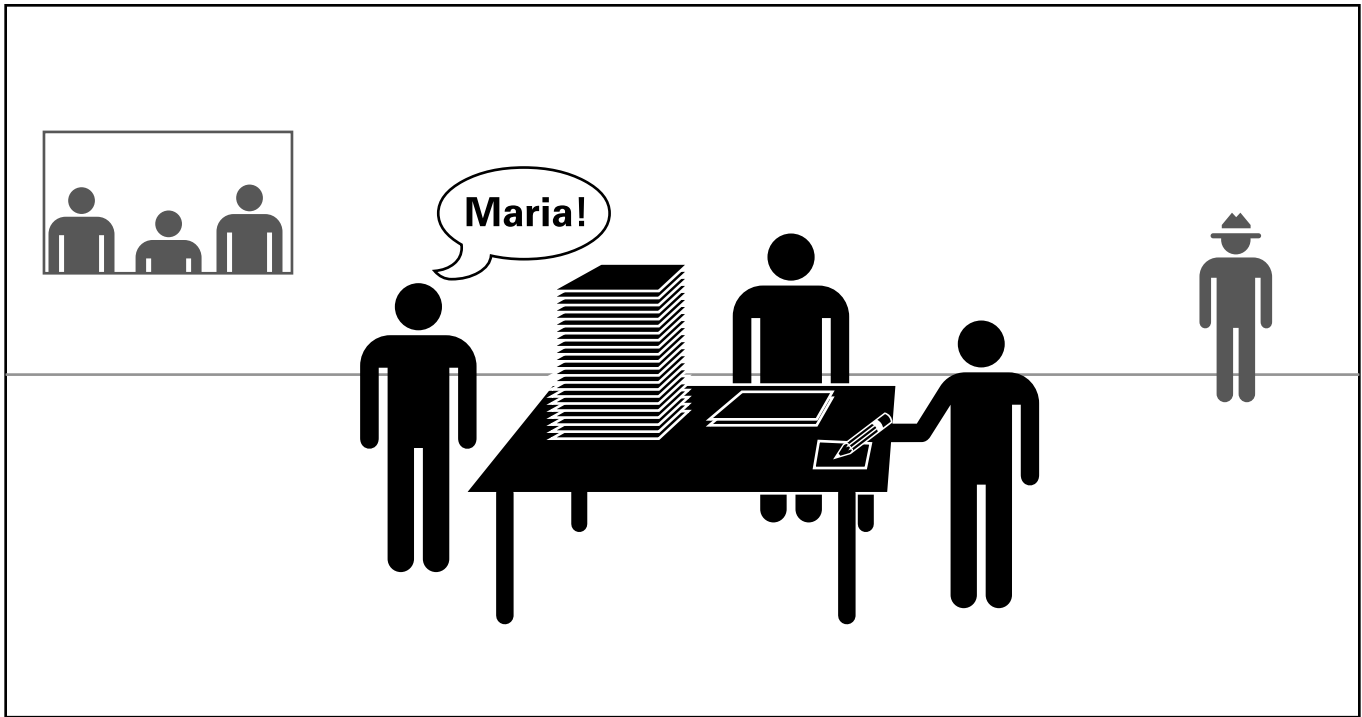
Fig. 1



**Day 1**  
300 workers

The table of one precinct. Three people per sorting/counting team. 100 teams, a total of 300 workers. One supervisor for every 10 tables/teams. Observers can observe from a respectful distance.

Fig. 2

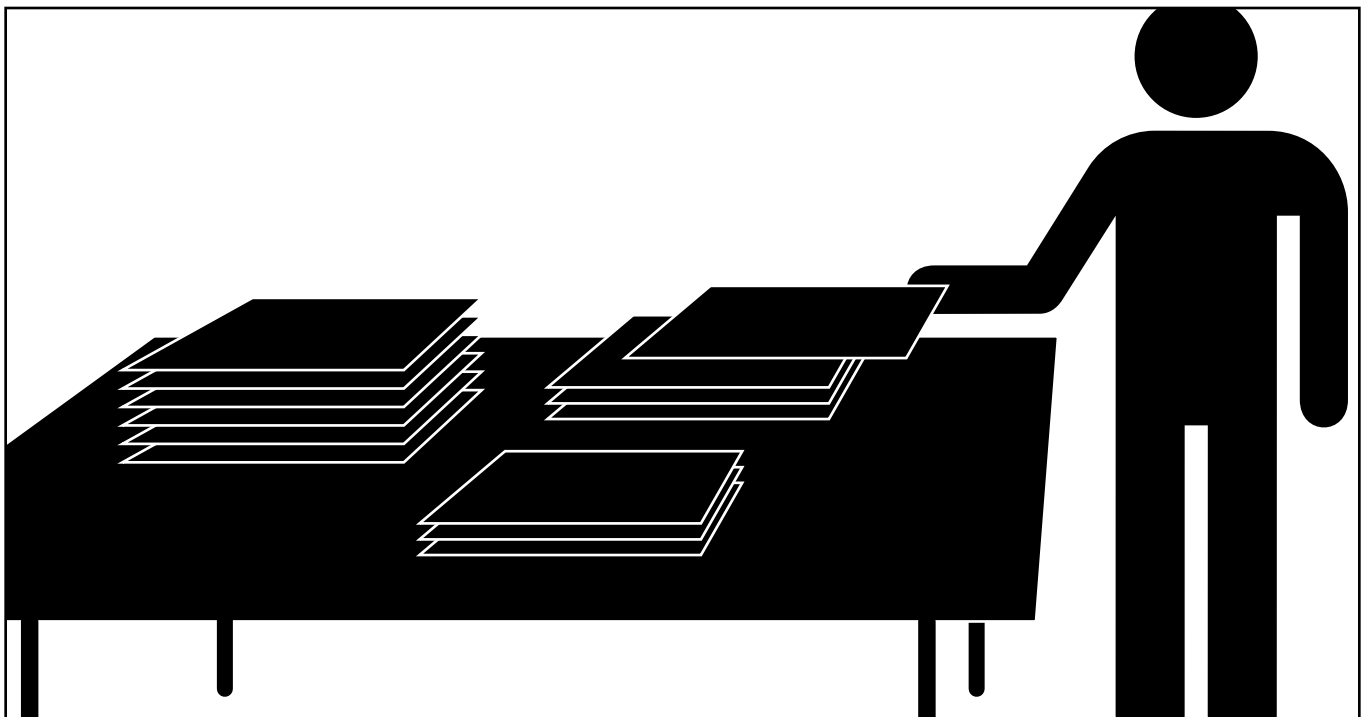


**Day 1**  
300 workers

**Sorting the Ballots.** One person calls out the first ranking on each ballot. Another person tallies the first ranking on a tally sheet. The third person places the ballot in a pile on the table, one pile per candidate, sorted by first rankings for each candidate.

Fig. 3

This stage includes all ballots from the precincts, and the first batch of absentee, provisional, and write-in ballots, also sorted by precinct.



**Day 1**  
300 workers

**Sorting the Ballots.** Finish sorting ballots by first rankings. Place the ballots in a pile on the table, one pile per candidate.

Fig. 4



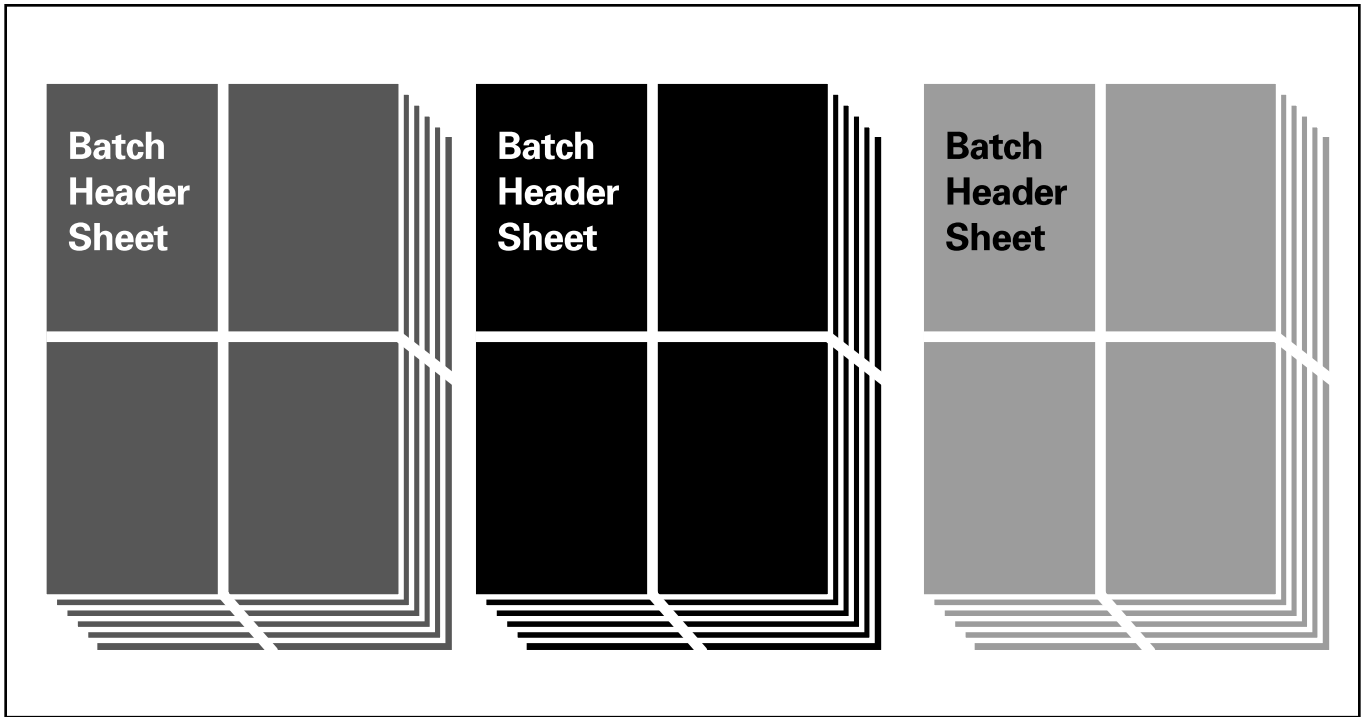


Fig. 5

**Day 2**  
300 workers

**Counting the Ballots.** Teams of three now count out the number of first rankings for each candidate (the counting of the ballots is a double check against the original sorting, as counters verify that each ballot is in the correct pile). Bundle each pile with an elastic band and a “batch header sheet” that shows precinct number, candidate, and number of first rankings. Each candidate has a different color batch header sheet.

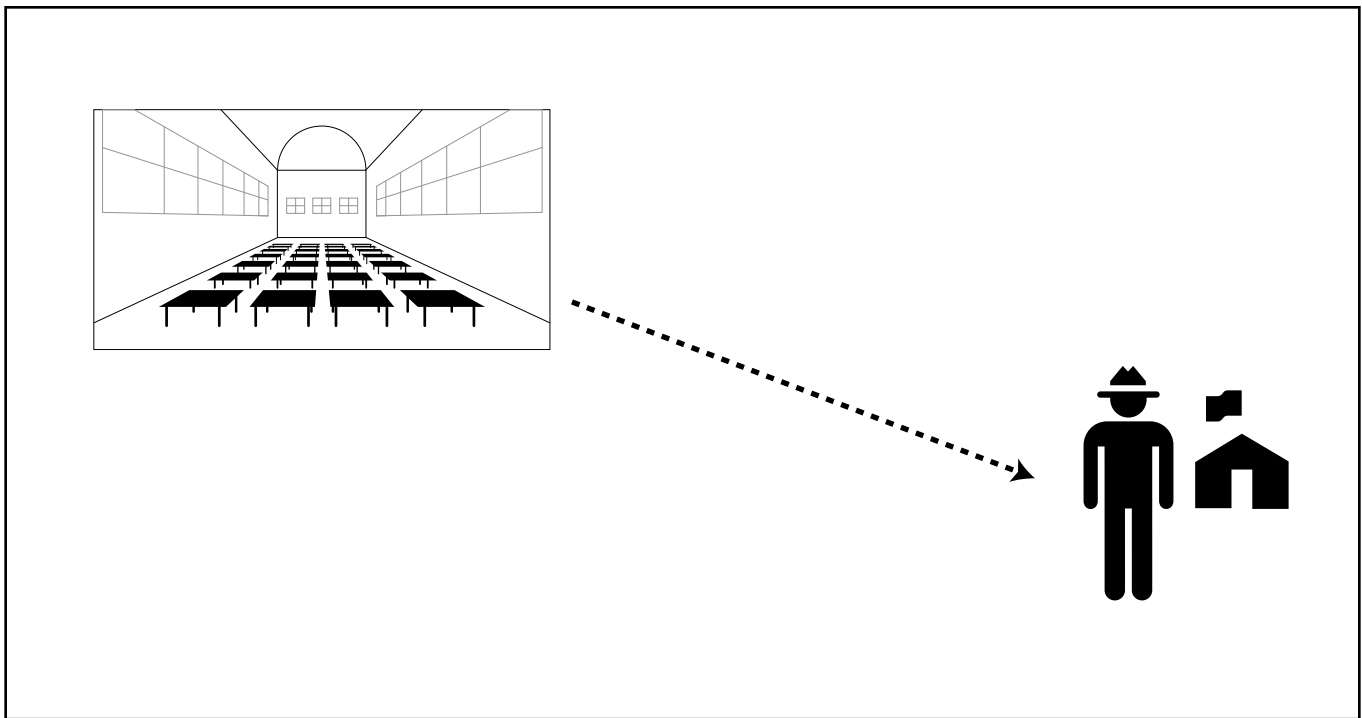
SAMPLE BALLOT	
NAME	RANK
Maria	2
Roberto	1
Frank	3

Fig. 6

**Days 3-7**  
10 workers

Department of Elections (DOE) workers finish processing remaining absentee, provisional, and write-in ballots. The 10 IRV workers sort and count these ballots according to first rankings, and add these ballots to the tops of candidates' piles.

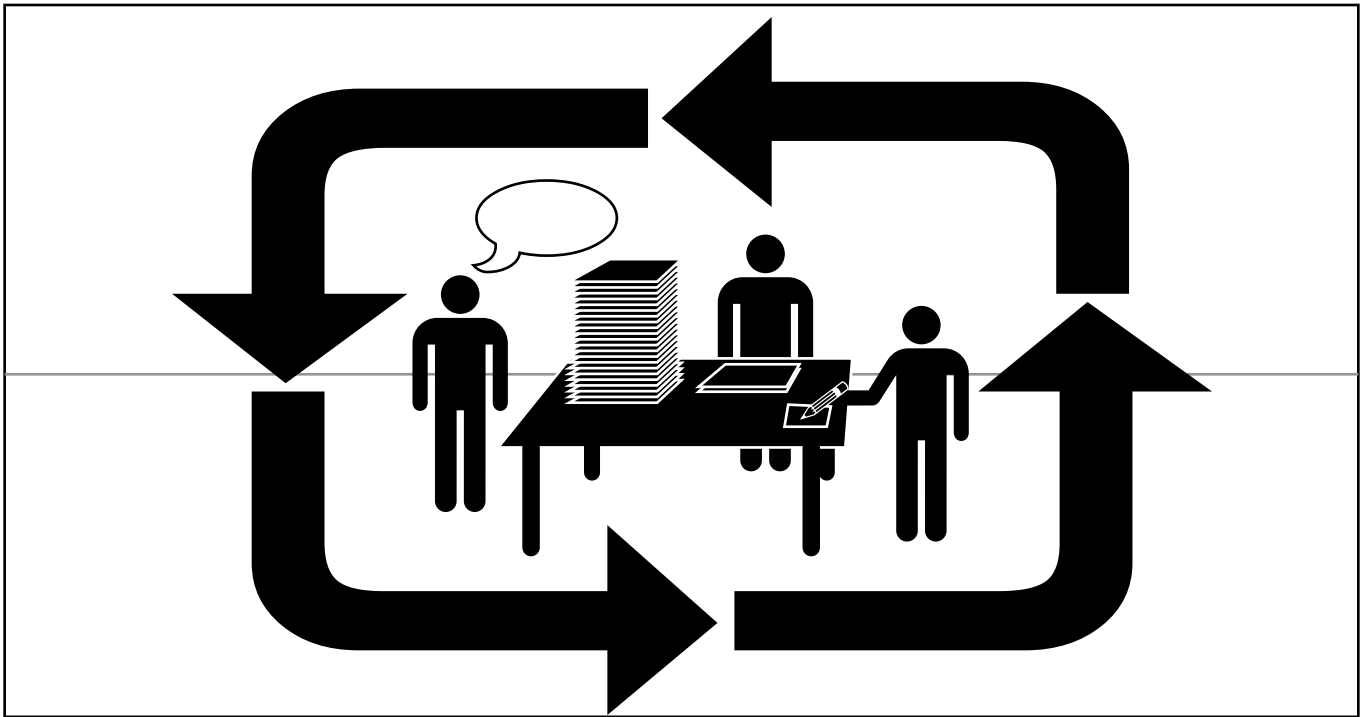
Now figure out the winning threshold: 50 percent of all ballots cast, plus one more vote. That is the number of votes needed to be assured victory.



**Day 7**

Totals from all precincts are reported to the Counting Leader, where a central spreadsheet is maintained, keeping track of everything. If a candidate has a majority of first rankings, they are declared the winner.

Fig. 7



**Day 8**  
300 workers

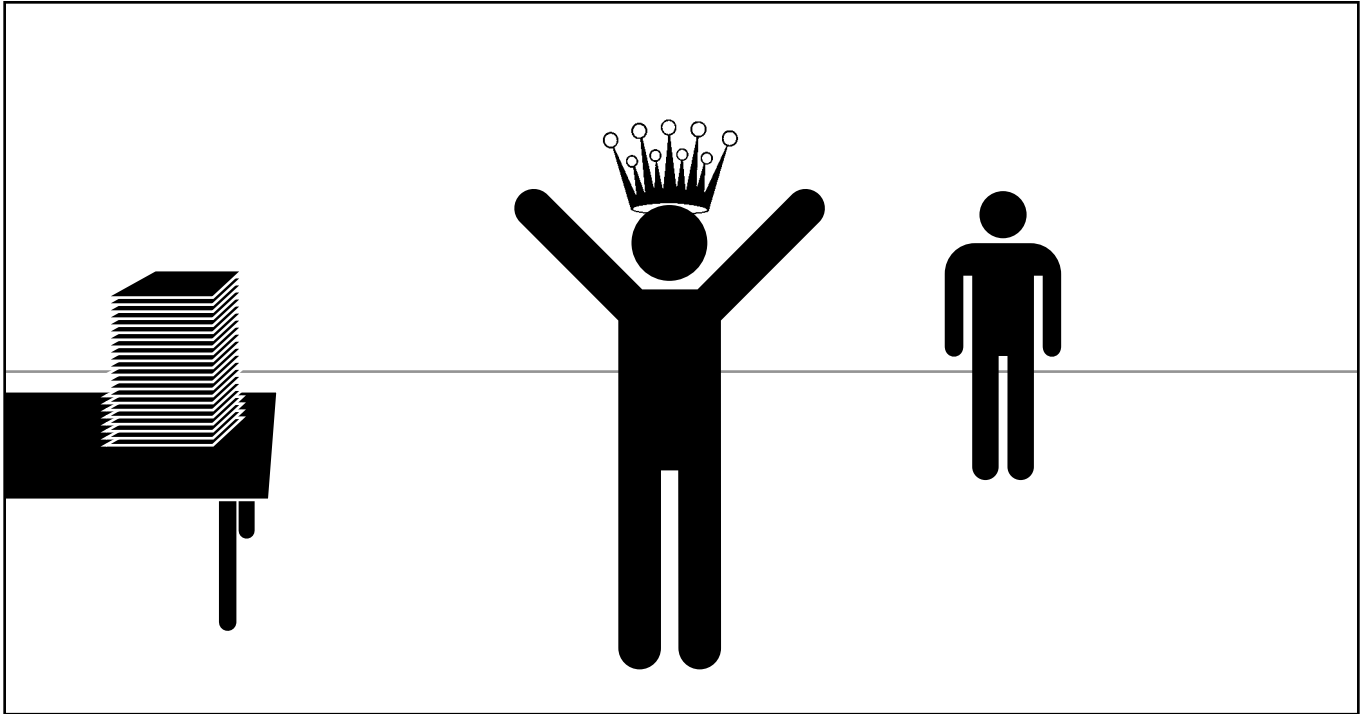
If no candidate has a majority of first rankings, now it's time for the instant runoff. The candidate with the least number of first rankings is eliminated. In each precinct, the counting teams of three people will break open that batch for the eliminated candidate.

Fig. 8

One person calls out the next-ranked candidate on each ballot of the eliminated candidate. A second person tallies that next-ranking on paper, and the third person places the ballot in the pile of the next-ranked candidate, on top of the bundled ballots that already are there.

**Day 8**  
300 workers

Candidates still in the race are called "continuing candidates". After moving all of these runoff rankings from the pile of the eliminated candidate to the piles of continuing candidates, new totals are reported to the Counting Leader and added to the central spreadsheet. If candidate has a majority of votes, she or he is declared the winner. If no candidate has a majority, eliminate the next candidate with the least number of votes, and repeat the process.



**Day 8**  
Election is over

Continue this process until two candidates remain. The candidate with the most votes will be the majority **winner**.

Fig. 9

## Credits

Steven Hill, Center for Voting and Democracy [fairvote.org]

Tony Solgård, FairVote Minnesota [fairvotemn.org]

David Ray Carson [davidraycarson.com] - illustration, layout, info design