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Instant Runoff Voting in New York State
Written Testimony by FairVote’s Rob Richie on S3584, S3589 and S6248
New York City Hearing, November 12, 2009

Background on Witness

Thank you for the committee holding this important hearing and my opportunity to testify in favor of New York State enabling trial uses of instant runoff voting (IRV). IRV is a proven ranked choice voting method typically adopted in order to uphold the principle of majority rule without the need for a separate runoff election. IRV has particular relevance when considering your runoff law for New York City’s citywide primaries, for vacancy elections and for overseas absentee voting when elections are held close together.

As background, my name Rob Richie. I have been executive director of FairVote – The Center for Voting and Democracy since 1992. FairVote is a nonprofit, nonpartisan organization that educates Americans and enlivens discourse on how best to achieve a representative democracy that respects every voice and every vote. We pursue research, strategic outreach and education in order to promote fair access to political participation, fair elections, and fair representation.

George Hallett, the long-time leader with the Citizens Union, was my great uncle, and much of my work today echoes his electoral reform priorities, including support for instant runoff voting in New York. FairVote is generally recognized as the leading national authority on IRV. We have been directly involved in IRV’s adoption, implementation and evaluation in such American cities as Minneapolis (MN), San Francisco (CA), Burlington (VT) and Memphis (TN).

My writings have appeared in every leading national newspaper in the United States and in nine books, including as co-author of *Every Vote Equal* about presidential elections, *Whose Votes Count* about innovative voting methods and *Election Law Journal* and *National Civic Review* articles on instant runoff voting. I have been a guest on National Public Radio programs such as *All Things Considered* and *Talk of the Nation*, C-SPAN’s *Washington Journal*, NBC News, CNN, FOX, Bloomberg News and MSNBC and have addressed conventions of the American Political Science Association, National Association of Counties, National Association of Secretaries of State, National Latino Congreso and National Conference of State Legislatures.

I am here to testify about instant runoff voting through your consideration of three bills.

- **S3584:** Authorizing the use of instant runoff voting on a trial basis in primary and general elections as the option of local governments for a period of three years.
- **S3589:** Authorizing the State Board of Elections to establish a pilot program using IRV for up to ten local governments in 2010-11 with the approval of the local governments.
- **S6248** Repealing the provisions of the election law that provide for runoff primary elections in New York City and elsewhere, and those in the Administrative Code of the City of New York that provide for runoff voting and its financing.

Background on Instant Runoff Voting

Instant runoff voting was invented in the United States by Professor W. R. Ware at M.I.T. in 1870. With the rise of optical voting equipment, IRV has become an increasingly popular election reform. This month, it was adopted in St. Paul (MN) for its city elections. Voters in more than ten other cities have approved IRV by landslide margins for elections for citywide offices, including Memphis (TN), Minneapolis (MN), Oakland (CA), San Francisco (CA), Burlington (VT), Sarasota (FL), Berkeley (CA), Santa Fe (NM), Ferndale (MI) and Takoma Park (MD). Two North Carolina cities have used IRV after state legislation authorized cities to try IRV on a pilot basis. Colorado in 2008 approved similar legislation, and three cities have adopted IRV. Additionally, Arkansas, Louisiana and South Carolina use IRV ballots in primary elections to ensure their military and overseas voters are able to participate in runoff elections.

Recommended by Robert's Rules of Order for postal elections, IRV is used for electing officers in dozens of major private associations, including the American Political Science Association and nearly 60 colleges and universities for student government elections. Internationally, Australia and Ireland are among nations with a long history of successful use of IRV for national elections, and since 2000 it has been used to elect the mayor of London. The principle of IRV – elimination of weak candidates, followed by a new round of voting or counting – is also often used for electing party and legislative leaders; among parties using IRV for national nomination contests are Canada's Liberal Party and the United Kingdom's Labor Party.

How Instant Runoff Voting Works

Instant runoff voting is a one-person, one-vote system designed to uphold the principle of majority rule in elections for one seat. With IRV voters gain the option to rank the candidates in their order of preference (1, 2, 3). If no candidate wins the share of votes necessary to win on the first count (typically a majority), those rankings are used simulate a runoff election. In a traditional runoff, voters select a single candidate and then are asked to return to the polls for a second election between the top two finishers. With IRV, voters' ballots initially count for their first choice candidate, just like the first round of a runoff. In the instant runoff, their ballot counts for their highest ranked candidate in the runoff (meaning their first choice if that candidate has advanced, but otherwise their first backup choice in the runoff). Relatively few voters' ballots will count for a candidate beyond their first choice, but if there is a chance that your first choice candidate will not make the runoff, you should indicate a backup choice if you have one.

To win most IRV elections, a candidate must receive a majority of voters' first choice rankings. If there is no immediate winner, the candidate with the fewest votes is eliminated. Ballots cast for that candidate are then added to those of the remaining candidates according to which candidate is ranked next on that ballot. The IRV counting process can be shortened by immediately reducing the field to two if there is no first round winner and electing the candidate in the top two who has more support among voters. If the winning threshold is less than a majority – as in New York City's current runoff system – then this “top two” form of IRV must be used.

The principles governing how IRV works are common to our experience, from how legislators pick their legislative leaders to how Democratic caucus attendees in Iowa vote for president to how children select ice cream cones: in all these cases, you have a backup choice if you can't

help (or get) your first choice. Note that your ballot never counts for two choices at the same time, and indicating a lesser preference never counts against the chances of your higher choice. If I go to an ice cream shop and ask for a chocolate ice cream cone and purchase it, I eat one ice cream cone. If I go to the shop and ask for mint chocolate and am told it is unavailable, I might settle on vanilla. In either case, I eat one and only one ice cream cone.

How IRV Addresses Problems with New York City's Current Runoffs

Giving New York City voters an opportunity to indicate their preferences would have important consequences when compared to the current citywide runoff system. Among them:

- *Voter turnout and holding one election, not two.* IRV eliminates the need for a second election by using the rankings voters have already provided on the initial ballot. Turnout often declines sharply in runoff elections, as was the case this year in New York City and in 112 of 115 federal primary runoffs in 1994 to 2008, where the median average decline in turnout was more than a third of the first round vote. With IRV candidates and organizations can maximize their get-out-the-vote efforts for a single election, which can be especially important in communities of color. Voters who have difficulties getting to the polls due to limited mobility, childcare, or other reasons will also benefit from a single election.
- *IRV saves taxpayer dollars.* Based on estimates using the old lever machines in New York City, runoff election costs approximately \$15 million to administer with a maximum exposure of another \$7 million in matching funds. IRV will bring new expenses, but the bulk of those expenses are one-time costs for upgrades of voting equipment that will be far less than the costs of even a single citywide runoff in New York City. Cary (NC), a much smaller jurisdiction, saved money in its very first election with IRV in 2007.
- *IRV reduces the impact of campaign spending.* Campaign spending was a featured reason for voting rights challenges to New York City's runoff law in the 1980s. Runoff elections take place just two weeks after the first election. There is a premium on quickly raising and spending money for television ads and voter mobilization activities. In addition, one-on-one races make negative attacks more effective, as it is a "zero sum" choice for voters. Studies in San Francisco indicate that independent expenditures – heavily for negative ads -- quadrupled in its cities' runoff elections.
- *IRV reduces negative campaigning.* IRV provides an incentive for candidates to reduce negative campaigning because candidates may need the second ranking of their opponents' supporters to win. Candidates improve their chances to win by building coalitions and finding common ground with backers of other candidates -valuable features when a party is choosing a strong nominee. Negative campaigning can be particularly divisive in runoffs when the two finalists are of different races, as evidenced by mayoral runoffs in 2001 in Los Angeles, Houston and New York City.
- *IRV helps absentee voters:* Two weeks is a very short time to determine who has made the runoff, print absentee ballots, mail them and have absentee voters return the

completed ballot – particularly challenging for overseas voters like those serving in the military. IRV means one decisive election.

- *IRV would allow better protection of the majority principle.* IRV means a candidate who is strongly opposed by a majority of voters will never earn the nomination, unlike the current system that has a 40% threshold and allows a candidate to be nominated who might be the last choice of a majority of voters.
- *IRV eliminates the problem of vote-splitting.* In New York's current system, the first round is a plurality election where only the top-two vote getters advance to the runoff (if no one receives 40% of the vote). It is common for races without an incumbent to draw more than three candidates in a primary, which means votes may be split among similar minority or like-minded candidates in the race, allowing a potentially less popular candidate to advance to the runoff. For example, in the 2001 Democratic primary for Public Advocate, the first-place finisher Betsy Gotbaum won some 24%, but four candidates each remarkably won about 16%.

A Review of Runoff Elections in New York City

New York City's change from a plurality primary (the person with the most votes wins) originated from the 1969 mayoral race where Mario Procaccino won the Democratic primary with 32.8%, less than a third of the vote in a five-way race that included former Mayor Robert Wagner (29%).¹ Procaccino was a more conservative Democrat who went on to lose in the general election to John Lindsay, who ran as a Liberal and won with 42% of the vote in the general election.²

There have been eight citywide nominations decided in runoffs since the election law was changed. In six cases, the winner of the first round was victorious in the runoff; results between primary rounds changed in 1977 for Council President (now Public Advocate¹) and in 2001 for Mayor. In addition, mayoral nomination runoffs were narrowly avoided in both 1997 (Messinger) and 2005 (Ferrer) when frontrunners barely crossed the 40% threshold after the final canvass of votes, each time spurring confusion and costs. In both instances, the Democratic nominee lost to the Republican nominee, as did Mark Green in 2001. A more inclusive, quickly determined primary might allow candidates to compete more effectively in the general election.

A voting rights lawsuit was brought against the runoff system in the 1980s due to the burdens on candidates of color in mounting two citywide campaigns in two weeks, but lost on appeal after a lower court victory. Instant runoff voting would address the issues raised in this past litigation by decreasing the impact of money in citywide elections (candidates who have access to quick cash have a fundraising advantage in the current two-round system) and discouraging racially polarizing campaigns.

¹ The remaining candidates were Bronx Borough President Herman Badillo (28%), James Scheur (5%) and Norman Mailer (5%).

² Lindsay received 42% in a three-way general election with Procaccino (36%) and Republican State Senator John Marchi (22%).

Here is a summary of citywide runoff elections in New York City primaries in 1973-2009 – all of these were Democratic primaries, but runoffs could for other parties' nominations as well.

- *1973, Four-way split for Mayor:* Beame was ahead of Badillo with 34.5% in the first round and won the runoff with 61%.
- *1977, Seven-way split for Mayor:* Koch (20%) and Cuomo (19%) advanced to the runoff, even though more than 60% of the voters cast a ballot for one of the five other candidates in the primary. Koch won the runoff with 55% support.
- *1977, Five-way split for Council President:* Incumbent O'Dwyer was ahead in the first round with 31%, but Carol Bellamy won the runoff election with 59%.
- *1993, Three-way split for Comptroller:* Hevesi (35.3%) was ahead of incumbent Holtzman in the first round (33.4%) and won the runoff.
- *2001, Five-way split for Mayor:* Ferrer (36%) led Green (31%) in the first round, but Green won the runoff with 52%.
- *2001, Seven-way split for Public Advocate:* Gotbaum (24.4%) led Siegel (16.5%) in the first round (with three other candidates also winning 16%), and won the runoff.
- *2009, Pubic Advocate:* De Blasio (32.6%) narrowly led Green (31.5) and then easily won the runoff.
- *2009, Comptroller:* Liu (37.8%) led Yassky (30.9%) and won the runoff.

IRV Contrasted with Plurality Voting

Instant runoff voting seeks to uphold the principle of majority rule in one trip to the polls. There is a long history of winners of America's highest offices needing a majority of the vote, including many congressional elections in our nation's early years, but the demands of holding separate elections have led most states and jurisdictions to declare the candidate with a mere plurality of the vote (even if that is dramatically less than 50%) as the winner. When multiple candidates seek the same office, the likelihood of a low non-majority outcome increases, and the results can look more like a roll of the dice than a coherent democracy. When a candidate wins with less than 50 percent of the vote, it means that more voters will have cast ballots against, rather than for, the winner. That brings their mandate directly into question, while being able to win without majority support can make it harder for voters to hold elected officials accountable.

New York City uses plurality voting for most of its elections, but it does have certain consequences that IRV would avoid – and can be particularly important for the city's most powerful offices. IRV would mean:

IRV avoids unrepresentative nominees: No candidate would win over strong majority opposition, as can happen with plurality elections – in fact, plurality voting can result in election of an unrepresentative candidate who is the last choice of a majority of voters.

People won't talk of "spoilers": IRV avoids the "spoiler" dynamic – where two candidates split the majority vote, allowing a candidate the majority of voters oppose to be declared elected.

Candidates in a big field will reach out to more voters. As one example, a candidate in the first IRV election in Takoma Park (MD) put it quite simply: "Even if I knew a voter supported another candidate, I would stop to talk with them and ask them for their second choice."

Answers to common questions about instant runoff voting:

There is no shortage of questions about an idea that is new to many people. Here are answers to a few common questions about IRV.

Instant runoff voting is constitutional: Every voter has one vote, even though they are given the additional freedom to indicate more than one choice. Just like with runoff elections, every voter has one, and only one, vote count in each round of counting. Courts have unambiguously upheld the system; it does not violate the one-person, one-vote rule. FairVote can provide a copy of court decisions in Michigan and, this year, a unanimous ruling by the Minnesota Supreme Court dismissing a legal challenge to IRV.

Instant runoff voting is fair to voters and candidates: No voter gets more votes than anyone else. If one voter's ballot counts for a second choice, it is no different than a voter coming back to the polls for the second round of a traditional runoff even though his or her first choice candidate failed to advance to the runoff. It still puts a premium on the ability to win first choices, however, meaning no candidate will "sneak" in with only second choice support. And of course, the current system can be unfair since a single candidate can be declared the winner even if a majority of the constituents in fact oppose that candidate.

Instant runoff voting is simple for a wide range of voters: When hearing about ranking candidates, some people worry that IRV might be confusing to less informed voters. But millions of voters from a variety of background vote with IRV for important governmental offices without difficulty. One appendix item is our 2008 report with the New America Foundation on racial minorities and ranked choice voting with reassuring findings for those concerned about equity in the electoral process.

Implementation of IRV in U.S. cities has proven again and again how well voters handle ranking ballots once you have a good ballot design, clear instructions and well-trained pollworkers. Burlington, Vermont, for example has had two hotly contested mayoral elections with instant runoff voting, where no candidate won on first choice rankings. In 2006, its rate of valid ballots cast was 99.9%, which then rose to 99.99% in 2009 – meaning a single overvote. Spoiled ballot rates in San Francisco, which has a very diverse electorate, show that more than 99.5% of voters cast valid ballots, even with about a third of voters now voting by mail without a chance to correct any errors at the polls. San Francisco has also demonstrated that in its most contested races, most voters use their maximum number of rankings. Finally, exit polls done by political science professors during the first usage of IRV in San Francisco (CA), Burlington (VT) and Cary (NC) indicate that an overwhelming majority of voters preferred the new IRV system to their previous system and it was nearly universally found to be easy to use, even if they hadn't heard about the system before voting.

Instant runoff voting can be effectively administered, including options without updating voting equipment: Each of the three major voting equipment vendors have run ranked choice voting on one of their optical systems. Currently, only Sequoia is offering IRV readiness in its latest optical scan machines, but the technology behind the latest generation of optical scan should make upgrades eminently feasible.

While upgraded software can make administering IRV easier and should be pursued where it is possible, jurisdictions can administer IRV elections with no upgrades of hardware or software. In Cary (NC)'s first IRV election in 2007, for example, the local precinct workers did not do IRV tabulation. They only counted first choices on election night, using machines just as they do on a traditional plurality election. When an IRV tabulation was needed (because no candidate was the first choice of a majority), it was done separately, at a central location.

Wake County election officials were very pleased with how the count went in 2007. In 2009, the North Carolina State Board of Elections developed a new means to do the central count on its existing optical scan equipment that would not involve any changes requiring re-certification, would avoid any manual counting of ballots and would allow an exact comparison between the tallies for different rankings the precinct and at the central counting – see the appendix for a more description of this plan.

Instant runoff voting can be administered securely and well in New York primary elections: In discussing IRV in New York City, one concern has been how it could be administered with a full-face ballot. It is quite possible that a design could be developed that worked with a full-face ballot, perhaps with a limitation to three rankings, but it is also true that for primary elections, the full-face ballot is not required. In addition, we have been developing procedures that those concerned with election integrity believe can uphold principles of election integrity: see the appendix for more information.

Potential Applications of IRV in New York:

I wanted to highlight two modest examples of where IRV could be tried, although hardly exhaustive of potential uses of IRV in the state:

Instant Runoff Voting for Filling Vacancies in New York City: IRV is well-suited to special elections for single-member seats. Currently, special elections in New York City are nonpartisan: there are no party primaries, and each candidate makes up their own party name. In off-cycle special elections, the winning candidate often receives significantly less than majority support. Since voter turnout is traditionally very low in special elections, and the number of candidates very high (since there is no primary to narrow the selection), the actual number of voters electing the winner is very small.

Vacancies occur in New York City with regularity, with, as of June 2008, nearly 10% (five members) of the current city council first elected in a special election. Turnout is often low in these elections, and winners can take office with a relatively low share of the vote. Recent city council members first elected in a special election include:

- Anthony Como, 2008 Special Election: 30th Council District, 32%
- Mathieu Eugene, 2007 Special Election: 40th Council District, 34%
- Maria Del Carmen Arroyo, 2005 Special Election: 17th Council District, 50%

- Vincent Gentile, 2003 Special Election: 43rd Council District, 30%
- Sara Gonzales, 2002 Special Election: 38th Council District, 33%
- Joel Rivera, 2001 Special Election, 15th Council District, 56%

Provisions for filling vacancies are outlined in the New York City Charter. A 1988 Charter Revision Commission chaired by Richard Ravitch proposed an amendment on filling vacancies,

“Proposal 5 provides for an orderly process to replace a disabled mayor. Another section would sensibly democratize the filling of vacancies on the City Council and in the offices of Council president, comptroller and borough president by requiring prompt special elections. Replacements are now chosen either by a vote of colleagues or by appointment.”³

The Citizens Union already has come out with a policy paper on “*Filling Vacancies in Elected Offices and Residency Requirements*” which advances instant runoff voting for vacancy elections as a solution. Instant runoff voting to fill vacancies could be presented as a pilot program, a way to introduce IRV city elections before a first citywide election with IRV in 2013.

Instant Runoff Ballots for Overseas/ Military Voters: New York City uses a two-round runoff system for its citywide primaries for Mayor, Public Advocate and Comptroller. When no candidate earns over 40% of the vote in the primary, the top two vote getters advance to a runoff two weeks later. Unfortunately, this short turnaround makes it very difficult to print and mail a ballot overseas and have it completed and returned within the two-week timeframe. Indeed, the general recommendation for overseas voters is to send out absentee ballots to overseas voters more than five weeks before an election. One increasingly popular solution to this problem is to allow overseas voters to rank the candidates on a separate ballot that is mailed along with their first-round ballot. If a runoff is needed, the ranked ballot is counted towards their highest ranked candidate who has advanced to the runoff.

With record numbers of military personnel stationed overseas, there is a growing problem of voter disenfranchisement of our armed forces. According to the General Accounting Office (GAO) there are approximately 6 million uniformed and overseas citizens absentee voters. In New York City, absentee and military voter turnout dropped by more than 36% in the second-round mayoral runoff in 2001, in stark contrast to overall turnout.

Instant runoff ballots comply with the Uniformed and Overseas Citizens Absentee Voting Act (UOCAVA) and an increasing number of jurisdictions are using ranked ballots to ensure that overseas absentee voters are able to have their votes counted in every election round. IRV ballots are used by overseas voters in Louisiana, South Carolina and Arkansas who might otherwise not be able to cast a runoff ballot – Arkansas in 2007 extended this practice to all overseas voters after in 2005 approving it only for overseas military voters. The legislature voted unanimously for this change, and the Secretary of State touted it as one of his 2007 legislative achievements. In 2007, 91% of voters in Springfield (IL) supported a ballot measure to establish this practice in its city to “preserve democracy for those who protect it.”

³ “Vote ‘Yes’ for Charter Revision” -New York Times, October 19, 1988

While New York City has a City Charter that includes the method of electing local officeholders, any change to military and overseas absentee voting procedures would require a change in state law. Military voting in a runoff is mentioned in section § 10-108: “A voter who submits a military ballot application shall be entitled to a military ballot thereafter for each subsequent election through and including the next two regularly scheduled general elections held in even numbered years, **including any run-offs which may occur**; provided, however, such application shall not be valid for any election held within seven days after its receipt.” (emphasis added)

Concluding Remarks

In conclusion, I believe IRV is a desirable pro-democracy reform. Voters can easily learn to use it effectively. It has been administered by elections officials around the U.S. and the world, and can certainly be done in New York.

The evidence from IRV elections as they have been taking place around the United States and voters’ positive reaction to it as a ballot measure underscore the value of facilitating New York jurisdictions using IRV at least on a pilot basis. There of course are lessons to learn from IRV implementations in the United States that I am happy to discuss in more detail, and, just like any other single reform, it hardly is a panacea for all problems with our electoral process. But particularly when applied to specific problems experienced under current rules, IRV holds great promise for New York jurisdictions and their voters.

Appendix

- A. A method of using IRV on existing optical scan machines without software upgrades developed by the North Carolina State Board of Elections, with a sample ballot from the 2007 elections in Cary, North Carolina
- B. A proposal for auditing IRV elections
- C. Instant runoff voting and racial minorities: A 2008 FairVote – New America Foundation report (separate attachment)

A. Instant Runoff Voting and Ballot-Counting on Optical Scan Machines Counting IRV Ballots on Optical Scanning Machine Without Any Hand-Counting/Sorting

As we transition to more instant runoff voting (IRV) elections, our nation's voting equipment will start to come equipped to run IRV elections. There also are tested means to conduct IRV election on existing equipment. Here is an example of how IRV can be administered on ES&S M100 optical scan machines in an election where voters are allowed three rankings and the top two candidates advance to the runoff election if no candidate wins an initial majority of first choices. With this method, machines are used for all ballot-counting and all ballot-sorting.

Count first choice rankings: Tally first choice votes at polls, as in a vote-for-one election. Release these results. (Simultaneously, all first, second and third choice rankings are counted and those totals can be used to verify that ballots have not been changed since being counted at the precinct and being collected at the central count, as aggregate totals should match.)

Collect ballots centrally if IRV count needed: If no majority winner, collect the ballots centrally (or, if a multi-county election, in county centers that communicate vote totals to one another).


Conduct the IRV count with three machines. Re-program the feature of the machine that rejects overvotes. After re-setting software and doing Public Tests on machines that each have been re-programmed differently, set those three machine next to one another. Use them as follows:

- A) The first machine is programmed to reject any ballot that does not rank one of the top two candidates as a first choice. It tallies the first choice totals on the remaining ballots for whichever of the top two candidates is ranked as a first choice.
- B) The rejected ballots are counted using the second machine. This second scanner is programmed to reject any ballot that does not list one of the top two candidates in the second choice column. It tallies the second choice column on the remaining ballots and counts any votes for whichever of the top two candidates is ranked as a second choice.
- C) The new batch of rejected ballots is counted using the third machine. This scanner tallies the third choice column and counts any votes cast for one of the top two candidates.

Determine winner. The winner is whichever of the top two candidates has the most total votes tallied on each machine. Ballots are organized in batches that allow for easy manual audits.

How to Fill Out Cary's New Ballot: Mark a Different Candidate for Each Choice

For TOWN COUNCIL AT LARGE - One Seat					
Fill in one oval per choice	Your 2nd or 3rd choice will be considered if your 1st choice loses				
VOTE for your 1st choice here	1st	Mark your 2nd choice here	2nd	Mark your 3rd choice here	3rd
Benjamin Franklin	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thomas Jefferson	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Betsy Ross	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Write-in: _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



For more information, see www.CaryVotes123.com or call Wake Co Board of Elections at 856-6240

Mark your 1st choice, then you may mark 2nd and 3rd choices as back-ups. Your back-up choices will never hurt your 1st choice. Back-up choices are only reviewed if an "instant runoff" occurs and your first-choice candidate gets eliminated and is not in the runoff.

B. Instant Runoff Voting and Election Integrity: A FairVote Analysis

Ranked voting methods, in which voters are allowed to rank candidates in the order of choice, such as **instant runoff voting** (IRV), can strengthen election integrity through the use of redundant electronic and paper records of every vote that can be compared through manual audit procedures. This provides the ability to perform audits all the way down to the ballot-level, rather than only precinct-level audits. Although this approach can be applied in non-ranked voting elections, it already is being used in some elections using ranked voting, thereby showcasing an approach that we believe should be the norm for all of our elections. FairVote supports a modular approach where independent software can be used to review data generated in a verifiably secure, auditable process and then tallied by independent software. We focus on election administration with optical scan ballots, as voter-verified paper ballots are rightly becoming the norm in U.S. elections.

This page provides more details about this approach. A separate appendix addresses specific misunderstandings about ranked voting and election integrity. We also include a glossary of terms, highlighted like **this**, as this page gets into some technical detail.

How ranked voting can enhance election integrity over current election procedures

Even without major voting equipment changes, ranked voting methods often can be implemented at a local level in a way that is as secure as any non-ranked method. But what is more desirable is to have adoption of ranked voting actually improve election integrity by allowing **ballot-level audits**, not just **precinct-level sum audits**. Long-term, transparent and trustworthy elections can be best achieved on a wide scale in tandem with other changes in how we administer elections – such as providing jurisdictions with an option to use publicly owned equipment with open source software and by having all counts verified in full with independent software and manual audits.

A key design element underlying the election integrity attainable with ranked voting is distinguishing between recording voters' rankings, and tallying them. These two tasks are appropriately handled by distinct voting system modules -- each subject to an appropriate audit and confirmation procedure.

The first module should simply create an output file that is in a non-proprietary and easily read format such as a text file, that is an accurate record of how each voter marked his or her ballot. Some vendors' systems perform some **normalization** of ballot data such as closing up skipped rankings or inserting generic codes for **overvotes** rather than showing exactly which two candidates received the same ranking, and while not ideal, since they can still be subjected to the preferred ballot-level manual audit procedure described below, they do not impair election audit integrity. The audit procedure used by San Francisco simply assures that the number of choices for each candidate at each ranking match the machine record. This audit method is useful for detecting machine errors, but is not adequate for detecting extremely sophisticated fraud (since whether a 2nd choice for candidate A comes from a ballot that ranked candidates B or C first can matter). In short, simply checking precinct-level vote totals, or totals for each ranking may have some value, but is not a comprehensive auditing procedure for ranked ballots.

The preferred audit procedure which can detect both machine error and sophisticated fraud involves selecting a random sample of voting machines and doing a manual comparison of the paper ballots read by that machine with the machine record, to assure that the machines are properly recording the voters' marks. This is more definitive than precinct total audits, in that a group seeking to commit fraud would need to have access to and the ability to alter or substitute **both** paper ballots **and** the detailed machine record of each ballot, and assure the two fraudulent records match. A typical vote-for-one election audit may not detect fraud that successfully substitutes a portion of the paper ballots (traditional ballot box stuffing). These audited ranked-ballot files should then be made publicly available (as done in instant runoff voting elections in San Francisco and Burlington by posting them on the Internet).

The second module of the election system performs the algorithm for tallying the election (such as eliminating bottom candidates and transferring votes to next choices, etc.) The goal here is to assure that this tally can be done by both the vendor's system and by independent software or using an off-the-shelf commercial spreadsheet or database program to confirm the tally. Beyond merely auditing the tally, this allows any person who wishes, to completely re-do the tally from scratch, using any software of their choosing, or even by printing out the ballot rankings and sorting them by hand, accomplishing a complete recount. The reliability of any such recount/re-tally is, of course, dependent on the manual audit of the actual optical scan ballots, showing that the machine record of ballot rankings is reliable. Double-checking the IRV tallies using independent software is regularly done for San Francisco and Burlington elections.

While the audit procedures are necessarily different than with vote-for-one elections, there is no conflict between supporting election integrity and the use of ranked-choice voting methods. Numerous election integrity activists have come to this same conclusion. In Minnesota, where ranked voting was adopted recently the leading election integrity organization issued this statement.

“ Citizens for Election Integrity MN advocates for transparent, verifiable, and accurate elections. We observed the Minneapolis test RCV election in May. Based on that experience, it is our belief that a well administered RCV election with carefully designed protocols, well trained poll workers, and educated voters can be conducted in a manner that is transparent, accurate, and verifiable.”

The founder of the election integrity movement in Ireland that blocked the adoption of DRE voting equipment in Ireland, for example, is also an ardent supporter of ranked voting ([read her statement here](#)). As she points out, IRV elections can be run independently of software as indeed they are in Ireland.

Proposed "best practices" for auditing a ranked-ballot election

Because ranked voting elections on optical scan equipment involve two independent steps – capturing rankings and performing the ranked voting tally – it is possible, and in fact preferable, to manually audit the election using the stored rankings rather than **precinct-summable** vote totals. We will give a brief explanation of how this can be done, and we'll provide a more detailed example in the appendix of this document.

Let's suppose you are trying to manually audit the ranked voting results from a precinct with

1,000 votes cast, and you have a printout of the 1,000 electronic records of the rankings from that precinct. You simply pick up the first ballot in your stack, find an electronic record that corresponds to that ballot, and put a check mark next to the ranking. For example, if the machine reports that 73 ballots ranked the candidates in order B, D, A, C, then after examining the paper ballots there should be 73 check marks next to that ranking combination on the audit form. Go through all your ballots, and if you've got a matching check mark next to every ranking and you don't have any extra ballots, you've verified the storage of the rankings. If there is a discrepancy and you didn't make an error during the audit, the voting equipment failed to store the rankings correctly. [More details appear in the appendix, along with an explanation of how to audit the application of the ranked voting tallying method to those records.]

The machine record of rankings should be made publicly available, ideally through Internet posting, both prior to and following the audit, along with instructions for how to conduct a tally using independent software, or manual procedures. The ability of opposing campaigns, the press, and any one else who wishes, to perform their own independent tallies using manually audited ballot records creates confidence in the results.

An even higher level of election integrity and transparency can be achieved following the example of the Election Transparency Project of Humboldt County (CA). As part of their audit procedure they re-scanned all ballots using commercial off-the-shelf scanners, and used form-reading software to detect voter marks on each ballot. This allows for the potential of having any "problem" ballots displayed on a screen for election judges to rule on voter intent (as humans can distinguish stray marks, etc. more reliably than computers). The Humboldt County Election Transparency Project proved its value in its first use (in a traditional vote-for-one election), discovering a flaw in the Premier GEMS software used in conjunction with the county's Premier voting machines that resulted in the failure to include 197 ballots in the election results. This same model of pixel scanning of ballots will be typical in the next generation of optical scan voting machines, which will further enhance security and the ease of conducting ranked-ballot elections.

In conclusion

In this document and accompanying appendices we have attempted to address concerns about election security and ranked-choice voting. We know the commitment to election integrity of individuals expressing concerns is rock solid, but they have made a key wrong assumption – that a manual audit of a ranked voting election requires precinct-summable vote totals for all possible voting combinations – that caused them to reach incorrect conclusions about the implications on election integrity of ranked voting elections. We have also attempted to give very concrete examples of how one can audit a ranked voting election by verifying the machine record through a manual audit and verifying the tally based on published electronic records of each ranking.

The public instant runoff voting elections held in San Francisco (CA), Burlington (VT) and Aspen (CO) were the most transparent, verifiable public elections ever held up to that point. They were in fact more secure even than elections that are counted purely by hand because they combine paper ballots with redundant electronic records of every single ballot. Burlington even made the ranked voting tally code and program available for the public to use, inspect, test and modify.

The key to election integrity is the combination of redundant paper and electronic records, along with public observation of all processes, and rigorous post-election manual audits. It is this redundancy that enhances error detection and makes fraud so much more improbable, because the perpetrator would need to have the ability to falsify both the machine and the paper record of each ballot, and assure that they match. All of the San Francisco instant runoff voting elections since 2004 have set new standards for election integrity for both ranked voting and non-ranked voting elections, by making the voters' marks on each individual ballot public. The country would be well-served if other jurisdictions adopted these standards for transparency and verifiability of elections.

Glossary of Terms in Election Integrity Analysis

ballot-level audits: In some implementations it is possible to identify the individual paper ballot that a particular record in the machine final represents. Thus, rather than determining that some ballot out of the 900 ballots in the precinct was recorded incorrectly, the exact ballot can be identified. IN other implementations, an intermediate level of audit is possible identifying from which ranking-permutation group of ballots the erroneous record derives. For example, the machine reports a ballot that ranks the candidates in order as B, C, A, but the audit reveals that the original paper ballot ranks them D, C, A)

normalization: Jurisdictions adopt rules for how a miss-marked ballot should be counted. For example, if a voter ranks a first, third, and fourth choice, but skips the second choice ranking, the rule may say that skipped rankings should be ignored, and that this ballot should be counted as if the candidate next ranked after the first choice were in fact the second choice (rather than leaving the second-choice blank). The "normalization" of such a ballot would indicate the way such miss-marked ballots will be counted in the tally according to the rules, with a first, second and third choice. Some jurisdictions may require a substitute normalized paper ballot to be prepared by election officials.

overvotes: When a voter marks more than one candidate in a vote-for-one election, or more than one candidate for the same ranking (such as two first choices) in a ranked-choice election.

precinct-level sum audits: Traditional audits simply count the votes in a precinct and compare that sum to the total reported by the machine. For example, it can be determined that the candidate B has seven more votes on the machine total than the on the paper ballots. The totals from different precincts can them be summed.

precinct-summable: Voting methods (such as plurality) in which the vote totals from each precinct can simply be added together to determine the winner are termed "precinct-summable." In Ranked voting methods, the order in which candidates are ranked on each individual ballot must be taken into account as well as the total of first choices for each candidate. Because the ranked ballot allows the voter to express vastly more information than a vote-for-one ballot, simply summing totals from each precinct may not transmit enough of this information to determine the winner. Voting methods that are not precinct-summable require collecting all of this ballot information in one place (either physically, or as data) so that the tally can be performed.