Report to the Vermont General Assembly

by the

Vermont Office of the Secretary of State

Instant Runoff Voting (IRV):

Administrative Implementation Options and Costs

March 7, 2007

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This report on the Administrative Implementation Options and Costs for Instant Runoff Voting in Vermont Statewide Elections is submitted for consideration by the General Assembly.

We are pleased to provide this summary of our research that identifies and assesses the implementation options and costs associated with the possible implementation of Instant Runoff Voting in Statewide elections in Vermont, in response to your letter of May 9, 2006. This report does not include an assessment of the legal and policy issues surrounding a decision to implement IRV in Vermont's statewide elections.

It is note worthy that when our office was contacted by Rob Ritchie, the Executive Director of Fair Vote, the national organization that is promoting Instant Runoff Voting in the States, he cautioned us not to focus on just election administrators in places that have already adopted IRV. He said that although the number of jurisdictions that will use IRV is rising, "we remain in the early days of its implementation. Each state and county presents different challenges."

And so, while our office has carefully researched the jurisdictions that have implemented or are in the process of determining how to implement IRV and has explored all the methodologies that appear to be available, we do find that Vermont presents its own particular circumstances. The following report reflects the choices that we believe the legislature will need to make to take into consideration our unique circumstances.

Respectfully submitted,

Deborah L. Markowitz
Secretary of State

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1. **How IRV Works**

Instant Runoff Voting is a method of holding a runoff election that permits voters to rank candidates at the time they go to vote so that if no candidate receives a majority vote a runoff election can be held without requiring voters to come back to vote in a subsequent runoff election. With an IRV election, when voters cast their ballot, not only do they indicate a top choice, but also get the option of indicating a second or third choice (or more, depending upon the particular law). If no candidate is the first choice of at least 50%, all but the top vote-getters (two or more candidates, depending upon the law) are eliminated and all ballots are counted again. Just like in a traditional runoff election, voters whose top candidate was eliminated will have their next choice count. In this way the candidate preferred by a majority of voters will win, regardless of the number of candidates in a race.

This report considers the application of the IRV method to Vermont's statewide races. All of these races are "Vote for Not More than 1" races.

2. Implementation Options

1. **How many choices will the voters be given?** In many of our statewide races there are multiple candidates for office. The legislature must decide how many ranking choices to offer voters. The more choices, the more the possibility that the voter will be able to participate in the final runoff (because it makes it less likely that all of their choices have been eliminated from the final runoff). On the other hand, a ballot cannot accommodate an unlimited number of columns. In addition, the more choices given to a voter, the more confusing the voting process will be for some voters. In the appendix we have included ballots with a sufficient number of columns to permit voters to rank every candidate on the ballot. We have also included a ballot that would permit voters to rank only their top three candidates.

The two IRV bills that have been submitted for consideration this biennium (H.196 and S. 108) have the following language "if there are three or more candidates for an office, the secretary must provide for ranking at least three choices."

2. **How will the elimination occur?** In an IRV election when no candidate receives over 50% of the vote, some number of candidates (to be determined by the legislature) with the lowest votes are eliminated and a runoff count is held. The runoff count adds to the totals for the remaining candidates the second (or third, or more to be determined by the legislature) choice vote of the voters whose first choice candidates were eliminated from the runoff.

Multiple runoff counts. The traditional IRV or ranked choice counting method would be for the lowest candidate in the first count on Election Day to be eliminated in the first count of the instant runoff (which is actually the second count of the ballots). The votes would then be transferred from that eliminated candidate to the voter's

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second choice. If after the second count no one has achieved 50% plus one, the lowest candidate in the 2nd round would be eliminated and that eliminated candidate's 2nd or 3rd choice votes would be transferred to the remaining candidates and so on with the elimination of the lowest candidate and transfer of the voters' next choice to the remaining candidates.

The benefit of this approach is that it would maximize the possibility that voters who chose an eliminated candidate would have a higher ranked choice count during the runoff count. The challenge of this approach is it could take a very long time to finish the runoff.

Limited runoff counts. An alternative approach would be to eliminate more than one candidate (the number to be determined by the legislature) to ensure that there would only be one runoff count (or a more limited number of counts) to determine the majority winner. One approach would be to eliminate all candidates except for the two top vote getters. The runoff count would be conducted by looking at all of the ballots in which the first choice was an eliminated candidate. The second choice on those ballots would be reassigned to the candidates that were in the runoff contest. If the second choice was also eliminated, the voter's third choice would apply. If the second and third choice were eliminated then the fourth choice would apply – and so on. . . .

The benefit of this choice is that it would ensure that a majority candidate was elected after only one runoff count. Most traditional runoff elections (i.e. those that are not instant runoff elections) work this same way - eliminating all but the two top vote getters. On the other hand, it differs from what we do in our local elections when we vote officers on the floor. In our local elections 17 V.S.A. 2660(c) applies, which provides that "If no person has obtained a majority by the end of the third vote, the moderator shall announce that the person receiving the least number of votes in the last vote and in each succeeding vote shall no longer be a candidate, and the voting shall continue until a candidate receives a majority."

S. 108 and H. 196 propose that "If, in the first round, no candidate received a majority of first choices, all candidates shall be eliminated except the two candidates with the greatest number of first choices." Ballots which rank eliminated candidates and which indicate one of the final candidates as an alternate choice shall be counted as votes for whichever of the final candidates is ranked higher for that office on each ballot. In each round, each ballot is counted as one vote for the highest ranked advancing candidate on that ballot."

3. **How many races to include?** The legislature will have to decide how many, and which races to include in an IRV election. Considerations include the costs to print, ship and mail ballots, ease of voting/administering the election, and the time it would take to conduct multiple runoffs. Of course, the tradeoff is that the more IRV races, the more of our officials are guaranteed to be elected by a majority vote.

In Appendix D we have provided sample optical scan style ballots (using the real 2006 candidates) and then samples of the same ballot with changes to show one IRV race, 2 IRV races, 3 IRV races, and 8 IRV races. The Office of the Secretary of State has already proposed legislation to allow us to print standard ballots in the style used for optical scan tabulators for all polling places in Vermont. These ballots are either 8 ½ x 11 or 8 ½ x14 and are much more easily handled than the large "bed sheet" ballots that are currently used in hand count towns.

Number of ballots:

Two Races. In most towns or cities, except for those larger municipalities that elect 15 Justices of the Peace, up to 2 IRV races should be able to be included on the existing ballot without going to more than 1 two-sided ballot. Exceptions to this general rule would be in Presidential election years (Vermont frequently has many Presidential and Vice Presidential candidates who must be listed,) when a Constitutional Amendment is proposed (which must go at the top of the ballot,) or in towns and cities that have special meeting articles warned for the same election date. In those situations we expect that an additional ballot page will be needed to accommodate the IRV races.

This means that in non-Presidential election years up to 2 IRV races could be conducted with no additional costs for ballots. However, for larger towns, in Presidential years and under other special circumstances, there would be additional costs associated with printing and shipping ballots and mailing absentee ballots.

Three to five races. If 3 races are conducted in the IRV style, then every town would be required to have a two page ballot. In certain towns (in a presidential year for towns with many Justices of the Peace or constitutional amendments) a third ballot page might be required.

Six to eight IRV races. If 8 IRV races are included, then we expect that at least 3 ballot pages would be needed in every town.

S.108 and H.196 propose to use the instant runoff method in as many as ten races - "in all general election contests for the following offices: governor, lieutenant governor, treasurer, secretary of state, auditor of accounts, attorney general, U.S. senator, U.S. representative, president, and vice president."

Costs: We have mocked up ballots and have provided price estimates for the cost of printing and shipping ballots. Note that there will be additional costs to the towns related to increased postage costs for absentee ballots (approximately 20% of our voters vote using the absentee ballot.) But there will be no additional costs associated with programming tabulators since the tabulators need only read the first choice candidates as they do in non-IRV elections.

In 2006, the optical scan ballots cost $.237 per ballot. In 2008, we estimate that the op scan ballot will cost $.25 per ballot. The Secretary of State's office pays the shipping

costs to each municipality. Ballot shipping costs for a one page ballot will be at least $25,000 (It was $22,358 in 2006). The shipping cost will double for a two page ballot, and triple for a three page ballot.

If voter registration checklist maintenance is performed by town clerks during 2007, we project that Vermont will have between 400,000 and 420,000 registered voters in 2008. The law requires that every town receive enough ballots for 100% of the voters on the checklist. This means that in 2008, a 1 page ballot would cost an estimated $100,000 to $105,000 with an additional $25,000 for shipping. A two page ballot would cost an estimated $200,000 to $210,000 plus $50,000 for shipping. A three page ballot would cost an estimated $300,000 to $315,000, plus $75,000 for shipping.

Postage costs for sending out absentee ballots are borne by the town, and the return postage is paid by the voter. Ballots are sent in overlarge envelopes and receive a special postage rate. A one or two page ballot costs $.63 to mail out, and a three page ballot costs $ .87. The ballots will cost a similar amount for voters to return by mail. (See Appendix B for estimated IRV election costs.)

Ease of voting/ election administration. Multiple page ballots will make it harder for some election officials and voters to keep the ballots straight. For example, there will be situations where voters may not get every page (or with an absentee ballot – the voter will not return every page) and there will be situations where voters get the same page twice, or at the end of the day, the number of ballots don't add up to the number of people who voted (some voted only one page and perhaps walked away with – or were not given the other pages). We know this from experience with elections that involve more than one ballot. However, we also know that voter education and education of election officials can help to reduce voter confusion and administrative errors involving multiple ballot pages.

Time to conduct runoff counts. This past year we conducted the first statewide recount in many years. Although the runoff count procedure may differ from the recount procedure our experience with the recount can give us a good general indication of the time it would take to conduct a runoff count. Each IRV runoff would have to occur serially (meaning, you could only count one race at a time.) Please note that there is no technology currently tested and available that would be able to tabulate the runoff count. This means that the IRV runoff count would be a hand count. We address this issue more fully in section 5 below.

The recount for the Auditor's race took 14 days to complete. If the runoff is conducted in the same manner as recounts (as provided in S. 108 and H. 196) we expect that each runoff count could take as long as 14 working days. This assumes that the law is modified so that it does not require the initial ballot count conducted on Election Day to be repeated and the runoff count starts with the teams looking at the 2nd choice votes to make transfers to the two top candidates. This means that if two races required the runoff count, it could take 28 working days; if three races required the runoff count, it could take 42 working days. . . That being said, there are other

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more efficient ways to conduct the runoff count which we suggest in section 7 below which could reduce the runoff count time to less than 3 days for each runoff count race.

Staffing runoff counts. It was the experience of our County Clerks and political parties (who were asked to supply the counters) that it was difficult to find many people willing to assist in the statewide recount. This was, in part, because many of those same people had just taken time off work or from other obligations to assist with running the November election, and because the recount falls during the hunting and holiday season. We expect that no matter what method we use to conduct the runoff count that we will face a similar challenge. Note that the counters for the statewide recount needed to be made up of an equal number of Republicans and Democrats because these were the party affiliations of the two candidates involved in the recount. In a runoff count we could have more people to choose from as long as the law is modified to not strictly follow the restrictive provisions of Vermont's current recount law.

Cost to conduct multiple runoff counts. Assuming that we pay the election workers who assist in conducting the runoff count in the same manner as we pay election workers who assist in recounts (currently the juror per diem rate of $30 per day), a single runoff count using the recount procedures could cost as much as $80,000 (the cost of the 2006 statewide recount – with 14 days of counting). These costs would multiply as more races required runoff counts. We believe that a runoff count using the alternative procedure described in Section 7 below could take as few as three days to complete, reducing this cost to approximately $45,000.

4. **Which races to include?** Assuming that the legislature believes that it would be too burdensome to conduct IRV elections in every statewide race, the legislature will need to determine which races to include.

Special consideration for Federal races. It is important to remember that if the Federal races are included, (President, Senate and House) it is only once every eight years that all three races will appear on the ballot at the same time. It is our understanding that the states are free to determine how our Federal offices are to be chosen, but it would be important to ask the Attorney General's office to provide you with a legal opinion about this issue.

Special consideration for the Governor, Lt Governor and Treasurer's races. The Vermont Constitution provides that, in the event that no candidate receives a majority of the votes in the Governor, Lt Governor or Treasurer's races, that the legislature will elect these offices (Vt. Const. Article 47). The Attorney General has taken the position that this would preclude an IRV election in these races, but the Legislative Council and the Secretary of State's Office have offered a different interpretation. It would be important to ask the Attorney General's Office and the Legislative Council to advise you as you decide whether and how to include these races in an IRV election.

We strongly advise the legislature to amend the Constitutional language to say "The Governor, Lieutenant-Governor and Treasurer; shall be elected by the voters of the State and the Legislature shall carry this provision into effect by appropriate legislation." This would permit the legislature to determine how the Governor, Lt. Governor and Treasurer are to be elected in order to avoid the constitutional question in the future.

In an attempt to deal with the constitutional language, H.196 and S.108 provide for special rules for dealing with these races. It provides "If, at the conclusion of the instant runoff tabulation, neither of the last two remaining candidates for the office of governor, lieutenant governor, or treasurer receives a majority of the votes cast, excluding blank and spoiled votes, the court shall prepare a report of no election. The report and the tabulations performed by the committee shall be forwarded to the official canvassing committee appointed by the general assembly, pursuant to Chapter II, § 47 of the Vermont constitution, and to the full general assembly for its use in the election of the governor, lieutenant governor, or treasurer if it desires. The general assembly shall proceed to elect one of the three

candidates for whom the greatest number of votes has been returned."

5. Options for tabulating runoff count results. As of March 1, 2007, there is not any voting machine or vote tabulation system that has been used to conduct an IRV election, or even that is under contract for development that has been used or tested for statewide instant runoff or ranked choice races. The firmware/software used for the Burlington mayoral race is not capable of handling the volume of ballots in a statewide race, and it has not been tested or approved for use in a Statewide or Federal election. For this reason we believe that Vermont law must plan for the hand count of the IRV runoff count.

Vermont currently has 75 towns and cities that use Diebold Accuvote tabulating machines. An additional 38 towns will be voting to allow the use of tabulating machines at March 6, 2007 Town Meetings. We have asked Diebold and LHS to consider developing firmware/software that would allow us to use the Accuvote tabulating machines with "to be developed" firmware and software to handle the IRV races. As of February 2007, Sequoia is the only voting system vendor that is currently under contract to develop firmware/software modifications to its machines to be able to process IRV races. North Carolina is starting discussions with ES&S on March 6, 2007 to ask them to develop firmware and software for its machines.

There may be some possibility that, in the future, we would be able to use a machine to tabulate the IRV results. Because of the Help American Vote Act of 2002 and the current controversies going on in other states and in Washington, D.C. involving voting systems and the requirements for such systems, the vendors are not sure what to develop or what to produce. It is our opinion that it is highly doubtful that even the jurisdictions that are already under contract with a vendor or in negotiations will have an electronic tabulator capable of counting an IRV runoff tested and in place for 2008.

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6. **When will the runoff count be held?** The state canvassing committee meets at 10 am on the first Tuesday following Election Day. It is at this canvassing committee meeting that it can be determined what races, if any, are close enough to allow a candidate to request a recount. Vermont law provides that "If the difference between the number of votes cast for a winning candidate and the number of votes cast for a losing candidate is less than five percent of the total votes cast for all the candidates for an office, divided by the number of persons to be elected, that losing candidate shall have the right to have the votes for that office recounted." 17 V.S.A. **§** 2601. Under the law candidates have ten days to petition for a recount. This provision currently applies to ALL of the races on the ballot.

If a candidate requests a recount the Superior Court must set a date for the count to occur. The legislature must decide whether to allow candidates in races that will be subject to an IRV runoff count to request a recount immediately after the initial canvassing committee report of the Election Day results, OR to allow a request for recount only after an IRV runoff count has been completed. Note that any IRV law must be clear about the right(s) of a losing candidate after a runoff count to seek a recount.

The legislature could consider requiring the runoff count to be held prior to any recounts in the event that the statewide races subject to the IRV election were not eligible for recount, or the runoff count could be held after all recounts were complete. In the event of a statewide recount this latter option could bring the runoff count into late December. In any event, the law must be clear so the Superior Court knows when to accept a recount petition.

7. Conducting the runoff count. One of the lessons we learned in observing the 2006 statewide recount, is that the current system, where ballots are sent to the county courthouses unequally distributes the work, resulting in long delays in completing the recount. For example, in Orleans County the recount was completed in only 2 days because less than 10,500 ballots needed to be counted; while in Chittenden County the recount took 14 days because approximately 67,000 ballots needed to be counted. Note that there are good reasons to conduct **recounts** at the county courts. Most notably, the judge needs to be easily available to rule on disputed ballots and to certify the election results. These reasons don't apply to a runoff count.

We strongly suggest that if the legislature is considering requiring the county clerks to conduct the runoff count that county clerks are asked to testify about the proposal. Note that the principal duties of our county clerks relate to the running of a courthouse and most clerks do not have regular experience in conducting elections. That being said, the county clerks have demonstrated their ability to conduct recounts when required to do so and, with appropriate support from our office, I am confident that they would also be able to oversee a runoff count if required by the legislature.

An alternative approach would be for the Office of the Secretary of State to oversee the runoff count. We propose establishing between 10 and 20 "regional vote count centers." These regional vote count centers would more equally distribute the work of the count in order to more efficiently count the ballots. The runoff election would be held under the supervision and direction of regional count clerks appointed by the Secretary of State (town clerks who have received additional training).

In both systems, the first round count would proceed just as it does now in all polling places on Election Day with the Official return of votes sent to the Secretary of State. At the statewide canvassing meeting (10a.m. on the first Tuesday following election day), it would be announced if any of the IRV races had no candidate who received 50% plus 1 of the votes cast in the first round.

If the county courts were to run the runoff count, then the canvassing committee would be required to petition the Washington County superior court to conduct the runoff count. The Washington Superior Court would then set the date for the runoff counts to begin. If the Secretary of State is overseeing the runoff count then the Secretary of State would notify the regional count clerks of the starting date of the runoff count which would most likely be the Thursday immediately following the canvassing meeting in mid-November. The County Clerks must work around other court scheduling and the Washington Superior Court Judge would most likely start at a later date, perhaps even in December as for the recent auditors race recount.

No matter whom conducts the runoff count, the Office of the Secretary of State would offer training and create the required forms for processing well ahead of the instant runoff or ranked choice counting. Note that because the county clerks are under the jurisdiction of the Courts, the clerks would be able to choose to take advantage of the trainings and use our forms – or they could create their own. In this last statewide recount we found that some county clerks chose to develop their own forms and procedures.

We believe the law should require the following procedure:

1. Notify all town clerks that ballot bags must be delivered to a regional count center by two election officials of different political parties on the day designated to begin the runoff count. The two election officials would stay to assist in the count.

2. All procedures would be conducted by two election officials, neither of whom are members of the same political party.

3. As each town's ballot bags are opened the supervising clerk (or assistant) shall record the seal number on a form provided by the Secretary of State's Office. When the runoff count for a town is complete, the ballot bag shall be sealed by the supervisory clerk (or assistant), and the new seal number shall be recorded on a form provided by the Secretary of State's Office.

4. The ballots from each town would be sorted into stacks according to the votes cast in the first round by two election officials. Colored Dividers would be placed on top of the first round ballots with the election officials noting the number of votes cast for the candidate in the first round—which would be reconciled with the official return of vote count.

5. Two election officials would consolidate the ballots for all but the two (or more – as determined by the legislature) highest vote getters. The election officials would then look at the second count column on the eliminated candidates, and transfer ballots according to the 2nd choice to the top of the colored divider of one of the remaining candidates. If the 2nd choice on a ballot is not a remaining candidate, then the election officials would look at the voter's third choice and so on until the vote can be transferred to one of the remaining candidates or until the voter's choices have been exhausted.

6. Using this system, pairs of election officials can be tabulating the votes of different voting districts at the same time. Procedures would be in place to ensure that ballots from different districts could not be accidentally commingled with those from another district.

7. After all of the exhausted ballots have been placed on top of one of the remaining candidates, those ballots shall be tallied and are the results of the 2nd count which shall be added to the results of the first count to achieve the total votes cast for the remaining candidates in that town or voting district.

8. The two election officials will then provide the written tally to the regional clerk or county clerk who will add it to the summary sheet for the runoff candidates at the regional count center (or the county court.) As soon as the counts are completed at the regional center (or county court), the regional clerk (or county clerk) can fax or email the summary sheet to the office of the secretary of state (or the Washington Superior Court).

9. At the Office of the Secretary of State (or the Washington Superior Court), the summary sheets from the regional count centers (or county courts) for the runoff candidates will be added together to determine the final counts for the candidates. If one of the candidates has received a majority, the Secretary of State (Or the Washington Superior Court) can certify that result to the General Assembly as required under current law.

10. If there were more than two candidates who were in the runoff and no candidate received more than 50% of the vote then the Office of the Secretary of State (or the Washington Superior Court) would have to instruct the regional count centers (or the county clerks) to make an additional candidate elimination and conduct another IRV recount count. This would be repeated until a candidate receives over 50% of the vote and the final results can be certified.

Note that this proposed procedure is different than the procedure required in a recount. A recount requires every ballot to be counted twice with observers and counters switching roles for each count. We believe that if the procedures suggested above would be used to conduct an IRV runoff count, the runoff count could be completed in less than 3 days (instead of the at least 14 days needed using the statutory recount methodology.) The IRV runoff count is part of the initial tabulation of votes in the election. The double counting and 4 person teams required for a recount is not necessary for the initial count in an election which is done by pairs of election officials.

Note that H. 196 and S. 108 currently would require the use of the statutory recount methodology by providing that "if, at the end of the initial count, no candidate receives a majority of first choices, the canvassing committee established in section 2592 of this title shall forthwith petition the Washington County superior court to determine the candidate who received the major part of the votes by conducting instant runoff recounts in the manner provided in this section. The petition shall be supported by a statement that no candidate is the first choice of a majority of voters. Upon receipt of the petition, the court shall appoint an instant runoff count committee in the manner provided for appointment of a recount committee under subsection 2602(a) of this title, and follow substantially the same procedures provided for recounts under subchapter 9 of chapter 51 of this title."

3. Voter Education

In order to successfully implement IRV in Vermont we would need to devote meaningful resources to voter education. Based on the experience in Burlington and other jurisdictions, we estimate that an adequate voter education program could be conducted for $60,000 to $90,000. Note that in our review of the experience of jurisdictions that currently use IRV, voter education programs can make a real difference in preventing voter roll off (voters skipping the race or race(s)).

4. Impact On Town Clerks And Local Election Officials

All town clerks would need to assist with voter education and recruit at least one additional election official for each polling place to assist with voter questions on Election Day. Depending upon the number of IRV races on the ballot, and whether it is a presidential election year, towns may experience an increase in costs for mailing absentee ballots (see discussion in section 3 above.) These costs could be up to several thousand dollars in larger towns.

In addition, if the legislature chose to have the Secretary of State oversee the runoff count, 10 to 20 town clerks would be recruited to volunteer to serve as regional count center clerks. We would propose a stipend of $1,000 for each regional count clerk. The regional count clerks would attend extra training and would work with our office to organize the

transportation of ballots to the count center and supervise the counting at the centers. Each regional count center clerk will recruit sufficient pairs of election officials to complete the IRV count of one race in one day. We would also propose a daily per diem of $50 for each election official and mileage for transporting ballots (in an effort to encourage more people to volunteer to help.)

5. **Integrity And Security For Ballots**

Whenever we create a new procedure for opening and handling paper ballots we must ensure that there are proper procedures in place to ensure the security and integrity of the ballots. At a minimum the procedure we would recommend is as follows:

The ballots will be stored in the ballot bags and sealed with the numbered seals provided by our office. These seal numbers are recorded on the Official Return of Votes forms that are submitted to our office immediately following the election. The ballots would be transferred to the regional count centers or the county courthouses by pairs of election officials neither of whom are from the same political party. In smaller towns, the election officials may be designated to transport ballot bags from several towns.

All runoff counts will be held in a public area, with members of the press and public permitted to observe the entire process. Members of the public can be required to stay behind a designated line or in a designated area so that they do not interfere with the count and to ensure the security of the ballots.

The ballots would be stored in a secure vault or other storage area at all times when they are not in use for counting (nights, weekends, etc.) The clerk would keep a chain of custody journal documenting the secure transfer and storage of the ballots for each town.

Every time a ballot seal is broken, and the ballot bag is opened, the clerk will record the time, place and seal numbers in the chain of custody journal. Our office will provide sufficient seals and other supplies to the regional count clerks or the county clerks along with IRV Return of Vote forms that would require the clerk to record the new seal numbers for each town's ballots.

F. Statewide Runoff Election

An alternative method of obtaining a majority winner in an election is to hold an actual runoff election. Currently, a number of (mostly southern) states hold runoff elections for some races. In Vermont we hold runoff elections where there is a tie vote. In a state race a runoff election (referred to as a "recessed election") would only be held after a recount confirmed the tie vote (or identified a tie vote.) The law provides "if the recount results in a tie, the court shall order a recessed election to be held, within three weeks of the recount, on a date set by the court. The only candidates who shall appear on the ballot at the recessed election shall be those who tied in the previous election. The recessed election shall be considered a separate election for the purpose of voter registration under chapter

43 of this title. . . . Warnings for a recessed election shall be posted as required by subchapter 5 of this chapter, except that the warnings shall be posted not less than 10 days before the recessed election. The conduct of a recessed election shall be as provided in this chapter for general elections." 17 V.S.A. § 2602k

Note that runoff elections are held from time to time with local races, most often, races for the Justice of the Peace.

There are pros and cons of conducting an actual runoff election. While there is clear evidence that there is greater voter drop off when a runoff election is held than with an IRV election, the voters get to make a head-to-head comparison of the candidates subject to the run off. It is also more difficult for overseas voters to participate in actual runoff election, as ballots would be available for absentee voting for a much shorter time period.

We believe that the cost of conducting a runoff election would be similar to the costs of running the Presidential Primary - approximately $140,000 - since it involves, primarily the costs of printing and shipping a simple ballot, warnings, and other materials to town clerks.

Since a runoff election would require our towns to hold an additional election (mailing absentee ballots, staffing the polling place from at least 10:00 am until 7:00 pm and then conducting the count,) there will be additional costs to each town. The costs will vary depending upon the size of the community.

G. History of Use of IRV in Other Jurisdictions

1. National Elections

Ireland. The President of Ireland is elected for a 7 year term. The presidency of Ireland is largely a ceremonial office and consequently, this office is generally not contested. An election takes place only if there is more than one nomination for the office. Since 1966, the President was elected on the first count or was the only person nominated in 1966, 1973, 1974, 1976, and 1983 and 2004. In 1990 and in 1997, there were contests and the President was elected in the "second count" or first transfer of votes from the lowest candidates.

The hand counting takes place in 42 "constituencies" which we would call jurisdictions. The number of votes cast in each constituency ranges from 25,000 to 53,000 with most in the 40,000 range. If after the local constituencies all count the first time and notify the "presidential returning officer" of the results, no candidate has received a total of 50% plus 1 of the ballots cast, the presidential returning officer directs the local officers to exclude the lowest candidate(s)—the two or more lowest candidates must be excluded where the sum of their votes is less than the next lowest candidate—so frequently there is only one "second count" necessary for the winner to receive 50% plus 1.

The relatively similar sizes of the local jurisdictions means that by adding counting officials to the larger jurisdictions, all of the local returning officers can finish each count in relatively close to the same amount of time.

Australia. In Australia, IRV is used for both the House of Representatives and the Senate election. If conducted at the same time, the House races are counted first. The first preference results are tabulated by hand and then phoned to the Divisional Returning Officer. The DRO enters the results into the national computerized Election Night System where the results are then transmitted to the National Tally Room.

Absentee, pre-poll postal and provisional votes are called "declaration votes" and are NOT counted on election night—in fact postal votes can be received up to 13 days following the election.

If after the first count no candidate has a majority, the candidate with the fewest votes is excluded and the votes are then transferred to other candidates according to the second preference of each ballot. The redistribution is done by hand.

No costs were available from either Ireland or Australia.

2. **Municipal and county jurisdictions within the United States that have conducted an IRV election**

Cambridge (used since 1997). The City of Cambridge MA has used proportional representation system to elect the 9 City Council members in an at-large election (no districts or wards) for many years. In this type of election, there is no "majority calculation" but rather the city uses a quota transfer system to determine which NINE candidates have received the most votes. Cambridge has approximately 60,000 voters on its voter registration list (turnout ranges between 20,000 and 37,000) and has 33 precincts. Since 1997, the City has used the services of LHS Associates in order to conduct its "instant runoff" in this race.

In approximately, 1997, the City of Cambridge purchased software that it calls PR Master which is the same or similar to the software now available as Choice Plus Pro. The City uses Diebold Accuvote optical scan tabulators (same as used in Vermont) to tabulate its votes on Election Day. The tabulators that are used for processing the City Council race after Election Day have special firmware that is installed by LHS in the machines for the instant runoff race. The special firmware causes the tabulators to record a .tif image of each ballot on the memory card in the tabulator. The recording of images on the memory card instead of a simple tabulation requires the use of more than one memory card per machine depending upon the size of the ballots. Each memory card currently costs $250.

In Cambridge, the election officials gather the day after Election Day to process ballots that could not be read by the tabulators on election day and then process the memory cards for the instant runoff race with the assistance of LHS Associates. Each memory

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card from each polling place or precinct is brought to a central processing location. LHS uploads the images from each memory card to its VTS software. VTS is Vote Tally System software that was developed and sold by Diebold prior to the currently available GEMS system that is the newer election management system sold by Diebold. The old VTS software can only be used on old UNIX computers.

The data is processed by the VTS system and then the data is uploaded to the PR Master or Choice Plus Pro software. Cambridge purchased this software for $35,000 or $40,000. This software applies an algorithm to the data and prints out a report of the first round, then it reviews which candidates are to be removed and transfers the votes to the remaining candidates, and continues to go through this process until one candidate receives at least 50% plus 1 of the votes cast.

It is unclear if this software can still be purchased or if it may be available as open source. Even if this software were available, it is the opinion of LHS Associates that this software is not robust enough to be used for a jurisdiction the size of Vermont with voter turnout that will exceed 300,000 voters and for multiple instant runoff races.

Information describing the exact counting rules for Cambridge is available on the city's website at http://www.cambridgema.gov, then click on Elections Commission.

San Francisco (used since 2004). San Francisco used Instant Runoff Voting for 3 offices in 2004, for 5 offices in 2005 and for 3 offices 2006. San Francisco has approximately 420,000 registered voters, with 578 precincts, and 561 polling places. A turnout of 65% is considered good in San Francisco, or approximately 273,000 voters. For the past 3 instant runoff election years, San Francisco has used their old optical scan machines, called optec IIP Eagles, that San Francisco contracted with ES&S to modify the firmware and software on these machines to be able to process the IRV elections. This modification cost $1.6 million prior to the first "IRV" election in 2004.

These optec IIIP Eagle optical scan machines are being "retired" or moved out of use throughout the United States. There are very few, if any, vendors that will continue to provide support for these machines.

The Director of Elections reported that in the 2006 elections, San Francisco had problems with approximately 35% of the machines—these are old machines that need to be retired.

Understanding that these machines needed to be retired, San Francisco went out to bid to find a better solution for counting its IRV Elections prior to the 2006 Elections. Sequoia was the low bidder. Sequoia and the Director of Elections have been in negotiations to develop a contract. One of the Proposed Purchase Agreements was dated December 1, 2006. The Director has presented 2 proposals for contract to the Mayor and Board of Supervisors but they have not accepted these proposals. It is unclear to the Director of Elections when the Mayor and Board may approve a contract. (There are a number of other political issues that may be contributing to the delay.)

In any event, the Director of Elections is in the position of knowing that he has another instant runoff election to be conducted in November 2007 and he is not sure what equipment will be used or how he will conduct the election.

Sequoia is already under contract with Alameda County to develop the firmware hardware and software needed to count IRV votes according to the counting rules adopted by Alameda County. However, Sequoia has not yet conducted an IRV election in any jurisdiction with its system, and to the best of the information of the San Francisco Director of Elections, has not yet conducted testing of its system.

Sequoia has told another county in the state of Washington that it may be able to provide firmware and software for counting IRV races for the Sequoia optical scan machines if the county will have exactly the same "rules for counting" as will be used by Alameda County.

The proposed payment schedule for San Francisco in the 12/01/06 draft of the purchase agreement with Sequoia is presented in **Appendix A** and shows a total payment in the first year of $8.8 million. Although San Francisco has approximately the same number of registered voters as Vermont, Vermont has just about 50% or one-half the number of polling places (SF 561 vs. VT 280) so the costs for this type of system should be approximately 50% less than the San Francisco costs but still would appear to be over $4 million in the first year with significant costs for licensing, maintenance and service in subsequent years.

San Francisco has a very detailed website that provides information about IRV ballot styles and election results. In the archives section the results for each race can be viewed. Interestingly, in all IRV races conducted to date in San Francisco, the first count "leader" has been the eventual winner.

Burlington (used in 2006). The City of Burlington used the instant runoff process for the March 2006 Mayoral race with between 10,000 and 11,000 voters participating in the election. LHS Associates provided technical assistance to the City officials at no cost both prior to the election and on election night in order to conduct the "pilot" election. The City Elections Clerk reports that the city spent approximately $19,000 more than would have been spent for a standard election for consultant services, additional programming costs, and for voter education. Because only 1 race was in the IRV style, the entire ballot was still able to fit on two sides of one page ballot.

The City used Diebold Accuvote tabulators that had special firmware installed along with the Diebold VTS system and Choice Plus Pro software in the same manner as used by Cambridge. Again, this involves .tif images of the ballots being transferred from memory cards to the VTS system and then data from the VTS system must be transferred on disks to the Choice Plus Pro software.

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LHS Associates does not believe that this firmware and software could be used for a statewide election with multiple races. LHS Associates and other state/county election directors including our office have made requests to Diebold to develop new software that would allow the Diebold Accuvote optical scan machines and a newer version of election management software, either GEMS or a new system, combined with a new or updated software to take the data and run the algorithms to process the instant runoff races.

3. U.S. Jurisdictions where IRV is now required but not yet implemented

North Carolina Counties (pilots projected in 2008). The Executive Director of the North Carolina Board of Elections reported on February 2007 that his office plans to begin to negotiate with ES&S which is the vendor that has provided voting machines to all the counties in North Carolina in order to modify the optical scan machines that are currently used. The first meeting of the North Carolina Board staff and ES&S will be held on Tuesday March 6, 2007.
The executive director is hopeful that something can be developed for a reasonable price in time to use in a number of pilot judicial races in the 2008 elections but there are no guarantees at the present time.

Minneapolis, MN. The City of Minneapolis has changed its charter so that IRV elections will be required for all city races. The target date for implementation is 2009 but the Director of Elections states that it may not be until 2013.

The County purchased ES&S optical scan machines for use by the county and municipalities within the county with HAVA funds. The Director of Elections has been invited to the March 6th meeting with ES&S in North Carolina.

A very detailed survey of U.S. jurisdictions using IRV and a report of the options that Minneapolis will explore is on the city's website.

Oakland, CA (Alameda County). Several cities in Alameda County have discussed adopting IRV for municipal elections but at this time only Oakland has enacted this requirement. The county purchased Sequoia machines using HAVA funds. They have entered into a contract with Sequoia to develop modifications to its voting system to count IRV races. There is no information available regarding the stage of development of this voting system, when it will be tested, or when it will be approved.

Pierce County, WA. Charter changes were passed in Pierce County in November 2006 to adopt IRV for its county officers. Pierce County has approximately 400,000 legal voters, 167 precincts, and 60 polling places.

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The county auditor is the chief county election official. This official has begun discussions with Sequoia about modifications to allow the county to use its Sequoia machines to conduct an IRV election. Sequoia has offered to provide the same modifications it is developing for Alameda County if Pierce County uses the same "counting rules". However, it is not yet known if Pierce County will adopt the same "rules for counting" as have been adopted by the City of Oakland.

End of Report