Ballot (and voter) "exhaustion" under Instant Runoff Voting: An examination of four ranked-choice elections [☆]

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ABSTRACT

Some proponents of municipal election reform advocate for the adoption of Instant Runoff Voting (IRV), a method that allows voters to rank multiple candidates according to their preferences. Although supporters claim that IRV is superior to the traditional primary-runoff election system, research on IRV is limited. We analyze data taken from images of more than 600,000 ballots cast by voters in four recent local elections. We document a problem known as ballot "exhaustion," which results in a substantial number of votes being discarded in each election. As a result of ballot exhaustion, the winner in all four of our cases receives less than a majority of the total votes cast, a finding that raises serious concerns about IRV and challenges a key argument made by the system's proponents.

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1. Introduction

Instant runoff voting (IRV) — also known as ranked-choice voting and, outside of the United States, the alternative vote — promises to guarantee majority winners in single-member district elections. Under IRV, voters rank the candidates in accordance with their preferences. If no candidate receives a majority after the initial count of first-choice votes, the candidate with the fewest number of first-choice votes is eliminated; the ballots supporting the eliminated candidate are then redistributed according to the voters' ranked preferences indicated on the ballots. This process continues until a candidate receives a majority of the votes.

In the United States, a number of local jurisdictions use IRV as a replacement for the traditional primary-runoff election system. Under the primary-runoff format, voters participate in two separate elections. In the first round, voters cast a vote for one candidate from among the entire field. If a candidate receives a majority, no runoff election occurs. If no candidate receives a majority of votes, the top two vote-getters compete in a runoff election. IRV, by contrast, only requires a single election where voters rank the candidates. Proponents of IRV argue that a single election is less demanding on voters' time, cheaper for taxpayers, and limits the influence of moneyed interests in politics by reducing fundraising among candidates (for a longer discussion, see Richie, 2003). Furthermore, IRV advocates assert that the instant runoff ensures that no "spoiler candidates" can emerge to deprive the winner of a majority — for example, Ralph Nader in the 2000 United States presidential election — which remains a possibility in a traditional runoff election.

How widespread is the use of IRV? According to Fair-Vote.org,[2] eighteen municipalities and four states in the United States use some variant of IRV. In some cases, the

[2] A list of municipalities, countries, and organizations that use IRV is available at: http://www.fairvote.org/reforms/instant-runoff-voting/where-instant-runoff-is-used/.

Fig. 1. Sample IRV ballot.

method is used for the election of all major city officials, while in others, IRV is only available for overseas voters who would almost certainly be unable to complete and mail in two ballots in the short window between the primary and runoff elections under the traditional primary-runoff format. Additionally, a number of governments outside of the United States use IRV to elect a variety of officials, as does the Academy Awards (Oscars) and a number of organizations and corporations. Australia is perhaps one of the best-known examples of IRV use: voters have used this method to elect members of the Australian House of Representatives for over 90 years.

Despite its supposed advantages, IRV also has the potential to suffer from a number of democratic shortcomings, three of which we consider here. First, ranking candidates — up to three candidates in the cases we consider — is more difficult for voters when compared with a traditional election where they must choose only one in each race. Put another way, ranking preferences beyond the most favored alternative can be a cognitively laborious task for voters who often seek to minimize the time and effort needed to make political decisions (Downs, 1957; Popkin, 1994). Second, IRV does not ensure that the winning candidate will have received a majority of *all votes cast*, only a majority of *all valid votes in the final round of tallying*. Thus, it is possible that the winning candidate will fall short of an actual majority when a substantial number of ballots are eliminated, or "exhausted," during the vote redistribution process. Third, and related to the previous point, there is some probability that a voter's ballot will become exhausted, eliminating their influence over the final outcome. We return to this point in our concluding discussion.

2. Instant Runoff Voting: benefits and challenges

Instant runoff voting (IRV) is an electoral system that provides voters the opportunity to rank-order candidates according to their preferences. A voter under IRV ranks her most favored candidate as her first choice, her second most favored candidate as her second choice, and so on. See Fig. 1 for a sample IRV ballot. In this example, the ballot has three columns corresponding to the voter's first, second, and

third choice. All candidates are listed in all three columns, and voters are asked to select only one candidate from each column. It also states that each choice should be different from the others. Almost every implementation of IRV in the U.S. limits the number of rankings that a voter can make, as in this example, because allowing voters to rank all possible candidates is too technically taxing to implement in practice given the available voting and tabulation technology.

Under most iterations of IRV, if no candidate receives a majority of first-choice votes, the candidate with the smallest number of first-choice votes is eliminated. The ballots that ranked the eliminated candidate as the first choice are then redistributed to the second listed choice. The process is then repeated in the second round and so on. If at any point the voter did not rank a next choice (assuming her most favored choice or choices are eliminated), or all of the choices on the voter's ballot have been eliminated, the ballot is "exhausted" — meaning that it is excluded from future vote redistributions, and it does not affect the final outcome of the election. The ballot, in essence, is discarded. The process ends once a candidate receives a majority of *the remaining* valid votes.

IRV is very similar to the single transferrable vote (STV)[3] in that — at least theoretically — both electoral systems have the potential to provide better representation for the electorate compared to First Past the Post (FPTP) systems, with proponents defining "better" to mean the election of candidates supported by a greater percentage of voters. Indeed, unlike

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[3] STV is, in essence, IRV in multimember districts. Under STV, however, it is difficult for both parties and voters to be strategic because there is the possibility of wasting votes on one candidate when the extra votes would be more impactful had they been cast for a different candidate from the same party (Bartholdi and Orlin, 1991). Parties, recognizing this problem, often encourage their party identifiers to "spread the preferences" among all candidates from the party to ensure that as many of the party's candidates will be elected as possible (Bowler and Farrell, 1995). Unlike IRV, STV introduces an element of randomness to the process: After a candidate receives the requisite number of votes (called the Droop quota), which votes should be transferred to the next-ranked candidates? In most iterations of STV, the votes that are transferred are chosen through a random draw (Farrell and McAllister 2003). For a longer description of how STV works, see Doron and Kronick (1977), Richie (2003), and Tideman (1995).

FPTP, IRV ensures that the winner of the election receives the majority — rather than plurality — of the eligible votes. Reformers who advocate for the adoption of IRV make the normative claim that plurality winners are less representative of the electorate than are majority winners. As Richie argues, under FPTP, "it is quite possible that most voters dislike the winner who 'represents' them" (2003, p. 503).

FairVote.org, the leading advocacy group for election reform in the U.S., emphasizes this argument in its case for IRV adoption. On a page titled "Comparing IRV With Plurality Voting," a section spells out "The Problems With Plurality Voting" and begins by noting: "Plurality voting, whereby the candidate with the greatest number of votes wins, is the norm in most American elections. As a result, time and again we witness some of our most powerful elected offices filled with candidates who were not supported by the majority of voters. ... In fact, the prospect becomes very real that the winner of an election may even have been disliked by a majority of the population. This is the first and most basic problem with the plurality system." The subsequent section, titled "How IRV Addresses These Problems," begins with the assertion that "IRV Protects Majority Rule." It states: "A raw mathematical aspect of IRV is that whoever wins will have done so with more than 50% of the votes. ... This winner will be the candidate that is considered at least acceptable to a *true majority*. Plurality rules are such that a candidate who is opposed by the majority can win." (Emphasis added.)

IRV and FPTP sometimes produce different winners. As Doron and Kronick (1977) note, the IRV runoff process can produce a majority winner who did not obtain a plurality of the first-round votes.[4] Bean's (1997) research on Australian elections and a simulation by Sanders et al. (2011) further demonstrate that FPTP and IRV can lead to divergent election outcomes.[5] In the case of Sanders et al. (2011), the authors find that, if the United Kingdom had adopted IRV, the Liberal Democratic Party would have won more seats in 2010 and both the Labour and Conservative parties would have won fewer. Some of the differences are due to stronger incentives for strategic, or tactical, voting in FPTP elections among those who wish to avoid "wasting their vote" by supporting a candidate with a low probability of winning.

Some advocates of IRV argue that the method encourages the election of more moderate candidates and discourages negative campaigning by creating incentives for candidates to appeal to a broader section of the electorate. The veracity of this claim has been especially contentious in research on divided (plural) societies. Horowitz (1991, 1993) posits that IRV can moderate ethnic cleavages in these fraught political contexts. While ethnic solidarity may result in voters picking their co-ethnics as their first-choice candidate, Horowitz argues that IRV rules encourage voters to choose more inclusive candidates who make broader appeals to multiple ethnic groups for their lower-ranked votes, which will eventually be distributed to determine the actual election winner. Others, however, dispute this argument (Fraenkel, 2001; Fraenkel and Grofman, 2004, Fraenkel and Horowitz, 2006; see also Horowitz 2004).

Proponents of IRV also contend that the system is cheaper to administer compared to the traditional runoff system currently in use by many local governments in the United States. Under the existing system, candidates compete in a primary election, and the top two vote-getters move on to a runoff that determines the final winner. While this system almost guarantees that the winner receives support from a majority of voters, it requires two separate and costly elections and allows for the possibility of much lower turnout in the runoff stage, especially if the runoff is not held concurrently with other elections. As Richie, Bouricius, and Macklin argue, "IRV duplicates a series of traditional runoffs, but without the need for additional elections that cost taxpayers and candidates more money and often lead to falloffs in voter participation" (2001, p. 303). Indeed, anecdotal evidence suggests that the potential for cost savings is one of the main reasons for why local governments that have adopted the IRV method chose to do so.

In making the case for IRV, Richie (2003) generally argues that FPTP (1) does not require a majority, (2) allows "spoiler candidates," who can alter the outcome of the election, and (3) creates incentives for negative campaigning.[6] Richie also finds fault in the traditional two-round runoff method in that it (1) requires candidates to raise more money, (2) asks taxpayers to finance an extra election, and (3) reduces voter participation by requiring voters to go to the polls more than once. IRV, according to Richie, can alleviate these problems — a proposition that is especially attractive from an administrative perspective.

IRV, however, is not a panacea for the problems associated with local elections. First, some research suggests that, by requiring voters to rank multiple candidates rather than simply identifying the one they most prefer, IRV can become more difficult and confusing for voters (e.g., Bowler and Farrell, 1995; Dunleavy et al., 1997).[7] While the system seems to work well in some places (e.g., Australia), research on decision-making has shown that as the number of choices increases, so does the individuals' difficulty in making decisions (e.g., Schwartz, 2003).[8] While most of the localities in

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[4] This also happens in traditional runoff formats (e.g., Antonio Villaraigosa won the 2005 Los Angeles mayoral election after finishing the primary in second).

[5] The primary differences in outcomes are produced by strategic voting — and how incentives for strategic voting differ across the two systems. In other words, voters do not necessarily support the same candidates in FPTP elections as they do in the first round of an IRV election.

[6] By contrast, Richie argues that IRV discourages negative campaigns because the winning candidate will likely need to receive at least some second-choice votes. If, however, a candidate feels she can win a majority in the first round, the incentive structure for negative campaign remains identical under IRV and FPTP.

[7] Neely and Cook (2008) analyze the results from San Francisco's voters' experiences with IRV. They conclude that, while there is definitely a learning curve, voters seem to adapt to the new system reasonably well.

[8] Evidence from Great Britain, where a sizable majority of voters rejected a referendum to shift from a FPTP system and instead use the alternative vote for parliamentary elections, provide evidence on this point. Surveys conducted in the month before the election showed that a substantial number of voters reported that the ranked-choice voting alternative was hard to understand and support for the reform was strongly and positively correlated with voters' level of formal education and political knowledge (see Whiteley et al., 2012).

the U.S. (and the ones we study here) implement a modified version of IRV that asks voters to rank only their three top candidates, making three choices is more difficult and imposes substantially higher information costs than a single choice.

Second, as we document in our analysis, IRV does not guarantee that the winner in the final round actually secures the majority *of all votes cast*. This occurs because, in practice, a large number of ballots are eliminated during earlier rounds of redistribution due to exhaustion, and are thus excluded from the final vote tally.

Third, as noted earlier, there is a substantial probability that a voter's ballot will become exhausted in the process of counting votes, and therefore will not be considered in the final round. This is especially true in the American cases we study, all of which limit the number of candidates each voter can rank to three. That is, if each of a voter's top three candidates is eliminated, his or her ballot becomes exhausted and, as a result, is excluded from the final total. The same will be true for voters who rank fewer than three candidates, and whose preferred candidates are eliminated in early rounds. This reality may undermine the democratic legitimacy of IRV in the eyes of voters whose ballots become exhausted prior to the final round.

3. Case selection

A small but growing number of local jurisdictions in the United States have adopted IRV or some variant thereof as their method for electing public officials. Here, we examine four recent elections run under IRV rules, representing a fairly large proportion of governments that use this electoral method. Two, San Leandro and Oakland, are cities in California, and both used IRV for their mayoral contests in 2010. One, Pierce County, is a county in Washington that used the method to elect the county executive[9] in 2008. The final case is San Francisco, a consolidated city-county that elected its mayor using the method in 2011. With the exception of San Francisco, which first implemented IRV in 2004, the elections we examine are the first in these jurisdictions to use the IRV method instead of the more traditional primary-runoff election format. It is possible, therefore, that the patterns we document may become less pronounced in future elections as voters become more familiar with this system.[10]

Table 1
Selected demographic characteristics of cases.

	Oakland	Pierce county	San Francisco	San Leandro
Population	389,301	792,504	799,512	84,013
Median Household Income	$50,094	$57,214	$71,779	$58,978
Median House Value	$475,700	$268,700	$773,600	$413,500
Poverty Rate (Families)	16.1%	8.1%	7.4%	7.0%
Unemployment	9.6%	10.6%	8.2%	12.3%
White	26.3%	70.7%	42.0%	26.8%
Black	27.2%	6.8%	5.9%	12.3%
Latino	25.1%	8.9%	14.9%	28.0%
Asian	16.4%	5.7%	33.4%	27.6%

Source: American Community Survey, 2008-2010 3-Year Estimates.

We focus on these cases because all four use the same ballot design and election technology and all have made digital images of ballots cast in the elections available to the public. By using these images, we can analyze the behavior of individual voters, and examine how these voters ranked the candidates.

Table 1 provides some basic demographic information about each of the four cases in our sample. Overall, the tables suggest that the cases are diverse in size, socioeconomics, and ethnic makeup.[11] The four cases provide substantial variation among which to study the dynamics of elections and voter behavior. It is important to note that all four cases use the same variant of the IRV method, allowing voters to rank up to three candidates in each contest regardless of the total number of candidates running.[12] We consider the extent to which the three-candidate limit contributes to ballot exhaustion. In this section, we provide a brief overview of the four contests we examine.

3.1. Oakland, 2010

In late 2010, Oakland Mayor Ron Dellums announced that he would not seek a second term. Dellums, a retired long-time congressman, was first elected mayor in 2006. Throughout his term as mayor, he was widely criticized as being ineffectual and largely inactive. He also endured a series of controversies, including a settlement with the IRS that resulted in the mayor owing more than $200,000 in back taxes and penalties. Growing concern over the increase in crime throughout the city plagued his administration.

Although ten candidates qualified to run to replace Dellums in November 2010, leaked polls identified only four credible contenders for the job. Don Perata, who had recently ended his stint as the president of California's state Senate due to term limits and had previously served on the Alameda County Board of Supervisors, appeared to enjoy support from the largest number of voters.[13] While Perata won backing from leading interest groups, including many

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[9] The county executive is similar to the county manager or administrator and serves as the chief executive for the agency.

[10] Given that the experience of Oakland, Pierce County, and San Leandro largely match the findings from San Francisco, where voters have utilized IRV during a number of earlier election cycles, we should not simply assume that this would be the case, however. Shortly after this paper was accepted for publication in November 2014, both Oakland and San Leandro held their second mayoral elections using the IRV system. In San Leandro, preliminary results indicated that the winning candidate captured 50.6 percent of total valid votes cast, with an exhaustion rate of 5.2 percent. In Oakland, however, the winning candidate appeared to secure only 47.2 percent of valid votes, with an exhaustion rate of 24.7 percent. Oakland's experience provides further evidence that our results are not limited only to first elections held under this method. Results accessed at http://www.acgov.org/rov/current_election/226/index.htm and http://www.acgov.org/rov/rcv/results/226/rcvresults_9292.htm on Nov. 5, 2014.

[11] With the exception of San Leandro, these cases are substantially larger than the typical municipal and county government in the United States; they are also more ethnically and racially mixed than the average city and county.

[12] While the three-choice limit is one of the most common implementations of IRV in the United States, some jurisdictions allow voters to rank a greater number of candidates.

[13] Oakland is the largest city in Alameda County.

unions and developers, he also suffered from a checkered political past, including a five-year FBI investigation into questionable payments made to Perata by consulting firms owned by his friends and relatives that had received money from his campaign accounts. Additionally, Perata was the chief architect of the financing agreement that brought the Raiders football team back to Oakland from Los Angeles in 1994; the deal proved to be quite costly for both the city and the county.

Second in the polls after Perata was Jean Quan, a city councilwoman who previously served as a member of the Oakland Unified school board and was the city's most recent vice-mayor, a largely symbolic post on the city council. The remaining two major candidates were Rebecca Kaplan, an at-large city councilwoman first elected to office two years earlier, and Joe Tuman, a San Francisco State University political science professor and local television political analyst. Notably, the *Oakland Tribune*, Oakland's largest newspaper, endorsed Kaplan and selected Tuman and Quan as second choices.

Overall, pro-Perata forces spent nearly $1 million on his campaign, which included more than $600,000 spent by his official campaign committee and remaining funds coming from independent groups that backed his bid (Burt, 2010a). Many ads, especially those purchased by the independent committee, targeted Quan by attempting to link her to the unpopular Dellums, the outgoing mayor. Quan, who signed a voluntary pledge to stay below a $379,000 spending cap, countered by running ads criticizing the Raiders financing deal that Perata brokered (Burt, 2010b).

On Election Day, Perata won a plurality of first-choice votes cast. He led with 34 percent of first-round votes, compared to 25 percent for Quan, 21 percent for Kaplan, and 12 percent for Tuman. After nine rounds of elimination and redistribution, however, Quan won the majority of remaining ballots, beating Perata by fewer than 2000 votes.

3.2. Pierce County, 2008

The retirement of County Executive John Ladenburgh in 2008 — who was forced out by term limits — created an opportunity for candidates seeking a high profile executive position that could serve as a potential springboard for higher office. A total of four candidates qualified to run for the position of overseeing the state's second most populous county, which includes the city of Tacoma and its suburbs. Shawn Bunney, a county councilman and former head of the regional transportation planning agency, built his platform around economic development and job creation — arguing primarily for additional investment in local transportation infrastructure. The only Republican in the race, Bunney faced off against two Democrats, incumbent county auditor Pat McCarthy, who ran on a platform of increasing investment in public safety, and county councilman Calvin Goings, who outlined an ambitious agenda focusing on increasing economic development and improving public safety. The final candidate was independent Mike Lonergan, who had twice been elected to the Tacoma city council and championed squeezing efficiencies from the county's criminal justice functions.

The candidates and independent committees spent a total of $1 million on the fall 2008 election (Wickert, 2008). Bunney won the most first-round votes (35 percent), while the two Democrats split most of the remaining votes (26 percent for McCarthy and 23 percent for Goings). In the third round, however, McCarthy eked out a narrow victory over Bunney, beating him by just over 4000 votes. She became Pierce County's first female executive.

3.3. San Francisco, 2011

After Mayor Gavin Newsom was sworn in as California's lieutenant governor in January 2011, San Francisco's Board of Supervisors appointed City Administrator Ed Lee to finish the final year of Newsom's term. Lee became the first Asian-American mayor in the city's history and pledged that he would not run for a full term. In August, however, after a highly publicized "Run, Ed, Run" campaign bankrolled by his supporters, including leaders of the local business community, Lee announced that would file his candidacy for mayor.

Some opinion polls put Lee in the lead, at around 35 percent of the vote, but he fell well short of a majority needed to win the November election outright in the first round; a bevy of other well-known candidates trailed Lee closely. Taking advantage of the city's generous public financing system, 16 candidates qualified for the ballot, most of whom had previous experience in elected office. Other noteworthy leading candidates included City Attorney Dennis Herrera and state Senator Leland Yee (Maiter and Ross, 2011). Lee's opponents criticized his flip-flop in running for a full term and accused him of being a closet Republican, a stinging criticism in the heavily Democratic city. Eschewing the front-runners, the Democratic central committee endorsed the progressive Supervisor John Avalos, although it picked Herrera as its second choice.

Lee, who refused to accept public financing, spent more than $1.3 million on the campaign on top of hundreds of thousands spent by independent groups. Other candidates also raised and spent substantial sums, including several million dollars in public funds. Herrera received $712,000 in public financing, followed by $682,000 for former Supervisor Bevan Dufty, $563,000 for Board of Supervisors President David Chiu, $516,000 for Yee; and $451,000 for Avalos (Gordon and Knight, 2011).[14] Overall, Lee led the field in first-choice votes, winning 31 percent in the first round. He was followed by Avalos, with 19 percent, Herrera with 11 percent, Chiu with 9 percent, and Yee with 8 percent, with the remainder split among the other candidates. In the twelfth round, Lee beat Avalos by almost 30,000 votes, winning 60 percent of the final votes.

3.4. San Leandro, 2010

Most local political observers expected Mayor Tony Santos to win re-election in 2010 with ease. Santos enjoyed support

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[14] Other candidates not listed here also received substantial public financing.

from major public employee unions, won the endorsement of the Democratic Party, and faced relatively weak opponents. The most visible of these was second-term city councilwoman Joyce Starosciak. The other was former school board member Stephen Cassidy, who raised substantially less money and did not win endorsements from any prominent stakeholder group. Cassidy, Santos, and Starosciak were all Democrats, though Cassidy did not actively seek out the party's nomination. His campaign emphasized prudent budgeting and he antagonized organized labor by advocating cost-saving reforms and cuts in employee retirement benefits, an issue that attracted significant attention due to rising pension costs that squeezed out spending on basic city services (San Leandro Talk, 2011). Two other largely unknown candidates also qualified for the ballot.

Santos received a tiny plurality in the first round, winning a total of 36 percent of first-choice votes, compared to 35 percent cast for Cassidy. Starosciak trailed both with 23 percent. Cassidy, however, prevailed in the fifth round of elimination, edging out Santos by slightly more than 200 votes.

4. Assessing the benefits and challenges of IRV

We begin our analysis by presenting aggregate statistics on voter behavior compiled from more than 600,000 individual ballot images from these four elections. Our primary focus is on the electoral dynamics in these contests. We use the aggregate numbers to consider the extent to which the implementation of IRV produced the types of salutary effects its proponents have argued. We also use these data to identify problems with the IRV method, which have attracted relatively little attention among reformers, scholars, and election officials.

First, we examine whether victorious candidates in each race did, indeed, win the majority of the total votes cast — one of the primary arguments for using IRV over the traditional FPTP method. In Table 2, we calculate the share of vote won by each winning candidate by taking the number of ballots allocated to them after the final round of redistribution and dividing this figure by the total number of valid ballots cast in each election. Somewhat surprisingly, given the arguments made by IRV proponents, none of the four elections we examine resulted in the winner capturing the majority of all votes cast in the election. Although the victors won the majority of ballots that made it to the final round of vote counting in each election, a substantial number of ballots in each case became exhausted during the redistribution process, reducing the number of ballots needed to prevail in the last round.

Using the ballot images, we are able to identify each exhausted ballot. Table 3 reports the number of complete first-round votes cast in each election[15] and the share of these ballots that were exhausted during the redistribution

Table 2
Percent of votes cast for election winners.

	Oakland	Pierce county	San Francisco	San Leandro
Total Votes for Winner	53,897	136,346	84,457	10,277
Total Valid Votes Cast	119,607	299,132	194,418	22,484
Winner's Vote Share	45.1%	45.6%	43.4%	45.7%

process, resulting in the exclusion of these ballots from the final round. In each of the four elections, the rate of ballot exhaustion was substantial. Exhaustion was least common in San Leandro, where 9.6 percent of ballots with valid first-round ballots were discarded prior to the final round. By contrast, the exhaustion rate was highest in San Francisco, where 27.1 percent of valid first-round ballots did not make it to the final round. Voters who cast these discarded ballots had no say in the final round of vote redistribution, which decided the election outcome.

There are two possible causes of ballot exhaustion. First, voters may have ranked three different candidates on their ballots, but each of these three may have been eliminated prior to the last round of counting. Although this was unlikely to occur in elections with only a few candidates running, such as the mayoral race in San Leandro (five candidates) and the county executive contest in Pierce County (four candidates), it may have occurred with some frequency in both San Francisco and Oakland, where a larger number of high-quality candidates appeared on the ballot. Second, voters may have chosen to rank fewer than three candidates, only to have their marked choices eliminated prior to the final round. The first problem is primarily one of technology — at least theoretically, adopting a different ballot format that allows voters to rank a greater number of candidates can reduce the number of exhausted ballots. By contrast, changing the ballot format does not address the second problem, which is due to voters simply failing to fill out a ballot completely by ranking three distinct candidates.

Table 4, which reports the percent of ballots that contained three unique choices and the breakdown of incomplete ballots, shows that a large number of voters failed to rank all three of their top candidates. This was least likely to occur in San Francisco, where 73 percent of voters identified different candidates for their first, second, and third slot. By contrast, it was much more common in Pierce County, where nearly half of all voters failed to cast a complete ballot. A substantial number of voters — between 5 percent in San Francisco and 11.9 percent in San Leandro — listed the same candidate in more than one spot, suggesting that at least some members of this subset of voters did not understand how the IRV system works.[16] The fact that this problem occurred with regular frequency even in

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[15] The number of valid first-round votes in Table 3 is lower than the number of total valid ballots reported in Table 2, although the differences are very slight. This is due to the fact that a very small number of voters did not indicate a first choice on their ballot, but did mark candidates in higher-ranked spots. Their votes were counted using specific policies in place for dealing with these types of under-votes in each jurisdictions. We exclude these unusual ballots from our analysis.

[16] It is also possible that this phenomenon, sometimes described as "bullet voting," was the result of voters deliberately listing the same candidate in multiple slots to signal strong support for him or her. Another potential explanation for incomplete ballots is that voters are simply indifferent between the candidates who remain in the final round. In each of the cases we examine, however, the ideological differences between candidates in the final runoff were stark, making it highly implausible that indifference explains the high rate of incomplete ballots.

Table 3
Rate of ballot exhaustion.

	Oakland	Pierce county	San Francisco	San Leandro
First-Round Votes	119,408	298,912	194,046	22,421
Rate of Exhaustion	11.6%	10.2%	27.1%	9.6%

San Francisco, where voters have been using the IRV method since 2004, suggests that even a substantial amount of public education about the process is unlikely to eliminate this type of voter confusion.

Which type of problem — elimination of all three candidates chosen by voters or incomplete ballots — was the most common cause of ballot exhaustion? In Table 5, we report the rate of ballot exhaustion by type of votes cast. Overall, in each election, voters who identified three unique candidates faced the lowest probability of having their ballots become exhausted during the counting process. In Pierce County, no voter who selected three unique candidates saw their ballot become exhausted. We expect this result as there were only four candidates on the ballot, and selecting three unique candidates guaranteed the ballot a spot in the final tally. The highest rate of exhaustion among voters casting a ballot with three unique candidates was 22.5 percent in San Francisco. By contrast, in all but one election, voters who cast a ballot only for their single top-ranked candidate while leaving the other two choices blank had the highest rate of exhaustion, between 27.9 percent in Oakland and 44.8 percent in San Francisco.

Table 6 presents the same data in a slightly different way. Rather than calculating the rate of exhaustion for each ballot type (as shown in Table 5), Table 6 identifies the total percentage of all exhausted ballots accounted for by each level of ballot completeness. In San Francisco, voters who ranked three different candidates accounted for more than 60 percent of all exhausted ballots. The San Francisco election was the exception, however. In the three other cases, completed ballots accounted for a minority of exhausted ballots, suggesting that giving voters the opportunity to rank more than three candidates may help reduce, but almost certainly will not eliminate ballot exhaustion.

Across all four elections, a substantial number of exhausted ballots came from voters who ranked only one or two candidates. This was true even in San Francisco, where voters had previous experience with using ranked-choice voting on Election Day. This fact underscores to two serious weaknesses that are endemic to the IRV method

Table 5
Rate of ballot exhaustion by category.

	Oakland	Pierce county	San Francisco	San Leandro
Three Unique Candidates Marked	7.8%	0.0%	22.5%	2.7%
Duplicate Candidates Marked	25.3%	18.4%	48.1%	21.3%
Two Unique Candidates Marked	13.3%	5.3%	29.8%	6.1%
One Candidate Marked	27.9%	31.1%	44.8%	29.0%

and cannot be resolved by simply changing the design of the ballot or the voting technology used. The first is that a large number of voters may lack sufficient information about the candidates to be able to develop a rank ordering of their top choices. Informational barriers are one potential reason for why voters fail to participate even in high-profile federal elections (Downs, 1957; Riker and Ordeshook, 1968), where they need only to identify their most preferred candidate in each race. Ranking multiple candidates in much lower-profile local contests is thus a difficult task for a substantial part of the electorate.

Second, ranked-choice voting reduces the incentives for strategic voting by making it more difficult for voters to determine which candidates are likely to be eliminated in early rounds of vote redistribution (for a discussion, see Farrell and McAllister 2003) and which candidates stand to benefit from redistributed votes. As a result, many more voters are likely to "waste their votes" by supporting candidates with a low probability of prevailing. Although this is sometimes seen as an advantage of IRV — by increasing political opportunities for third-party candidates, such as would be the case in British elections (Sanders et al. 2011) — the lower rates of strategic voting creates a serious democratic dilemma among voters who fail to rank multiple candidates. Wasting their votes on losing candidates means that these voters see their ballots exhausted, and thus have much less impact on determining the final election outcomes than do voters who choose to rank multiple candidates. The interaction between these two phenomena — high informational barriers that prevent voters from ranking enough candidates to submit completed ballots and weakened incentives for strategic voting — appear to explain a substantial share of exhausted ballots in the four cases we study here.

Table 4
Number of complete ballots cast and reasons for incompletion.

	Oakland	Pierce county	San Francisco	San Leandro
First-Round Votes	119,408	298,912	194,046	22,421
Three Unique Candidates Marked	72.3%	51.2%	73.0%	60.8%
Duplicate Candidates Marked	8.2%	6.4%	5.0%	11.9%
Two Unique Candidates Marked	10.7%	16.2%	10.3%	10.9%
One Candidate Marked	8.7%	26.1%	11.7%	16.4%

Table 6
Share of exhausted ballots by category.

	Oakland	Pierce county	San Francisco	San Leandro
Number of Exhausted Ballots	13,800	30,463	52,665	2148
Three Unique Candidates Marked	48.5%	0.2%	60.4%	17.1%
Duplicate Candidates Marked	18.0%	11.5%	8.9%	26.4%
Two Unique Candidates Marked	12.4%	8.4%	11.3%	6.9%
One Candidate Marked	21.1%	79.8%	19.4%	49.6%

5. Discussion

Proponents of IRV argue that the electoral method can mend many of the flaws of local democracy. Our results show, however, IRV comes with its own set of concerns. Despite the claim made by its leading proponents that ranked-choice voting can ensure that victors win a majority of the votes cast in the course of a single election, none of the elections we examined here resulted in such an outcome. This occurred because many votes were exhausted during the ballot redistribution process. As Table 3 indicated, the exhaustion rate ranged from 9.6 percent to as high as 27.1 percent. This rate of exhaustion led to the winners in all four cases earning, on average, 45 percent of the total votes. The reality that a substantial number of ballots cast under IRV are discarded raises two important questions: Does ballot exhaustion affect specific subgroups of the electorate? And, would the election outcome have been different if the voters who cast exhausted ballots had a chance to voice their preference in the final round?

One concern is whether the rates of ballot exhaustion varied systematically and affected disadvantaged and low-socioeconomic groups more than others. Not only would this raise a broader democratic worry about IRV but also might violate federal laws, including the Voting Rights Act. Our data, however, do not allow for precise individual-level analysis, and relying on precinct data would invite significant ecological inference concerns, a particular problem given the relatively low rate of turnout in these elections and the fact that only population-level demographic covariates are available from the Census.

Nevertheless, this possibility deserves close examination. As the history of Progressive municipal reforms has demonstrated, electoral rules supported by well-meaning reformers can sometimes systematically reduce participation among the most disadvantaged segments of the electorate. At the turn of the 20th century, Progressive reformers adopted at-large nonpartisan elections. They also delinked the timing of local elections from state and federal contests. Although reformers believed that these changes would encourage more professional governments within cities, reduce corruption, and eliminate the influence of party bosses, Bridges (1997) shows that these changes — by dramatically increasing the informational costs of voting — systematically reduced participation among low-income and minority voters. The result was a shift toward policies that favored middle-class residents who were comparatively more active in these off-year elections. Because IRV rules similarly increase informational costs — by requiring voters to rank multiple candidates to reduce the probability of having their ballot exhausted — future research should examine whether their adoption adversely impacts poor and minority voters.

The available data also do not allow us to assess how ballot exhaustion affected the final election outcomes. Regardless of the answer, however, the possibility that exhaustion might tip the balance in the final round poses a serious risk to the democratic legitimacy of the method and of the outcomes it produces by allowing defeated candidates to attribute their loss to the high rates of ballot exhaustion. This occurred in Oakland, where Don Perata, who led in first-choice votes but lost in the final round of redistribution, refused to concede defeat for several days, arguing that he was the rightful winner of the election. San Leandro's Tony Santos, too, argued that IRV was the cause of his defeat. Although initially one of the leading proponents of adopting the method in the city, Santos became a vocal critic after the election, bashing IRV in press interviews. Santos even testified in the state capitol against a bill to make it easier for local governments to adopt ranked-choice voting (San Leandro Talk, 2011).

Although ensuring that the winner of elections enjoys support from a majority of the electorate is certainly not necessary for an electoral system to be legitimate, it is nevertheless an important consideration. As FairVote.org itself notes: "The democratic standard ought to be majority rule; it is a fundamental principle of republican governance. So in choosing the method of electing our leaders, we should demand that it holds to the principle of majority rule." While FairVote.org claims that IRV produces a winner who "is considered at least acceptable to a true majority", our research shows that the "true majority" in these elections may often be a plurality of all votes cast.

Our data show that the IRV method has important shortfalls. As the number of candidates increases, so does the level of ballot exhaustion. For example, San Francisco, which had sixteen candidates listed on the ballot, the rate of ballot exhaustion rate was strikingly high (27.1 percent). While the precise electoral rules and ballot technology used — which limited voters to only three choices — may have contributed to the exhaustion rate, we are skeptical that asking voters to rank more than three candidates will dramatically reduce the rate of exhaustion. As we see in Tables 4 and 5, a large number of voters failed to submit a completed a ballot, which constituted a substantial share of the exhausted ballots. This likely reflects, at least in part, the reality that few voters possess enough information to rank more than a few of the candidates running, regardless of how many they are allowed to select. The case of Portland, Maine, presents a useful case in point. In Portland's 2011 mayoral election, voters had the option of ranking as many of the 15 candidates running in the election as they wanted. This did not appear to substantially reduce the rate of ballot exhaustion: almost 18 percent of valid ballots were exhausted prior to the final round.

Some supporters of IRV may argue that the problem of exhaustion is not a serious one from the perspective of democratic theory. Exhausted ballots, they sometimes assert, are essentially treated no different than votes for losing candidates cast in plurality contests.[17] This argument is problematic for three reasons, however. First, it compares IRV to an alternative — plurality elections — that is not representative of what actually occurs in the U.S. context. Most local elections use the two-stage runoff method, which results in far fewer wasted votes. Second, voters

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[17] The Ninth Circuit Court of Appeals made this argument in Dudum v. Arntz (2011): "'Exhausted' ballots *are* counted in the election, they are just counted for losing candidates in the tally of total votes. In the terms used by election experts, these are 'wasted' votes, not because they aren't counted, but because they were cast for candidates not ultimately elected" (emphasis in the original).

frequently avoid wasting their votes in the plurality context because it is relatively easy for them to behave strategically, adjusting their choices to avoid having their vote go toward a candidate with no chance of victory. With IRV, strategic voting is more difficult, so the risk of having one's votes wasted becomes more severe. Finally, it is important to note that this line of argument concedes one of our main points: That IRV need not, and frequently does not, produce a winner who wins the majority — rather than plurality — of all votes cast, one of the alleged advantages of this voting that proponents sometimes highlight when comparing it to FPTP elections. If IRV tends to produce plurality winners of all votes cast, it is important for policymakers to consider this fact when evaluating whether to adopt IRV.

We conclude by noting that the goal of this study is to examine ballot exhaustion, a little-noticed feature of IRV elections, and explore its causes. We do not take any position about whether local jurisdictions should choose this method over their existing electoral systems. Indeed, a shortcoming of our analysis is that we do not consider other prominent promises of IRV reform — that the method increases political participation among voters and encourages a more inclusive style of campaigning. We do not examine these claims directly because our four cases do not provide us with sufficient data to study the differences in turnout or campaign styles while holding constant a variety of other important factors (e.g., presence of incumbent, quality of challengers, timing of runoff election, amount of campaign spending) that have a substantial impact on both outcomes in local elections. Nevertheless, these are likely to be important considerations for policymakers who are contemplating adopting IRV. With respect to turnout, however, we suspect that a well-designed runoff system, in which both the first round election and the runoff are scheduled to coincide with state and federal elections, can achieve many of the participatory benefits (see, e.g., Hajnal and Lewis, 2003) with a much lower incidence of wasted votes.[18]

Overall, our findings suggest that IRV is not a magic cure-all to popular complaints about the quality of local democracy, as is true for every electoral method available. While the method has the potential to reduce administrative costs for local governments, it also increases the difficulty of the task facing voters. As our data make clear, a substantial number of voters either cannot or choose not to rank multiple candidates, even when they have the ability to do so. Instead, many opt to cast a vote for their top choice, neglecting to rank anyone else. Substantial educational efforts regarding the mechanics of IRV may help alleviate this concern and should be part of any transition plan for municipalities that adopt this method in the future. As our data show, however, even individuals who mark three distinct choices often face the prospect of exhaustion, so education alone will not fix the problem. The results highlight a key political reality: no electoral system is perfect and every method comes with its own set of democratic tradeoffs. It is important for voters and their elected representatives in

government to have a clear understanding of these tradeoffs before they engage in electoral reform.

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[18] Note that this is not always the case. In San Francisco, for example, the run-off stage usually occurred during an off-cycle election that saw dramatic fall off in participation.

Subject: Letter to the Editor re: Charter Review Committee's Proposed Two 3-Member Council Election Districts Doesn't Give City Safe Harbor From CVRA
From: Steve Chessin <steve.chessin@cfer.org>
Date: 7/7/17, 6:59 AM
To: scweekly@ix.netcom.com

Just because Robert Rubin thinks a two-district system of three City Council members each doesn't provide a safe harbor from the CVRA doesn't mean he's correct.

The plain language of the CVRA is in sections 14025 through 14032 of the Election Code, available at http://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=ELEC&division=14.& title=&part=&chapter=1.5. I urge people to read it for themselves.

It defines an "At-large method of election" as one where the "the voters of the entire jurisdiction elect the members to the governing body", whether or not the candidates are required to live in districts, or even if some of the members are elected by voters in districts and some are elected by voters of the entire jurisdiction. (Section 14026(a).)

It defines "District-based elections" as those where the elected members "must reside within an election district that is a divisible part of the political subdivision and is elected only by voters residing within that election district." (Section 14026(b).)

It says a violation can only occur if an at-large method is used. (Section 14027.) It says nothing about the number of members elected by a district.

Dividing the City into two districts, where only voters living in a district get to elect City Council members who live in that district, complies with the letter of the CVRA. Using a proportional system within those districts complies with the spirit.

--Steve Chessin
President, Californians for Electoral Reform
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(408)-276-3222(w), (650)-962-8412(h)

POST MEETING MATERIAL

Elections Code - ELEC
DIVISION 14. ELECTION DAY PROCEDURES [14000 - 14443]
CHAPTER 1.5. Rights of Voters [14025 - 14032]

14025. This act shall be known and may be cited as the California Voting Rights Act of 2001.

14026. As used in this chapter:
(a) **"At-large method of election"** means any of the following methods of electing members to the governing body of a political subdivision:
(1) One in which the voters of the **entire jurisdiction** elect the members to the governing body.
(2) One in which the candidates are required to reside within given areas of the jurisdiction and the voters of the **entire jurisdiction** elect the members to the governing body.
(3) One that **combines at-large elections** with district-based elections.

(b) "District-based elections" means a method of electing members to the governing body of a political subdivision in which the candidate must reside within an election district that is a divisible part of the political subdivision and is elected only by voters residing within that election district.

(c) "Political subdivision" means a geographic area of representation created for the provision of government services, including, but not limited to, a general law city, general law county, charter city, charter county, charter city and county, school district, community college district, or other district organized pursuant to state law.
[...]

14027. An **at-large method of election** may not be imposed or applied *in a manner that impairs the ability* of a protected class to elect candidates of its choice or its ability to influence the outcome of an election, as a result of the dilution or the abridgment of the rights of voters who are members of a protected class, as defined pursuant to Section 14026.

[...]

Source: http://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?
lawCode=ELEC&division=14.&title=&part=&chapter=1.5.&article=
(Emphases added.)

Steady-state conditions for
2 districts, 3 seats per district

Decide on the steady-state condition BEFORE you decide on the transition method.

Option 1:
In Presidential years, entire City elects City Clerk and Police Chief, District A elects 3 members.
In Gubernatorial years, entire City elects Mayor, District B elects 3 members.

Threshold of election (minimum number of voters that have to support a candidate to guarantee victory) for City Council is always 25%. This is best for complying with the spirit of the CVRA.

The following options are also available, but they are not as good for complying with the spirit of the CVRA because the threshold of election is much higher (33.3% when 2 members are elected, and 50% when only 1 member is elected):

Option 2:
In Presidential years, entire City elects City Clerk and Police Chief, District A elects 1 member, District B elects 2 members.
In Gubernatorial years, entire City elects Mayor, District A elects 2 members, District B elects 1 member.

Option 3:
In Presidential years, entire City elects City Clerk and Police Chief, District A elects 2 members, District B elects 2 members.
In Gubernatorial years, entire City elects Mayor, District A elects 1 member, District B elects 1 member.

Option 4:
In Presidential years, entire City elects City Clerk and Police Chief, District A elects 1 member, District B elects 1 member.
In Gubernatorial years, entire City elects Mayor, District A elects 2 members, District B elects 2 members.

Note: The above thresholds of election assume a proportional or semi-proportional system is used. If a non-proportional (that is, plurality) system is used, the number needed to *guarantee* victory is:
- when 1 person is elected, at least 50% of the voters must vote for the candidate.
- when 2 people are elected, at least 66.7% of the voters must vote for the candidate.
- when 3 people are elected, at least 75% of the voters must vote for the candidate.

Depending on how many candidates there are, and how much voter support they have, one can win with less, but the above numbers show how many votes are needed to guarantee victory.

Transition Methods for
Steady-state Option 1
(District A elects 3 members in Presidential years,
District B elects 3 members in Gubernatorial years.)

[Decide on the steady-state condition BEFORE you decide on the transition method.]

These are two of the possible transition methods if the steady-state condition is each district elects 3 members every four years):

A. In 2018, District B elects 2 members for a four year term [threshold of election is 33-1/3%], and in 2020, District B elects 1 member for a two year term, [threshold of election is 50%] and District A elects 3 members for four year terms [threshold of election is 25%]. In 2022, District B elects 3 members for four year terms. In 2024, District A elects 3 members for four year terms, etc.

B. In 2018, District B elects 1 member for a four year term and District A elects 1 member for a two year term [threshold of election for each is 50%]. In 2020, District B elects 2 members for two-year terms [threshold of election is 33-1/3%] and District A elects 3 members for four year terms [threshold of election is 25%]. In 2022, District B elects 3 members for four year terms. In 2024, District A elects 3 members for four year terms, etc.

[The thresholds of election assume a proportional or semi-proportional system is used.]

Voting Methods for
Two-District System

Best is to use limited voting or cumulative voting until the county can support STV, then switch to STV. The charter can specify such a condition. Both Berkeley and San Leandro used conditional language when they put instant runoff voting into their charters.

To: Santa Clara Charter Review Committee
From: Pedro Hernandez, FairVote California
Subject: Two-District Multi-Member Plan
Date: July 6, 2017

As you consider adoption of a two-district multi-member plan, we urge you to have the districts 1) be proportional with no less than three-seats up at once per district; and 2) consider limited voting ("1-vote system"), with a plan to adopt ranked choice voting once the technology becomes available.

1) **A fair voting system of no less than three (3) seats up per district will give voters a greater opportunity to elect their candidate of choice since the Asian Citizen Age Population would be above the 25% threshold when three (3) seats are up using a fair voting system.**

The FairVote Research Team conducted a demographic study of a two-district remedy. It found that under a two district remedy, the Asian population range from 35.81% to 38.81% in each district, and projected that the Asian Citizen Voting Age Population (CVAP) could rage from 26.64% to 28.87% in each district.

Under a winner take all system, or plurality system, the candidate with the most amount of votes would win. Such a system can exist in multi-member district, and under these facts, given that the Asian American CVAP (26.64% to 28.87%) would not be greater than all other populations, we urge you not to adopt a plurality system under a multi-member district.

The threshold to win under a fair voting system when only two (2) seats are up is 33%. If a two-seat fair system is adopted, the Asian American CVAP would still be under the threshold necessary to win. We urge you not to adopt a system where only two seats are up for election.

We recommend that you adopt a fair voting system when all seats are up for an election, and utilize an election method like limited voting ("1-vote system"), until you're able to adopt ranked choice voting. The threshold to win under a fair system, a 1-vote system, for three (3) seats is 25%. Given that Asian American CVAP could range from 26.64% to 28.87% within each of the two districts, there would be an increased likelihood that the Asian American community would be able to elect one (1) seat per district, for a total of two (2) seats. This solution would provide for a greater likelihood that Asian American voters are able to elect their candidates of choice.

POST MEETING MATERIAL

Figure 1.1 Demographics

Districts Population via 2010 Census	Seats	Threshold	Asian Pop. %	Asian Pop.	Latino Pop. %	Latino Pop.	White Pop %	White Pop.
District 1	3	25.00%	38.81%	22699	22.14%	12946	31.27%	18289
District 2	3	25.00%	35.81%	20944	16.60%	9707	41.11%	24040
Total City Wide	6		37%	43643	19%	22653	36%	42329

Districts CVAP Projections	Seats	Threshold	Asian CVAP %		Latino CVAP		CVAP White	
District 1	3	25.00%	28.87%		18.30%		43.41%	
District 2	3	25.00%	26.64%		13.72%		57.06%	
Total City Wide (2015 ACS)			29.5%		15.3%		47.8%	

Figure 1.2 District Map

District 1
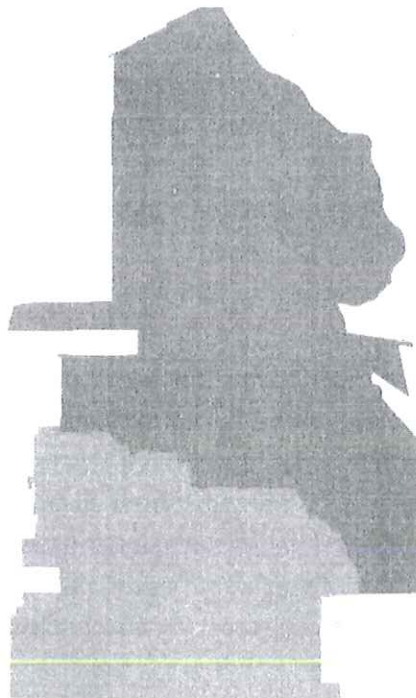
District 2

2) **Adopt limited voting ("1-vote system"), first, and ranked choice voting when voting equipment becomes available, because of propensity of voting splitting in Santa Clara**

As mentioned above, utilizing fair representation, like limited voting ("1-vote system"), when three seats are up would allow for Asian American voters to reach the threshold necessary to elect their candidates of choice. A 1-vote system could function as an appropriate remedy, however, could be an interim solution until the city adopts ranked choice voting.

We urge the Charter Review Committee recommend to adopt ranked choice voting (RCV) for use in the City of Santa Clara and request that the County make this available when adopting a new voting system. Doing so will free candidates and voters from being tactical in who runs and how your vote, and reliably produces outcomes reflecting voter strength and encourages candidates to reach out to backers of other candidates.

Ranked choice voting is a system in which voters rank candidates in order of choice, from first to last. A vote is counted towards the highest ranked candidate in a round-by-round tabulation. RCV in a multi-winner elections effectively maximizes the number of voters who can elect a candidate of choice.

FairVote surveyed a number of elections and found that in the 2014 elections, each Asian candidate lost in a situation where vote splitting occurred:

Data 2.1

Council Member; City of Santa Clara; Seat 2

Patrick Kolstad	8051	38.72%
Karen Hardy	6818	32.79%
Mohammed Nadeem	5926	28.50%

Council Member; City of Santa Clara; Seat 5

Dominic Caserta	8042	39.37%
Kevin Park	7194	35.22%
Roseann Lacoursiere	5190	25.41%

Having a ranked ballot in a multi-seat election would ensure that the results will not be distorted by the number of candidates who run or by voters failing to vote strategically. If more than 25% vote for one candidate, that candidate's excess support counts toward the totals of whomever those voters ranked next, and if a group of like-minded voters split their votes among similar candidates, the weakest candidates will be eliminated, allowing their supporters to help elect

their back-up choices. As a result, the strongest candidates are good both at securing first choices and reaching out to earn a ranking from backers of other candidates.

The single seat version of RCV is used in four Bay Area cities to elect Supervisors, Mayors, City Councilmembers, and School Board members in Berkeley, Oakland, San Francisco, and San Leandro. Even when used in single seats, the use of RCV has come in tandem with significant increases in representation of people of color in these cities -- nearly three in five representatives in the 53 seats elected by RCV in these cities are people of color.

In November 2014, the Rutgers Poll survey 2,400 likely voters in California, half of whom lived in one of four cities using ranked choice voting and half of whom lived in similar "control cities" without it.[1] Santa Clara was one of those control cities, and 147 likely voters were surveyed.[2] In response to the question, "Do you think ranked choice voting, where voters can rank candidates in order of preference with their first choice counting the most, should be used in local elections in Santa Clara?" Of those Santa Clara voters with an opinion, more than 60% said yes to the idea, including 55% of all respondents.[3] While not large enough to fully scientific, the findings suggest Santa Clara voters will be more than open to the concept of ranked choice voting

Conclusion

It is our observation that adopting a fair voting system of no less than three (3) seats up per district will give voters a greater opportunity to elect their candidate of choice since the Asian Citizen Age Population would be above the 25% threshold to win. Further, because there is a propensity for vote splitting in Santa Clara, we recommend that the City of Santa Clara should adopt a 1-vote system first, and ranked choice voting when technology permits its use.

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[1] *Socioeconomic and Demographic Perspectives on Ranked Choice Voting in the Bay Area*, Sarah John and Caroline Tolbert, available at https://fairvote.app.box.com/v/socioeconomic-demographic-rev
[2] *Id.*
[3] *Id.*

4
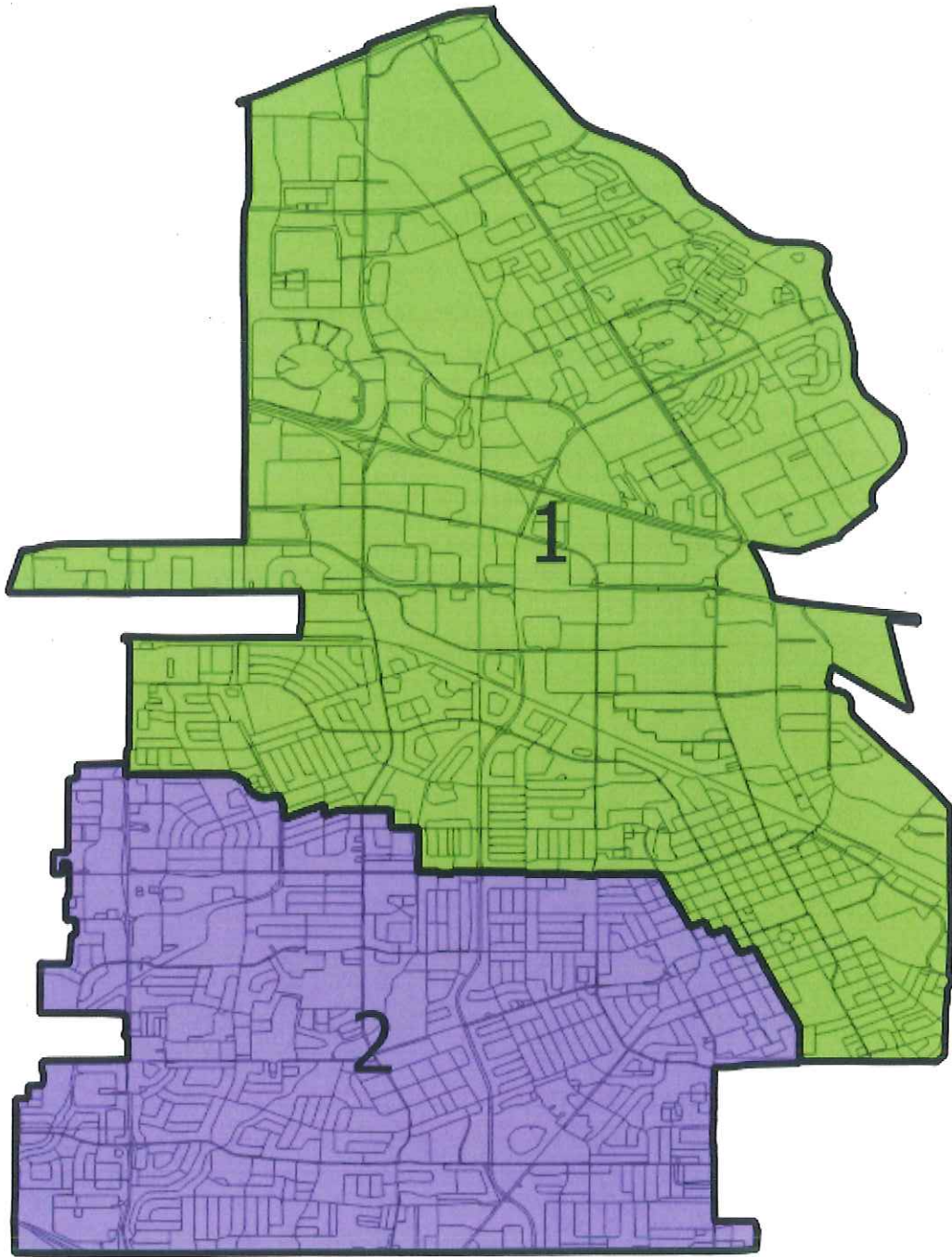
Prepared by FairVote California
For more information, email pedro@fairvote.org.

July 10, 2017

To: the 2017 Charter Review Committee

From: Rex McIntosh

Proposed Implementation Schedule for the City of Santa Clara's Transition to a By-District Election System

The City of Santa Clara's City Council, if it accepts the recommendations of its 2017 Charter Review Committee, should follow existing procedures for placing on the 2018 ballot, a ballot measure that changes the City's election method from an At-Large system to a By-Large system.

With voter acceptance of this amended City Charter, the City Council should offer a resolution for proposed criteria, for the process to create the district boundaries.

In its 2016 session, the California State Legislature adopted Assembly Bill (AB) 350, authored by Assemblyman Luis Alejo. The bill set forth requirements that government agencies must follow while moving from At-Large to District-based elections, including the number of public hearings required before and after draft maps in which district boundaries are created. Under this procedure, significant outreach to the community is required, including community workshops (5) and five publicly noticed City Council Public Hearings.

Should the 2017 Charter Committee's recommendations be accepted for action by the City Council; and if the Santa Clara County Superior Court allows the City of Santa Clara to pursue such a transition, the City's staff and Council should be ready with an implementation schedule to ensure compliance with AB 350. This schedule should include assigned dates and places for its public hearings, assigned dates and places for its community workshops, a schedule for submitting draft maps, assigned dates for the posting and review of acceptable maps, a schedule for selecting an appropriate map, and a time frame to introduce any appropriate ordinances concerning a final transition to a By-District election system.

Otherwise, if the Court intervenes in this redistricting process, the City will be at the will of the Court. Since 1962, the Courts have had much experience in demanding that cities offer redistricting plans that satisfy the Courts' directions from the U.S. Supreme Court.

Subject: Letter to the Editor re: Charter Review Committee's Proposed Two 3-Member Council Election Districts Doesn't Give City Safe Harbor From CVRA
From: Steve Chessin <steve.chessin@cfer.org>
Date: 7/7/17, 6:59 AM
To: scweekly@ix.netcom.com

Just because Robert Rubin thinks a two-district system of three City Council members each doesn't provide a safe harbor from the CVRA doesn't mean he's correct.

The plain language of the CVRA is in sections 14025 through 14032 of the Election Code, available at http://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=ELEC&division=14.&title=&part=&chapter=1.5. I urge people to read it for themselves.

It defines an "At-large method of election" as one where the "the voters of the entire jurisdiction elect the members to the governing body", whether or not the candidates are required to live in districts, or even if some of the members are elected by voters in districts and some are elected by voters of the entire jurisdiction. (Section 14026(a).)

It defines "District-based elections" as those where the elected members "must reside within an election district that is a divisible part of the political subdivision and is elected only by voters residing within that election district." (Section 14026(b).)

It says a violation can only occur if an at-large method is used. (Section 14027.) It says nothing about the number of members elected by a district.

Dividing the City into two districts, where only voters living in a district get to elect City Council members who live in that district, complies with the letter of the CVRA. Using a proportional system within those districts complies with the spirit.

--Steve Chessin
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POST MEETING MATERIAL

Elections Code - ELEC
DIVISION 14. ELECTION DAY PROCEDURES [14000 - 14443]
CHAPTER 1.5. Rights of Voters [14025 - 14032]

14025. This act shall be known and may be cited as the California Voting Rights Act of 2001.

14026. As used in this chapter:
(a) **"At-large method of election"** means any of the following methods of electing members to the governing body of a political subdivision:
(1) One in which the voters of the **entire jurisdiction** elect the members to the governing body.
(2) One in which the candidates are required to reside within given areas of the jurisdiction and the voters of the **entire jurisdiction** elect the members to the governing body.
(3) One that **combines at-large elections** with district-based elections.

(b) "District-based elections" means a method of electing members to the governing body of a political subdivision in which the candidate must reside within an election district that is a divisible part of the political subdivision and is elected only by voters residing within that election district.

(c) "Political subdivision" means a geographic area of representation created for the provision of government services, including, but not limited to, a general law city, general law county, charter city, charter county, charter city and county, school district, community college district, or other district organized pursuant to state law.
[...]

14027. An **at-large method of election** may not be imposed or applied *in a manner that impairs the ability* of a protected class to elect candidates of its choice or its ability to influence the outcome of an election, as a result of the dilution or the abridgment of the rights of voters who are members of a protected class, as defined pursuant to Section 14026.

[...]

Source: http://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?
lawCode=ELEC&division=14.&title=&part=&chapter=1.5.&article=
(Emphases added.)

Steady-state conditions for
2 districts, 3 seats per district

Decide on the steady-state condition BEFORE you decide on the transition method.

Option 1:
In Presidential years, entire City elects City Clerk and Police Chief, District A elects 3 members.
In Gubernatorial years, entire City elects Mayor, District B elects 3 members.

Threshold of election (minimum number of voters that have to support a candidate to guarantee victory) for City Council is always 25%. This is best for complying with the spirit of the CVRA.

The following options are also available, but they are not as good for complying with the spirit of the CVRA because the threshold of election is much higher (33.3% when 2 members are elected, and 50% when only 1 member is elected):

Option 2:
In Presidential years, entire City elects City Clerk and Police Chief, District A elects 1 member, District B elects 2 members.
In Gubernatorial years, entire City elects Mayor, District A elects 2 members, District B elects 1 member.

Option 3:
In Presidential years, entire City elects City Clerk and Police Chief, District A elects 2 members, District B elects 2 members.
In Gubernatorial years, entire City elects Mayor, District A elects 1 member, District B elects 1 member.

Option 4:
In Presidential years, entire City elects City Clerk and Police Chief, District A elects 1 member, District B elects 1 member.
In Gubernatorial years, entire City elects Mayor, District A elects 2 members, District B elects 2 members.

Note: The above thresholds of election assume a proportional or semi-proportional system is used. If a non-proportional (that is, plurality) system is used, the number needed to *guarantee* victory is:
- when 1 person is elected, at least 50% of the voters must vote for the candidate.
- when 2 people are elected, at least 66.7% of the voters must vote for the candidate.
- when 3 people are elected, at least 75% of the voters must vote for the candidate.

Depending on how many candidates there are, and how much voter support they have, one can win with less, but the above numbers show how many votes are needed to guarantee victory.

Transition Methods for
Steady-state Option 1
(District A elects 3 members in Presidential years,
District B elects 3 members in Gubernatorial years.)

[Decide on the steady-state condition BEFORE you decide on the transition method.]

These are two of the possible transition methods if the steady-state condition is each district elects 3 members every four years):

A. In 2018, District B elects 2 members for a four year term [threshold of election is 33-1/3%], and in 2020, District B elects 1 member for a two year term, [threshold of election is 50%] and District A elects 3 members for four year terms [threshold of election is 25%]. In 2022, District B elects 3 members for four year terms/ In 2024, District A elects 3 members for four year terms, etc.

B. In 2018, District B elects 1 member for a four year term and District A elects 1 member for a two year term [threshold of election for each is 50%]. In 2020, District B elects 2 members for two-year terms [threshold of election is 33-1/3%] and District A elects 3 members for four year terms [threshold of election is 25%]. In 2022, District B elects 3 members for four year terms. In 2024, District A elects 3 members for four year terms, etc.

[The thresholds of election assume a proportional or semi-proportional system is used.]

Voting Methods for
Two-District System

Best is to use limited voting or cumulative voting until the county can support STV, then switch to STV. The charter can specify such a condition. Both Berkeley and San Leandro used conditional language when they put instant runoff voting into their charters.

July 10, 2017

To: 2017 Charter Review Committee

From: Rex McIntosh

At our June 26th committee meeting, this committee, by motion, selected a two districts of three council members each (motion passed 7:5), by-district election plan. Both a six-district proposal and a three-district proposal failed by committee vote.

Approaching the next step brings some questions of "practicality"; before offering a recommendation to the Santa Clara City Council.

1. The multi-member, two-district, three-members per district election plan, selected by this Committee on June 26th, is designed by using one imaginary boundary-line to create two city council districts. Relating recent population estimates for the City of Santa Clara; this places over 60,000 residents in each district. This number of residents is larger or nearly equal to the total populations of several nearby Santa Clara County communities.

   The post-World War II involvement of our courts in voting rights questions has resulted in the Supreme Court's reexamination of the American nationality - by elevating the constitutional importance of the individual. The Supreme Court has involved itself in redistricting controversies, and the Court has relied heavily on the Equal Protection Clause of the Fourteenth Amendment, and the principle of "one person, one vote"; thereby, defining the individual citizen as the basic unit of electoral politics. It was not until 1962 that the Supreme Court entered the political thicket of redistricting. In a single generation, the courts have moved from declining to exercise jurisdiction in redistricting disputes to participating in this voting rights process, as one of the key players. The Supreme Court has responded to claims that voting strength could be diluted by electoral structures, which allowed a bloc-voting white majority to deny "protected class" citizens the opportunity to choose representatives of their choice – "by instructing lower courts to prefer "single-member" districts, when they ordered redistricting or remedies to mal-apportioned districts".
   QUESTION(S): DOES THIS SELECTED PLAN SATISFY THE INTENT AND LANGUAGE OF THE CALIFORNIA VOTING RIGHTS ACT OF 2001; OR IS IT A RE-MAKE OF ONE "AT-LARGE" DISTRICT INTO TWO "AT-LARGE" DISTRICTS? WILL SUCH A PLAN SATISFY THE COMPLAINTS OF SANTA CLARA SUPERIOR COURT, CASE NO. 17CV308056?

2. The use of two-district city-council proposals: I have been able to locate only one city that uses a two-district city council. This community is Norton

Shores, Michigan, a charter city (population ~22,000) that incorporated as a city in the late 1960s. The introduction to their "City Charter" discusses the efforts of their "Charter Commission" in drawing election districts in 1967-68. Their attempts revolved around trying to create 4, 5 or 6 city council-district boundaries. They were unable to comply with their state's "district equality" requirement due to the geography of where their city is located. Norton Shores is located adjacent to Lake Michigan, and is divided into a north and south section. These sections are located on the north shore and south shore of Mona Lake, a 695 acre, natural, sandy bottomed lake; each side of the City is connected and accessible only by crossing one of two bridges, or driving around the east end of Mona Lake. The west end of Mona Lake drains into Lake Michigan. Demographics apparently did not allow them to satisfactorily draw multiple-district boundaries.
QUESTION(S): DOES THE CITY OF SANTA CLARA HAVE ANY GEOGRAPHIC FEATURES THAT IMPOSE A SIMILAR DIFFICULTY? DOES THE CITY OF SANTA CLARA HAVE A DESIRED NEED FOR A TWO-DISTRICT PLAN?

3. Out of the committee's June 26th discussion, the two-district proposal was discussed in conjunction with a "single-transferrable" vote mechanism as a recommendation, or perhaps ranked choice voting system, or instant runoff voting. A June 12th presentation from the Santa Clara County Registrar of Voters Office discussed its present capabilities for dealing with voting systems. Documentation of that presentation shows that neither "single transferrable" voting, nor "ranked choice" voting can be handled by their present voting technology. No update to its present technology is available to handle "single transferrable" voting; an update of its present technology is available for "ranked choice". To change from the present Sequoia WinEDS 3.1.012 voting technology, an update, or acquisition of a later edition, such as, Sequoia WinEDS 4.0 system, would, potentially, cost an estimated $650,000 to implement the "Ranked Choice" technology, and/or $800,000 (2006 estimates) to implement such voting systems as promoted by the Sequoia WinEDS 4.0 technology; and would require 6 to 18 months to receive approval for use from the State of California. Sequoia WinEDS 4.0 could handle the preferred voting systems, but, as indicated, will not be available until 2020 or later.
QUESTION(S): CAN THE CITY AND/OR THE COUNTY COMPLY WITH CVRA LAWSUIT REQUIREMENTS AT A REASONABLE COST TO THE CITY OF SANTA CLARA, BASED ON THE PRESENT STATUS OF SANTA CLARA COUNTY VOTING TECHNOLOGY? WILL THIS TIMEFRAME SATISFY THE POTENTIAL COURT DIRECTIONS IN THE UPCOMING WESLEY KAZAO MUKOYAMA VS. CITY OF SANTA CLARA, LAWSUIT? IF NOT, WHAT SHORT-TERM ARRANGEMENTS CAN BE UTILIZED?

4. Since the legal inception of the California Voting Rights Act in 2003, more than 20 cities and agencies have had lawsuits brought against them under the CVRA of 2001. Examining a list of California cities that have had

suit brought against them, the following cities; all "charter cities" – the City of Anaheim, the City of Compton, the City of Merced, the City of Modesto, the City of Palmdale, the City of Placentia, the City of Santa Barbara, the City of Tulare, and the City of Whittier - have failed to prevail in their lawsuits, and agreed to settlements, where they have assumed "single-member, 5 or 7-member City Council Districts. The City of Carlsbad, the City of El Cajon, and the City of Santa Clara, all "charter cities", are additional cities in the process of transitioning to "by-district" election methods. The City of Carlsbad's and the City of El Cajon's each are pursuing "single-member, 5 or 7 member, city council districts. Additionally, there are several "General Law" communities that have transitioned to "single, 5 or 7 member city council district" election methods. All settled changes to these cities' election systems have resulted in "protected class" representation on its city council. No lawsuits under the CVRA have settled for "at-large" or "multi-member" election methods. Court-ordered settlements may still be guided by a 1973 Supreme Court ruling, in which the Court declared unconstitutional Texas' use of "multi-member" legislative districts, specifically, "because they denied black and Latino voters an equal opportunity to elect candidates of their choice".

QUESTION(S): IS THE CITY OF SANTA CLARA 2017 CHARTER REVIEW COMMITTEE'S ELECTION METHOD RECOMMENDATION IN LINE WITH WHAT HAS BEEN REQUIRED, BY THE COURTS, OF OTHER CALIFORNIA CHARTER CITIES?

5. Additionally, a historical listing of the use of "single transferrable" voting in the United States leads to additional questions. Some twenty-four cities, in the United States, have used "single transferrable" voting since 1915. Only Sacramento has used this voting system in California, between 1920 and 1930. This system was repealed prior to 1930, as being unconstitutional by a court. Of the remaining U.S. cities, only Cambridge, Massachusetts continues to use this voting system.

In August, 2016, the California Legislature enacted Senate Bill 1288 – "Local Elections: local voting methods". Division 22 of the California Election Code was amended to include "Ranked Choice Voting" provisions. Subdivisions 22000 and 22001 provide accepted meanings of "Ranked Choice" and "Single Transferrable" voting. "Single transferrable vote' means a system of ranked choice voting used to elect two or more candidates to office." No further discussion of "single transferrable" voting is apparent.

Sec. 20, Article 4. "Election of city Officers by Ranked Choice Voting" in subdivision 34910 states, "(a) A municipal legislative body may submit to the registered voters an ordinance providing for the election of an officer of the city by ranked choice voting. The ordinance may also be qualified for the ballot by means of an initiative measure in accordance with Chapter 3 ....The ordinance shall specify which city officers shall be elected by this method and whether they shall be elected at large or by or from district, if applicable. An

ordinance adopted pursuant to this subdivision shall apply prospectively only and shall not become operative unless it is submitted to the electors of the city, at regularly scheduled elections and a majority of the voters cast on the question favor the adoption of the proposal." Subdivision 34910 (e) states, "This section does not authorize a city to elect members at large if it is required by a court order or judgment to elect its members by or from district".
QUESTION(S): DOES THIS UNCONSTITUTIONALITY RULING STILL HOLD TRUE, AFTER NEARLY 90 YEARS? SHOULD ANY COMMITTEE RECOMMENDATION CONSIDERING A "RANKED CHOIIICE" VOTING SYSTEM INCLUDE THE DEMANDS OF THIS AMENDED SECTION OF THE CALIFORNIA ELECTION CODE?

The bottom-line question is, ARE WE SATISFIED THAT OUR JUNE 26TH SELECTED DISTRICTING PLAN CAN BE IMPLEMENTED, AND IS EQUAL TO THE REQUIRED TASK?