The Impact of Ranked Choice Voting on Representation

How Ranked Choice Voting Affects Women and People of Color Candidates in California

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Representation2020 advocates for systemic approaches to advance women's representation and works with allies to win gender parity. These innovative strategies include changes to the recruitment process, voting system, and internal legislative practices so that more women will run, win, serve, and lead.

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The Impact of Ranked Choice Voting on Representation:
How Ranked Choice Voting Affects Women and People of Color Candidates in California

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The Impact of Ranked Choice Voting on Representation is an initial report on findings from a study of the effects of ranked choice voting on the candidacy and election of women, people of color and women of color in California Bay Area city elections. We thank the Reflective Democracy Campaign of the Women Donors Network for its support of this study.

Executive Summary

This study examines the effect of ranked choice voting (RCV) on women and people of color running for elected office in the California Bay Area. San Francisco began using ranked choice voting in 2004 for their city elections, followed by Oakland, Berkeley, and San Leandro in 2010. The findings of the study reveal that RCV increases descriptive representation for women, people of color, and women of color. Some reasons for RCV's positive effects can be related to how often it replaces low, unrepresentative, turnout elections and that it allows for multiple candidates appealing to the same community to run without splitting the vote. The unambiguously positive impact of RCV on descriptive representation encourages further study.

Key Findings

- **More women and people of color in elected office.** Since the introduction of RCV, women have won more than 40% of all contests, women of color have won almost a quarter of all contests and people of color have won 60 percent. People of color now hold 13 of the 18 seats in San Francisco elected by RCV, which is up from eight seats before RCV was adopted (although down from 15 of 18 seats after the 2010 RCV elections). Women won nine of 11 open seats in RCV elections in 2014, and, in Oakland, have gone from holding 10 seats after the 2008 elections to 13 seats today.

- **More women and people of color are running and winning.** In cities that introduced RCV, the percentage of candidates and winners among women, people of color, and women of color increased more (or declined less) than it did in a comparison group of similar cities that did not adopt RCV.

- **Increase in the proportion of women in elected office.** Our study of the effects of RCV shows that the introduction of RCV in California *led to* an increase in the proportion of women, and especially women of color, winning local political office.

- **Increase in the percentage of people of color and women of color.** RCV *led to* an increase in the percent of city council candidates who are people of color and women of color. These findings are robust and statistically significant. Our study controls for the impact of socio-economic factors (like educational attainment and the racial composition of the city), political factors (like partisanship and voter turnout), as well as electoral factors (incumbency and the use of term limits, and public financing).

This study does not identify the mechanism by which RCV increases descriptive representation, yet the unambiguously positive impact of RCV on descriptive representation encourages further study. RCV might be fairer for women, people of color, and women of color because RCV often replaces low, unrepresentative, turnout elections (decisive primaries earlier in the year or runoff elections later in the year) with more representative, high turnout, November elections. The more representative electorate in November may help ensure the election of more representative candidates. Furthermore, in an RCV election, divisive and negative campaigning is less central. Additionally, RCV is resistant to the spoiler effect, meaning that multiple candidates with appeal to the same community can run without splitting the vote.

How Ranked Choice Voting Works

In an RCV election, voters rank as many (or as few) candidates as they like in order of choice — first, second, third and so on. When a candidate has a majority of first-choice rankings they win just like in any election. If no candidate has a majority, the last-place candidate is eliminated, and voters whose first choice lost have their ballots instantly go to their next choice. The process repeats until two candidates remain, and the candidate with a majority wins.
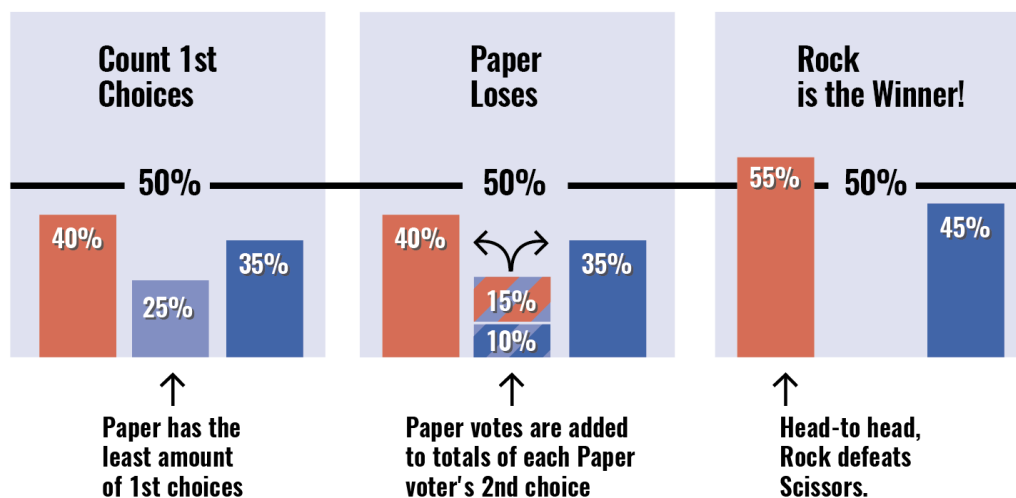
Rank candidates in order of choice

Fill in the ① next to your 1st choice.
Fill in the ② next to your 2nd choice.
Fill in the ③ next to your 3rd choice.

Note: Ranking 2nd and 3rd choices will not hurt your 1st choice.

	1st choice	2nd choice	3rd choice
Rock	●	②	③
Paper	①	②	●
Scissors	①	●	③

Count 1st Choices

50%

40%   25%   35%

↑
Paper has the least amount of 1st choices

Paper Loses

50%

40%   15% 10%   35%

↑
Paper votes are added to totals of each Paper voter's 2nd choice

Rock is the Winner!

55%   50%   45%

↑
Head-to head, Rock defeats Scissors.

In cities that introduced RCV,
the percentage of women, people of color, and women of color running for and winning local elective office increased compared to cities that did not adopt RCV.
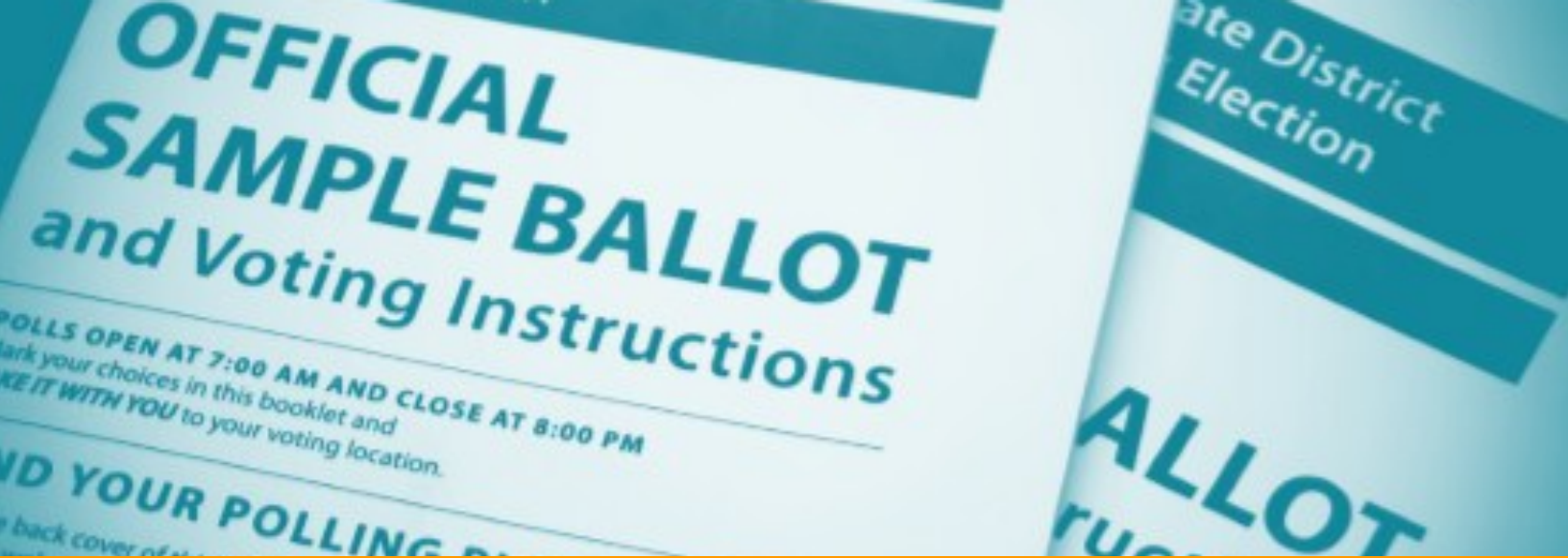
Introduction

Ranked choice voting (RCV) allows voters to rank candidates in order of preference. This voting system uses rankings to determine a majority winner. If no candidate has a majority of first-choice rankings, a series of "instant runoff" occur to establish a winner. Ranked choice voting can elect candidates to a single office (mayor or governor) or a multi-seat position (Congress). The number of candidates elected may differ, but the ranking process for voters remains the same. This report examines the impacts of single-winner RCV, since it is the most common type of RCV used in the United States currently.

Single-winner ranked choice voting was invented in the 1870s. Voters in Australia use RCV for legislative elections (since 1918). Since 1945, voters in Ireland elect their president with RCV. More and more states use RCV for city elections. Since 2000, RCV has been adopted for city elections in Minnesota, Colorado, Maryland, Maine, New Mexico, Florida, Tennessee, and California (Table 1).2 The Bay Area in California is a hotbed of RCV implementation. San Francisco, Oakland, Berkeley, and San Leandro all using ranked ballots for local elections.

The fundamental difference between RCV and other voting systems more commonly used in the United States, such as plurality and the block vote, lies in the ability of voters to rank candidates in order of preference. In ranking candidates, voters provide more information about their preferences, and incentives are created for candidates to seek second and third choices.

RCV helps to elect a candidate more reflective of a majority of voters in a single election. It allows for several viable candidates to run. RCV elections are counted in rounds. To start, all first choices are counted. If a candidate has a majority based on first choices, that candidate wins. If no candidate has a majority, the last-place candidate is eliminated. Voters who ranked this candidate first have their vote instantly go to their next choice. This process continues until two candidates remain and the candidate with a majority wins.

Table 1
RCV adoption and implementation in the United States

City	State	Year Adopted	In Use	Comments
Berkeley	CA	2004	Yes	First used in 2010
Davis	CA	2006	No	Awaiting change in state law
Oakland	CA	2006	Yes	First used in 2010
San Francisco	CA	2002	Yes	First used in 2004
San Leandro	CA	2000	Yes	First used in 2010
Basalt	CO	2002	Yes	Mayoral races only
Telluride	CO	2008	Yes	Mayoral races only
Sarasota	FL	2007	No	Awaiting equipment
Cambridge	MA	1940	Yes	Multi-winner RCV
Takoma Park	MD	2006	Yes	First used in 2007
Portland	ME	2010	Yes	Mayoral races only
Ferndale	MI	2004	No	Awaiting equipment
Minneapolis	MN	2006	Yes	First used in 2009
St. Paul	MN	2009	Yes	First used in 2011
Santa Fe	NM	2008	No	Awaiting equipment
Memphis	TN	2008	No	Awaiting equipment
Vancouver	WA	1999	No	Awaiting change in state law

The ability to rank candidates has the potential to positively impact the representation of women, people of color, and women of color. This is because RCV encourages different campaign strategies than plurality or runoff elections — namely to reach out to voters for their second choices and avoid negative advertising that alienates another candidate's supporters. Lessening the centrality of divisive, negative campaigning might encourage non-traditional candidates to run, thereby increasing the number of women, people or color, and women of color running for and winning elective office.

Ranked choice voting allows multiple candidates with similar appeal to run and can replace low turnout elections. RCV is resistant to the spoiler effect, meaning that multiple candidates with appeal to the same communities can run without splitting the vote. This means candidacy is not a zero-sum game: a candidate of color's candidacy does not negatively affect other candidates of color; nor does a female candidate negatively affect a male candidate campaigning on similar issues. RCV often replaces low, unrepresentative, turnout elections with higher, more representative turnout elections. The more representative November electorate might elect more representative candidates.

In the United States, where levels of representation of women, people of color, and women of color in elected office is often lower than the percentage of those demographics in a community or nationally, it is important to explore the impacts of alternative voting systems on representation. In this study, we test the impact of the introduction of RCV on the candidacy and election of women, people of color, and women of color. We compare changes in descriptive representation after the adoption of RCV in four California cities to the same measures in seven California cities that did not adopt RCV across the same time span. The project has been designed so that we can control for other differences and changes in the cities that might affect the candidacy and election of women, people of color, and women of color, and so isolate the impact that RCV has actually had.

> **Women of color were not only more likely to run after RCV was introduced, but were also more likely to win office.**

Our study finds that the introduction of RCV was associated with an increase in the probability of female candidates winning local office, including city council seats and citywide elected executive offices, like mayor and city auditor. The results are especially striking for women of color. Women of color were not only more likely to run for office after RCV was introduced, but also were more likely to win. RCV was also associated with an increase in the percentage of candidates of color running for city council races, but had no impact on the chances of candidates of color winning. Equally important, however, RCV did not have a negative impact on the rates of candidacy of women, people of color, or women of color or the probability of such candidates winning office.

Designing Institutions to Advance Descriptive Representation

The structures and rules a community adopts for choosing representatives impacts who gets elected. Academic scholarship shows that different electoral systems, such as proportional representation, term limits, and at-large elections, affect who is elected. In the context of descriptive representation, existing scholarship suggests structural remedies for the underrepresentation of women and people of color in elective office are at odds. Additionally, there is but scant literature on electoral institutions that reduce the underrepresentation of women of color.

The literature on women's representation consistently shows that more women are elected to legislative office in multi-winner and/or proportional representation systems (see Table 2 for electoral systems definitions). Proportional representation tends to elect more women than non-proportional multi-winner systems (Welch and Studler, 1990), but non-proportional multi-winner systems perform better than single-winner systems (Matland and Brown, 1992, and Kaminsky and White, 2007). Trounstine and

Table 2
Electoral Systems Definitions

Electoral System	Definition
Proportional representation	An multi-winner electoral system in which seats are allocated to candidates and parties in proportion to their share of the vote. For instance, a party receiving around 30% of the vote would receive roughly 30% of the seats in a legislative body.
Multi-winner system	An electoral system in which more than one representative is elected from each geographic district.
Single-winner system	An electoral system in which only one representative is elected from each geographic district.
Non-proportional multi-winner system	A multi-winner district system in which the candidates with the most votes gain the seats.
Block voting	A multi-winner district system commonly used in the United States in which voters get the same number of votes as there are representatives to be elected and the candidates with the most votes win the seats.
Single-winner districts with plurality	A single-winner system in which the candidate with the most votes wins, without necessarily receiving a majority of votes.
Single-winner districts with majority runoff	A single-winner system in which, if no candidate receives a majority of votes in the first round, the two candidates with the most votes participate in a second, runoff, election to determine the winner. This is also sometimes known as the two-round system.[3]

Valdini (2008) studied 7,000 city council elections in the United States, concluding that women win more seats in multi-winner systems than single-winner systems.

Party recruitment structures also influence the number of female candidates and women in office (Paxton *et al,* 2010, Carroll and Sanbonmatsu, 2013, Crowder-Meyer, 2013, Bird, 2003, and Ondercin and Welch, 2009).

By contrast, studies have shown that, in the United States, more candidates of color — especially African-American candidates — tend to be elected in well-drawn single-winner district systems than in non-proportional multi-winner districts. In part these findings are a legacy of their use in the South — particularly non-proportional multi-winner systems (block voting) — to prevent African-American candidates from winning (Carroll and Sanbonmatsu, 2013). Single-winner systems were used, with considerable effect, to remedy the discriminatory effect of block voting on African-American representation (Carroll and Sanbonmatsu, 2013, Casellas, 2009, Troustine and Valdini, 2008).

In sum, the literature indicates that multi-winner systems advance descriptive representation for women and that single-winner systems in the United States advance descriptive representation for people of color. Thus, reforming American electoral systems to simultaneously increase descriptive representation for women and people of color seems impossible. The path to increase the descriptive representation of one of the most underrepresented groups, women of color, is especially unclear. However, there are reasons to believe that the dichotomy between multi-winner districts being fairer for women and single-winner districts being fairer for ethnic and racial minorities is not what it seems. There systems exists that improve the representation for both groups.

> **Reforming structures to simultaneously increase descriptive representation for women and people of color can seem impossible.**

First, studies into the relationship between the candidacy and election of women typically contrast single-winner *plurality or majority runoff* systems against multi-winner systems. There are, however, alternative single-winner district electoral systems — like ranked choice voting, that might better serve women while also preserving or improving the level of representation for ethnic and racial minorities achieved under plurality or majority runoff.

Additionally, there is evidence that single-winner districts, as they are currently used in the United States (with plurality or majority runoffs), are not well-suited to an increasingly diverse America, in which multiple racial and ethnic groups make up sizeable portions of the population. Single-winner districts using plurality or majority

runoffs facilitate the election of a candidate from a racial or ethnic group where (1) that racial or ethnic group makes up a majority of the district, (2) there is only one candidate from the majority racial or ethnic group, and (3) voting is "racially or ethnically cohesive" (i.e. members of that racial or ethnic group overwhelmingly vote for the same candidate; Trounstine and Valdini, 2008).

However, when a single racial or ethnic group does not make up a majority in a district, it is difficult for the group to elect a candidate of choice in a single-winner district using plurality (Casellas, 2009). When there are two large racial or ethnic groups, the vote is often split when candidates from each group run (Shah, 2008). This can mean that both candidates lose and neither group gains descriptive representation. Indeed, even where there is one majority group, two candidates from the same group running risk splitting the vote, allowing a candidate from another group to win.

Ranked choice voting (RCV), in which voters rank candidates in order of preference and candidates seek to be the first choices of as many voters as possible, as well as other voters' second or third choices, might offer a path to advance descriptive representation of women and people of color.

RCV often replaces low, unrepresentative, turnout elections with November elections that achieve higher, more representative, voter turnout. The requirement that a candidate win a majority of the vote before being declared elected is common in many single-winner city elections. This requirement is typically achieved using either (1) a decisive primary system, in which a candidate can win office in a pre-November election if they receive more than half of votes cast, or (2) a runoff system, in which the top two candidates face each other after the November general election if neither candidate won more than half of the vote. Primaries and runoffs tend to have much lower voter turnout than November elections, with primary and runoff electorates being disproportionately older, whiter and wealthier than the general electorate (McGhee, 2014). The more representative electorate in November may help ensure the election of candidates that represent the characteristics of the electorate more broadly, and thereby improve the representation of women, people of color, and women of color.

Additionally, single-winner RCV may preserve the representation of people of color currently provided by well-drawn single-winner districts with plurality or majority runoff while also counteracting some of the emergent deficiencies of using plurality or majority runoffs in diverse single-winner districts. As a consequence of the use of rankings, RCV is more resistant to vote-splitting than

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plurality. Under RCV, multiple candidates of color can run for the same seat without necessarily splitting the vote. Voters from different communities can rank multiple candidates without fearing that they will hurt the chances of their most preferred candidate, while also knowing they have a back-up choice from their community if their most preferred candidate loses.

Finally, by incentivizing candidate pursuit of second and third choices, RCV should encourage the less negative, more cooperative campaigning that is key to both encouraging more women to run for office and electing more female candidates (Amy, 2002, Welch and Studlar, 1990, and White, 2006). Female candidates might be better at garnering voters' second choices (King, 2002), which could increase their chances of being elected under RCV if they can win enough voters' first choices.

Work by Lien (2015) suggests that women of color adopt different coalition building strategies than men of color, being more likely to build coalitions of voters (especially female voters) from different groups and identities. For this reason, RCV might be especially beneficial for female candidates of color, as they could appeal to multiple groups within the electorate for second and third choice support.

RCV in the Bay Area

More than a dozen cities across the United States now use RCV to elect their leaders or have adopted it but have yet to implement it (Table 1). The California Bay Area is the largest concentration of cities that use RCV. These cities are good candidates for a study into the impacts of RCV. As part of the larger Bay Area metropolitan area, we can gauge the success of RCV against demographically, culturally, and geographically similar cities that do not use RCV. Non-RCV cities in the study include San Jose, Alameda, Richmond, and Santa Clara.

Fifty-two offices in the Bay Area elect leaders by RCV. Since 2004, San Francisco has used RCV to elect 18 local offices, replacing a two-round runoff system (Table 3). Berkeley, Oakland, and San Leandro began using RCV in 2010 to elect their city councils, mayors, as well as other executive positions (and school directors in Oakland). With over 100 RCV elections having taken place in the Bay Area, we can now begin to test the impact of RCV on the candidacy and election of women, people of color, and women of color.

Table 3
Use of RCV in the California Bay Area

City	Offices	RCV first used	Electoral Systems before RCV
Berkeley	City council, mayor, auditor	2010	Single-winner quasi-
Oakland	City council, mayor, auditor,	2010	Decisive primary[4]
San Francisco	Board of Supervisors, mayor, city attorney, district attorney, public defender, assessor-recorder, sheriff, treasurer	2004	The block vote, majority runoff and decisive prima-ry (for some executive of-fices)
San Leandro	City council, mayor	2010	Majority runoff, decisive primary and plurality

Anecdotally, RCV seems to have facilitated the election of women and people of color in large fields of candidates, especially in races with no clear frontrunner. Since the adoption of RCV, numerous women, people of color, and women of color have run and won local elective office. Women have won as challengers in two consecutive Oakland mayoral elections (2010 and 2014), and a woman won the open-seat mayoral contest in San Leandro in 2014. Female candidates won most (9) of the 11 open seats elected by RCV in the Bay Area in 2014. In Oakland, more women (13) serve in local office than did in 2008 (10). People of color now hold 13 of 18 seats in San Francisco elected by RCV, up from 8 seats before RCV was adopted.

San Francisco Board of Supervisors — 10th District

One of the most prominent examples of RCV operating in a competitive environment with diverse candidates comes from the 10th District seat of the San Francisco Board of Supervisors. In 2010, a large and diverse field of candidates ran without worries about spoilers and splitting votes among minority groups and ideological factions. Twenty-one candidates were nominated for the open 10th District seat in 2010. Half the candidates were female, 13 were African-American, and one Asian. The race has been controversial, but would likely have been controversial under any system, given the fractured nature of the field. The dynamics of the race also show how RCV can help candidates who are women and people of color run competitively.

There was no clear frontrunner after Lynette Sweet, an African-American woman and president of the Bay Area Rapid Transit (BART) board, became embroiled in a minor scandal about unpaid taxes. The candidates were loosely divided into moderate and progressive camps, with Malia Cohen, a young African American woman, emerging as a more moderate alternative to Sweet. Tony Kelly, Marlene Tran, Chris Jackson and Eric Smith were the top progressive candidates.

On Election Day, the five top candidates received between 10% and 12% of voters' first choices. Sweet received the most first choices — with 12.1% of voters ranking her first. Kelly placed second, Cohen third, and Tran fourth. Only 101 votes (of over 20,000 cast) separated 1st and 4th place. Under the old majority runoff system, Sweet and Kelly would have been pitted against each other in a low turnout December runoff — an election that likely would have advantaged white male candidate Kelly in the less representative electorate. Instead, using RCV, voters provided a greater level of information about their preferences, allowing the candidate with the best combination of core support and broad support to win the race.

> "Cohen carried the day because she did a good job of getting second- and third-choice votes across the district."
> *San Francisco Chronicle*

The *San Francisco Chronicle* observed, "Cohen carried the day because she did a good job of getting second- and third-choice votes across the district." Indeed, Cohen was the "Condorcet candidate," able to defeat every other candidate when paired against them head-to-head (As a side note, every other election winner in the history of RCV's use in the Bay Area has also been the Condorcet winner.)

While Cohen was the first choice of 11.8% of voters, she was the second most popular second choice (with 8.6% of voters ranking her second), and the third most popular third choice (5.3% of voters ranked her third). Cohen had the broadest support of any candidate and was ranked first, second or third by more voters (25.7%) than any other candidate (Table 4). As a result, in the final instant runoff she defeated Tony Kelly by 53% to 47% among voters who had ranked at least one of them.

Table 4
First, Second and Third rankings,
San Francisco Board of Supervisors District 10, 2010

First rankings	%	Second rankings	%	Third rankings	%	First, second and third rankings	%
Lynette Sweet	12.1	Dewitt Lacy	9.0	Chris Jackson	8.9	Malia Cohen	25.7
Tony Kelly	11.8	Malia Cohen	8.6	Lynette Sweet	5.5	Lynette Sweet	24.2
Malia Cohen	11.8	Tony Kelly	6.7	Malia Cohen	5.3	Tony Kelly	23.2
Marlene Tran	11.5	Lynette Sweet	6.6	Steve Moss	5.1	Steve Moss	22.7
Steve Moss	11.1	Steve Moss	6.5	Dewitt Lacy	5.0	Chris Jackson	21.3
Teresa Duque	8.1	Marlene Tran	6.3	Tony Kelly	4.7	Dewitt Lacy	21.2
Dewitt Lacy	7.2	Teresa Duque	6.3	Eric Smith	4.7	Marlene Tran	20
Chris Jackson	6.1	Chris Jackson	6.3	Kristine Enea	2.2	Teresa Duque	16.2
Kristine Enea	3.1	Eric Smith	3.1	Marlene Tran	2.2	Eric Smith	10.3
All others	17.3	All others	17.3	All others	18.3		

In the 2014 campaign for the 10th District, the candidates clearly understood the importance of broad support as a key to winning under RCV. Tran and Kelly ran again, taking on incumbent Cohen, with Kelly the leading progressive. Rather than going on an attack against the incumbent, Tran's supporters urged voters to rank Cohen second. The blog, *SF Moderates*, told voters: "Ranking Marlene Tran #1 and Malia Cohen #2 assures a vote is not wasted on Tran if she does not win and also assures that Cohen will receive those votes in the ranked choice transfer." As long as Malia Cohen picked up Tran's second choices, Tran's candidacy would not risk splitting the vote or advancing Kelly's prospects. In other words, candidates and supporters knew there was more space for women and candidates of color to enter into the race, without fearing splitting the vote and contributing to the election of the least preferred candidate. Cohen ended up winning easily.

More Civil Campaigns, More Women and People of Color

A voting system like RCV, which rewards candidates who can combine a significant core of first choice support with broad second and third choice support, ought logically to discourage undue negativity about other candidates because such negativity could turn off supporters of those candidates who might have otherwise ranked the negative candidate second or third. This characteristic of RCV is one of the reasons to expect that the introduction of RCV might be accompanied by an increase in the proportion of female candidates running for, and winning, political office since studies show that women prefer to run in campaign environments that are more cooperative, rather than adversarial and negative (Kanthak and Woon 2005, Lawless and Fox 2012).

> RCV discourages negative campaigning, which may encourage women to run for office.

A second example of the impact of RCV on women or people of color comes from the open 2nd District race for Oakland City Council in 2014. The contest involved a smaller field of five candidates with an obvious early frontrunner, Dana King, an African-American woman and former news anchor with the support of the Chamber of Commerce. The other two main contenders were Abel Guillen, a Latino with the backing of the unions, and Andrew Park, a Korean immigrant and community organizer. In a district that is about 30% Asian, 20% African American, and 10% Hispanic, each of these candidates came from an important community within the district, opening up the possibility of vote splitting under plurality voting. Under the old system, the first round of voting would have taken place in a low turnout June primary that could have decided the outcome (if one candidate received at least 50% of the vote).

Instead, in a higher turnout November election, Guillen led with 36% of first choices. King placed a close second with 33% of voters' first choices, and Park won 19%. Guillen won the instant runoff by 53% to 47%. He combined his lead in first choices with being the second choice of 18% of voters and the third choice for 11%, meaning more than 65% of voters ranked him first, second, or third. By contrast, 61% of voters ranked King, and 54% ranked Park.

Democratic Party activist Michael Colbruno, who serves on Oakland's Port Commission, initially filed to run for Oakland's 2nd district. However, Colbruno withdrew from the race early, stating that he did not want to hurt Guillen's chances of winning. However, as one Oakland blogger noted, in an RCV election, Colbruno's presence in the race would not necessarily hurt Guillen's chances if Colbruno encouraged his supporters to rank Guillen second. In a single-winner plurality election, Colbruno might have split the vote and played the role of a spoiler candidate for Guillen, but in a RCV election the spoiler effect is less of a problem, as Tran's supporters in San Francisco knew. It is this resistance to the spoiler effect, combined with RCV's tendency to reward candidates who win widespread second- and third-choice support *in addition to* a strong core of first-choice support, that leads to an expectation that the adoption of RCV will be accompanied by an increase in not only the number of female candidates running and winning elective office, but also the number of candidates of color and female candidates of color running and winning.

Other Relevant RCV Contests

Similar dynamics have played out in other important races where people of color have defeated white candidates. Here are thumbnail descriptions of these races.

Oakland mayoral election, 2010: Don Perata, a white male former state senate majority leader, was the heavy favorite in an open seat election for mayor, with a large campaign spending advantage and high name recognition. But Perata ran a traditional campaign that relied more on television advertising than direct contact with voters, and ended up with barely a third of first choice rankings. Chinese-American city councilwoman, Jean Quan, engaged in more direct contact with voters, and explicitly reached out to backers of other candidates to be their second or third choice. She ultimately reversed her 34% to 25% deficit in the first round to win in the in final instant runoff by 51% to 49% and became the first Asian-American woman to be elected mayor of a major American city. She ultimately earned honeymoon support of a large majority of Oakland residents, although later suffered a steep decline in popularity.

San Francisco Board of Supervisors election for 6th district, 2010: Debra Walker, a white woman, was the favorite going into this open seat election with the endorsement of the Democratic Party. But Korean American, Jane Kim, ran an inclusive campaign that involved reaching out to voters across the district. She earned

a 31% to 28% lead in first choices, and expanded her lead to win 54% to 46% in the instant runoff. The fact that RCV rewards inclusive campaigns that go beyond one's base was key to her upset victory. According to blogger Paul Hogarth:

> *One of the keys to Jane Kim's success was that the campaign never conceded a single neighborhood -- forming a Fifty-Nine Precinct Strategy that met voters in every corner of District 6.*

Blogger Randy Shaw explained that "the machine's power all paled in comparison to Jane Kim's grassroots, door-to-door campaign that focused on listening to voters."

Oakland City Council election for 3rd district, 2012: This open seat election was contested by a divided field, with six candidates earning between 9% and 26% of the vote. Lynette Gibson-McElhaney, an African-American, woman trailed Sean Sullivan, a white man, with a large financial advantage, by 2.4% in first choices. Gibson-McElhaney formed an informal alliance with two other African-American candidates, and ultimately their vote consolidated behind her and she won 51% to 49% in the final instant runoff.

San Francisco Board of Supervisors election for 7th District, 2012: Norman Yee, an Asian-American school board member, won an upset win over F.X. Crowley, a white man, in one of the city's wealthiest areas. Yee led in first choices, and held on to win 51% to 49%—a victory that may have been impacted by the election being decided in the high, more representative turnout of a presidential election rather than a low turnout December runoff.

As a contrast to these races, consider these results from runoff elections in San Francisco Board of Supervisors contests held before adoption of RCV:

- In the 1st District in November 2000, with the higher turnout associated with a presidential election, Asian-American incumbent, Michael Yaki, won 38% of the vote, ahead of white candidate Jake McGoldrick with 28% and another Asian-American candidate with 22%. Turnout nearly halved in the December runoff, and McGoldrick won 53% to 47%.

- In the 8th District in November 2000, Asian-American woman, Mabel Teng, led white-male candidate Tony Hall, 44% of the vote to 22%. Teng lost the December runoff.

- In November 2002, female candidate, Eileen Hansen, led male candidate, Bevan Dufty, by four percentage points but lost in the December runoff, where turnout declined by a quarter.

Measuring the Impact of RCV

Theoretically, RCV should increase descriptive representation over single-winner plurality and runoff systems for women, people of color, and women of color. Anecdotally, we can find evidence that it may have done so. With over 100 RCV elections conducted within the Bay Area, we now have data to test whether RCV has, in the aggregate, improved descriptive representation for women, people of color, and women of color.

In this project, we analyze a dataset of electoral contests for city council, mayor, and city-wide executive positions like auditor, in eleven California cities amassed from city governments, county election administrations, the California Secretary of State, and the Census Bureau. Each observation in the dataset is a seat that was up for election between 1995 and 2014 in the selected cities.[5] The eleven cities include four "treatment" cities that have adopted RCV (Berkeley, Oakland, San Francisco, and San Leandro), as well as seven "control" cities that did *not* adopt RCV, but were selected to match the RCV cities on population size, racial makeup, and income (Alameda, Anaheim, Richmond, San Jose, Santa Ana, Santa Clara, and Stockton). These control cities are the same cities as used by Donovan, Tolbert, and Gracey in their 2016 *Electoral Studies* analysis of campaign civility under RCV in the Bay Area (Donovan, Tolbert and Gracey, 2016). By including both cities that adopted RCV during the time period of the dataset, and matching them with control cities that did not adopt RCV, we are able to make comparisons across cities to determine the effect of RCV.

We first examine the raw data in the treatment and control cities, comparing the level of descriptive representation before and after RCV was adopted in RCV cities. The measures of descriptive representation we used are the percentage of candidates for local office who were women, people of color, and women of color in the cities, and the percentage of election winners who were women, people of color, and women of color. This analysis indicates that all measures of descriptive representation improved more (or declined less) in cities that adopted RCV than cities that did not adopt RCV.

There have been over 100 RCV elections in the Bay Area, meaning we can test the impact RCV is having on representation.

To assess whether RCV was associated with the increase in women, people of color, and women of color running for and being elected to office, we then employed a difference-in-differences (DID) regression analysis. DID allows us to determine 1) the change in makeup of who runs for and wins elected seats in the treatment cities from before the adoption of RCV to after it, and 2) the change in makeup of who runs for and wins elected seats in the control cities during that same time period.

If the change over time in treatment cities is significantly greater than the change over time in control cities, this suggests that RCV *leads to* an increase in women and minorities running for and winning elected offices. By using a DID approach, we are able to account for 1) increases (or decreases) in the proportion of women, people of color, and women of color in elected office that have occurred over time for reasons other than RCV, such as changes in social norms, and 2) differences between cities that have and have not chosen to adopt RCV, such as partisanship, median income, the use of term limits, and public financing of candidates' campaigns.

Ranked Choice Voting Improves Representation for Women and Women of Color

If we compare descriptive representation in the cities that adopted RCV with cities that did not, we can see that outcomes were better in cities that adopted RCV. In the cities studied, women were increasingly less likely, overall, to be candidates. However, the percentage of female candidates contesting a seat was higher and declined less in cities that adopted RCV than in cities that did not (Figure 5). More than a third of candidates (34.3%) were women in RCV contests, while, over the same time period, 30.2% of candidates were female in cities that did not adopt RCV.

In cities that adopted RCV, the percentage of candidates of color for local elective office increased by five percentage points (to 17.2%) once RCV was in use (Figure 6). In cities that did not adopt RCV, the percentage of candidates of color increased only slightly, to 12.7% of all candidates. The same pattern is present for female candidates of color (Figure 7). After RCV was in use, the percentage of female candidates of color rose more than three points to 11.0%, while in cities that did not adopt RCV, the percentage of female candidates increased less than one point to 7.5% over the same time period.

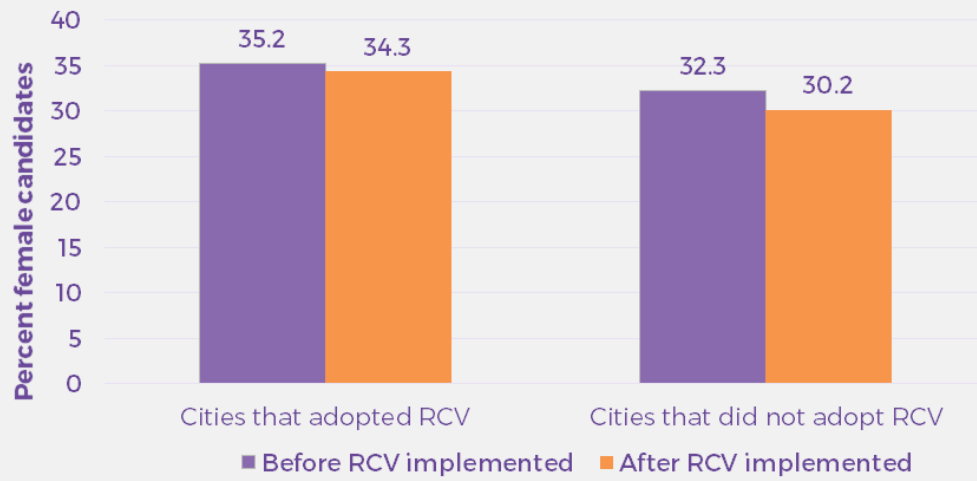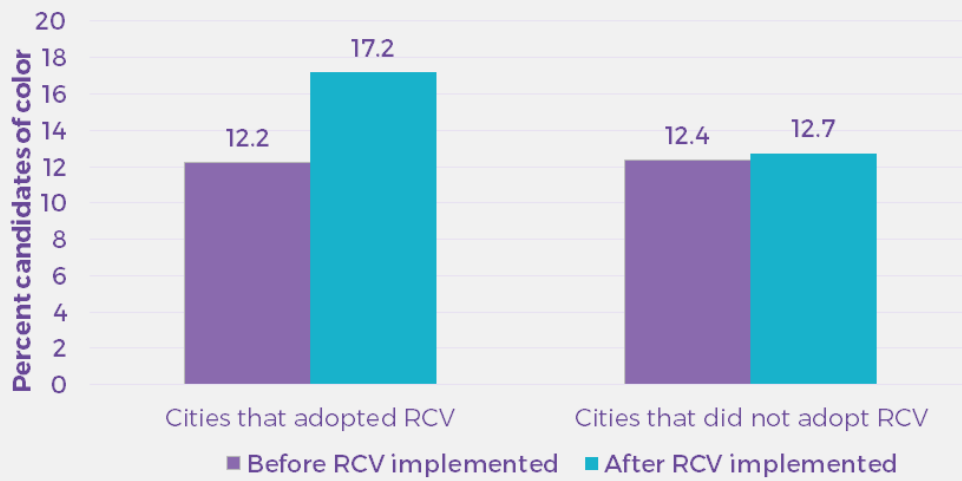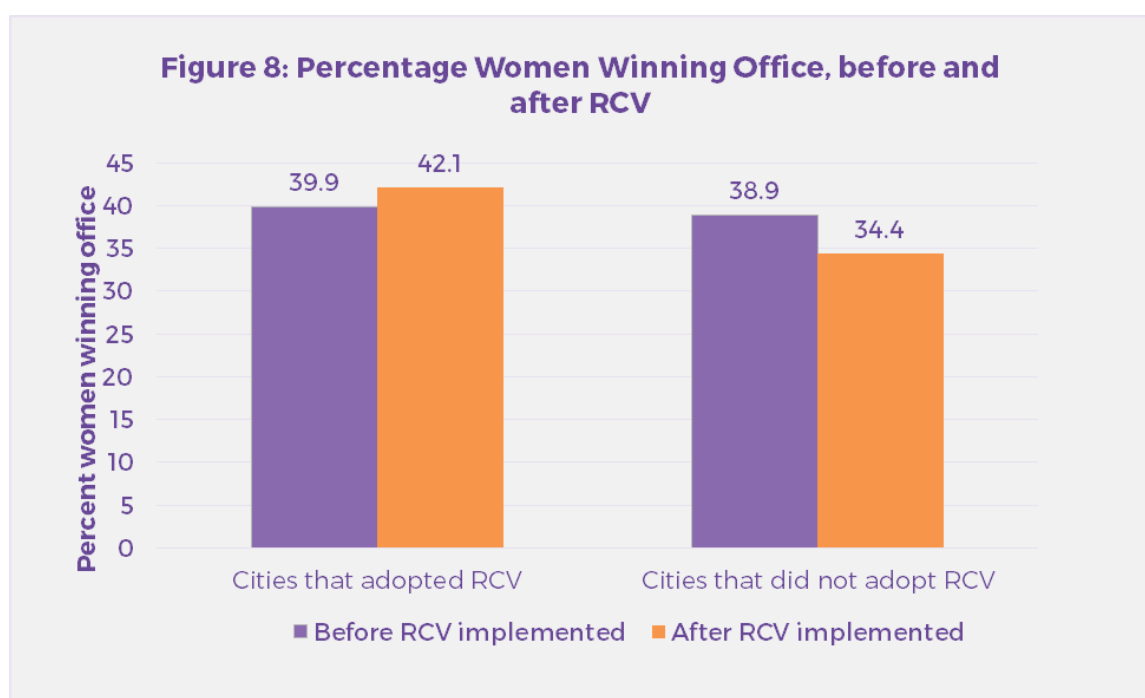**Figure 5: Percent Female Candidates, before and after RCV**

Cities that adopted RCV:
- Before RCV implemented: 35.2
- After RCV implemented: 34.3

Cities that did not adopt RCV:
- Before RCV implemented: 32.3
- After RCV implemented: 30.2

Y-axis: Percent female candidates (0–40)

Legend: ■ Before RCV implemented ■ After RCV implemented

Figure 6: Percentage Candidates of Color, before and after RCV

Cities that adopted RCV:
- Before RCV implemented: 12.2
- After RCV implemented: 17.2

Cities that did not adopt RCV:
- Before RCV implemented: 12.4
- After RCV implemented: 12.7

Y-axis: Percent candidates of color (0–20)

Legend: ■ Before RCV implemented ■ After RCV implemented

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Cities that adopted RCV also performed better than cities that did not in terms of women, people of color, and women of color winning local elective office. In cities that adopted RCV, the percentage of local offices won by women increased slightly (to 42.1%) when RCV was used (Figure 8). By contrast, the percentage of local elective offices won by women in cities that did not adopt RCV declined over the same time period (from 38.9% to 34.4%).

Figure 7: Percentage Female Candidates of Color, before and after RCV

Percentage female candidates of color

	Cities that adopted RCV	Cities that did not adopt RCV
Before RCV implemented	7.6	6.7
After RCV implemented	11.0	7.5

■ Before RCV implemented ■ After RCV implemented

Figure 8: Percentage Women Winning Office, before and after RCV

Percent women winning office

	Cities that adopted RCV	Cities that did not adopt RCV
Before RCV implemented	39.9	38.9
After RCV implemented	42.1	34.4

■ Before RCV implemented ■ After RCV implemented

The percentage of people of color winning local elective office increased more than eighteen points (41.4% to 59.8%) after the adoption of RCV (Figure 9). In cities that did not adopt RCV, the increase was much smaller (3 points). For women of color in office, the trend is the same as for women (Figure 10). The percentage of women of color winning elective office increased after RCV was adopted (from 13.5% to 22.4%), but decreased in cities that did not adopt RCV (from 19.1% to 12.5%) over the same time period.

Figure 9: Percentage People of Color Winning Office, before and after RCV

Figure 10: Percentage Women of Color Winning Office, before and after RCV
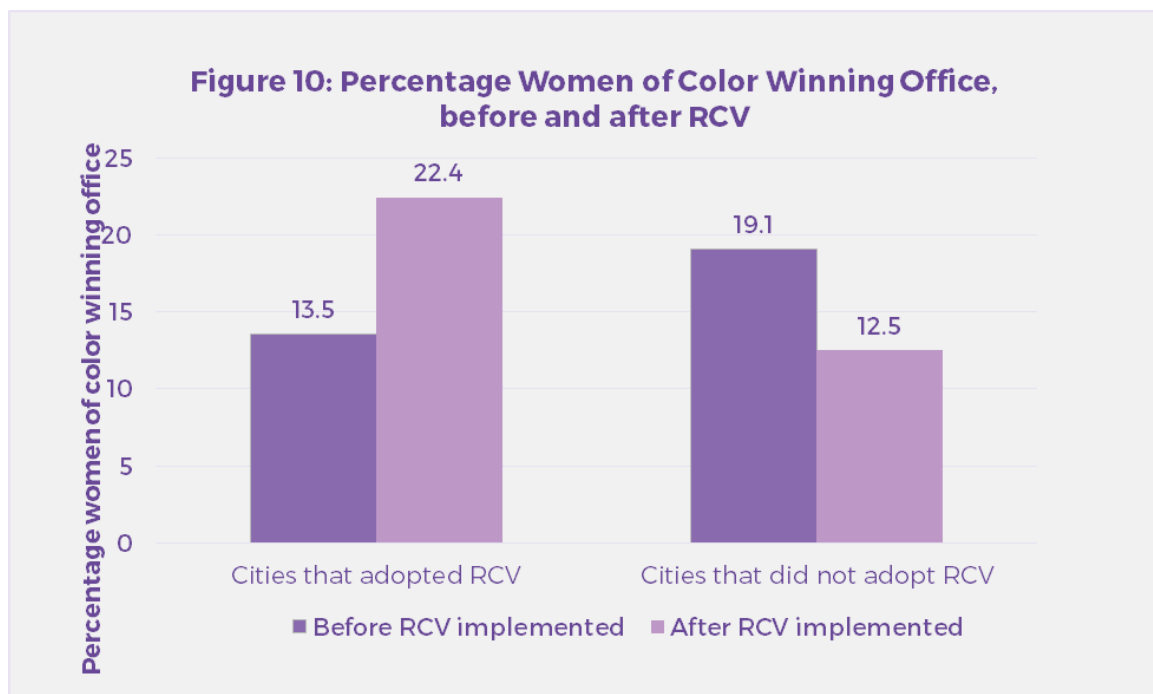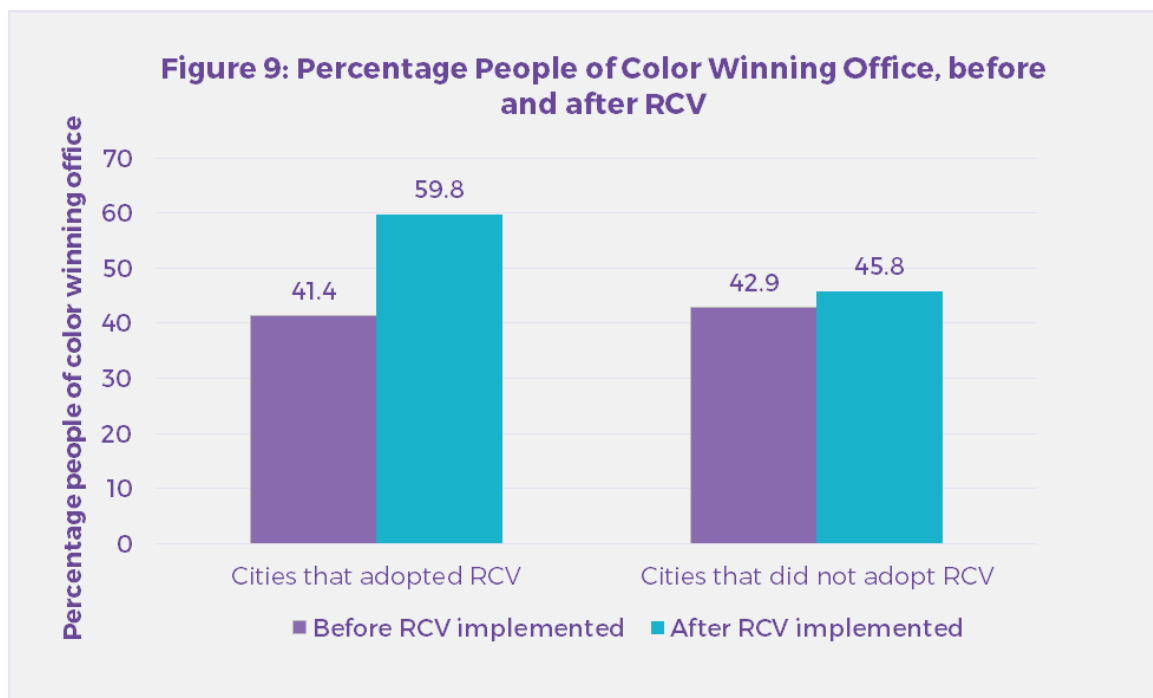
These results are promising for RCV; however they do not control for differing characteristics of the cities, like the racial and ethnic make-up, income levels, and whether term limits and public financing of campaigns are used. Nor do they take into consideration whether an incumbent was running in the race, how many candidates ran for the office, or how competitive the race was. It is important to control for these factors, especially incumbency, as each affects who wins.

For example, in all of the cities, incumbency was the single biggest predictor of whether a candidate won a seat. Nine in ten incumbents (90%) won their seats in the 208 races in our dataset contested by an incumbent. In the cities that adopted RCV, rates of incumbent re-election were 93% before RCV was introduced and 94% after it was introduced. In cities that did not adopt RCV, incumbency re-election rates were lower, moving from 91% to 80% over the same time period.

If we consider races where no incumbent ran, we see that more women, people of color, and women of color won under RCV than other systems. In the 109 open seats in our database, 39% of winners were women, 47% were minorities, and 16% were women of color. In cities that adopted RCV, the proportion of open seat winners who were women, people of color, and women of color increased. In cities that did not adopt RCV, the exact opposite was true (Table 11).

Table 11
Open Seat Winners, Percentage Women, People of Color, and Women of Color, before and after RCV

	Cities that adopted RCV	Cities that did not adopt RCV
Open seat races in the dataset		
Before RCV implemented (n of cases)	54	55
After RCV implemented (n of cases)	38	43
Percentage of open seat winners female		
Before RCV implemented	31.5%	41.8%
After RCV implemented	50.0%	34.9%
Percent change	+18.5	-6.9
Percentage of open seat winners people of color		
Before RCV implemented	43.6%	45.5%
After RCV implemented	71.1%	34.9%
Percent change	+27.5	-10.6
Percentage of open seat winners women of color		
Before RCV implemented	11.1%	21.3%
After RCV implemented	29.0%	4.7%
Percent change	+18.0	-16.6

In our more sophisticated DID analysis, we control for the demographics of the city (percentage women, non-white population), socio-economic and political characteristics of the city (median household income, percentage with a high school diploma, partisanship), structural factors (the use of multi-winner districts, public financing, term limits), as well as the characteristics of the election (voter turnout, the presence of an incumbent, the number of candidates, and the competitiveness of the race).[7] This enables us to isolate the impact that the introduction of RCV had on descriptive representation.

Table 12
Probability of Candidates Winning before and after RCV, DID Analysis

	All races		City council races only	
	Cities that adopted RCV	Cities that did not adopt RCV	Cities that adopted RCV	Cities that did not adopt RCV
Predicted probability of a female candidate winning				
Before RCV implemented	35%	40%	41%	38%
After RCV implemented	44%	29%	45%	30%
Percent change	26%*	-28%*	10%	-21%
Predicted probability of a candidate of color winning				
Before RCV implemented	48%	42%	45%	45%
After RCV implemented	53%	41%	52%	44%
Percent change	10%	-1%	16%	-2%
Predicted probability of a female candidate of color winning				
Before RCV implemented	21%	19%	21%	22%
After RCV implemented	21%	6%	22%	6%
Percent change	0%+	-37%+	-5%*	-73%*

Indicates the difference was statistically significant at the 0.05 significance level using a two-tailed test. A plus sign indicates the difference was statistically significant at the 0.1 significance level using a two-tailed test.

In the DID analysis of city council, mayoral, and city-wide executive offices, we found that RCV led to more women and women of color winning seats than would have been the case without RCV (Table 12).[8] In cities that adopted RCV, the predicted probability of a female candidate winning an election is 44%, compared to 29% in cities that have *not* adopted RCV. Over time, there was a 26% increase in the probability of women being elected to office in cities that adopted RCV. During the same time period, the predicted probability of a female candidate winning an election in non-RCV cities declined 28%. In sum, even after accounting for possible unmeasured differences between cities that chose to adopt RCV and those that did not, we see that the use of RCV was associated with a 20-point improvement in the probability of a female candidate winning compared to not using RCV.

Women of Color Winning Office

We find a similar pattern when we look specifically at women of color. In cities that adopted RCV, the predicted probability of a woman of color winning election remained at 21%. By contrast, in cities that did not adopt RCV, the predicted probability of a woman of color winning election *declined* from 19% to 6%. In sum, this represents a 13 point increase in the probability of a woman of color winning elective office as a consequence of the introduction of RCV.

Limiting our analysis to city council races exclusively, we again find that adopting RCV was positive for women of color. The probability of a woman of color winning in city council contests declined in both sets of cites. In cities that have not adopted RCV the predicted probability of a woman of color winning elective office declined from 22% down to 6%. In RCV cities, it increased slightly from 21% to 22%. In sum, the introduction of RCV increased the predicted probability of women of color winning elections by 17 points compared to what we would expect if the cities had not adopted RCV.

RCV was also associated with a 5 percentage point increase in the percentage of female candidates of color running for office, holding all else equal (Table 13). When we limit our analysis to city council races, the introduction of RCV is associated with a 7 percentage point increase in the percent of city council candidates who are women of color. Additionally, RCV is associated with nine percentage point increase in the percent of city council candidates who are people of color.

> The probability of a woman of color winning elective office increased by 13 points after the introduction of RCV.

These findings are robust and come out of a research design that controlled for the demographics and political leanings of the city, structural features of the election (such as district magnitude and whether public financing was available), and characteristics of the contest (such as voter turnout, and whether the incumbent was a woman and/or a person of color).

Table 13
The Impact of RCV on Candidacy, DID Analysis

	All races	City council races only
Point increase in the percentage of female candidates	6	11
Point increase in the percentage of candidates of color	5	9*
Point increase in the percentage of female candidates of color	5*	7*

Indicates the results are statistically significant at the 0.05 significance level using a two-tailed test.

Conclusion

Our study shows that ranked choice voting (RCV) increases the likelihood that a woman will win local elective office and, importantly, increases the proportion of female candidates of color running and winning local elective office. In city council races, RCV was associated with an increase in the proportion of candidates for local office who were people of color and women of color.

The reasons for the positive effects of RCV may include the consolidation of decisive elections into a single round, which takes place in higher, more representative, November elections and for which candidates need to raise less funds and campaign for a shorter period. The tendency of RCV to reduce the spoiler effect and better aggregate voters' opinion in multi-candidate races might also help explain its positive impact. As the case of San Francisco's 10th District revealed, female candidates of color do not have to fear playing the role of spoiler to other candidates from their community or candidates with a similar ideology. This is because voters provide more information about their preferences, and RCV uses that information to elect candidates with broad support.

The importance of second (and third) choices — along with a sizeable core of first choice support — means that candidates who can build broad coalitions of intense and less intense support have better chances of winning than they do under single-winner plurality or majority runoff. This is another possible explanation for RCV's positive effect in the Bay Area. Female candidates of color tend to build broad coalitions of supporters. RCV rewards candidates who seek second choice or third choice support from within their communities and without. Additionally, female candidates are likely to prefer the less negative campaign environment fostered by RCV.

While the impact of Ranked Choice Voting on the representation of women, people of color, and women of color appears unequivocally positive, RCV has been is use for less than 15 years in the Bay Area. As more RCV elections take place, we will discover more about RCV's impacts and explore the mechanisms by which RCV produces a fairer election environment for women, people of color, and women of color.

Representation2020 will continue to research and evaluate the impact of Ranked Choice Voting in the Bay Area and in other jurisdictions where it is used as part of our overall mission to better understand the critical role that systemic change plays in advancing fair representation for all.

Voters provide more information about their preferences, and RCV uses that information to elect candidates with broad support.

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Endnotes

1. Research and analysis for this report was conducted by Dr. Sarah John, Research Director at FairVote, Haley Smith, Research Associate at FairVote, and Elizabeth Zack, Ph.D candidate at Indiana University Bloomington. Our thanks go to Kathryn Gansler, Viviana Gonzalez, and Michael Patison for their research assistance.

2. Some cities that have adopted RCV have not yet implemented RCV because they are waiting on a change to state law (allowing them to implement an electoral system of their choosing) or for new voting equipment.

3. For the purposes of this analysis, decisive primary systems, in which offices are filled at a pre-November election unless no candidate receives a majority of the vote, are included in the "majority runoff" category.

4. Single-winner quasi-majority runoff was used in Berkeley, with the requirement that a candidate win 45% of votes cast in the November election to be declared the winner. If no candidate received 45% of the vote, a December runoff we held between the top two vote getters. A decisive primary is an election held before November, in which candidates may be elected without facing the November general election if they receive a majority of votes cast in the primary election.

5. The dataset contains elections for local office in San Francisco and its control city, San Jose, from 1995 to 2014, and elections from 2000 to 2014 for the other nine cities.

6. For a thorough summary of the Difference in Differences method see: Wooldridge, J.M., 2013. *Introductory Econometrics: A Modern Approach*. 5th ed. Cengage Learning. Chapter 13.

7. For the models of women as candidates and winners, we controlled for the percentage of women in the city, the median household income in the city, the percentage of adults that graduated high school, partisanship, whether the county party chairs were both female, whether multi-winner districts were used, the presence of public financing, term limits, voter turnout, the presence of an incumbent and their gender, the number of candidates, and the competitiveness of the race. For the models of people of color as candidates and winners, we controlled for the percentage of people of color in the city, the median household income in the city, the percentage of adults that graduated high school, partisanship, whether multi-winner districts were used, the presence of public financing, term limits, voter turnout, the presence of an incumbent and their race, the number of candidates, and the competitiveness of the race. For the models of women of color as candidates and winners, we controlled for the percentage of women of color in the city, the median household income in the city, the percentage of adults that graduated high school, partisanship, whether multi-winner districts were used, whether the county party chairs were both female, the presence of public financing, term limits, voter turnout, the presence of an incumbent and their race, the number of candidates, and the competitiveness of the race.

8. All results reported in the text are statistically significant at the 0.1 significance level using a two-tailed test.