NCSL Report

Ranked Choice Voting in Practice: Implementation Considerations for Policymakers

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Related Topic: ELECTIONS

Introduction

In most American elections, the winning candidate is the one who receives the most votes, even if most voters selected someone else. Some states in the Deep South hold runoffs between the top two vote-getters if no candidate receives at least 50% of total votes, ensuring whoever wins is supported by a majority of the electorate. In a small but growing number of states and municipalities, another majoritarian system—ranked choice voting, or RCV—is used. RCV combines the general election and the runoff by letting voters select—or "rank"—the candidates in order of preference. If no candidate receives 50% of the first-choice votes, the lowest-ranking candidate is eliminated, and their second-place votes are reallocated among the remaining candidates. The process repeats itself until a winner is selected. Variations of RCV exist for different types of elections, including races with multiple winners.

Advocates of RCV claim the system has many benefits over traditional American elections, including:

- More positive campaigning because candidates have an incentive to be voters' second-choice option.
- Reduced political polarization, because only candidates with broad support can win.

- Eliminating the “spoiler effect,” empowering voters to select third-party candidates without hindering the “lesser of two evils.”
- Cost savings over traditional runoff elections.

This report collates existing research on these and other questions into 18 sections. NCSL also surveyed local election officials implementing or currently running elections using RCV to gather insights on a series of administrative questions. Each section is written to be understood as a stand-alone report. No additional context is needed. The questions are divided into two sections: administrative and policy. NCSL offers this information in the hope that it’s useful to policymakers considering RCV legislation but does not take a position on whether the system should be adopted.

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- New Hampshire Rep. Barbara Griffin (R)
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Glossary of Terms

- **Exhausted vote**

  When a ranked choice ballot becomes inactive and cannot be advanced in the tabulation for a contest because there are no further valid rankings on the ballot. Exhausted ballots are not necessarily cast by mistake; the voter could have intentionally left some candidates unranked.

- **Overvote**

  A phenomenon that occurs when the number of selections made by a voter in a contest is more than the maximum number allowed. Overvotes result in spoiled ballots.

- **Plurality voting**

  (aka first-past-the-post) An election system in which a candidate who receives more votes than any other wins but does not need to receive an absolute majority (more than 50%).

- **Ranked choice voting**

  (aka instant runoff voting) An election system which allows each voter to rank candidates in order of the voter's preference, and votes are counted in rounds using a series of runoff tabulations to eliminate candidates with the fewest votes, with a winner only selected once a candidate receives a majority of votes in a single winner contest.

- **Residual vote**

  A ballot where too many candidates are ranked, or fewer candidates are ranked than permitted.

- **Spoiled ballot**

  A ballot which contains a voter error or is otherwise marred and is not tabulated.

- **Spoiler candidate**

  A non-winning candidate whose presence on the ballot affects which candidate wins. Unrelated to spoiled ballot.

- **Statistical significance**

  An analytical way to quantify whether a result is likely due to chance or likely is due to a specific cause.

What factors affect the cost of switching to RCV?

It costs money to implement ranked choice voting (RCV), as is the case with virtually any change in a voting system. Prior to this report, no comprehensive studies had explored the costs associated with switching to RCV from a traditional plurality-winner voting system. A key focus of NCSL's survey of local election officials who conduct elections using RCV was

to determine the cost of switching to RCV, particularly given how salient fiscal concerns are to policymakers.

NCSL's survey focused on the one-time costs associated with transitioning to RCV, not recurring costs associated with repeated use of RCV. While some costs could be construed as recurring, they are costs jurisdictions will face at the moment of transition and are thus included below. The survey asked offices to estimate the following costs:

- Equipment changes or software costs needed to conduct RCV elections, if any.
- Costs associated with educating voters on how to cast an RCV ballot.
- Any additional purchases of single-use items like ballot paper, perhaps in anticipation of an increase in ballot spoilage in the first election using RCV, or because RCV ballot items take up more space than plurality ballot items.
- The total cost of labor dedicated to implementing any of the above changes.
- The total cost of labor dedicated to implementing RCV above and beyond the above changes.

Of the local election jurisdictions that answered these questions, the average cost of switching to RCV was estimated at $154,759. Excluding the highest and lowest outliers, the average drops to $39,679. The median cost, which is less sensitive to outliers, is $17,000. Because jurisdictions using RCV vary in size, cost-per-voter may be a better metric of costs to jurisdictions. The mean cost per voter was 94 cents; the median cost was 43 cents.

The key factors affecting transition costs are the size of the jurisdiction, whether consultants or outside groups were brought in to smooth the transition to RCV, and the cost of labor to a local election office. One jurisdiction reported its greatest expense was retaining legal counsel to help determine a permissible way to implement RCV under state law. One county that conducts RCV on behalf of its cities reported passing on a fixed amount to cities to cover their transition expenses, including the cost of a license to an RCV add-on, but unanticipated expenses ended up costing the county more than it received in fees under its contracts with the cities.

Costs can be offset by savings depending on circumstances. In fact, switching to RCV can be a net money saver if, by using RCV, an election and a runoff election can be combined into a single election, or a primary election can be consolidating with a general election. Total savings can be significant. According to a report published by FairVote and Third Way, runoff elections frequently exceed 50% of the cost of the first election. The possible savings per runoff could be in the hundreds of thousands, if not higher. The exact calculation will vary depending on a jurisdiction's circumstances.

Conclusion

NCSL's survey found the average cost of switching to RCV was $154,759 among responding jurisdictions. When the highest ($1,000,000) and lowest ($0) amounts were excluded, the average dropped to $39,673. The median cost was $17,000. Costs-per-voter averaged 94

cents; the median cost was 43 cents. According to NCSL's survey, the key factors impacting the cost of switching to RCV included labor, whether any existing equipment needed to be replaced or supplemented, whether legal or public affairs expertise was acquired to ease the transition, and the size of the jurisdiction. Savings are possible if a RCV election can be used to combine two separate elections, such as a primary and a primary runoff.

What technology is required to use RCV?

Any election system requires the following: a method of marking ballots (which can be as simple as voter-supplied pens for filling in bubbles) and a method of tabulation for in-person votes; inclusive options for voters with disabilities; options for sending ballots to overseas voters; and options for mailing absentee ballots to eligible voters. If a jurisdiction conducts post-election audits, these systems must comply with any record-keeping or other auditing requirements as well. A report by the RCV advocacy group FairVote recommended jurisdictions ask their vendors whether equipment changes are needed to conduct elections with RCV. The number of changes needed to conduct an election with RCV will vary depending on the jurisdiction, and getting answers from potential vendors can help with decision-making. NCSL's survey of local election officials implementing RCV asked for an itemized list of election equipment that was replaced, modified or enhanced to allow elections to be conducted using RCV. Table 1 shows the number of jurisdictions that reported replacing equipment or software of various kinds.

Equipment/Software Type	Number of Jurisdictions Making Alteration
Ballot design software	3
Ballot marking device	3
Ballot printer	2
Ballot scanner/tabulator	8

Table 1. Equipment Switches to Implement Ranked Choice Voting

Note: Equipment and software replacement is required when existing equipment is nearing the end of its useful life, regardless of whether RCV is implemented.

Conclusion

Any election system needs to design ballots, print ballots, permit voters to mark ballots process voted ballots, tabulate votes, report unofficial results on election night, and depending on state law, provide an auditable trail. RCV does not fundamentally change these basics. No additional equipment is necessary to conduct an election using RCV, and all election equipment currently on the market likely has the capacity to run RCV elections—so any jurisdiction that plans to replace existing but potentially outdated equipment will gain this capability. To minimize potential technology costs, jurisdictions considering switching can check with their existing vendors to see if software patches or equipment changes would be necessary to carry out RCV elections.

How realistic is it to run statewide RCV elections when technology from more than one vendor is in use in the state?

It is common that within a given state, counties or local jurisdictions use different voting systems. In theory, this diversity could make running statewide RCV elections harder. Maine is the only state that, so far, has used ranked choice voting for any statewide offices. According to Verified Voting, a nonpartisan organization that tracks election equipment use in local jurisdictions, Maine's localities run elections with hand-marked paper ballots tabulated either by hand or with tabulators from the vendor Election Systems & Software (ES&S). Ballot marking devices are available for voters with disabilities. No jurisdictions in Maine use direct recording electronic voting equipment, or DREs.

Later this year, Alaska will become the second state to conduct statewide RCV elections. Unlike Maine, Alaska's elections are run at the state level, a product of its vast size and lowest-in-the-country population density. Like Maine, Alaska's elections are entirely run with hand-marked paper ballots, but all Alaskan ballots are tabulated with machines produced by Dominion Voting Systems. Also, like Maine, Alaska offers ballot marking devices for voters with disabilities and does not offer DREs.

Just because the two states currently or soon running elections with RCV have only one voting technology vendor uniform statewide does not prove that such systems are necessary. NCSL could not identify any research analyzing the ability of running a multi-jurisdiction RCV election on different equipment types. NCSL's survey only had one response from a jurisdiction that runs ranked choice voting elections statewide: Portland, Maine. NCSL's survey asked respondents to comment on whether other jurisdictions in their states used different equipment. The survey found that uniformity is fairly common among responding jurisdictions, with only one state—Minnesota—reporting that different equipment is used.

Conclusion

NCSL could not find any research indicating whether uniform election equipment is needed to conduct statewide elections using RCV. Of the two states using or implementing RCV statewide—Maine and Alaska—both do use the same equipment throughout each state. NCSL's survey found that nearly all states with multiple localities using RCV also have uniform voting equipment. If a state permits county clerks to select their own election equipment and the state chooses to use RCV for statewide elections, the state legislature may seek to mandate minimum capacities for equipment certified for use in the state. Dialogue between legislators and election officials in your state would clarify exact needs, particularly if your state does not currently use the same equipment types statewide.

What impact does RCV have on ballot design and the number of ballot styles required, given a mix of RCV and non-RCV contests?

NCSL's survey of local election officials asked a number of questions (see the Appendix) about many aspects of ranked choice voting implementation, including whether RCV increased the difficulty or number of ballot designs a jurisdiction needed to create. Of the 15 responses received, three are in the process of implementing RCV and have yet to design a ballot. Of the remaining twelve, five (42%) reported no increase in the number of ballot designs, while seven (58%) reported creating additional designs to conduct RCV elections. Some of those designs were due to other rules, such as a requirement that each office be listed on separate ballot pages, and thus were not due to RCV itself. Others reported difficulty designing ballots with a mix of RCV and non-RCV elections, because many jurisdictions only use RCV for select races.

The question about the time dedicated to ballot design was included to capture whether labor costs were higher, even if additional ballot designs ulitmately were not needed. Of those twelve responding jurisdictions, only two (17%) reported no additional time spent on design, five (41.5 %) reported a small increase in the amount of time required and the remaining five (41.5%) reported a significant increase in the amount of time required. A majority of LEOs said designing instructions for the newly created ballots was a significant hurdle. Multiple LEOs noted their vendors helped with the design process, and a handful noted they selected ballot design vendors specifically because of their experience with other jurisdictions using RCV.

Conclusion

According to NCSL's survey, a majority of jurisdictions currently running RCV elections increased the number of ballot designs they produced when adopting RCV, and that the first RCV ballot design took more time than non-RCV ballot design. It appears some of those costs, such as crafting new ballot instructions, are one-time expenses, while others like longer ballot proofing times are likely to recur in each election. But despite this, a majority of jurisdictions reported these costs were either non-existent or minimal, rather than significant, and were likely to diminish over time.

What voter education efforts are required?

NCSL's survey of local election officials included a question on how their offices educated the public about RCV. Of the 15 responses received, three came from offices that are in the process of implementing RCV and have not yet conducted a RCV election. Of the remaining 12, one—Cambridge, Mass.—implemented RCV so long ago that the education efforts used at the time are unknown. The 11 remaining offices reported a variety of techniques, including:

- Educational flyers as inserts in absentee ballots sent to voters.
- Printing instructions on completing an RCV ballot on the ballot itself.
- Web dissemination, including through social media platforms like Facebook.
- Newspaper advertisements.
- Conducting a mock RCV election and inviting the public to participate.
- Holding informational sessions at community centers and other local events like farmers markets.
- Publishing a page on RCV on the local election office's website.
- Producing videos on RCV in partnership with a public affairs company.
- Partnering with community organizations like the League of Women Voters.
- Special trainings on RCV for candidates running in those elections.

None of the local election officials surveyed said any specific public education effort was critical, nor did any report that their efforts were insufficient. Costs, including staff time, are addressed in other sections of this report.

In their 2019 paper, Self-Reported Understanding of Ranked Choice Voting, Todd Donovan, Caroline Tolbert and Kellen Gracey analyzed voters' comprehension of voting instructions by system type in California (winner take all, top two, plurality winners and RCV). They found that with the exception of the state's top-two system, nonwhite voters reported lower levels of comprehension than white voters, and the disparity was highest for RCV. When all survey respondents were considered, RCV had neither the lowest or highest comprehension rates among the four polled voting systems, and racial disparities existed across all voting system types. This lead the authors to conclude that to the extent any racial disparities existed with voter comprehension of RCV, those disparities were likely correlated with systemic disparities rather than any difficulty in understanding RCV. A report by New America found that voters understand RCV, despite critics' claims to the contrary.

Conclusion

NCSL's survey found that election offices use a myriad of methods to educate the public on RCV. None of the methods were described as either critical or unnecessary, which makes sense—most election offices merely seek to educate the public as best they can and do not audit their own techniques. While research on public education for RCV is limited, one study from California suggests racial and educational disparities in comprehending RCV could exist, and policymakers may want to pay close attention to how education efforts reach those groups. A 2019 study suggests that voters have little trouble making the switch from traditional voting systems to RCV. More research is needed to draw firmer conclusions on which techniques might best address those disparities.

How can RCV elections best be audited?

To ensure that election equipment and procedures used to count votes during an election worked properly and the election yielded the correct outcome, many states require that

election officials conduct a post-election audit. While the phrase can be used to mean a variety of election validation efforts, it generally refers to checking paper ballots or records against the results produced by the voting system to ensure accuracy. Although post-election audits may lead to a full recount if errors are detected, they differ from a recount in that they are conducted regardless of the margins of victory. Nearly all states require some form of post-election audit.

Until recently, few resources existed explaining how, specifically, ranked choice voting elections are best audited. A recent report from the Ranked Choice Voting Center explains how risk-limiting audits (RLAs) can be used in some types of RCV elections. Unlike traditional audits which count a percentage of ballots cast in each election, RLAs randomly select a small selection of ballots and hand count a specific race on those ballots. Counting continues until a level of statistical certainty about the accuracy of the count is reached. RLAs are used in a handful of states, though their use is increasing.

The Ranked Choice Voting Resource Center found existing software and technology can conduct an RLA in RCV elections that select a single winner, but not in RCV elections with multiple winners (e.g., a city council race where several offices are filled at once). Given that RLAs can be conducted in different ways, RCVRC recommends a technique that compares the paper ballot against the machine's record for that ballot.

Conclusion

The Ranked Choice Voting Resource Center report on RLAs in RCV elections is the most comprehensive resource identified by NCSL. As requirements for more precise audit processes increase, and the use of RCV increases, the nexus of the two will likely be explored further either by election officials or researchers, or both.

What impact does RCV have on residual vote rates and ballot rejections?

Few studies on RCV look at more than one jurisdiction at a time. In fact, NCSL's original research did not find any multi-jurisdiction research on whether RCV might lead to more mistakes on the part of voters, which would lead to more ballots being rejected (or "spoiled") and not counted. A new report from the Ranked Choice Voting Resource Center found that while variations in how RCV choices are presented to voters could impact ballot rejection rates, changing from one type of RCV to another led to the greatest increases in ballot rejection, highlighting the importance of public education efforts by election officials. Additionally, NCSL identified two single-jurisdiction case studies on the topic. The first analyzed a series of recent elections in San Francisco, which has used ranked choice voting for local offices since 2002. The 2015 paper by Francis Neely and Jason McDaniel found no statistically significant difference in spoilage between RCV and non-RCV elections. While they did find that racial minorities, older voters, poorer voters, women and voters who immigrated from another country had higher rates of ballot spoilage, those disparities existed regardless of election type. Across all elections they

considered, while critics worry that voters will only mark their first choice candidate, this study found that voters were more likely to rank all candidates than to just mark their first or second choice. Voters were most likely to rank all candidates; the only exceptions were the 2006 board of supervisors' race and the 2007 mayoral race, when a plurality of voters ranked only one or two choices. Neely and McDaniel concluded that any voters that did not rank every possible candidate did not do so because of so-called "ballot fatigue," or exhaustion with deciphering voting rules that leads voters to cease filling out the ballot, and was instead either a misunderstanding of the rules or an intentional omission of lower rankings.

A more recent survey of 2020 Democratic primary voters found similar results. Joseph Coll's study of 2020 Democratic primary voters offers valuable insight on ballot spoilage. Coll asked a sample of primary voters who cast RCV ballots to fill out a hypothetical ballot of his own design. He found that 12% of respondents did not rank all possible candidates, and that younger voters, racial minorities and women were more likely to rank fewer candidates than permitted—though many of those disparities were so small they may not be statistically significant.

Neither of the studies addressed potential differences between the residual vote rate or ballot rejection rate of in-person versus absentee ballots in RCV elections. While detailed instructions could be included with an absentee ballot mailed to voters, these voters lack the opportunity to ask an election judge for assistance. More research on this topic would be welcome.

Conclusion

Existing research on voter errors that may lead to ballot rejection focuses mainly on specific examples (voters in San Francisco and 2020 Democratic presidential primary voters whose state parties used RCV). While NCSL cannot draw conclusions from two isolated examples, their evidence is largely in agreement: in neither case did RCV itself trigger higher rates of voter errors, and any disparities that did exist between different groups of voters extended to non-RCV elections as well. Recent research from the Ranked Choice Voting Resource Center supports these findings, but additional peer-reviewed research would be helpful.

Will RCV slow down the release of election results, and if so, how can that be addressed?

In NCSL's survey of local election officials, of the 12 responding jurisdictions that have already implemented RCV, nine reported delays. These jurisdictions often used emphatic language to describe how delayed the results were. Three reported no delays.

The survey responses focus on two sources of delay: jurisdictions choosing not to run instant runoff until all ballots from all precincts are received, and that some tools like the Universal RCV Tabulator may not be certified to by regulators and thus cannot be used

to produce unofficial election results. One jurisdiction noted that RCV ballots had higher rates of contested elections, and the resulting adjudication process further slowed the release of results. Many jurisdictions noted they aim to release RCV election results within 24 hours of polls closing, rather than the night of the election.

Some of the survey responses offered ideas on how to improve the process. One respondent said they did not begin tabulating RCV elections until the following morning, which was well known within the community. Another office suggested that regardless of a jurisdiction's size, it should abandon hand tabulation of ballots and use mechanical tabulators with an instant runoff algorithm once all ballots are received. A different office suggested publishing the first through third choice votes on election night but waiting to run the official tabulation until the following day. One election office noted their post-election surveys found that voter dislike of delays was outweighed with satisfaction in the majority winners RCV produces.

One important caveat: it is not uncommon for some jurisdictions to post their first unofficial results the day after an election. In a blog on FairVote's website, Rich Robinson noted that many jurisdictions that run RCV elections struggle to produce any results on election night, regardless of election type. Policymakers may want to consider the existing capacity of their local election offices to produce quick results when assessing the relative speed of RCV.

Conclusion

NCSL's survey found that local election officials believe RCV delays the release of unofficial election results. Some respondents recommended changes to expedite the process, and others noted that voters reported satisfaction with RCV despite the delays. But with broad consensus that it does cause delays, policymakers may wish to weigh that against other factors when considering RCV legislation.

How can administrators best adjust to RCV?

While NCSL's survey of local election officials did not specifically ask how administrators can best adjust to RCV, there were many recommendations in survey responses. Summarized, these include:

- Pursuing multiple public education channels and methods to reach a wide swath of voters.
- Preparing the public for a potential delay in the release of election results.
- Educating candidates on how the RCV process works so they can be stewards of that information with the public.
- Speaking with vendors or consultants to assist with things like ballot design to reduce costs of adopting RCV.

Many pro-RCV organizations produce resources for election administrators to use. The Ranked Choice Voting Resource Center has an entire webpage dedicated to making adoption of RCV easier on administrators. FairVote maintain a similar webpage with resources on ballot designs, tabulation, and a sample RFP for RCV-capable equipment.

Conclusion

In addition to elections tech vendors, several organizations offer resources to election officials that may assist with adjusting to RCV. While some of these organizations expressly advocate for RCV, responses to NCSL's survey indicate election officials use (or would like to use) these resources more than they currently do. Apart from outside resources, local election officials may find the most value in contact their peers who run elections using RCV. Even when unsolicited, many offered ideas on how adopting RCV could be easier for others in the future.

How are election results best shown with RCV?

NCSL's survey of local election officials conducting elections using ranked choice voting did not address how results are best shown for RCV elections, and so far no peer-reviewed research exists. The Center for Civic Design (CCD), a nonpartisan organization that provides insight on design for voting and other civic activities, addresses this question in Design Principles for Ranked Choice Voting. CCD recommends the following practices:

- When reporting results, show the winner before explaining the counting process.
- First, describe what happens in each round, then follow with a visual display.
- Show all rounds of counting. Include vote totals for each candidate, the number of votes removed or added, the number of inactive ballots, and a "goal line" for the winners.
- Make it easy to see the number of votes transferred to each candidate during each round.
- Show the number of ballots that are no longer being counted because all ranked candidates have been eliminated in the result list. Differentiate these ballots from the ones that still have votes for non-eliminated candidates.
- Make it easy for users to navigate both forward and back to see the process of counting.

CCD web resources include an interactive demonstration on how to display RCV results. Some local election offices dedicate websites to explaining RCV tabulation to the public in advance of election night.

The Ranked Choice Voting Resource Center (RCVRC) has a similar list of recommendations:

- Release a preliminary round-by-round tally on election night
- Countinue to release preliminary tallies as more votes are counted

- Conduct vote total checks with each release of preliminary results
- Publish the full ballot record so that anyone can verify the result
- Make use of tools for visualizing RCV results
- Clearly communicate expectations, timelines and results.

A 2019 paper by Bridget Eileen Tenner and Gregory Warrington recommends against using bar charts to visualize election results using RCV. They recommend any visualization of election results achieve the following objectives, irrespective of election type: (i) be easy to understand; (ii) clearly indicate a winner; (iii) reflect the methodology of the election; and (iv) summarize the ballots that were cast. They recommend accumulation charts, which show second-choice votes in a different color than first-place votes, as a possible solution.

Conclusion

As part of its commitment to nonpartisanship and avoiding taking positions on issues, NCSL does not recommend any best practices for showing RCV results. The Center for Civic Design recommends local election offices adopt several different practices to best visualize ranked choice voting results, as does the paper by Tenner and Warrington and the research from the Ranked Choice Voting Resource Center. Absent peer-reviewed research, these stand out among an otherwise quiet research area. Policymakers and election officials may look to jurisdictions already using RCV for additional inspiration or models.

When and how does RCV have an impact on turnout?

Scant research exists on RCV's impact on voter turnout, and most is anecdotal. The research that does exist offers mixed conclusions. Deloitte economist Eamon McGinn investigated whether the adoption of RCV in the Minneapolis-St. Paul region in 2009 impacted turnout in the cities' municipal elections. He concluded that, when controlling for other variables, turnout rose nearly 10%. However, a similar study by political scientists David Kimball and Joseph Anthony concluded that while RCV does mitigate the significant drop off in turnout between primary elections and any subsequent runoffs by combining them into one election, impacts on turnout in non-runoff elections are negligible.

Proponents of RCV often point to international examples, such as Australia, to indicate the potential for increased turnout when switching from a plurality voting system to RCV. Australia offers a compelling comparative example to the United States: it is a fellow former English colony in the same common law tradition, and its settlement and migration patterns are similar. Unlike the United States, Australia has a strong tradition of high voter turnout. According to Pew, over 80% of Australians cast a ballot in the 2019 parliamentary elections, while just over 55% of Americans cast a ballot in the 2016 presidential election. But Australia's compulsory voting laws and nearly century-long history of using RCV make a comparison challenging without further research controlling for these differences.

Because comparing elections across different jurisdictions can be challenging, a case study example from New York City is included to shed additional light on the topic. New York City

is the most populous jurisdiction in the United States using RCV. Spurred by concerns over the costs of its primary election runoffs in municipal elections and significant runoff turnout decreases, the city council referred a measure to voters to use RCV in contested municipal primaries in future elections. It passed with over 73% of votes in favor and was implemented for the first time in 2021. While comparisons across years are anecdotal and do not control for other factors, they can provide insight into voter behavior and interest in the process. In 2013, the last open mayoral election conducted with first-past-the-post voting, 772,241 votes were cast. In 2021, the first mayoral election conducted with ranked choice voting, 998,000 votes were cast—a 22.6% increase.

While not directly related to the causal relationship between RCV and turnout, it should be noted that in areas of the country dominated by a single party using RCV can significantly increase turnout in decisive elections. For example, imagine a fictional county, which we will call Evergreen County. Evergreen County is dominated by Party A, whose candidates almost always win general elections by overwhelming margins over candidates from Party B. Because of this consistency, the most competitive election in the county for any given office is Party A's primary. Because primary elections tend to have lower turnout than general elections, a relatively small number of voters in Party A's primary effectively chooses the winner for every office in Evergreen County. Advocates argue that if primaries were eliminated and replaced with an all-comers general election using RCV, the number of voters participating in the outcome-determinative election would increase.

Conclusion

When compared with non-runoff plurality voting, existing research indicates minimal or indeterminate impacts on overall voter turnout. RCV appears to offer a small-to-moderate increase in turnout for primary runoff elections because the rates of spoilage and waste are cumulatively less than the decrease in turnout between a plurality election and a subsequent runoff. Anecdotal evidence from the Minneapolis-St. Paul region and New York City indicate greater turnout benefits are possible, and countries with widespread RCV use like Australia have significantly higher turnout than the average American election. This indicates that RCV's impact on low-propensity voters may be minimal, to the extent it exists at all. But without controlling for other factors like mandatory voting laws and political culture differences, such anecdotal examples should be taken with a grain of salt.

Will a change to RCV have disparate impacts on any specific groups of voters?

Ranked choice voting is different. As seen in the administrative sections of this report, switching to RCV imposes transition costs on local jurisdictions that make the switch, although these are hard to quantify and may be offset by other factors, such as no longer needing to hold runoff elections. Voters face "costs" too because they must learn how to vote using the new method.

Disparate impacts on voters can be assessed by measuring the number of ballots where voters either choose more candidates than permitted or select fewer than permitted and their ballots are "exhausted," or eliminated from counting in later runoff rounds. Election offices publish these statistics with general election results, enabling researchers to analyze their rates over time and across different types of voting systems. Because American elections use secret ballots, demographic data on who is casting these ballots does not exist. Only research using statistical tools like regression analyses can shed light on possible disparate impacts RCV may have on particular groups.

As one academic noted, choosing fewer candidates than permitted "is often attributed to voter fatigue, ballot confusion, or voter ignorance." But not ranking some or all non-first choice preferences could be a conscious choice by voters, and research recommends not assuming this phenomenon results from voter mistakes or confusion. The best analysis was conducted by political scientist Joseph Coll. In his research on the 2020 Democratic primaries that used RCV, Coll surveyed 1000 voters on their experience voting ranked choice ballots. He found that 68.4% of primary voters said voting using RCV was very or somewhat easy, compared to just 19.7% of voters who said it was somewhat or very hard. He found that older voters were more likely to report difficulty voting using RCV, which falls in line with existing research. After applying a regression to the dataset, Call concluded that—despite expectations—the attribute associated with choosing fewer candidates than permitted is age. Absent this factor, there was no statistically significant difference between voters on partisanship (moderate versus liberal), gender or wealth.

While Call did not analyze race as a factor, a report from Todd Donovan, Caroline Tolbert and Kellen Gracey did. They concluded that while Black, Latino and Asian voters reported lower levels of understanding on how to vote using RCV, those disparate impacts closely mirror those groups' lower comprehension of plurality voting systems, meaning lower minority group comprehension of RCV is likely due to factors unassociated with RCV.

Conclusion

The challenges posed by ranked choice voting do not differ greatly from those imposed by existing voting systems. Limited research indicates that while minority groups report lower levels of comprehension on how to vote using RCV, this lower understanding mirrors reduced comprehension rates in elections broadly. Socioeconomic status, relative partisan lean, and sex identification have not been shown to impact voters' ability to successfully cast a ballot using RCV. Among all groups of voters, only age was tied to overvoting or ballot exhaustion.

Will RCV increase or decrease polarization?

Ranked choice voting proponents claim it solves many political ills. Perhaps none is as prominent as the claim that it decreases political polarization. By forcing candidates to compete for "second choice" votes, RCV recalibrates candidates' incentives by rewarding broad appeal in the electorate with a greater likelihood of winning non-first choice votes,

which could be the difference between the original first choice and the eventual winner. RCV's impact on polarization inevitably varies on its use case (e.g., primary vs. general election), so this section will briefly survey the existing research.

General Elections

The largest U.S. jurisdiction using RCV for general elections is Maine, which used RCV for federal elections in 2018 and 2020. While advocates point to the Pine Tree State as an example of RCV's moderating tendencies, preliminary research suggests RCV had only a modest impact on reducing polarization. Analyzing the 2020 elections in Maine that used RCV, preliminary research indicates RCV did decrease polarization, but only modestly. In fact, Maine's relative and longstanding political moderation compared with the rest of the U.S. accounted for much more of the state's relatively low polarization in 2020. While the researchers did conclude RCV's effect on reducing polarization exceeded traditional runoff voting systems, it fell short of its billing as a silver bullet.

Primaries

While ignored in the administrative section of this report, ranked choice voting has found increasing traction in state primaries. More than 280,000 Democratic voters participated in ranked choice primaries in 2020, and in 2021 the Virginia Republican Party used RCV to nominate its candidates for statewide office. Research indicates that the candidates emerging from these primaries had broader coalitions than some of their opponents, and the nominees in three cases—Democrat Joe Biden in 2020, New York mayor Democrat Eric Adams, and Virginia Republicans Glenn Youngkin, Winsome Sears, and Jason Miyares—all went on to general election victories. This has led some media outlets to conclude that, based on these limited cases, RCV does live up to advocates' claims.

Conclusion

Per limited research, ranked choice voting modestly decreased political polarization in general elections in Maine, while it led to broadly appealing—and victorious—candidates emerging from some party primaries. New systems are emerging that merit more consideration, particularly Alaska's top-four primary that put all candidates on one ballot regardless of party, from which four candidates go on to the general election conducted with RCV. But there is no conclusive evidence as of today to suggest that RCV has a significant impact on polarization.

Are there situations where RCV might benefit one party or ideology over another?

Ranked choice voting may change parties' political incentives, but NCSL could not identify any research expressly analyzing whether RCV benefits one political party or another. Advocates claim this should not matter, that RCV is neutral and simply rewards whichever

candidate offers the broadest appeal. Despite scant research, an academic paper from Maine does provide some insight.

In their analysis of the 2020 federal elections in Maine, Joseph Cerrone and Cynthia McClintock looked at a number of different aspects of RCV, including its effect on polarization, voter satisfaction with the system, and voter familiarity with RCV's rules. In their satisfaction discussion, they note that Republican voters in Maine were highly dissatisfied with RCV because they followed political cues from the Maine Republican Party, which vehemently opposed RCV's adoption in the state. The Maine Republican Party's opposition was likely grounded in data: Cerrone and McClintock noted that Maine had a long history of Republican plurality winners due to minor party candidates receiving significant shares of general election votes that may have otherwise gone to Democratic candidates. These plurality winners were typically—but not always—Republican. Because RCV would allow these third-party voters to cast a second-choice vote for Democrats, they said, the system could be seen as more beneficial to Democrats than Republicans in the state.

Conclusion

RCV may benefit whichever party "loses" more potential votes to third party (or "spoiler") candidates, though assuming whether Democrats or Republicans would automatically garner second- or third-place votes from third party voters in any given jurisdiction is fraught. More research in this areas is needed before drawing conclusions with a high degree of certainty.

Is there a particular niche for RCV in primaries or other specific kinds of elections?

Some advocates of ranked choice voting argue that primary elections may be the best way to use RCV. After all, primaries are semi-private operations by and for political parties, and are sometimes run by the parties themselves. According to FairVote, Democratic voters used RCV in primaries and caucuses in five states (Alaska, Nevada, Hawaii, Kansas, and Wyoming) in the 2020 presidential election. Since 2020, RCV has been used in Democratic and Republican party elections and conventions in Delaware, Indiana, Minnesota, Nebraska, New Mexico, Oklahoma, Utah and Virginia.

While most states set policy for primaries by statute, some states' laws permit parties the flexibility to experiment with different nominating systems, including conducting party-run primaries using RCV. This could offer advocates a new way to introduce voters to the practice where politics or other factors may hinder its adoption in general elections.

There is another reason that RCV might be particularly useful in primary elections: it is a way to whittle down a large candidate field to just the one who will go on to the general election, while ensuring that they have wide support. In fact, RCV ensures that the winner has support from a majority of voters.

RCV is also used by some of the states that employ a primary runoff system. There, a majority of votes is required to win a primary, and a runoff will occur if no candidates receive 50% + 1 votes in the first election. Six of those states—Arkansas, Alabama, Georgia, Louisiana, Mississippi and South Carolina—use RCV to ensure that overseas voters have a voice in a primary runoff; if no runoff occurs, the ranked ballots are not tabulated, and the voter's first choice is counted as their vote. This method saves time and money by not requiring a ballot to be mailed out and mailed back to the election office within the time window required by the Uniform and Overseas Citizens Absentee Voting Act, commonly known as UOCAVA.

Conclusion

NCSL takes no position on the wisdom of adopting RCV or adopting it in some circumstances versus others. When most people think about the adoption of RCV, they think of Maine and Alaska which have adopted it for the general elections for major offices. But RCV exists in many specialized situations in other states, either for certain types of ballots (like those for overseas voters) or certain types of nominating processes, whether they be party-run primaries, caucuses or conventions. These uses indicate that even if a state does not wish to adopt RCV for statewide or municipal elections, there may be particular use cases that are of interest to policymakers.

What state laws and processes may intersect with RCV, such as home rule or a preference for a uniform voting system?

Except for Maine and Alaska, ranked choice voting in the United States is used exclusively at the local level. Some states, including Virginia and Utah, have adopted laws explicitly allowing localities to use RCV for local elections if they choose. But absent such a specific grant of authority, how does existing authority between states and localities influence a locality's ability to adopt RCV on its own?

The 10th Amendment to the U.S. Constitution expressly reserves all unenumerated rights to the states; it makes no mention of local governments. Decades of judicial and statutory evolution have led most states to adopt the position that absent a broad delegation of power, localities may only exercise the powers expressly granted to them by the state. This is known as "Dillon's Rule." To give localities more flexibility, some states have adopted so-called "home rule" laws that permit cities and counties autonomy over certain areas of policy. The specific parameters of home rule vary from state to state. Only nine states lack constitutional or statutory systems to create home rule: Alabama, Idaho, Indiana, Maryland, Mississippi, New York, Rhode Island, Vermont, and Virginia.

Even if state law allows localities to adopt ranked choice voting, or they may adopt it under home rule, other factors may come into play. If states procure election equipment on behalf of localities, or if their voting systems requirements limit what systems counties may procure, the supplied machines and technology could lack the ability to run an election using RCV. Many states' home rule laws are least permissive on fiscal affairs, so localities

may have little wiggle room to make the procurements necessary to switch to RCV. The Ranked Choice Voting Resource Center has analyzed the legal feasibility of adopting RCV in all 50 states as part of its "RCV Maps" project.

Conclusion

Several factors impact a city, town or county's ability to adopt RCV for local elections. By determining the answers to the following questions, localities can ascertain whether they can adopt RCV:

- Does state law expressly permit (or prohibit) localities from adopting RCV?
- Absent on-point guidance, does state law grant home rule to localities?
- If state law grants home rule to localities, does it include the ability to adopt a voting system?

Depending on the answer to question 1, and if "yes" is the answer to questions 2 and 3, a jurisdiction likely has the legal authority to adopt RCV; an in-state attorney will be able to give a definitive answer, although consult an attorney before proceeding. Legal hurdles aren't the only thing deciding factor; jurisdictions will still face the financial costs in labor, materials, and equipment procurement.

Are non-RCV voting systems (such as approval voting) better suited to some states' circumstances?

FairVote, an organization which advocates for the widespread adoption of ranked choice voting, maintains a webpage on alternatives to RCV. These alternatives are:

- **Range voting**, also known as score voting, where voters assign a value to each candidate within a defined range such as 1-10. According to FairVote, it has never been used in a public election and is used infrequently by private associations.
- **Approval voting**, which allows voters to vote, or "approve," as many candidates as they wish. It is currently used for municipal elections in Fargo, North Dakota and St. Louis, Missouri.
- **Condorcet-type rules**, also known as Condorcet voting, allows voters to rank candidates in order of preference and the candidate with the most positive relative associations—that is, the one who compares best to their competitors—wins the election. It is a different method for tabulating a ranked ballot and shares many similarities to RCV as it exists in the United States, though for many voters the experience of casting a ballot is the same.

Of these alternatives, range voting has little literature and less traction with the public, making a comparative case next to impossible. Condorcet-type rules are merely a different method of counting ranked ballots, one in which, unlike with RCV, a candidate with no first-place votes could—in theory—emerge victorious. Of these alternatives, only approval voting receives significant attention, and even then, it is scant.

Proponents of approval voting argue it has comparative advantages over RCV, including simpler ballot design and easier (and quicker) tabulation of results. Proponents of RCV argue that approval voting fails to guarantee majority rule, is susceptible to strategic voting because of the incentive to vote for only a single candidate to avoid diluting the vote, and does not require a core level of support to win an election, unlike in RCV where first place votes play a critical role in winning.

Beyond policy debates, some alternative voting systems may be more workable under existing state law than others. Take Maine for example. In 2016, voters approved a ballot measure to adopt RCV for state legislative, executive, and federal offices. But the state supreme court unanimously ruled the provisions of the Maine Constitution requiring that state officeholders be elected by plurality meant that RCV, which prohibits plurality victories, could not proceed for those offices. While additional legal guidance would be necessary to further assess the situation, approval voting does not necessarily require majority support for a candidate to win and may be more compatible for state offices under their existing constitutional framework.

Conclusion

While many alternatives to RCV exist, only approval voting has any traction in the United States—and its adoption is a distant second behind RCV among alternatives to plurality voting systems. Proponents of both systems argue theirs is superior to the other. In the end, state laws and constitutions may bar one alternative or the other from being used in a particular state. Legislators and others should consult counsel to determine if any legal barriers exist to their preferred system's implementation before proceeding with legislation—unless, of course, the legislation remedies the legal barrier.

Does RCV introduce unique security issues?

Risk comes in many different flavors. Physical security is front and center in many recent debates on elections. Other risks include difficulty in casting a ballot and potential voter confusion about how the system operates. The question is, does RCV introduce unique security issues despite RCV and plurality election jurisdictions using the same kinds of equipment?

In very rare circumstances, small jurisdictions using RCV may tabulate ballots by hand, which can be time consuming and difficult to scale up for wider adoption. By far most jurisdictions use electronic tabulators certified by the U.S. Election Assistance Commission. While the risk of external manipulation is greater than zero, it is no greater in an election where RCV is used than any other election. The Ranked Choice Voting Resource Center, a prominent organization that conducts original research on RCV, recommends using machines to tabulate ranked ballots because they can deliver unofficial results more rapidly. In general, NCSL did not find any research suggesting that the software, machines or other equipment associated with RCV poses a greater or unique cybersecurity risk than plurality elections.

Conclusion

Cybersecurity is a key issue election officials face when crafting policies and procedures to safeguard voting. While adopting RCV for the first time carries risks inherent with adopting any new procedures, NCSL could not find any research or evidence suggesting the tools and methods used to conduct RCV carry greater risks than traditional, plurality elections.

- **NCSL on**
  Appendix
  Questions from NCSL Survey of Local Election Officials

Upcoming State Elections to Decide 578 Legislative Races in November

Voters in three states will go to the polls on Tuesday, Nov. 7 and Louisiana voters head to the polls on Saturday, Nov. 18. These four states will determine the outcome of 578 legislative races of the nation's 7,386 legislators.

Elections
Updated October 23, 2023

LINK TO THIS REPORT:

https://www.ncsl.org/elections-and-campaigns/ranked-choice-voting-in-practice-implementation-considerations-for-policymakers.