

Study on Alternative Voting Systems
League of Women Voters Dane County

2020/2021

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Section 0. Statement of Purpose

Discussions about alternative electoral systems have been on the rise in the US in recent years. Ranked choice voting (RCV) in particular, has seen a resurgence lately. In the November 2020 general election, Maine became the first state to employ RCV for state-wide races, including in the presidential race.¹

The November 2020 general election also had two states with ballot measures to approve alternative electoral systems state-wide. Massachusetts voters failed to approve a ballot measure to implement RCV state-wide in primary and general elections.² Alaska voters approved a ballot measure to replace their party primaries and plurality voting with a top-four primary system and RCV general elections.³

Many municipalities have transitioned to RCV for local elections. Minnesota, our neighboring state to the west has several municipalities using RCV. Minneapolis has been using RCV since 2009, and St. Paul has been using RCV since 2011. Two additional Minnesota municipalities, Bloomington and Minnetonka, both voted to enact RCV locally in the November 2020 election.⁴

In Wisconsin, legislators introduced bills regarding RCV in 2019. AB 732 was introduced to “require(s) ranked choice voting for the election of all federal, state, and local officials, not including recall elections for any such officials.”⁵ SB 893 was introduced to “allow(s) local governmental units to enact an ordinance or adopt a resolution to use ranked choice voting for the election of all local officials, not including recall elections for any such officials.”⁶ Neither bill moved forward, but legislators have signaled their intention to continue to introduce similar bills.

Every electoral system has pros and cons. There is no perfect electoral system. However, which electoral system is in use can have drastic effects on an election. Voter behavior, voter confidence, campaign strategies, and election outcomes all depend on which electoral system is in use.

LWVUS does not have a position regarding which specific electoral systems are preferred but did adopt a position of concurrence in June 2020 related to preferred characteristics of an electoral system. This position is detailed in Appendix A. LWVWI does not hold a more detailed position related to electoral systems as they apply to Wisconsin. Many state Leagues do have positions related to electoral systems of varying specificity. The positions of other state Leagues have been outlined in Appendix B.

The increasing popularity of alternative electoral systems, the likelihood of related bills being proposed in the Wisconsin Legislature, the significant impact that electoral systems have on our elections, and the lack of a position specific to the best interests of Wisconsin are all reasons that LWV of Dane County embarked on this study to evaluate our current and alternative electoral systems.

¹ Maine Becomes First State to Use Ranked choice Voting in a Presidential Election (2020, Oct. 30), The Wall Street Journal. <https://www.wsj.com/>

² Massachusetts Question 2, Ranked choice Voting Initiative (2020), Ballotpedia. <https://ballotpedia.org/>

³ Alaska Ballot Measure 2, Top-Four Ranked choice Voting and Campaign Finance Laws Initiative (2020), Ballotpedia. <https://ballotpedia.org/>

⁴ Bloomington and Minnetonka voters approve ranked choice voting (2020, Nov. 6), Star Tribune. <https://www.startribune.com/>

⁵ 2019 WI AB 732

⁶ 2019 WI SB 893

Section 1.1. Current Electoral Systems in Wisconsin

Wisconsin's electoral system is not defined solely by the use of plurality voting. Several other factors shape Wisconsin elections, including how offices are defined and how primaries are conducted.

Plurality Voting

Wisconsin uses plurality voting for all elections. In plurality voting each voter casts a ballot for only one candidate in a race. The candidate with the most votes wins. There is no requirement for a candidate to win a majority of the votes. A candidate can win with much less than 50% of the vote, as long as no other candidate wins more votes. Plurality voting is also referred to as first-past-the-post voting.

Primaries – Nonpartisan

The nonpartisan primary is used in Wisconsin for nonpartisan offices such as judicial seats and county board seats. Nonpartisan primaries are held in February ahead of the spring election. Wisconsin's nonpartisan primary system employs plurality voting and, in many cases, allows only two candidates to move forward to the spring election.

Primaries – Open Partisan

Partisan primaries are used for partisan offices such as seats in the state Assembly and state Senate. The partisan primary is used to determine the single candidate for a party for that office to run in the general election. Partisan primaries were introduced in the early 1900s as part of a growing reform movement sweeping the country. Prior to the existence of these partisan primaries, party leaders chose their candidates behind closed doors.

Wisconsin's partisan primary system employs plurality voting. Wisconsin uses an open primary, meaning voters do not need to register with a party to vote in that party's primary. Voters receive the ballots for each party, generally printed on the same ballot but visibly separated. Voters may cast a ballot in only one party's primary. If a person votes in races on multiple party ballots, then the ballot is not counted.

Multi-Member Bodies

A multi-member body refers to a governing body with multiple seats, including legislative bodies such as the state Assembly and state Senate as well as smaller governing bodies such as county boards or school boards. Most multi-member governing bodies in Wisconsin do not use multi-winner elections. The use of single-winner versus multi-winner elections is determined by how the seats within the multi-member body are defined. The way seats are defined can have significant impacts on the voter experience, candidate experience, and election results. Seats are defined in one of the following ways:

- **Apportioned.** If apportioned, each seat represents a geographically defined district. This method converts a multi-member body into a collection of single-member seats and uses single-winner elections. Local examples of boards using apportioned seats include county boards of supervisors, the state Assembly, and the state Senate.
- **Numbered.** If seats are numbered, candidates must select a specific number seat for which to run. This method converts a multi-member body into a collection of single-member seats. Note that this system is only considered in place if the numbered seats have identical duties and the numbering is arbitrary. This is also sometimes called at-large numbered. Local examples include the Madison Metropolitan School Board.

- Unnumbered/At-Large. If at-large seats are used, candidates for all seats run in the same race, and the number of seats available determines the number of winners. This definition requires multi-winner elections. If there are two seats open, for example, then the top two vote-getters are both elected. Local examples include many school boards throughout Dane County.
- Combination. Some multi-member boards are comprised of a combination of apportioned seats and at-large seats. Local examples include the Verona Area School Board.

Section 1.2. What Laws Govern WI Electoral Systems?

When thinking about the laws affecting our elections, we often focus on prominent topics such as voter ID laws or redistricting. We don't often think about the more basic laws that define which electoral systems are in use, perhaps because they so rarely change. These laws, however, govern the very nature of our elections. They determine how a person wins an election, which candidates (and how many) may run, who can vote in which races, and in what way a voter can voice their support for a candidate. The way our elections work today may seem like the only logical option, perhaps because the current system is the only one that most of us have experienced first-hand, but it is important to recall that these were deliberate choices made by individuals and codified into law. Below are a few excerpts from the WI State Statutes that affect our elections.

Plurality Shall Elect

Wisconsin Statutes Chapter 5 instructs that elections shall use a plurality voting method. This statute applies to all elections, including congressional, statewide, county, municipal, and school boards.

Chapter 5

ELECTIONS — GENERAL PROVISIONS; BALLOTS AND VOTING SYSTEMS.

SUBCHAPTER I - GENERAL PROVISIONS

5.01 Scope. (1) CONSTRUCTION OF CHS. 5 TO 12. Except as otherwise provided, chs. 5 to 12 shall be construed to give effect to the will of the electors, if that can be ascertained from the proceedings, notwithstanding informality or failure to fully comply with some of their provisions.

(2) GENERAL PROVISIONS OF ELECTION LAWS APPLY. The general provisions of chs. 5 to 12 apply to all elections.

(3) PLURALITY SHALL ELECT. (a) Except as provided in par. (b), in every election to choose any officer, each elector has one vote for each office unless clearly indicated otherwise. The person receiving the greatest number of legal votes for the office shall be declared elected, and the canvassers shall so determine and certify.

(b) In an election to fill a nonpartisan state office, if no names are certified to appear on the ballot, no person may be declared elected.

Excerpt from WI State Statutes Chapter 5. Highlighting added.

Open Partisan Primaries

Wisconsin Statutes instruct that Wisconsin use an 'Open Primary' for partisan offices. Each party has its own ballot. A voter is given all party ballots regardless of political affiliation. A voter may vote on any party's ballot without requiring party registration but must only vote in one party's primary.

Chapter 5

ELECTIONS — GENERAL PROVISIONS; BALLOTS AND VOTING SYSTEMS.

SUBCHAPTER II - BALLOT FORM

5.60 Spring election ballots.

(8) BALLOTS FOR PRESIDENTIAL VOTE. (am) Except as authorized in s. 5.655, there shall be a separate ballot for each recognized political party filing a certification under s. 8.12 (1), listing the names of all potential candidates of that party determined under s. 8.12 and affording, in addition, an opportunity to the voter to nominate another potential candidate by write-in vote or to vote for an uninstructed delegation to the party convention. The order of presidential candidates on the ballot shall be determined by lot by or under the supervision of the commission. Each voter shall be given the ballots of all the parties participating in the presidential preference vote, but may vote on one ballot only.

Excerpt from WI State Statutes Chapter 5. Highlighting added.

No Sore Losers

Often referred to as a 'sore loser' law, Wisconsin Statutes prohibit a candidate who ran and lost in a party primary from running as an independent candidate in the same race. Sore loser laws are common and exist in some form in 47 states.⁷

CHAPTER 8
NOMINATIONS, PRIMARIES, ELECTIONS

8.15 Nominations for partisan primary.
(7)A candidate may not run in more than one party primary at the same time. No filing official may accept nomination papers for the same person in the same election for more than one party. A person who files nomination papers as the candidate of a recognized political party may not file nomination papers as an independent candidate for the same office at the

Excerpt from WI State Statutes Chapter 8. Highlighting added.

Only Two Candidates

Wisconsin Statutes define the number of candidates allowed on election ballots for many races. In the example below, most of these nonpartisan offices on the spring election ballot are limited to two candidates. This limit dictates how many candidates can win in the spring primary and thus be presented as options to voters in the following spring election.

Chapter 5
ELECTIONS — GENERAL PROVISIONS; BALLOTS AND VOTING SYSTEMS.
SUBCHAPTER II
BALLOT FORM

5.58 Spring primary ballots.

(3) NAMES ON SPRING BALLOT. Only 2 candidates for state superintendent, for any judicial office, for any elected seat on a metropolitan sewerage commission or town sanitary district commission, in counties having a population of 750,000 or more, only 2 candidates for the office of comptroller and only 2 candidates for member of the board of supervisors within each district, in counties having a population of less than 750,000 only 2 candidates for each member of the county board of supervisors from each district or numbered seat or only 4 candidates for each 2 members of the county board of supervisors from each district whenever 2 supervisors are elected to unnumbered seats from the same district, in 1st class cities only 2 candidates for any at-large seat and only 2 candidates from any election district to be elected to the board of school directors, in school districts electing school board members to numbered seats, or pursuant to an apportionment plan or district representation plan, only 2 school board candidates for each numbered seat or within each district, and twice as many candidates as are to be elected members of other school boards or other elective officers receiving the highest number of votes at the primary shall be nominees for the office at the spring election.

Excerpt from WI State Statutes Chapter 5. Highlighting added.

⁷ Burden, Barry C., Jones, Bradley M., and Michael S. Kang. "Nominations and the Supply of Candidates: The Connection between Sore Loser Laws and Congressional Polarization." Section 1.2. What Laws Govern WI Electoral Systems?

Multi-Member Body Seat Definitions

Various statutes dictate how multi-member bodies are elected. Chapter 120, focused on school districts, defines the structure of school boards. Most school districts can choose to use at-large, numbered, or apportioned seats as allowed in 120.42(1)(a).

Madison Metropolitan School Board is subject to 120.42(1)(b), which requires the use of numbered seats. No other school board in Wisconsin currently falls within the population range defined in 120.42(1)(b). Appendix F includes additional historical information regarding the use of numbered seats and the debate for and against them.

Chapter 120
SCHOOL DISTRICT GOVERNMENT
SUBCHAPTER II
UNIFIED SCHOOL DISTRICTS

120.42 Election of school board members.

(1)

(a) Except as provided in pars. (b) and (c), school board members in a unified school district shall be electors of the school district and shall be elected at large, at large to numbered seats or at large to an apportioned election district area by a plurality vote of the electors of the school district. School board members in a unified school district shall be elected under s. 120.06 at the spring election. All candidates for school board seats shall file a declaration of candidacy as provided in s. 120.06 (6) (b).

(b) School board members in a unified school district that encompasses a city with a population greater than 150,000 but less than 500,000 shall be elected at large to numbered seats.

Excerpt from WI State Statutes Chapter 120. Highlighting added.

There is a separate chapter, Chapter 119, dedicated to First Class City School Systems, which requires that they have 1 at-large seat and 8 apportioned seats defined by geographic districts. Milwaukee is the only city currently designated as a “First Class City.”

County supervisory boards are defined in Chapter 59. Statute 59.10(3)(a) defines the maximum number of seats on the county boards based on population, and 59.10(3)(b) requires that seats be apportioned into geographic districts.

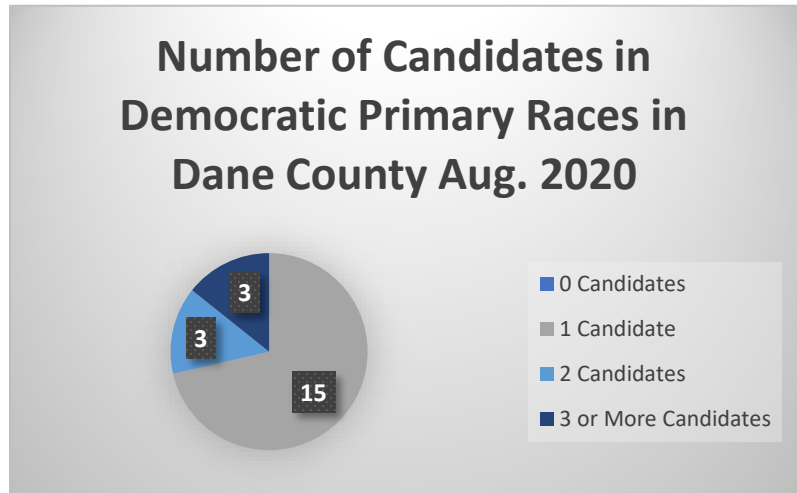
The statutes in Chapter 62 defining municipal common councils include more flexibility in that cities may choose to use at large seats, aldermanic districts (geographic apportionment), or a combination thereof. Currently, Wisconsin’s two largest cities, Milwaukee and Madison, use aldermanic districts.

Section 1.3 - Analysis – Recent Elections in Dane County

To see the effects of the many pieces of Wisconsin’s electoral systems working together, we can look at some recent local election results in Dane County. Here we will analyze several races from August 2020.

This was a partisan primary election, so there was a Republican ballot and a Democratic ballot. There was also a Constitution Party ballot that had no candidates but allowed for write-ins.

Of the 21 Democratic primary races in Dane County, only six were competitive. The other 15 races had only one candidate. Since this was a primary election, some of those 15 races went on to be competitive in the general election. Of the competitive races in the primary, the only races where a majority vote was achieved were those with only two candidates. Three out of 21 races, or 14%, were won without a majority vote. Put another way, three out of six (or 50%) of the competitive races in the Democratic primary were determined without a majority of the vote. 100% of the races with more than two candidates were won without a majority vote. **Winning without a majority of votes is a weakness in our current election system, which relies on plurality voting.**



Only six races in the Democratic primary had more than 1 candidate. Data from <https://elections.countyofdane.com/Election-Result/122>.

One of these local Dane County races, Assembly District 76, was won by Francesca Hong with only 28.1% of the vote.

DEM Representative to the Assembly District 76 - Official Canvass



Candidate	Vote Percentage	Number of Votes
Heather Driscoll (DEM)	16.3%	2,780
Dewey Bredeson (DEM)	0.8%	143
Tyrone Cratic Williams (DEM)	22.4%	3,810
Francesca Hong (DEM)	28.1%	4,793
Nicki Vander Meulen (DEM)	9.3%	1,586
Marsha A. Rummel (DEM)	16.5%	2,803
Ali Maresh (DEM)	6.5%	1,099
write-in: (DEM)	0.1%	15

100% of Precincts Reporting (26 of 26)

The Democratic primary race for district 76 had 7 candidates and was won with only 28.1% of the vote. Data and chart from <https://elections.countyofdane.com/Election-Result/122>.

“But this was *only a primary*,” you might say. This reaction might seem understandable; often winning a primary without a majority vote doesn’t seem like an issue, because the winning candidate will get a majority vote in the general election. However, due to geographically polarized politics, this specific primary essentially determines the general election winner. The Democratic candidate is nearly guaranteed a win in the general election for this seat, and the Republican Party often does not put forward a candidate at all.

Assembly District 76 does have a Republican candidate this election cycle, but only 304 people cast a vote in the Republican primary for this race, while thousands cast votes in the Democratic primary for the same seat. This data suggests that this will not be a competitive race in the general election.

REP Representative to the Assembly District 76 - Official Canvass		
Candidate	Vote Percentage	Number of Votes
Patrick Hull (REP)	 99.3%	302
write-in: (REP)	 0.7%	2

100% of Precincts Reporting (26 of 26)

The Republican primary race for district 76 had only one candidate and 304 total votes. Data and chart from <https://elections.countyofdane.com/Election-Result/122>.

The result is that the representative for Assembly District 76 was determined by 28.1% of primary voters. Another important point to keep in mind is that turnout tends to be significantly lower for primary elections than general elections. Independent voters are even less likely to participate in partisan primaries. Voters that do vote in partisan primaries can only participate in one party’s primary, so the total number of people that vote in each primary race is actually less than the total turnout for the primary election. This exposes another weakness in our current system; **low-turnout, partisan primaries are determining the de-facto winners of the general election in highly polarized, uncompetitive districts.**

In another example, State Senate District 26, the Republican Party has no candidate running and there are no independent or third-party candidates. The Democratic primary winner in this race, Kelda Helen Roys, who won without a majority of the votes, was uncontested on the general election ballot.

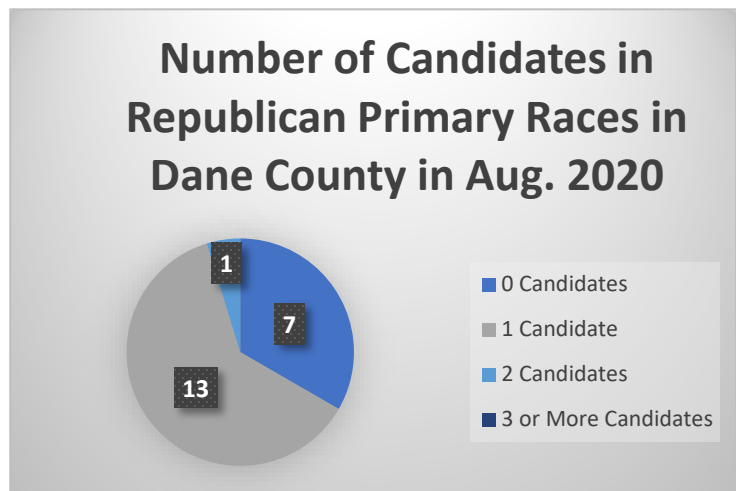
Candidate	Vote Percentage	Number of Votes
Aisha Moe (DEM)	7.4%	3,632
Nada Elmikashfi (DEM)	26.8%	13,220
Amani Latimer Burris (DEM)	8.9%	4,370
Brian Benford (DEM)	9.5%	4,699
Kelda Helen Roys (DEM)	40.2%	19,801
William Henry Davis III (DEM)	0.8%	408
John Imes (DEM)	6.2%	3,074
write-in: (DEM)	0.1%	44

100% of Precincts Reporting (82 of 82)

The Democratic primary race for senate district 26 had 7 candidates. The winner had 40.2% of the vote and faces no contender in the general election. Data and chart from <https://elections.countyofdane.com/Election-Result/122>.

Speaking of uncontested races, of the 21 Republican primary races in Dane County in August 2020, seven had no candidate at all, and 13 had only one candidate. There was only one single competitive race on the Republican primary ballot.

Those seven races with zero candidates from the Republican Party means the winner of the Democratic primary will be uncontested in the general election unless an independent or third-party candidate has filed. These races are additional examples of the weakness mentioned above, leading to low-turnout, partisan primaries determining general election winners.



Seven out of 21 races in the Republican primary had more than 0 candidates. Data from <https://elections.countyofdane.com/Election-Result/122>.

Examining the results of the August 2020 partisan primary highlights some real-life outcomes of the weaknesses in our current election system. These weaknesses include a prevalence of uncontested races, low turn-out primaries having outsized effects, and non-majority winners.

Section 2.1. Alternative Electoral Systems Defined

There are many alternative electoral systems currently in use or being considered for use across the world. These include systems that employ Score/Ranges, Ranked Systems, Approval Systems, and Proportional Systems. Below we have defined some of the alternative electoral systems that are most likely to come up in discussions about voting in the US.

Majority Requirement in Plurality

Majority Requirement in Plurality means you have a plurality vote, but a winner cannot be determined unless a candidate receives 50% + 1 vote. Each voter votes for a single candidate, and the candidate with the most votes wins — unless that candidate did not achieve a majority of the votes. In the case where no candidate has received a majority of the votes, a separate subsequent run-off election is held between the top two candidates. The run-off election is usually held a few months after the original election to allow for additional campaigning.

A recent case of this that received nation-wide attention was in the state of Georgia in November 2020. Both of the US Senate seats for Georgia resulted in a case where neither candidate received a majority of the vote, and therefore both races required a subsequent run-off election, which was held in January 2021.

The majority requirement is much more common in southern states, due to its roots as a tool to suppress the African American vote. Appendix E details more about this history. In some states, such as Georgia, the majority requirement applies to all elections statewide. In other states, however, majority requirements are limited to certain races, such as partisan primaries.

Approval Voting

In approval voting, voters select *all* the candidates of which they approve. Voters do not rank the candidates, but simply give one vote to each of the candidates that they like. There is no minimum or maximum number of candidates for which a voter can vote. All of the votes are counted, and the candidate with the most votes wins.

Approval voting is currently used in Fargo, ND, enacted there in 2018. Approval voting was also recently enacted in St. Louis, MO by ballot measure in the November 2020 election.

Vote for one or more candidates The candidate with the most votes wins	
ELEANOR ROOSEVELT Incumbent	<input type="radio"/>
CESAR CHAVEZ Labor Organizer	<input checked="" type="radio"/>
WALTER LUM Publisher	<input type="radio"/>
JOHN HANCOCK Physician	<input type="radio"/>
MARTIN LUTHER KING, JR. Minister	<input checked="" type="radio"/>
ANNA MAE PICTOU AQUASH Indigenous Rights Organizer	<input checked="" type="radio"/>

*Example Approval Voting ballot.
Imaae from electionscience.ora.*

Ranked Choice Voting

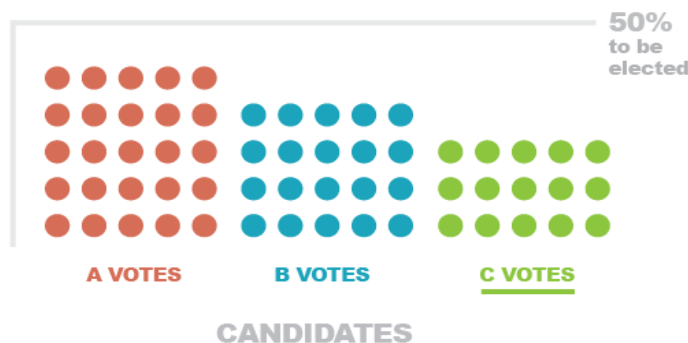
In ranked choice voting, voters are presented with all available candidates and can rank them in order of preference. For example, if there are three candidates, voters can rank the candidates 1-3. Voters are not required to rank all the candidates.

City Council						
Rank up to 6 candidates. Mark no more than 1 oval in each column.	First choice	Second choice	Third choice	Fourth choice	Fifth choice	Sixth choice
	1st	2nd	3rd	4th	5th	6th
Valarie Altman Orange Party	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
George Hovis Yellow Party	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Althea Sharp Purple Party	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mary Tawa Lime Party	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Joe Li Tan Party	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Phil Wilkie Independent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Example ranked choice voting ballot. Image from fairvote.org.

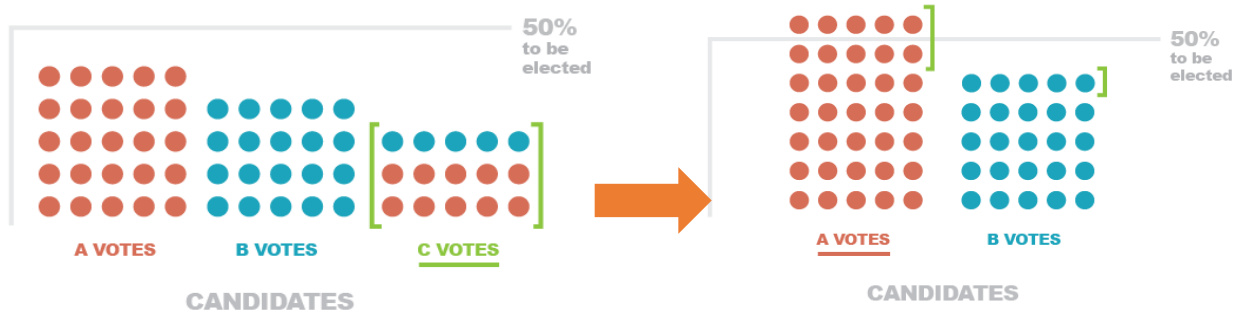
To determine the winner of a ranked choice election, all the first-rank votes are counted. If a candidate has a majority of votes at this time, then that candidate has won.

If no candidate has a majority of the votes at the end of the first round, then the candidate with the least number of votes is eliminated and the second round begins. In the second round of counting, each of the ballots that had selected the now-eliminated candidate as their first choice is transferred to that



Results after the first round of counting votes. No candidate has a majority yet. Image from rankedchoicevoting.org.

voter's second-choice candidate.



Candidate C is eliminated after the first round. In the second round, ballots that had listed Candidate C as their first choice are transferred to that voter's second choice. In this example, Candidate A now has a majority of the votes and wins the election. Image from rankedchoicevoting.org.

In elections with more than three candidates, additional rounds may be needed. In each round, the candidate with the least votes is eliminated and those votes are then transferred to the next-ranked candidate on each of those ballots.

Ranked choice voting has been used in some countries since the early 1900s, including Australia, Ireland, and Malta.⁸ It is used commonly by US states for military and overseas voting. It is also used by many municipalities for local elections including San Francisco since 2002, Oakland since 2006, and Minneapolis since 2006 and St. Paul since 2009.

In 2018, Maine enacted RCV by ballot measure and became the first US state to use RCV for statewide elections.

Score Voting / Range Voting

Score voting allows voters to apply a numerical score within a defined range to each candidate. The ranges used in implementations of score voting vary. Voters might be asked to score candidates on a scale of 0-9, or voters might be asked to score candidates on a scale of 1-100 (or any number of different scales, depending on the implementation).

Voters can give multiple candidates the same score to show that they support both candidates equally.

Alternatively, voters can give one candidate a very high score and their second choice a much lower score to indicate that while that candidate is their second choice, they prefer the first candidate a lot more.

Governor Candidates	Score each candidate by filling a number (0 is worst; 9 is best)
1: Candidate A →	0 1 2 3 4 5 6 7 8 9
2: Candidate B →	0 1 2 3 4 5 6 7 8 9
3: Candidate C →	0 1 2 3 4 5 6 7 8 9

Example ballot using score voting. Source: https://en.wikipedia.org/wiki/Score_voting

⁸ https://www.fairvote.org/rcv#where_is_ranked_choice_voting_used

Total scores for each candidate are calculated, and the candidate with the highest total score wins.

Top Two Primaries

A top-two primary is a unified primary system, which means all candidates, regardless of party, run in the same primary election. Top-two primaries use plurality voting. The top two winners of the primary, regardless of party, move on to the general election. This system has been in use in the State of Washington since 2004 for congressional and state races. California began using top-two primaries in 2010 for congressional and state races.

Top Four with RCV

Top Four with RCV is a combination solution that separately addresses primaries and general elections.

This system uses unified primaries. This type of primary is sometimes referred to as a 'jungle-primary' or a 'nonpartisan blanket primary.' All candidates run in the same primary, regardless of party. The primaries use plurality voting. In Top Four with RCV, the four candidates with the most votes in the primary, regardless of party affiliation, move forward to the general election.

Ranked choice voting is then used in the general election. Since the primary identifies four candidates, this limits the maximum number of candidates that a voter will be asked to rank in the general election to four.

The Top Four with RCV electoral system was recently adopted in Alaska by ballot measure in November 2020. There were similar ballot measures proposed in both Arkansas and North Dakota, but those measures did not make it onto the ballot in 2020.

Other versions of this system use Top Five instead of Top Four primaries. A top-five version of this system is referred to as Final Five Voting in *The Politics Industry* (published in 2020) by Katherine Gehl and Michael Porter.

Focus of Study

While it is important to be aware of the many different types of electoral systems, the evaluation portion of this study focuses on the electoral systems that are currently gaining traction in the US. This includes Approval Voting, RCV, and Top Four with RCV.

Section 3.1 Criteria to Evaluate Electoral Systems

What criteria should be used to evaluate an electoral system?

There is a variety of criteria that can be used to evaluate electoral systems. Some criteria focus on voter behavior and understanding. Some focus on election administration or campaign tactics. Others consider whether a system can be weakened by bad-faith actors. Evaluators will need to decide how much weight each criterion should hold in their evaluation. The criteria listed below are listed alphabetically as to not imply any ranking of importance.

Cost and Ease of Election Administration

How easy is it to administer an election for a given electoral system? Does the electoral system have higher or lower election administration costs compared to other systems?

Easy-to-Understand Voter Process and Election Outcome

How easy is the voting process and system for voters to understand? Will voters be able to successfully fill out a ballot? Will voters understand and have confidence in the results of the election?

Majority Support for Winners

Does the winner of an election obtain the majority of the votes? Is it possible to win without receiving a majority of the votes?

Minority Representation / Proportional Representation

Does the system allow for the representation of minority opinions and underrepresented communities? Does the electoral system encourage proportional representation?

Positive / Negative Campaigning

Does the electoral system encourage positive campaigning? Does it discourage negative campaigning?

Spoiler Effect

Is the electoral system susceptible to the spoiler effect? A spoiler effect refers to cases where an additional candidate pulls support from the most similar candidate, ultimately resulting in the most dissimilar candidate winning the election.

Strategic Nomination Risk

Can bad faith actors alter election results by strategically nominating candidates with no intention of those candidates winning? The most common examples of strategic nomination involve bad faith actors nominating candidates to take advantage of the spoiler effect. Strategic nomination risk could also be decreased if safeguards and deterrents exist in the overall election system.

Tactical vs. Sincere Voting

Does the system encourage voters to vote for the candidate that they sincerely want to win? Or does the system encourage voters to vote tactically to prevent their least preferred candidate from winning?

Third-Party and/or Independent Participation

Does the system increase or decrease the ability for third parties and independent candidates to participate?

Voter Choice and Expression

Is a voter presented with all available options on the ballot? How fully is a voter able to express their preferences?

Voter Participation and Turnout

Does the electoral system encourage voter participation and voter engagement? Does the electoral system increase or decrease voter confidence that their vote will count? Does the electoral system allow lower turnout elections to have disproportionate influence over outcomes?

Wasted Votes

Does the electoral system maximize the effective votes? Does it lead to a high number of wasted votes?

In addition to the criteria above experts have defined *mathematical criteria* as well. Some of the mathematically defined criteria are directly related to the more experientially based criteria above.

Majority Criterion

If a candidate receives the majority of the first-rank votes, that candidate should win. It should not be possible for a candidate to receive the majority of first-rank votes and lose.

Condorcet Winner Criterion

If a candidate would win in a head-to-head competition against every other candidate in the election, then that candidate should win. It should not be possible for a candidate to lose if that candidate would win in a head-to-head competition against all other candidates.

Condorcet Loser Criterion

A candidate that loses in a head-to-head competition against every other candidate should lose. It should not be possible for a candidate to win if that candidate loses in a head-to-head competition against all other candidates.

Consistency / Participation

If Candidate A is winning with one set of ballots, adding votes for Candidate A should still result in Candidate A winning. Voting honestly should always be better than not voting at all. See Appendix C on the No-Show Paradox for an example scenario that does not meet this participation criterion.

Monotonicity Criterion

It should not be possible to harm a candidate by increasing that candidate's rank on your ballot. It should not be possible to help a candidate by decreasing their rank on your ballot. See Appendix D for a detailed description of non-monotonicity.

Later No Harm / Later No Help

The act of adding a lower-ranked preference to a ballot should not harm or help candidates ranked higher on the ballot.

Independence of Clone Alternatives

Adding a non-winning candidate that is similar to an existing candidate should not change the outcome. An electoral system fails this criterion if it is prone to the "spoiler effect," where the presence of a similar candidate decreases the chance of one of them winning. An electoral system fails this criterion if it is prone to the "teams effect," where the presence of similar candidates increases the chance that one of them will win.

Independence of Irrelevant Alternatives Criterion

The addition of a non-winning candidate should not affect the result of an election. For example, adding a third candidate to an election should only affect the outcome of the election if that third candidate wins.

There is not a single electoral system that meets every criterion. In some cases, criteria may directly trade off with one another, causing it to be impossible for a single system to be strong in both. In fact, *Arrow's Impossibility Theorem*, proven by Kenneth Arrow, demonstrated that no ranking voting method exists that can meet all a certain set of desirable criteria.

And yet, the fact that one cannot design a perfect electoral system does not mean that we should not strive for better. Therefore, when evaluating electoral systems, we are not looking for a single system that has no flaws. Instead, one must consider the **relative importance of the criteria**, the **extent and frequency to which an electoral system meets or does not meet each criterion**, and the **likelihood that a specific failing could be used strategically to undermine the system**.

One might also consider the environment in which an electoral system is operating. Do voters have faith in the current system? Has the balance of power swung too far in one direction? Are there too many parties or too few? Is the democracy young, mature, strong, or fragile? The answers to these questions will differ at different points in history, which could mean that the electoral system that is best suited for a healthy democracy changes over time as other factors within that democracy change.

Section 3.2. Evaluating Wisconsin’s Current Electoral Systems

Wisconsin’s electoral system is not defined solely by the use of plurality voting. As discussed in Section 1.2 there are a number of statutes that form the overall electoral system.

This evaluation considers the following aspects of Wisconsin’s electoral system:

- The use of plurality voting
- The use of nonpartisan primaries to reduce races to two candidates in the general election
- The use of separate partisan primaries and the existence of a sore-loser law
- The different methods being used to elect multi-member offices

Criterion	Evaluation Notes
Cost and Ease of Administration	<p><i>Plurality Voting:</i> Plurality voting is an easy electoral system to administer. The votes are counted and the candidate with the most votes wins. Votes can be tallied locally or centrally.</p> <p><i>Nonpartisan Primaries:</i> Currently if there are only two candidates for a nonpartisan office, then no primary is held since those two candidates can both move forward to the spring election. However, if there are three or more candidates for an office, a primary is held in February to decrease the field to two candidates for the spring election. A nonpartisan primary system that allows more than two candidates to move forward would decrease costs by decreasing the number of primaries necessary.</p> <p><i>Partisan Primaries:</i> Partisan primaries are held entirely separately from other elections and therefore add to election costs for the state.</p>
Easy-to-Understand Voter Process and Election Outcome	<p><i>Plurality Voting:</i> Voters in the U.S. are used to and understand plurality elections. Voters have little to no difficulty understanding that the winning candidate won by achieving the most votes in a plurality election.</p> <p>Voter confidence in the process and outcome may be decreased by the prevalence of tactical voting in plurality races.</p>
Majority Support for Winners	<p><i>Plurality Voting:</i> If there are more than two candidates in a plurality race, it is common for the winner to win with less than 50% of the votes.</p> <p><i>Nonpartisan Primaries:</i> Wisconsin’s nonpartisan primaries that reduce the field to two candidates are essentially turning the general election into a run-off election similar to those used by states that require a majority win. The winner in the spring election for a nonpartisan office will most likely have more than 50% of the vote but this is only achieved by allowing a primary electorate (usually 15-20% turnout) to limit general election voters’ options to two candidates.</p> <p><i>Partisan Primaries:</i> Wisconsin’s partisan primary system leads to many races being decided in the primaries. In these cases, the candidate can win the primary with much less than 50% of the vote and then go on to be uncontested in the general election.</p>

<p>Minority Representation / Proportional Representation</p>	<p><i>Plurality Voting:</i> Plurality voting is susceptible to vote-splitting. The risk of vote-splitting can decrease the ability for minority candidates to win as well as discourage minority candidates from running.</p> <p>The high number of wasted votes in a plurality electoral system makes it easier to gerrymander. Gerrymandering often involves packing or cracking minority voters to ensure that more of their votes are wasted, causing minority voters to be underrepresented.</p> <p><i>Multi-member Bodies:</i> Plurality voting is a winner-take-all system and does not lead to proportional representation when used to elect multi-member offices in any of the three types of seat definitions used in Wisconsin’s multi-member boards.</p>
<p>Positive / Negative Campaigning</p>	<p><i>Plurality Voting:</i> Plurality voting may lead to more negative campaign tactics because the candidates don’t need to reach approval by the majority of voters. Candidates only need to get more votes than any other candidate, which means they can feasibly run on a “don’t vote for the other candidate” message.</p>
<p>Spoiler Effect</p>	<p><i>Plurality Voting:</i> In plurality voting, candidates beyond two are often viewed as spoilers, since they can pull support from similar candidates ultimately resulting in the more dissimilar candidate winning.</p>
<p>Strategic Nomination Risk</p>	<p><i>Plurality Voting:</i> Bad faith actors can and have manipulated the outcomes of plurality elections in the U.S. by strategically nominating a candidate with no intention of that candidate winning.</p> <p>One recent example occurred in November 2020 in Florida Senate District 37. In this race, a no-party candidate with no previous political experience and the same last name as the Democratic incumbent ran for the seat and successfully pulled over 6,000 votes in a race that saw the incumbent lose by fewer than 50 votes. An investigation revealed that the no-party candidate was previously a registered Republican and was supported by “dark money.”⁹</p> <p>Many people also believe that Kanye West’s presidential nomination was a strategic nomination designed to pull votes away from Joe Biden in 2020.¹⁰</p>
<p>Tactical vs. Sincere Voting</p>	<p><i>Plurality Voting:</i> Plurality voting encourages tactical voting in races with more than two candidates. Voters who prefer a candidate that appears less likely to win often feel pressured to vote for a candidate that they prefer less in order to prevent their least favorite candidate from winning.</p>
<p>Third-Party and/or Independent Participation</p>	<p><i>Plurality Voting:</i> Plurality voting discourages participation by third-party and independent candidates since additional candidates are viewed as potential spoilers.</p> <p><i>Partisan Primaries / Sore-Loser Law:</i> Third parties may file to participate in the partisan primary in Wisconsin. Independent candidates are ineligible to appear on a partisan primary ballot. Wisconsin has a law in place that prevents a</p>

⁹ <https://www.tampabay.com/news/florida-politics/elections/2020/11/17/state-investigating-mysterious-candidate-who-swayed-tight-florida-senate-race/>

¹⁰ <https://www.forbes.com/sites/randalllane/2020/08/06/exclusive-kanye-west-indicates-that-his-spoiler-campaign-is-indeed-designed-to-hurt-biden/?sh=7a01918c6397>

	<p>candidate that lost in a partisan primary from running as an independent in that race, further decreasing independent participation. This law is commonly referred to as a sore-loser law and is created by Wisconsin Statute 8.15(7).</p>
Voter Choice and Expression	<p><i>Plurality Voting:</i> Plurality voting allows a voter to vote for any single candidate. It does not allow a voter to express support for multiple candidates.</p> <p><i>Nonpartisan Primaries:</i> Nonpartisan primaries in Wisconsin are designed to reduce the field to two candidates as dictated by state statutes. Reducing the field to two candidates in a low turnout primary election decreases voter choice and expression in the higher turnout spring election.</p> <p><i>Partisan Primaries:</i> Voter choice and expression are limited by the open partisan primary. If a voter has an interest in one race on a party's primary, they are limited to voting for that party in all other races on the partisan primary ballot. For example, a voter is not able to vote for a Democratic candidate in an Assembly race while simultaneously voting for a Republican candidate for a Senate race. The partisan primary also limits voter choice in the general election by allowing only one candidate from a party to be present on the general election ballot and by preventing candidates from running as independents.</p>
Voter Participation and Turnout	<p><i>Plurality Voting:</i> Plurality voting can often lead to lower voter turnout due to the need to vote tactically and the high number of wasted votes. Elections that do not allow voters to vote sincerely or to feel that their vote counts lead to a less motivated electorate.</p> <p><i>Primaries:</i> Voter turnout is low in primaries whether nonpartisan or partisan. Voters often choose not to participate in primaries due to the belief that the stakes are lower because they do not determine the final election winners and due to the decreased media coverage and campaigning. Wisconsin's current electoral system gives these lower turnout primaries an outsized influence on the election results by significantly restricting the number of candidates that can make it through primaries to the general election.</p> <p><i>Partisan Primaries:</i> Despite having open partisan primaries, independent voters are not motivated to participate. Voters are required to choose which party's primary to participate in, and many voters do not want to identify with a specific party.</p>
Wasted Votes	<p><i>Plurality Voting:</i> Plurality voting leads to a high percentage of wasted votes. Any vote beyond 50% for a winning candidate is wasted since the candidate already won. All votes for losing candidates are considered wasted. Since the winning candidate can win with less than 50% of the vote, this means it is possible for more than 50% of the total votes to be considered wasted.</p> <p>Additionally, with the existence of early voting, a vote can be wasted if placed in support of a candidate who then drops out prior to Election Day. With no ability to indicate support for additional candidates, the entire ballot is wasted in this scenario.</p>

Which mathematical criterion does plurality voting meet? The mathematical criteria apply only to the type of voting (plurality) used and not to the other parts of our electoral system discussed above.

Criterion	Meets?	Notes
Majority Criterion	Yes	In a plurality vote, if a candidate receives the majority of the votes then that candidate will win.
Condorcet Winner	No	Plurality voting does not ensure that the candidate that wins is the candidate that would win in a head-to-head against each other candidate.
Condorcet Loser	No	Plurality voting does not ensure that a candidate that loses in a head-to-head against each other candidate will lose.
Consistency / Participation	Yes	Plurality voting ensures that participating in an election is always better or equal to not participating.
Later No Harm / Later No Help	N/A	Applies only to electoral systems that allow ranking/rating.
Monotonicity	N/A	Since there is no ranking in plurality voting, it is not possible for a plurality vote to violate monotonicity.
Independence of Clone Alternatives	No	Plurality voting is susceptible to clone alternatives including spoilers and strategic nominations.
Independence of Irrelevant Alternatives	No	The outcome of a plurality vote can be affected by the introduction of additional candidates even if those candidates do not win.

Summary of Evaluation for Wisconsin's Current Electoral system

Pros

- Maintaining the current system is always easier than changing systems
- Low-cost, easy to administer
- No updates needed to voting machines
- Easy system for voters to understand
- It is not possible for a voter to hurt a candidate by voting for them (Consistency / Participation)

Cons

- Susceptible to the Spoiler Effect / Strategic Nomination
- Does not ensure winner has the support of the majority of voters
- Does not allow for proportional representation or representation of minority opinions
- High number of wasted votes / increased susceptibility to gerrymandering

- Voter choice and expression is limited
- Encourages negative campaigning

Section 3.3. Evaluating Approval Voting

Approval voting allows voters to vote for multiple candidates without ranking them. See Section 2.1 for a definition and an example ballot used in approval voting.

Top Four with RCV

Criterion	Evaluation Notes
Ease and Cost of Administration	Approval voting is easy to administer and does not have significant additional costs involved. Tallying can occur locally or centrally.
Easy-to-Understand Voter Process and Election Outcome	Approval voting ballots are easy to understand and fill out. The results of an approval election are easy for voters to understand.
Majority Support for Winners	Approval voting does not <i>require</i> that the winning candidate win the majority of votes, but it would be very rare for a winning candidate to have less than 50% of the votes. Approval voting leads to a consensus winner because voters indicate everyone for which they approve, and the candidate approved by the most people wins.
Minority Representation / Proportional Representation	When used for multi-member offices, certain implementations of approval voting can lead to proportional representation which more closely reflects the electorate. See Section 3.6 for a more detailed description of using approval voting for multi-winner elections.
Positive / Negative Campaigning	Approval voting discourages negative campaigning. Since voters can voice their approval for more than one candidate, each candidate is in the market not only for their primary supporters but also for additional votes from voters who primarily support another candidate. It is in each candidate's best interest to not negatively campaign against another candidate and to adopt a platform that speaks to the majority of the electorate.
Spoiler Effect	Approval voting avoids vote splitting which prevents the spoiler effect since voters can show support for more than one candidate. Voters can support their favorite candidate, even if that candidate is unlikely to win, while still showing their support for other candidates that are more likely to win.
Strategic Nomination Risk	Since voters can vote for more than one candidate, a strategically nominated candidate is unlikely to affect the outcome of an election.
Tactical vs. Sincere Voting	Approval voting encourages sincere voting since voters can vote for all the candidates for which they approve and no longer have to worry about spoiler effects. It is, however, susceptible to a tactic called bullet voting, in which campaigns encourage voters to vote for only their single candidate in order to decrease the votes received by other candidates.
Third-Party and/or Independent Participation	Support for third-party and independent candidates is more visible in approval voting even in cases where those candidates do not ultimately win elections.

Voter Choice and Expression	Approval voting allows voters to express their preferences more fully than plurality voting since they can indicate all of the candidates that they support. The results of an election more accurately reflect how much support each candidate has. Voters are not able to indicate which candidate they most prefer, and it is possible that voting for candidates beyond their first choice could harm their first choice.
Voter Participation and Turnout	Approval voting may increase voter turnout since voters are able to more fully express their preferences compared to plurality voting.
Wasted Votes	There are fewer wasted votes in approval voting compared to plurality voting because the threshold to win is more likely to be above 50%, and because a ballot has more chances to be relevant in the election since more than one candidate can be selected.

Mathematical Criterion

Criterion	Meets?	Notes
Majority Criterion	No	In approval voting, more than one candidate can achieve majority support, so it is possible to achieve majority support and still lose. The candidate with more votes than any other candidate will always win in approval voting.
Condorcet Winner	No	Approval voting does not guarantee that the winning candidate is the candidate that would win in a head-to-head election against each other candidate. While it does not meet this criterion 100% of the time, an election held using approval voting usually does elect the Condorcet winner. ¹¹
Condorcet Loser	No	Approval voting does not guarantee that a candidate that would lose in a head-to-head against all other candidates cannot win.
Consistency / Participation	Yes	Approval voting ensures that voting honestly is always better than not voting at all.
Later No Harm / Later No Help	No / Yes	Approval voting does not ensure that voting for additional candidates on a ballot does not harm the candidates already selected on that ballot.
Monotonicity	Yes	A candidate cannot be harmed by adding a vote for them on a ballot in approval voting. A candidate cannot be helped by removing a vote for them on a ballot in approval voting.

¹¹ Brams, Steven J.; Fishburn, Peter C. (August 2003). *Going from Theory to Practice: The Mixed Success of Approval Voting* (PDF). *Annual Meeting of the American Political Science Association*. American Political Science Association.

Independence of Clone Alternatives	Yes	Approval voting is not susceptible to clone alternatives, including spoilers and strategic nominations.
Independence of Irrelevant Alternatives	Yes	The outcome of an election using approval voting is not affected by the addition of candidates that do not ultimately win the election.

Summary of Evaluation for Approval Voting

Pros

- Increased voter choice / expression
- More likely to lead to consensus winners
- Easy to understand and administer
- The results of an election more accurately show the support for non-winning candidates
- Eliminates spoiler effect / prevents strategic nominations
- Encourages sincere voting
- Encourages positive campaigning
- Decreases wasted votes

Cons

- Possible for a candidate to obtain majority support and still lose (but only because a different candidate had more support)
- Does not allow voters to indicate their most preferred candidate
- Could lead to tactical bullet voting, negating many of the benefits of approval voting

Notes

- Approval voting requires little additional voter education and minimal voting machine updates
- Approval voting can lead to proportional representation when combined with the use of at-large multi-member districts.

Section 3.4. Evaluating Ranked choice Voting

Ranked choice voting (RCV) allows voters to rank their preferred candidates in order. See Section 2.1 for a description of RCV.

This evaluation assumes that the RCV implementation is used in a system that allows more than two candidates in the general election and has some maximum number of candidates defined. This evaluation is focused on the use of RCV in a general election and does not assume a specific voting system used for the primary.

Ranked Choice Voting (RCV)

Criterion	Evaluation Notes
Cost and Ease of Administration	<p>RCV can be a more difficult election to administer than plurality voting. For elections that span municipalities, RCV requires a centralized tallying process for any rounds beyond the first round. If transitioning to RCV from a different voting system, voting machine updates are often necessary.</p> <p>RCV avoids subsequent run-off elections and the costs associated with them.</p> <p>RCV can also avoid primary elections. RCV implementations have a defined maximum number of candidates that can be ranked. Any race with that number or fewer candidates would avoid a primary and the costs associated with it.</p>
Easy-to-Understand Voter Process and Election Outcome	<p>Voters will need some education on ranking candidates, though a well-designed ballot can make the voting process easy and clear.</p> <p>Voters will need significant education on the process of counting votes. RCV can lead to multiple rounds of tallying, as individual candidates get eliminated. For elections that span across localities, centralized tallying is needed and can lead to a longer wait for election results. As seen in 2020, anything viewed as a delay in results can decrease voter confidence in the outcome. Voter education would need to include information about how the multiple rounds of tallying and centralized result reporting process works to ensure voter confidence in the system.</p>
Majority Support for Winners	<p>RCV allows most elections to result in a winner that has the support of more than 50% of the voters. It is still possible to end up with a winner with less than 50% support if a high percentage of voters choose not to rank additional candidates.</p>
Minority Representation / Proportional Representation	<p>RCV has been shown to increase the representation of women and people of color in elected office when compared to plurality voting. A 2016 study on the effects of RCV in the Bay Area shows that RCV led to an increase in women and people of color running for elected office, as well as an increase in the proportion of women and people of color winning elected offices.¹²</p> <p>A 2020 study by RepresentWomen, which also focused on the Bay Area, showed that “comparatively, the representation of women, people of color,</p>

¹² The Impact of Ranked Choice Voting on Representation: How Ranked Choice Voting Affects Women and People of Color Candidates in California. 2016. Representation2020

	<p>and women of color is higher [in Cities with RCV compared to nearby cities using plurality voting]. In 2020, 47% (16) of all RCV-elected city councilors are women, 56% (19) are people of color, and 21% (7) are women of color.”¹³</p> <p>When used for multi-member offices, RCV leads to proportional representation which more closely reflects the electorate.</p>
Positive / Negative Campaigning	RCV encourages candidates to run positive campaigns. In a case where a candidate is not a voter’s first choice, the candidate can still benefit from being that voter’s second choice. If candidate “Aqua” runs a negative campaign against candidate “Teal,” then it decreases the likelihood that strong “Teal” supporters will list “Aqua” as their second-ranked candidate.
Spoiler Effect	RCV eliminates the spoiler effect by allowing a voter to rank choices beyond their first. If a voter selects a candidate as their first choice, and that candidate is eliminated in the first round, then the voter’s vote will go to their second-choice candidate, so it is not wasted.
Strategic Nomination Risk	RCV decreases the benefits of strategic nomination. Since voters can rank multiple candidates, a strategically nominated candidate is unlikely to prevent another candidate from ultimately receiving those votes.
Tactical vs. Sincere Voting	RCV encourages sincere voting by decreasing the risk that doing so will cause their vote to be “wasted.” Allowing voters to express their first choice, while still enabling them to indicate additional choices should their first choice be non-viable, allows voters to vote sincerely with less risk. RCV, like all other voting systems, does not prevent all tactical voting.
Third-Party and/or Independent Participation	Third-party and independent candidates are more viable in ranked choice voting. They are more likely to run since they are no longer at risk of “spoiling” an election. They are more likely to get votes since voters can vote sincerely for their most preferred candidate while still indicating additionally ranked candidates.
Voter Choice and Expression	<p>RCV implementations often allow for more candidates to be on the ballot in general elections, such as four or five candidates. This increases voter choice compared to Wisconsin’s current system which limits many nonpartisan races to two candidates by state statute.</p> <p>Voter expression is increased by allowing voters to rank all candidates that they wish, rather than having to choose only one. Voters also have the choice to vote for only one candidate or none if desired.</p>
Voter Participation and Turnout	<p>RCV implementations allow a higher number of candidates in a general election, either eliminating the need for a primary or decreasing the impact of a primary. This allows higher turnout general elections to have more influence on the outcome than the lower turnout primary elections.</p> <p>The increased voter expression and higher incidence of sincere voting allowed through RCV can also lead to higher levels of voter participation.</p>
Wasted Votes	RCV decreases the number of wasted votes.

¹³ In Ranked Choice Elections Women WIN. RCV in the United States: A Decade in Review. 2020. RepresentWomen.

	<p>It is more likely in ranked choice voting that a winning candidate will have more than 50% of the votes, and therefore, fewer than 50% of the votes will be considered wasted.</p> <p>Voters who ranked a losing candidate as number one can still have their vote count towards a later ranked candidate and affect the outcome of the election.</p> <p>Voters who chose a candidate in early voting that later dropped out of the race will still have their ballot count since the voter ranked more than one candidate.</p>
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Mathematical Criterion

Criterion	Meets?	Notes
Majority Criterion	Yes	In RCV, if a candidate receives the majority of the votes, then that candidate will win.
Condorcet Winner	No	In RCV, it is possible for a candidate to win even though that candidate would not have won in a head-to-head race against each other candidate.
Condorcet Loser	Yes	In RCV, it is not possible for a candidate to win if that candidate loses in a head-to-head against each other candidate.
Consistency / Participation	No	It is possible for an RCV election to violate the consistency criterion. See Appendix C for a detailed analysis of the No-Show Paradox possible in RCV.
Later No Harm / Later No Help	Yes	RCV ensures that ranking additional candidates does not harm or help higher-ranked candidates on a ballot.
Monotonicity	No	RCV elections can fail monotonicity. It is possible to change the outcome of an election in favor of a candidate by lowering that candidate's rank on some ballots. See Appendix D for a detailed discussion and example showing how RCV can violate monotonicity.
Independence of Clone Alternatives	Yes	RCV is not susceptible to clone alternatives, including spoilers and strategic nominations.
Independence of Irrelevant Alternatives	No	The outcome of an RCV race can be affected by the existence of additional candidates, even when those candidates do not win.

Summary of Evaluation for RCV

Pros

- Eliminates spoiler effect / prevents strategic nominations
- Increases viability of independent and third-party candidates
- Increases majority supported winners
- Increases minority representation
- Increases voter choice / expression
- Encourages sincere voting
- Encourages positive campaigning
- Decreases wasted votes

Cons

- Potentially higher costs associated with election administration and voter education
- Elections may take longer to reach a result
- If a high percentage of voters choose not to rank additional candidates, it is still possible to have a winner that does not have majority support
- Can violate monotonicity and consistency criteria

Notes

- RCV implementations need to include a significant amount of voter education, focused especially on how the votes are counted.
- It is important to set realistic voter expectations regarding the timeline for results in a system such as RCV which requires centralized tallying.
- Limiting the number of candidates on the ballot, especially for elections with smaller electorates, would decrease the likelihood of violating consistency criteria.
- RCV implementations that allow more candidates on the general ballot decreases primary costs and ensures higher turnout general elections have more influence than lower turnout primaries.
- Monotonicity and Consistency criterion violations would be difficult to take advantage of strategically, especially in any electorate with more than a few hundred voters.
- RCV can allow for proportional representation when combined with the use of at-large multi-member districts.

Section 3.5. Evaluating Top Four with RCV

The Top Four with RCV system is a voting system that uses plurality voting in primaries, allowing the top four candidates to progress to the general election in which RCV is used. See Section 2.1 for a definition of Top Four with RCV.

Other versions of this voting system have been proposed that are nearly identical but use a different number such as Top Five instead of Top Four. For the purposes of evaluation, we consider Top Five (or any number close to, but not below, four) with RCV to have the same evaluation as Top Four with RCV. Any version that allows fewer than four candidates to move to the general would diminish the benefits of this system.

Top Four with RCV

Criterion	Evaluation Notes
Ease and Cost of Administration	<p>Top Four with RCV can decrease election administration costs by decreasing the number of primary races needed. Any race that has four or fewer candidates does not need to have a primary at all. All primaries that are needed are held as nonpartisan, which avoids the cost of holding separate partisan primaries.</p> <p>Since general elections in this system are run as RCV elections, the same election administration considerations as discussed in the RCV evaluation apply, such as centralized vote tallying and a possible increase in the time needed to reach a result.</p>
Easy-to-Understand Voter Process and Election Outcome	<p>Compared to Wisconsin’s current system, the primaries in this system are simpler from the voter’s viewpoint. There are fewer primaries, and all the candidates exist on a single primary ballot rather than being separated due to partisan ballots. The primary utilizes plurality voting so the process of selecting one candidate and having the top four vote-getters move on to the general election is easy for voters to understand.</p> <p>The general elections in this system use RCV. A well-designed ballot can make the voting process simple for voters. As discussed in the evaluation of RCV, voter education about how votes are counted is critical to instill voter confidence in the election outcome.</p>
Majority Support for Winners	<p>Top Four with RCV allows most elections to result in a winner that has the support of more than 50% of the voters. It is possible to still end up with a winner with less than 50% support if a high percentage of voters choose not to rank additional candidates.</p>
Minority Representation / Proportional Representation	<p>As discussed in the evaluation of RCV, minority representation is increased when moving from plurality to a system that uses RCV. The inclusion of Top Four primaries does not alter these benefits.</p> <p>When used for multi-member offices, Top Four with RCV leads to proportional representation which more closely reflects the electorate.</p>
Positive / Negative Campaigning	<p>The use of RCV in the general election encourages candidates to run positive campaigns. In a case where a candidate is not a voter’s first choice, the candidate can still benefit from being that voter’s second choice.</p>

<p>Spoiler Effect</p>	<p>In Top Four with RCV, the spoiler effect may be possible in the primary but is unlikely to affect the ultimate result since the top four candidates progress to the general election which then uses RCV. The spoiler effect is avoided in the general election by using RCV and allowing the ranking of multiple candidates and therefore preventing wasted votes.</p>
<p>Strategic Nomination Risk</p>	<p>In Top Four with RCV, a strategic nomination is also less likely to affect the outcome of a primary. It may be possible to pull enough votes from a candidate via strategic nomination in a plurality vote where only the top candidate will win, but it is less likely to pull enough votes to knock an otherwise winning candidate out of the top four.</p> <p>The use of RCV in the general election decreases the benefits of strategic nomination by neutralizing the spoiler effect. Since voters can rank multiple candidates, a strategically nominated candidate is unlikely to prevent another candidate from ultimately receiving those votes.</p>
<p>Tactical vs. Sincere Voting</p>	<p>Top Four with RCV encourages sincere voting. Allowing the top four winners to move on to the general election decreases the number of wasted votes. The value of one’s vote is higher in this system than it is in plurality voting. An increased value in one’s vote increases the likelihood that a voter will vote sincerely.</p> <p>In the general election, using RCV, voters can express their first choice, while also indicate additional choices should their first choice be non-viable. The decreased risk of wasting one’s vote increases the likelihood that a voter will vote sincerely.</p>
<p>Third-Party and/or Independent Participation</p>	<p>In Top Four with RCV, all primaries are nonpartisan and the candidates that move forward to the general election do so based solely on who receives the most votes in the primary regardless of party affiliation. This aspect of Top Four with RCV improves the viability of third-party and independent candidates.</p> <p>Using RCV in the general election ensures that third-party and independent candidates are not viewed as potential spoilers.</p>
<p>Voter Choice and Expression</p>	<p>Voter choice is increased by the Top Four with RCV system. It prevents voters from having to choose which party’s primary to participate in. It also allows more candidates to move to the general election, presenting general election voters with more options and allowing them to express their full preference using the ranked ballot.</p>
<p>Voter Participation and Turnout</p>	<p>Proponents of Top Four with RCV point to the current outsized impact of low-turnout primaries as a source of voter disenfranchisement and dissatisfaction, which further lowers voter turnout.</p> <p>Top Four with RCV ensures that the higher turnout general elections have the greater influence over the result of an election by increasing the number of candidates that make it to the general election. Increased voter choice increases voter satisfaction and turnout.</p>

	Top Four with RCV also consolidates primaries so there are not separate partisan primaries, avoiding the low turnout associated with having separate primaries for partisan vs. nonpartisan races.
Wasted Votes	<p>Allowing more winners in the primary election to move forward to the general means fewer voters feel their vote was wasted in the primary election.</p> <p>The use of RCV in the general election allows fewer votes to be wasted since voters can rank additional choices beyond their first.</p>

Mathematical Criterion

Since the Top Four with RCV system is designed to ensure that the general election has more influence on the outcome than the primary, the below evaluation reflects the general election, which mirrors the RCV evaluation. For more detailed notes, see the same table in the RCV evaluation.

Criterion	Meets?
Majority Criterion	Yes
Condorcet Winner	No
Condorcet Loser	Yes
Consistency / Participation	No
Later No Harm / Later No Help	Yes
Monotonicity	No
Independence of Clone Alternatives	Yes
Independence of Irrelevant Alternatives	No

Summary of Evaluation for Top Four with RCV

Pros

- Eliminates spoiler effect / prevents strategic nominations
- Increases viability of independent and third-party candidates
- Increases majority supported winners
- Increases minority representation
- Increases voter choice / expression
- Encourages sincere voting
- Encourages positive campaigning
- Decreases wasted votes
- Ensures higher turnout general elections have more influence than lower turnout primaries
- Elimination of separate partisan primaries decreases costs

Cons

- Potentially higher costs associated with election administration and voter education
- Elections may take longer to reach a result
- If voters choose not to rank additional candidates, it is still possible to have a winner that does not have majority support
- Can violate monotonicity and consistency criteria

Notes

- Top Four with RCV implementations need to include a significant amount of voter education, focused on how the votes are counted in the RCV general elections.
- It is important to set realistic voter expectations regarding the timeline for results in a system that involves RCV because it requires centralized tallying.
- Limiting the number of candidates ranked on the ballot, as Top Four does, decreases the likelihood of violating consistency criteria.
- Monotonicity and Consistency criterion violations would be difficult to take advantage of strategically, especially in any electorate with more than a few hundred voters.
- The difference between Top Four with RCV and a simple RCV implementation is that Top Four with RCV prescribes a **plurality-based nonpartisan primary election**. RCV on its own does not prescribe a specific primary system but does usually define a maximum number of candidates to be determined by some sort of primary when necessary.

Section 3.6. Multi-member Governing Bodies and Proportional Representation

Proportional Representation

Proportional representation allows groups of like-minded voters to have representation on governing bodies even if a different group has a majority. Since single-winner elections elect only one candidate, proportional representation cannot be achieved in a single-winner election. In order to achieve proportional representation, multi-winner elections must be in use, but not all electoral systems allow multi-winner elections to result in proportional representation.

Some definitions of proportional representation include geographically defined districts. Since each geographically defined district factors in population and has its own representation, the representation is referred to as proportional. There are drawbacks to considering geographically defined districts to be proportional representation. People who happen to live near each other are not necessarily like-minded. It is also subject to manipulation based on how districts are drawn. This can be done to purposefully provide representation to a minority or to purposefully prevent a group from having representation, both of which are considered gerrymandering. Since it ultimately results in single-winner elections, there is no electoral system that can increase proportional representation when using geographically defined districts.

Multi-member Elections in Wisconsin

As discussed in Section 1.1, there are a few different ways Wisconsin's multi-member offices are defined. Seats are either at-large, numbered, or apportioned into geographic districts. How the seats are defined determines whether an election will be multi-winner or single-winner. Geographically defined districts and numbered seats both convert multi-member offices into a collection of single-winner elections.

At-Large Seats	Numbered Seats	Geographic Districts
Multi-Winner Elections	Single-Winner Elections	Single-Winner Elections

Wisconsin relies heavily on geographically apportioned districts. They are used in defining Wisconsin's U.S. congressional seats, Wisconsin State Assembly seats, Wisconsin Senate seats, and Wisconsin county board seats. They are also used in many city councils and some school board seats. We discussed above the inability for single-seat geographically apportioned districts to result in proportional representation. Now we will focus on the other two types: at-large seats and numbered seats. We'll use the following example to examine at-large and numbered seats using plurality voting.

Example:

In this example, we have three open seats and six candidates. Suppose there is a major issue being debated in the community; we'll call it Platform 1. The candidates are split on the issue. There are 1,000 voters in this election.

- Candidate A, Opposes Platform 1
- Candidate B, Opposes Platform 1
- Candidate C, Opposes Platform 1
- Candidate D, Supports Platform 1
- Candidate E, Supports Platform 1
- Candidate F, Supports Platform 1

Numbered Seats (Plurality Voting)

Using numbered seats, each candidate must declare which seat they are running for. Candidates usually do not want to compete with those most similar to them, so they tend to split up based on the platforms they support or oppose.

Seat 1	Seat 2	Seat 3
Candidate A (510 votes)	Candidate B (509 votes)	Candidate C (508 votes)
Candidate D (490 votes)	Candidate E (491 votes)	Candidate F (492 votes)

There will now be three races, each with one candidate that supports Platform 1 and one candidate that opposes Platform 1. If ~51% of the electorate supports Platform 1 (~510 votes), they can win 100% of the seats. This example led to two candidates in each race but had there been more than two candidates, the required percentage to win would have been less than 50% using plurality voting.

At-Large Seats (Plurality Voting)

Using at-large seats, candidates all run in the same race. Plurality voting uses block voting for multi-winner elections, in which voters vote for the same number of candidates as there are open seats. In this example, voters would vote for three candidates since there are three open seats. All three of a voter's votes are counted.

At-Large Race (voter selects three):

- Candidate A (510 votes)
- Candidate B (509 votes)
- Candidate C (508 votes)
- Candidate D (490 votes)
- Candidate E (491 votes)
- Candidate F (492 votes)

Candidates A, B, and C win each with ~510 votes or 51% of the vote. So once again, if 51% of the voters support Platform 1, then they can vote for their three preferred candidates and win 100% of the seats in plurality block voting.

We know that only multi-winner elections allow for an election to result in proportional representation, but not *all* electoral systems allow multi-winner elections to result in proportional representation. Our example demonstrated that using at-large seats with plurality block voting will still prevent proportional representation. How does an at-large multi-winner election work using approval voting or ranked choice voting?

At-Large Seats (Sequential Proportional Approval Voting, SPAV)

Using at-large seats, candidates all run in the same race. Approval voting allows a voter to vote for all the candidates for which they approve, regardless of how many open seats there are.

At-Large Race:

- Candidate A (510 votes)
- Candidate B (509 votes)
- Candidate C (508 votes)
- Candidate D (490 votes)
- Candidate E (491 votes)
- Candidate F (492 votes)

There are implementations of approval voting that use block voting and would just count the top three vote-getters which would not lead to proportional representation. But *Sequential Proportional Approval Voting (SPAV)*, sometimes called Reweighted Approval Voting (RAV), is an implementation of approval voting that results in proportional representation.

In Sequential Proportional Approval Voting, each ballot’s weight is reduced once that ballot contributes to the win of a candidate, relative to how many candidates that ballot has already helped win.

Suppose that this chart represents the breakdown of ballots in an approval election for the same example we used above.

	Candidates					
# of Ballots	A	B	C	D	E	F
508	X	X	X			
490				X	X	X
1	X	X			X	X
1	X					X

- 508 voters voted for A, B, and C
- 490 voters voted for D, E, and F
- 1 voter voted for A, B, E, and F
- 1 voter voted for A and F

To start, each ballot has a weight of 1.

		Candidates					
# of Ballots	Weight	A	B	C	D	E	F
508	1	X	X	X			
490	1				X	X	X
1	1	X	X			X	X
1	1	X					X
		510	509	508	490	491	492

Candidate A has the most total votes and is declared a winner. Each ballot that contributed to Candidate's A win now has only .5 weight left to give towards another candidate.

		Candidates					
# of Ballots	Weight	A	B	C	D	E	F
508 x .5 = 254	0.5	X	X	X			
490	1				X	X	X
1 x .5 = .5	0.5	X	X			X	X
1 x .5 = .5	0.5	X					X
		WON	255	255	490	490.5	492

The ballots that contributed to Candidate A winning now have a weight of .5, and totals for each candidate are recalculated. Candidate F now has the most votes and wins the second seat. Remember there are three open seats in this example.

All ballots that contributed to a candidate winning have their weight adjusted again. Ballots that contributed to only one candidate win so far (ballots that contained either Candidate A *or* Candidate F) have a weight of .5. Ballots that contributed to two candidates winning so far (ballots that contained both Candidate A *and* Candidate F) have their weight adjusted to .33.

		Candidates					
# of Ballots	Weight	A	B	C	D	E	F
508 x .5 = 254	0.5	X	X	X			
490 x .5 = 245	0.5				X	X	X
1 x .33 = .33	0.33	X	X			X	X
1 x .33 = .33	0.33	X					X
		WON	254.33 (WON)	254.00	245.00	245.33	WON

With the weight adjustments made, totals are recalculated and the third candidate to win is Candidate B.

While this example was done to show the step-by-step weight adjustments, the process would of course be computerized allowing for quick and accurate calculations.

By adjusting the remaining value of ballots after they have counted toward a candidate's win, proportional representation is made possible.

At-Large Seats (Ranked Choice Voting)

Using at-large seats, candidates all run in the same race. Ranked choice voting allows a voter to indicate their first choice, second choice, and so on. In the first round of counting, only the first ranked votes are counted.

Let's suppose that for our example, these are the first-rank votes for our RCV election.

At-Large Race (1 st Round)
Candidate A (251 votes)
Candidate B (149 votes)
Candidate C (110 votes)
Candidate D (200 votes)
Candidate E (150 votes)
Candidate F (140 votes)

Confused?

We highly recommend watching this [3-minute video by MPR](#) describing how RCV works for multi-winner elections.

Candidates need to meet a threshold in order to win the election. The threshold depends on how many winners there will be in total. The formula to determine the threshold percentage is $100/(\text{winners} + 1)\% + 1$ vote. In a single-winner race, the number of winners is 1 and the threshold is $50\% + 1$ vote. In this race, the number of winners is 3, which makes the threshold $25\% + 1$ vote.

After the first round of counting, Candidate A has 251 votes out of 1,000 votes, which is more than 25%. Candidate A is declared a winner.

No other candidate has reached the threshold. Candidate C has the fewest votes and is eliminated. The votes for Candidate C are all given to the next ranked candidate on those ballots. For simplicity of the example, we'll say that all of those voters that listed Candidate C as their first choice, listed Candidate B as their second choice.

**Note: Candidate B has 8 more votes than needed to reach the threshold. Those 8 votes would be split up and allocated to the next ranked candidates on all of those ballots that contributed to Candidate B winning. For example, if half of the ballots that contribute to Candidate B winning have Candidate D listed as the next ranked candidate, then Candidate D would get 4 additional votes. This allows the system to maximize vote efficacy and minimize wasted votes.*

We have not included this additional math in our example.

At-Large Race (2nd Round)
Candidate A (251 votes) WON in 1 st round
Candidate B (149 votes + 110 votes) = 259 votes
Candidate C (110 votes) Eliminated
Candidate D (200 votes)
Candidate E (150 votes)
Candidate F (140 votes)

With the additional 2nd round votes, Candidate B now has reached the 25% threshold and is also declared a winner.

Candidate F now has the fewest votes and is eliminated. Let's assume that half of those ballots (70) that are currently listed for Candidate F voted for Candidate E as their next ranked choice while the other half (70) voted for Candidate D as their next ranked choice.

At-Large Race (3rd Round)
Candidate A (251 votes) WON in 1 st round
Candidate B (149 votes + 110 votes) = 259 votes WON in 2 nd round
Candidate C (110 votes) Eliminated
Candidate D (200 votes) + 70 votes = 270
Candidate E (150 votes) + 70 votes = 220
Candidate F (140 votes) Eliminated

Now Candidate D has passed the 25% + 1 threshold and is declared the third winner.

What allows this system to lead to proportional representation is that once a ballot has contributed to a winning candidate, it is no longer used to determine the next winning candidate. Each voter's ballot can contribute to at most one winning candidate.

With the knowledge that only multi-winner elections can allow for proportional representation, and by reviewing our example through plurality, approval, and RCV we can sum up the ability to achieve proportional representation with the following chart.

	At-Large Seats	Apportioned/ Districts	Numbered Seats
Plurality	Block voting does not allow for proportional representation	No Proportional Representation - Single Winner	No Proportional Representation - Single Winner
Approval	Allows for proportional representation if implemented with Sequential Proportional Approval Voting (SPAV)	No Proportional Representation - Single Winner	No Proportional Representation - Single Winner
RCV	Allows for proportional representation	No Proportional Representation - Single Winner	No Proportional Representation - Single Winner

Note that this section is focused only on the ability/inability of electoral systems to support proportional representation within multi-member governing bodies. There may be other factors to consider when determining how to define seats. Appendix F examines the history of numbered seats in Madison as well as the debate for and against them.

Alternatives to single-seat geographically apportioned districts

We've mentioned that geographically defined districts can't lead to proportional representation because they involve single-winner elections. But these districts are so ingrained in our system, it's hard to imagine an alternative. If proportional representation is the goal, how could these governing bodies be reimagined?

County Boards of Supervisors

The Dane County Board of Supervisors has 37 seats. The county is divided into 37 geographically defined districts. Each voter gets to vote for their district's supervisor. Maybe Dane County's geography, demographics, and political ideology are perfectly represented by the drawing of these districts, but that is unlikely. And with a series of single-winner races, there will likely be voters who feel they do not have representation on the board.

How could this be turned into a multi-winner race that promotes proportional representation? There are 37 seats. Obviously, we don't want to have a single election with 37 winners which could have nearly 100 candidates for voters to choose from. That would be unmanageable for voters and election officials.

But maybe there's a middle ground. What if we had nine larger districts, each with four representatives? One district might need to have a larger population and five representatives, so the total is the same 37. Then, within each larger district, a multi-winner election can be held using RCV or SPAV and proportional representation would be possible.

One could also imagine a hybrid solution where something like 11 large districts, each with three representatives plus four at-large seats, represent the whole county.

City Councils

Madison's City Council has 20 alderpersons each representing one of 20 wards. The single-member / single-winner districts do not result in proportional representation. Using larger districts with multiple representatives, such as four districts with five representatives each, would better support proportional representation of different ideological groups if combined with an electoral system such as RCV or SPAV.

While both Madison and Milwaukee currently use aldermanic districts, some smaller cities in Wisconsin do elect their common council members at large in a single multi-winner election. Some smaller cities also have a hybrid council with aldermanic districts in combination with at-large seats. Currently at-large elections are still required to use plurality voting which prevents them from resulting in proportional representation.

Wisconsin State Assembly / Wisconsin Senate

Something similar could be imagined for the Wisconsin State Assembly and Wisconsin Senate. There are 99 geographically defined districts that make up the Wisconsin State Assembly. One could envision a system with 20 much larger districts, each with five representatives, with one of the districts being smaller and having only four representatives if aiming for a total of 99. A hybrid approach could involve a number of larger multi-representative districts and a handful of at-large statewide seats.

The system of using single-winner geographically defined districts is reinforced and normalized every day in American politics. It is often viewed as a cornerstone of our democracy. But it is not the only option and it is worth our effort to be aware of how this system affects representation in our democracy and what alternatives exist.

Section 4. Implementation Considerations

Any changes to an electoral system must be well coordinated to limit negative impacts on voters and administrators.

Laws

Changing the electoral system in Wisconsin would require changes to state statutes. There are many laws that speak to which electoral system is used that would need updating, and there are also state statutes that define ballot design that may need to be updated if a different electoral system is implemented, since ballot design depends on which electoral system is in use.

Technology

Changing an electoral system may require hardware or software upgrades to voting machines. Voting machines that are designed to read and calculate plurality-based ballots may not be programmed to read ranked ballots or ballots that allow voters to vote for more than one candidate, such as approval voting ballots.

Education

Voter education is of the utmost importance whenever any change is made to an electoral system. Any implementation would need to account for the time and cost of providing this voter education.

Order and Pairing of Implementation

Many of the alternative electoral systems discussed in this study are dependent on each other, and if implemented individually, these changes could result in weakening our current system rather than strengthening it. For example, one possible recommendation could be that Wisconsin should remove the two-candidate limit for nonpartisan races. Yet doing so while still maintaining a plurality voting system could increase the incidence of the spoiler effect, which is currently avoided in those general elections by the two-candidate limit. The implementation of removing the two-candidate limit would need to be paired with the implementation of RCV or approval voting to ensure it has more of a positive than negative impact.

Another example where one must consider the order of implementation is in making changes to multi-member board elections. If a change were proposed to alter a board's seats to be at-Large rather than numbered or apportioned with the intent of increasing proportional representation, it is important to note that plurality voting cannot result in proportional representation even if at-large seats are used. Therefore, for that change to have the desired effect, a preceding or simultaneous change to a voting system that supports proportional representation (such as RCV or SPAV) would need to occur.

Section 5. Consensus Questions

These questions will be presented to member. Member responses will be used to inform the study committee's recommendation to the board regarding any proposed positions on this subject.

Wisconsin Statutes

1. Wisconsin statutes currently require that plurality voting must be used in all elections. Wisconsin statutes should allow for more local control over which electoral systems are used in local elections.
Agree / Disagree / Unsure

Primary and General Elections

2. Plurality voting is serving the needs of Wisconsin voters.
Agree / Disagree / Unsure
3. Primary elections have unlimited candidates and are multi-winner. These multi-winner primaries should employ the following electoral system (choose all that are acceptable):
Plurality (Block) / Approval (Block) / Approval (SPAV) / Ranked Choice / Unsure
4. Wisconsin should eliminate separate partisan primaries and instead hold unified primaries. A unified primary, sometimes called a jungle primary, is a single multi-winner primary in which all candidates run in the same race regardless of party.
Agree / Disagree / Unsure
5. Unified Primaries and Nonpartisan Primaries should allow this many candidates to move to the general election for single-member offices if the following general or spring election uses ranked choice voting. (choose all that are acceptable)
Two, Three, Four, Five, More Than Five, Unsure
6. Single-winner general elections should employ the following electoral system (choose all that are acceptable):
Plurality / Approval / Ranked Choice / Unsure

Multi-member Governing Bodies and Proportional Representation

7. Multi-winner elections should be used to elect governing bodies whenever possible to allow for proportional representation.
Agree / Disagree / Unsure
8. Multi-winner elections should employ any of the following electoral systems (choose all that apply):
Plurality / Approval (SPAV) / Ranked Choice / Unsure
9. Large multi-member governing bodies should be designed to allow for multi-winner elections and proportional representation (if an electoral system that supports proportional representation is in place).
Agree / Disagree / Unsure

10. Comments:

Members can provide any additional comments they may have.

Glossary

Apportioned Seats – Seats in a multi-member governing body are considered apportioned when each seat represents a portion of the overall electorate that is governed by the multi-member body. For the purposes of this report the term apportioned is referring to seats divided into geographically defined districts.

Approval Voting – An electoral system in which voters indicate all the candidates that they approve of, and the candidate with the most votes wins.

At-Large Seats – Seats in a multi-member governing body are considered at-large when each seat represents the entire electorate. The entire electorate gets to determine who resides in all seats. When referred to as simply “At-Large” or as more specifically “At-Large Unnumbered” then the election is a multi-winner election where all candidates run in the same race.

At-Large Numbered Seats – See Numbered Seats.

Closed Primary – A partisan primary in which voters need to register with a party in order to vote in that party’s primary election. Wisconsin does not use closed primaries.

Electoral System – Refers to the method used to allow voters to voice their preference for candidate(s) on the ballot and the method used to count votes and determine the winner of a given race. It also refers to the type of elections used (single-winner, multi-winner, primaries, run-offs, etc.).

Exhausted Ballot – A ballot is considered exhausted if all the candidates selected on the ballot have been eliminated in the election and therefore the ballot no longer contributes to any candidate’s tally.

Final Five – Final Five or Final Five Voting is a term used in the book “The Politics Industry” by Katherine Gehl and Michael Porter. It refers to an electoral system in which all elections have nonpartisan primaries with up to five winners. Those five primary winners are then presented to voters in the general election, which uses ranked choice voting to determine the single winner. Final five voting is the same as Top Four with RCV except that it allows five candidates in the general election rather than four.

general election – (as used in this paper) When used with lowercase “g” in this paper, the general election refers to any election that determines the final winner(s) and is not a primary election.

General Election – (As defined by the state of Wisconsin) The election held in even-numbered years on the Tuesday after the first Monday in November to elect United States senators, representatives in congress, presidential electors, state senators, representatives to the assembly, district attorneys, state officers other than the state superintendent and judicial officers, and county officers other than supervisors and county executives.

Gerrymandering – The practice of drawing electoral districts in a way to purposefully advantage or disadvantage a group.

Instant Run-Off Voting (IRV) – Another term used synonymously with ranked choice voting. It most often refers to single-winner elections.

Jungle Primary – See Unified Primary.

Majority Requirement Voting – An electoral system that uses plurality voting with the added requirement that the winner receive 50% + 1 vote. If no candidate received 50% + 1 vote, then a subsequent run-off election is held between the top two vote getters.

Multi-member Governing Body – A governing body that consists of multiple representatives with equivalent duties, though possibly representing different geographic areas. Examples include county boards, school boards, and the state legislature.

Multi-winner election – An election that elects more than one winner in a single race. In Wisconsin this is most often seen in primary elections and at-large school board elections.

Nonpartisan Blanket Primary – See Unified Primary.

Numbered Seats – Seats in a multi-member governing body that are equivalent in duties but defined by specific numbers and are treated as separate single-winner elections. These seats are sometimes referred to as At-Large Numbered because each seat represents the entire electorate.

Open Primary – A primary in which each party has its own ballot, but any voter can choose to vote in a party's primary regardless of the voter's party affiliation. Voters can participate in only a single party's primary. Wisconsin uses an open primary system for its partisan primaries.

Partisan Primary – (As defined by the state of Wisconsin) The primary held the 2nd Tuesday in August to nominate candidates to be voted for at the general election.

Plurality – An electoral system in which each voter can vote for only one candidate, and the candidate that gets more votes than any other candidate wins.

Proportional Representation – An electoral system supports proportional representation if it elects representatives to a governing body in a way that reflects the percentage of the popular vote obtained by those representatives or political parties.

Ranked Choice Voting (RCV) – An electoral system in which voters rank candidates based on preference. Synonymous terms include instant run-off voting and single-transferable voting.

Range Voting – See Score Voting.

Re-weighted Approval Voting (RAV) – See Sequential Proportional Approval Voting.

Sequential Proportional Approval Voting (SPAV) – An electoral system that adapts approval voting to multi-winner elections in a way that allows for proportional representation. Also called Re-weighted Approval Voting.

Sincere Voting – Voting for the outcome that one most wants to occur. Voting without taking into account how other voters will vote.

Single Transferable Voting (STV) – Another term that is used synonymously with ranked choice voting. It can apply to either single-winner or multi-winner elections.

Single-Winner Election – An election that elects only one candidate to a single member office.

Score Voting – An electoral system in which voters give each candidate a score on a predefined range. The candidate with the highest total score wins. Also called range voting.

Sore Loser Laws – Laws that prevent candidates who lost in a partisan primary race from running as an independent candidate for that office (during that election cycle). Many but not all states have sore loser laws.

Spring Election – (As defined by the state of Wisconsin) The election held on the first Tuesday in April to elect judicial, educational, and municipal officers, nonpartisan county officers and sewerage commissioners and to express preferences for the person to be the presidential candidate for each party in a year in which electors for president and vice president are to be elected.

Spring Primary – (As defined by the state of Wisconsin) The nonpartisan primary held on the 3rd Tuesday in February to nominate nonpartisan candidates to be voted for at the spring election.

Spoiled Ballot – A ballot that cannot be counted in election results because it has been marked incorrectly by the voter.

Tactical Voting – The act of voting for a candidate other than one's most preferred candidate, or in a ranked order that does not represent one's true preferences, in order to prevent a less preferred candidate from winning. Also referred to as Insincere Voting or Strategic Voting.

Top Two Primary – A unified primary in which only the top two vote-getters proceed to the general election.

Top Four with RCV – An electoral system using unified primaries with four winners. Those four primary winners are then presented to voters in the general election, which uses ranked choice voting to determine the single winner.

Unified Primary – Any primary in which all candidates, regardless of party, run together. A unified primary has a defined number of winners which varies based on implementation. Other terms referring to this system include jungle primary and nonpartisan blanket primary.

Wasted Vote – A vote is considered wasted whenever it does not contribute to a candidate's win, either because that candidate already had enough votes to win or because all candidates selected on the ballot have lost.

Appendix A. LWVUS Position on Voter Representation/Electoral Systems

Voter Representation/Electoral Systems

The League's Position

Statement of Position on Voter Representation/Electoral Systems as adopted by concurrence by the 54th National Convention In June 2020:

LWVUS promotes an open governmental system that is representative, accountable, and responsive. We encourage electoral methods that provide the broadest voter representation possible and are expressive of voter choices. Whether for single or multiple winner contests, the League supports electoral methods that:

- Encourage voter participation and voter engagement
- Encourage those with minority opinions to participate, including under-represented communities
- Are verifiable and auditable
- Promote access to voting
- Maximize effective votes/minimize wasted votes
- Promote sincere voting over strategic voting
- Implement alternatives to plurality voting
- Are compatible with acceptable ballot-casting methods, including vote-by-mail

The LWVUS believes in representative government. The League supports electoral systems that elect policy-making bodies—legislatures, councils, commissions, and boards—that proportionally reflect the people they represent. We support systems that inhibit political manipulation (e.g., gerrymandering). The LWVUS supports enabling legislation to allow local jurisdictions to explore alternative electoral methods, as well as supporting state election laws allowing for more options at both the state and local levels. With the adoption of any electoral system, the League believes that education of the voting public is important and funding for startup and voter education should be available. We encourage a concerted voter education process.

Source: LWV Impact on Issues 2020-2022 A Guide to Public Policy Issues, League of Women Voters of the United States, pg. 47-48, retrieved on 1/15/21 from <https://www.lwv.org/sites/default/files/2020-12/LWV-impact-2020.pdf>

Appendix B. LWV State League positions related to voting systems

LWV Arizona

Position Statement: The LWVAZ supports a voting system that would more accurately represent the electorate, specifically the Instant Runoff Voting (IRV) system for single seat races, and the adoption of proportional representation for multi-seat races.

Source: LWVAZ POLICY POSITIONS 2019-2021 Action Plans

URL: https://my.lwv.org/sites/default/files/lwvaz_policy_positions_action_agenda_2019-2021.pdf

LWV California

Position Statement: LWVC promotes an open governmental system that is representative, accountable and responsive. We encourage electoral methods that provide the broadest voter representation possible. Whether for single or multiple winner contests, the League supports electoral methods that:

- Encourage voter participation and voter engagement
- Encourage those with minority opinions to participate, including under-represented communities
- Are verifiable and auditable
- Promote access to voting
- Maximize effective votes/minimize “wasted” votes
- Promote sincere voting over strategic voting
- Require the winner to receive a majority of the votes for executive and single seat offices
- Are compatible with acceptable ballot-casting methods, including vote-by-mail

The LWVC believes in representative government. The League supports electoral systems that elect policy-making bodies—legislatures, councils, commissions, and boards—that proportionally reflect the people they represent. We support systems that inhibit political manipulation (e.g. gerrymandering). The LWVC supports enabling legislation to allow local jurisdictions to explore alternative electoral methods, as well as supporting state election laws allowing for more options at both the state and local levels. With the adoption of any electoral system, the League believes that education of the voting public is important and funding for startup and voter education should be available. We encourage a concerted voter education process.

URL: <https://lwvc.org/position/electoralprocess>

LWV Colorado

Position Statement: The League supports authorizing and implementing alternatives to plurality voting that allow people to express their preferences more effectively. The League supports gaining on-the-ground experience with alternative voting methods in order to ascertain whether a voting method results in outcomes that match voters' preferences as recorded on their ballots. The League supports voting methods that can improve the election experience, that encourage honest* voting rather than tactical* voting, and that consider ease of implementation.

Source: VOTING METHODS Position Statement LWV of Colorado (adopted 2017)

URL:

https://s3.amazonaws.com/ClubExpressClubFiles/314195/documents/LWVCO_VM_position_2017_322382874.pdf?AWSAccessKeyId=AKIA6MYUE6DNNCCDT4J&Expires=1604612206&response-content-disposition=inline%3B%20filename%3DLWVCO_VM_position_2017.pdf&Signature=7bAJVSO4zd3hu7fU2XpLJ28meME%3D

LWV District of Columbia

Position Statement: The League of Women Voters, District of Columbia supports Ranked Choice Voting (RCV) for partisan contests in both primary and general elections. Ranked Choice Voting assures that the winning candidate will obtain a majority vote. The League believes that this system, which enables voters to rank candidates by preference, provides voters more voice in elections and leads to more representative government. With Ranked Choice Voting, the candidate with the broadest support of the voters is elected. Ranked Choice Voting also has the potential to lead to more informative campaigns that are issues-focused.

Source: LWV District of Columbia Local Program Study 2013-2015 Elections Process in the District of Columbia

URL: https://www.lwvdc.org/s/LWVDC-ElectionStudy_FinalReport_Web.pdf

URL: <https://www.lwvdc.org/ranked-choice>

LWV Maine

Position Statement: The League of Women Voters of Maine supports election systems for elected offices in single seat elections that require the winner to receive a majority of the votes, as long as the majority is achieved by Instant Runoff Voting/Ranked Choice Voting, rather than a second, separate runoff election.

URL: <https://www.lwvme.org/positions>

LWV Maryland

Position Statement:

GENERAL PRINCIPLES (2018) Support for:

- 1) We believe it is important that election systems
 1. produce representation that reflects community sentiment,
 2. help increase voter participation by encouraging a broader range of candidates and more civil campaigns and
 3. are feasible to implement.
- 2) We also prefer election systems that:
 1. are easy for the voter to understand, both in terms of how to vote and how their vote is counted,
 2. help ensure minority views and interests have some influence in selecting elected officials,
 3. help raise the level of political campaigns by encouraging a focus on the issues and discouraging negative campaigning,
 4. maximize the power of each voter's vote; and
 5. help promote more openness and responsiveness between candidates and constituents.
- 3) If a majority of votes is required to win an election, Ranked Choice Voting (instant runoff) is the preferred method of determining such a majority. (There was no consensus on using a separate Run-off Elections to determine a majority.)
- 4) If candidates are to be nominated by parties for the general election ballot, ballot access for non-principal parties should be improved:
 1. all recognized parties should have access to taxpayer-funded primary elections; and
 2. a non-principal party should retain its status if the number of registered voters affiliated with that party is equal to or greater than the number of signatures required to gain initial recognition.

URL: https://www.lwvmd.org/election_process

LWV Massachusetts

Position Statement: The League position is that the winner in single-seat elections should be required to obtain a majority of the votes cast. The League supports the use of ranked choice voting in all elections—federal, state and local—with three or more candidates in which a single candidate is the winner to assure the winning candidate receives a majority.

Source: Where We Stand Program Book June 2020 – LWV Massachusetts, pg 15

URL: <https://lwvma.org/wp-content/uploads/2020/08/Where-We-Stand..pdf>

LWV Minnesota

Position Statement: LWVMN supports the option to use ranked choice voting (a.k.a., instant runoff voting) to elect state or local officials in single seat elections and continued use of the plurality voting system in our elections. This means that LWVMN supports allowing local communities the option to use ranked choice voting if they want it.

Source: 2019-2021 Program for Action – LWV Minnesota

Appendix B. LWV State League positions related to voting systems

URL: <https://drive.google.com/open?id=1SkMc-POVWXVKUkWSqj7pKFJoY19ccu6U>

URL: <https://www.lwvnmn.org/voting-election-administration>

LWV Oklahoma

Position Statement: *Support for legislation that assures that the candidate preferred by a majority of voters wins the election.*

URL: <https://my.lwv.org/oklahoma/position/representative-government-instant-runoff-voting-irv-or-ranked-choice-voting-rcv>

LWV Oregon

Position Statement: The League of Women Voters of Oregon does not believe that plurality voting is the best method for promoting democratic choice in all circumstances. For single-winner systems, the League supports ranked-choice voting; we do not support range or approval voting. The League of Women Voters of Oregon supports election systems that elect policy-making bodies—legislatures, councils, commissions, and boards—that proportionally reflect the people they represent.

Source: LWVOR Policy and Position Statements – 2018

URL: <http://lwvor.org/full-lwvor-position-index/#Election-Methods>

LWV Pennsylvania

Position Statement: In Pennsylvania, when three or more candidates seek election to a single-seat office like governor or legislator in a single-member state house or state senate district, the winners are those who receive the most votes even if they received less than 50 percent of the total vote (a plurality rather than a majority). Candidates, who do not themselves have a chance of winning, can be spoilers: votes cast for them can change who does win. This discourages electors from voting for minor party or independent candidates they prefer. First, LWVPA believes and elections system should encourage electors to vote for their true favorite (sincere voting) rather than for someone who they believe has a better chance of defeating the candidate they like least (strategic voting). Furthermore, an electoral system used in single-seat elections should guarantee that the winner would receive a majority (not just a plurality) of votes. Some states hold runoff votes at a future date. This is costly and very likely involves a different cohort of electors than in the original round of voting. LWVPA supports adopting Instant-Runoff voting (IRV) in which voters rank their preferences, that guarantees the choice of a winner after just one round of voting.

Source: LWVPA Position on Election Law

URL: <https://static1.squarespace.com/static/5cc0ef58755be24fe008e905/t/5dd6e003d1cd2a1c7086134d/1574363140376/LWVPA+Position+on+Election+Laws.pdf>

LWV Tennessee

Position Statement: Support election methods at each level of government that encourage participation, are verifiable and auditable and enhance representation for all voters. The LWV-TN promotes an open governmental system that is representative, accountable and responsive. We encourage election methods that provide the broadest voter representation possible, have a positive effect on voter participation, and are expressive of voter choices. Whether for single or multiple winner contests, the League supports methods that:

- Encourage voter participation and engagement
- Encourage those with minority opinions to participate, including under-represented communities
- Are verifiable and auditable
- Promote access to voting
- Promote competitive elections
- Maximize effective votes/minimize “wasted” votes
- Promote sincere voting over strategic voting
- Discourage negative campaigning
- Encourage meaningful discussion of issues
- Require the winner to receive a majority of the votes for executive and other single seat offices
- Are compatible with acceptable ballot-casting methods, including vote-by-mail

The LWVTN believes in representative government. The League supports systems that elect policymaking bodies – legislatures, councils, commissions and boards – that proportionally reflect the people they represent. We support systems that inhibit political manipulation (e.g. gerrymandering). The LWVTN supports enabling legislation to allow local jurisdictions to explore alternative elections methods, as well as supporting state election laws allowing for more options at both the state and local levels. With the adoption of any election system, the League believes that education of the voting public is important and funding for startup and voter education should be available. We encourage a concerted voter education process.

Source: 2019-2021 LWVTN Program

URL: https://d3n8a8pro7vhmx.cloudfront.net/lwvtn/pages/47/attachments/original/1562973318/Election_Systems.pdf?1562973318

LWV Vermont

Position Statement: The League of Women Voters of Vermont (LWVVT) will support ranked choice voting for all statewide elections.

URL: <https://my.lwv.org/vermont/position/ranked-choice-voting-1999-2017>

LWV Utah

Position Statement:

1. The League of Women Voters believes Ranked Choice Voting could be a fair and representative election system in Utah.
2. The League believes that Ranked Choice Voting would give more voters a larger voice throughout election campaigns and in the selection of final winners in the voting process.
3. The League supports Ranked Choice Voting and believes it could be a better option than the current system.

URL: <https://www.lwvutah.org/league-positions>

URL: https://docs.google.com/document/d/1aL4ujdH_mULAzcWqTYS8SB3FAMlv9OjzmXDmF74Q_5o/edit

LWV Washington

Position Statement: RCV offers voters more choice, eliminates the spoiler effect, encourages more positive, issued-focus campaigns, and may lower election and campaign costs when jurisdictions choose to eliminate primaries.

URL: <https://www.lwwa.org/elections>

URL: <https://www.lwwa.org/resources/Documents/2020%20Issue%20Papers/2020%20ELECTIONSupdated.pdf>

Appendix C. No-Show Paradox Example

When an electoral system is susceptible to the no-show paradox, it means that it is possible to have a situation in which a group of voters would have been happier with the outcome of an election if they had not voted.

Let us imagine, for example, that we have an election with candidates A, B, and C. In this simplified example, voters for A did not rank any other candidates, while voters for B and C ranked second-choice candidates.

# of Ballots	1st	2nd
200	A	
100	B	A
25	B	C
140	C	B

After the first round of counting, A is winning, C is in second, and B is eliminated. After the second round of counting, A remains in first and wins the election.

	1st Round	2nd Round
A	200	300(Winner)
B	125	<i>eliminated</i>
C	140	165

Voters that voted for C are not happy with this outcome. Those voters wanted C first and B second, but did not want A. What happens if some of those C voters did not vote? With all else remaining the same, we will remove 20 of the C voters.

# of Ballots	1st	2nd
200	A	
100	B	A
25	B	C
120	C	B

Now, after the first round of counting, A is still winning, but B is in second and C is eliminated. After the second round of counting, B now wins. The 'no-show paradox' is demonstrated in this example because the C voters are happier with the outcome when some of them did not vote.

	1st Round	2nd Round
A	200	200
B	125	245(Winner)
C	120	<i>eliminated</i>

The 'no-show paradox' is often confused with non-monotonicity. However, the no-show paradox does not show that decreasing the rank of a candidate helps that candidate. And it does not show that increasing the rank of a candidate would hurt that candidate. Rather, it shows that removing votes from a different candidate (candidate C) helped candidate B to win and hurt candidate A by changing with whom candidate A ultimately faced off in the second round. The outcome for candidate C did not change.

The frequency with which the 'no-show paradox' occurs in elections is not well understood. Researchers Brandt, Hofbauer, and Strobel sought to add to our understanding of this frequency through mathematical models. Their models show that the frequency increases with the number of candidates, but also converges to zero as the number of voters increases. In their models with four candidates, frequency maxed out at 4% and began decreasing as voters increased beyond around 500 voters. Most models showed negligible frequency by 1000 voters with four candidates.

The frequency increases as the number of candidates increases, with one model showing over 20% frequency with 30 candidates, though this was in a case with under 100 voters. It is not likely that you would encounter a scenario in which 30% of your electorate runs for a single office. The frequency still converges to zero as the number of voters increases, though computational limitations prevent their models from showing how many voters would be needed to reach negligible frequency with 30 candidates.

These models suggest that if using a voting system is susceptible to the no-show paradox, then it may be beneficial to limit the number of candidates in an election, especially for races that have smaller electorates.

Appendix D. Non-Monotonicity

A voting system is non-monotonic, that is, it fails to meet monotonicity, if either of the following is true.

- It is possible to help a candidate by lowering that candidate’s rank on a ballot, while all else remains unchanged.
- It is possible to harm a candidate by increasing that candidate’s rank on a ballot, while all else remains unchanged.

Ranked-choice voting (RCV) is non-monotonic.

Example

In this hypothetical example provided by FairVote,¹⁴ we will look at an RCV election with three candidates and 100 voters. Voters in this example rank only their first and second choices. Note that this is a simplified example for demonstration purposes and not all possible ballot combinations are represented.

Suppose the 100 ballots come in as follows.

Number of ballots	1st Rank	2nd Rank
39	Andrea	Belinda
35	Belinda	Cynthia
26	Cynthia	Andrea

The tallying occurs as follows. Andrea wins the election in the second round.

	Andrea	Belinda	Cynthia	Notes
1st round	39	35	26	After the 1st round, Andrea is in the lead. Cynthia is in last place and is eliminated.
2nd round	65	35	Eliminated	In the 2nd round, the votes that had listed Cynthia as the 1st-ranked candidate are now given to the 2nd-ranked candidate on those ballots. Andrea now has the most votes (more than 50 % + 1) and wins.

However, it can be shown that if some voters increased their ranking of Andrea it could cause Andrea to lose the election. Suppose ten voters, who previously listed Belinda first, increase their ranking of Andrea to the 1st rank.

Number of ballots	1st Rank	2nd Rank
39	Andrea	Belinda

¹⁴ <http://archive.fairvote.org/monotonicity/>

25	Belinda	Cynthia
10	Andrea	Belinda
26	Cynthia	Andrea

Increasing support for Andrea means that these voters also decreased their ranking of Belinda and Cynthia. Andrea is still in first place after the 1st-rank tally and has more votes after the first round than in the previous scenario, but the decreased support for Belinda causes Belinda to be eliminated. Now Andrea faces Cynthia in the second round and ultimately loses.

	Andrea	Belinda	Cynthia
1st round	49	25	26
2nd round	49	Eliminated	51

This example shows that it is possible in an RCV election to negatively affect a candidate by increasing their rank on some ballots.

Real-Life Example

The 2009 election for the Burlington, VT, mayoral office is often cited as a real-life example that shows the potential for non-monotonicity in RCV. There were three candidates in this election. After the first round of counting, no candidate had a majority. After the second round of counting, Bob Kiss won the election. However, ballot data shows that had some voters ranked Bob Kiss higher on their ballots, it would have caused him to lose the election, which would have been non-monotonic.¹⁵ Note that this election is an example of the potential for non-monotonicity. The ballot data shows that a non-monotonic result *could have happened* if voters had increased support for Bob Kiss. The actual election result was not non-monotonic.

Frequency?

Determining the frequency with which non-monotonic outcomes have occurred in real-life RCV is hindered by the fact that many places using RCV do not release complete ballot data. Mathematical models attempting to determine the frequency of non-monotonic outcomes in RCV estimate that it could occur in 5–15% of elections, with the percentage being higher if we look only at elections where tallying went past the first round.¹⁶

Strategic Advantage?

The lack of monotonicity would be difficult to take advantage of strategically due its unpredictability and the narrow margins required to change an election outcome. In the example above we saw a lack of monotonicity when ten voters increased their rank of Andrea, but it only happens if it is exactly ten or

¹⁵ Ornstein, Joseph T.; Norman, Robert Z. (2014). "Frequency of monotonicity failure under Instant Runoff Voting: estimates based on a spatial model of elections." *Public Choice*. **161** (1–2): 1–9.

¹⁶ Ornstein, Joseph T.; Norman, Robert Z. (2014). "Frequency of monotonicity failure under Instant Runoff Voting: estimates based on a spatial model of elections." *Public Choice*. **161** (1–2): 1–9.

11 voters and no other changes occur. Had it been 12 voters in this example, Andrea would have won more than 50% in the first round and monotonicity would have been maintained. Had it been only nine voters, there would have been a tie for last place subject to tie-breaking rules. Had it been fewer than nine voters Andrea would have still won and monotonicity would have been maintained. Determining whether it is in a voter's interest to move a candidate up or down on a ballot to achieve the opposite outcome in the election result would not be possible without knowing all the ranks on all other ballots in that election.

Appendix E. History of Majority Voting Requirements in the South

While plurality voting reigns across much of the United States, some states in the South have an added majority requirement. In a majority-required election, if no candidate receives more than 50% of the votes, a run-off election is held between the top two vote-getting candidates, ensuring that one candidate will secure a majority. Southern states that continue to have majority vote requirements for some elections include Alabama, Arkansas, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, and Texas. In many of these states, the majority requirement is limited to primaries or municipal elections, but in Georgia, Louisiana, and Mississippi,¹⁷ the majority requirement applies to statewide and federal offices.

The origin of the majority requirement in the South can be traced to the late 1800s. It was introduced as just one tactic in the purposeful and open disenfranchisement of African American voters. Majority requirements were included in the “White Primaries” used by the Democratic Party to ensure the primary, which excluded nonwhite voters, would result in the election of the white candidate with the broadest support among white voters.

Majority requirements rose further in popularity in southern states after enactment of the Voting Rights Act of 1965. Threatened by an increase in African American voter registration, southern states acted swiftly to pass majority requirements. The majority requirement would work to ensure that if the white vote was split between candidates, it would not lead to an African American candidate winning. Instead, a separate run-off election would be held, and the majority white voters who previously split their votes could then join to support the white candidate.

It is important for us to understand the racist origins of majority vote requirements in the US. It was one of many effective tools used to disenfranchise African American voters. It is also important to recognize that today these states have many majority African American districts, in which the majority requirement works in their favor rather than against them. No broad consensus exists on whether these requirements continue to have a net negative effect on African American voters today. However, it is easy to see that majority vote requirements could continue to contribute to minority vote dilution.

¹⁷ Prior to 2020 Mississippi required candidates for statewide office to win a majority of the popular vote as well as the majority of the 122 House districts. If no candidate reached both majorities, then the state House of Representatives selected the winner. In 2020 a ballot measure was passed to remove the “electoral vote” requirement and to require that a run-off election be held in case no candidate obtained the popular vote majority.

[https://ballotpedia.org/Mississippi_Ballot_Measure_2,_Remove_Electoral_Vote_Requirement_and_Establish_Run_offs_for_Gubernatorial_and_State_Office_Elections_Amendment_\(2020\)](https://ballotpedia.org/Mississippi_Ballot_Measure_2,_Remove_Electoral_Vote_Requirement_and_Establish_Run_offs_for_Gubernatorial_and_State_Office_Elections_Amendment_(2020))

Appendix F. History of the Statutory Change Mandating At-Large to Numbered Seats on the MMSD School Board

Provided by Barbara B Arnold, proud 50-year member of LWVDC, who served nine years on the Madison School Board, three as President

This brief summary is based on the recollections of six former Madison school board members about the reasons for the change in state statute in 1984.

Running for an at-large seat where the highest vote getters win seats was the practice in the MMSD under state statute until 1984. Members were elected to represent the entire district, to do what's best for all students. Sometimes there were as many as 29 candidates for two-or-three board seats on the seven-member board. This scenario creates a challenge for candidates; it is often hard for them to articulate why they are running and how to differentiate themselves from the rest of the group. A more policy-driven structure made some sense.

The primary reason for the change in statute to elect school board members at-large to numbered seats is that it allowed an individual to challenge a candidate based on that candidate's policy positions. A 1983 report from the Wisconsin Legislative Council suggested that numbered seats allow candidates to focus on issues more easily, "It is believed that it is easier for the voters to judge the relative merits of a few candidates running for the same seat than it is to judge the relative merits of many candidates who are all vying for several vacancies on the board.... This permits candidates to focus on issues more easily than otherwise is feasible." The thinking was that a more robust, meaningful discussion of public education issues would take place.

In addition to the ability to target a school board seat in support or opposition, numbered seats give candidates of color a greater chance of success given the demographic makeup of the MMSD.

A stand-alone legislative proposal for numbered seats in Madison was unsuccessful in 1983 but was passed as part of a larger piece of legislation in 1984, Act 484. Cited as a catalyst for this change were controversial MMSD policies related to school closings in the 1970's and to the district's integration plan in 1983.

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