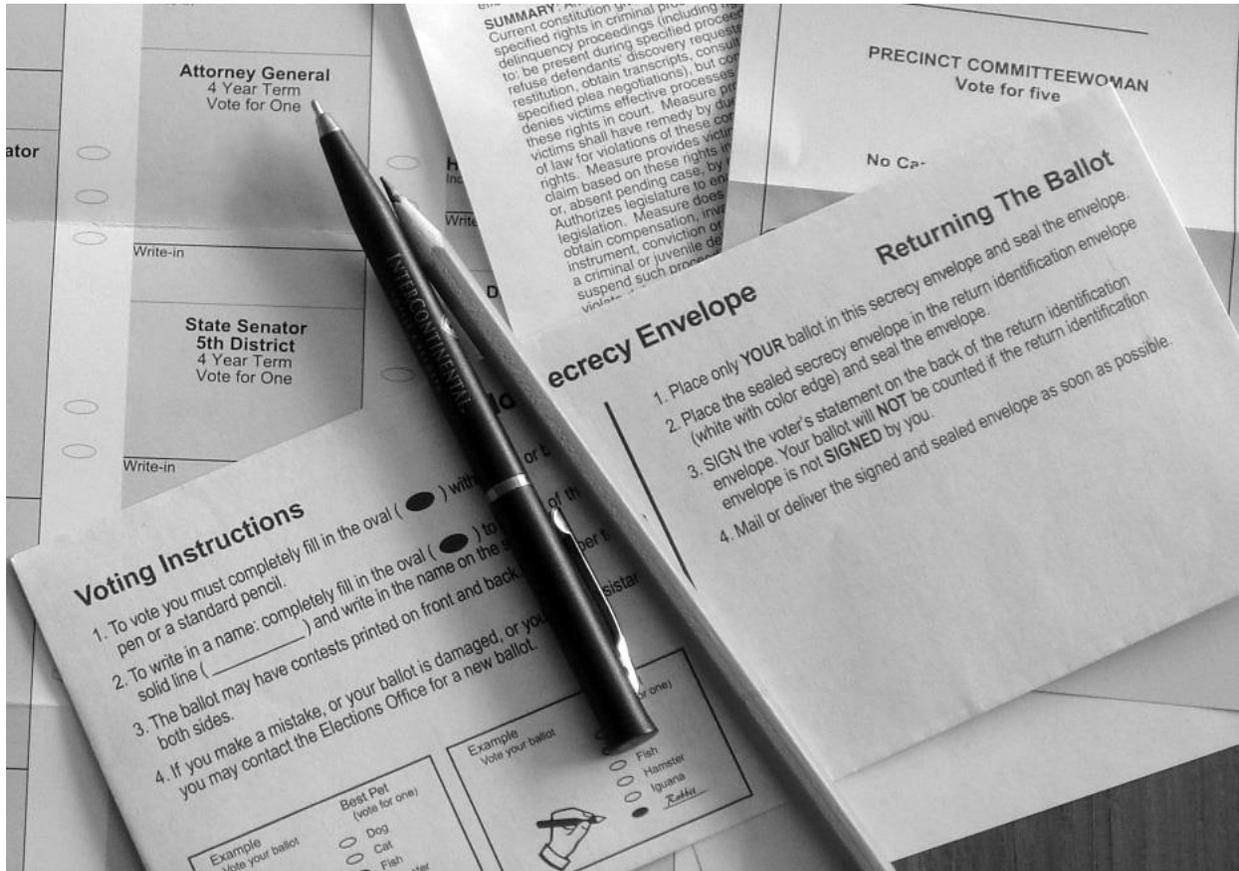


# Election Methods Informational Update 2023



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OF OREGON

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# 1 INTRODUCTION

*“The League of Women Voters of the United States believes that voting is a fundamental citizen right that must be guaranteed.”  
LWVUS Advocacy Position on Citizen’s Right to Vote*

## 1.1 Why This Informational Study Update?

Voting is the very foundation of democracy. Yet, questions about the way we vote are more consequential and more contentious than ever. Some current concerns—guarding against voter fraud and improving election security—were addressed in the Oregon League’s 2019 study of cybersecurity.<sup>1</sup> Other concerns focus on voting fairness and election representativeness. These concerns include the possibility that a candidate could win an election with a minority of the votes cast, partisan primaries that reinforce a two-party duality by inhibiting new candidates and parties, and a lack of diverse voices in representation.

Election methods and election system design have been shown to significantly affect not only the voters’ decisions, but also party and candidate campaign strategies, the composition of the governing body, and the resultant policies and laws that are passed.

For many years, voting advocates and experts have been exploring a variety of alternative voting methods designed to increase fairness (to both voters and candidates) and representativeness of outcomes. Several of these reforms are standard practice outside the United States. Several US jurisdictions have successfully adopted certain alternative voting methods, and other methods are under evaluation by voting experts. These proposals also have been or are being seriously considered by various Oregon cities and the Oregon State Legislature.

This report follows two previous LWVOR reports on election methods: a 2008 study<sup>2</sup> and a 2016 update of that study<sup>3</sup>. The 2016 update added much more detail about multi-winner elections and voting methods that could be used for proportional representation.<sup>4</sup> As League members looked again at voting rights, voting systems, and voting methods, we realized that our most recent study, the 2016 update, does not include information about newer election methods that are now being suggested for Oregon (as well as for other states and communities). At the LWVOR 2021 Convention, delegates voted to conduct an informational update of the 2016 study to provide information about these recent methods and systems.

The 2008 election methods study and the 2016 update led to a 2017 LWVOR advocacy position on Election Methods that the League may use to support or oppose proposals for changing Oregon voting systems. This position is quoted in full in Appendix 1. The position lists criteria the League uses to evaluate any election method. The League supports methods that:

- Encourage voter participation and voter engagement.
- Encourage those with minority opinions to participate.
- Are easy to use.
- Are verifiable and auditable.

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<sup>1</sup> Cybersecurity and Privacy Today, LWVOR 2020, pp 22- 25, <https://drive.google.com/file/d/1S9AZdaEmQoYNRWKRgPEsulXicXFrP98/view>.

<sup>2</sup> [Election Methods: Review of Alternatives and Oregon Proposals](#), downloaded 4-8-2022.

<sup>3</sup> [Election Methods Study Update 2016](#), downloaded 4-8-2022.

<sup>4</sup> *Ibid.*, chapter 3, pp 21-36.

- Promote access to voting.
- Promote competitive elections.
- Promote sincere voting over strategic voting.
- Discourage negative campaigning.
- Prevent political manipulation (e.g. gerrymandering).
- Are compatible with vote-by-mail elections.

At the LWVUS Convention in 2020, the delegates adopted a new LWVUS position on Voter Representation/Electoral Systems that combined the positions from fourteen states, including Oregon's position. The criteria listed in the LWVUS position may also be used in Oregon to evaluate the newly proposed electoral systems or election methods. The LWVUS position added these criteria, some of which are variations on the LWVOR criteria:

- Encourage those with minority opinions to participate, including under-represented communities.
- Maximize effective votes/minimize wasted votes.
- Implement alternatives to plurality voting.
- Are compatible with acceptable ballot-casting methods, including vote-by-mail.

Additionally, it includes the following statement, important to our current update:

*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.*

This 2023 Informational Update will examine the pros and cons of certain alternative election methods that have gained interest since our 2016 report. Specifically, we compare ranked choice, RCIPE, and STAR voting methods with plurality voting and discuss two open primary options—a suggested open-primary measure for Oregon and Final-Four or Final-Five. We look at how well the new methods meet the criteria in the 2017 LWVOR position and the 2020 LWVUS position. This report does not recommend any changes in these positions.

## **1.2 Election Methods and Systems Covered in This Informational Update**

In this report, we first analyze two election methods that can be used in single-winner elections (e.g. for a mayor or governor):

- RCIPE (Ranked Choice Including Pairwise Elimination)
- STAR (Score Then Automatic Runoff) and

We compare these methods with Ranked Choice Voting (RCV<sup>5</sup>)—the method supported by the LWVOR 2017 position – using the criteria in the LWVOR and LWVUS positions and other commonly accepted criteria. RCIPE is a variation on RCV; it uses a somewhat different method for counting the votes. STAR differs from RCV in the appearance of the ballot, in the way voters use the ballot, and in the way the votes are counted. After describing these methods, we look at how they could be used for multi-winner elections and to achieve proportional representation in a multi-member governing body, like a city council or legislature. We evaluate the pros and cons of each method, using the criteria in the LWVOR and LWVUS positions and other commonly accepted criteria.

In addition, we discuss two primary election reforms that were not covered in the 2016 update: the "Final 4" or "Final 5" system, which Alaska first used in 2022, and a current proposal for open primaries in Oregon. These primary reforms are different than the proposed open primary reforms we did cover in the 2016 update.

### **1.3 Process and Resources**

The Electoral Systems Informational Update Committee began work in the summer of 2021. An advantage for the committee was that several committee members had participated in the previous LWVOR studies and/or had written their own analyses of the various methods. As part of our work, committee members read or viewed more than 50 source documents and videos. In addition, eight advocates and experts answered the questions we sent them. The titles of the resources we viewed or read and the names of the people we consulted are listed in Appendix 2. We also list the questions we asked.

### **1.4 Why Change Our Election Methods Or System?**

Voters understand that "your vote counts." However, they often don't know there are several options for how votes are cast and counted. Voters are most familiar with plurality voting, or "winner-take-all" systems which are the most common systems used in the United States. Recently states have considered or tried other approaches. Ranked choice voting, approval voting, proportional representation, and their variations are examples of "alternative voting systems."

Oregon's current plurality ("First Past the Post") voting system does not fit well with some of the important criteria in our positions. On the positive side, it is easy to understand and use. Furthermore, in a single-winner election with only two candidates, our current plurality system will elect the candidate who wins a majority of votes, assuming there is not a strong write-in candidate.

However, our current system fails in other ways. When there are more than two candidates running for a single seat, the plurality voting system may elect a candidate with less than 50% of the votes. It may cause voters to vote "strategically" for a candidate who is not their first choice, so they do not "waste" their votes. Because voters may feel their votes don't matter, it can discourage participation, especially among those with minority opinions. Additionally, it encourages negative campaigning and enables gerrymandering. It does a poor job of electing a

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<sup>5</sup> In this report, Ranked Choice Voting (RCV) will refer to the ranking and counting method commonly meant by that name, also called Instant Runoff Voting (IRV). There are actually many variations on Ranked Choice Voting, of which RCIPE is one.

legislative body that proportionally reflects the population that is being served. This is true even when there are geographically based multi-member districts.

Experts on voting methods and electoral systems agree that no system is perfect. However, alternative methods meet our criteria more completely than our current plurality system does. Alternative voting methods are intended to counter the weaknesses of plurality voting. They are also designed to elicit more information on each voter’s preferences in order to provide more robust calculations of voters’ *collective* views of the candidate pool.

Alternative voting ballot designs and counting methods differ from the familiar "choose one candidate" approach in two ways. The voter is asked to select multiple preferences on their ballot, and the vote counting process must be able to handle multi-member districts to produce proportional or semi-proportional results.

## 2 HOW THE METHODS WORK

New voting methods will require both new ballots and new methods of counting the votes on the ballots. These changes emphasize the importance of voter education and clear ballot instructions.

In this section we first describe how single winners are selected with each of the new methods and then describe how each method selects multiple winners.

### 2.1 Choosing Single Winners

#### 2.1.1 Choosing Single Winners with RCIPE

##### The Ballot

RCIPE (pronounced as "recipe") is one of the ways of counting a ranked choice ballot; its ballot would be similar to an RCV ballot<sup>6</sup>:

City Council Position 1					
Rank the candidates. You can mark more than one oval in the same column.	First Choice 1 <sup>st</sup>	Second Choice 2 <sup>nd</sup>	Third Choice 3 <sup>rd</sup>	Fourth Choice 4 <sup>th</sup>	Fifth Choice 5 <sup>th</sup>
<i>Amy</i>					
<i>Betsy</i>					
<i>Chelsea</i>					
<i>Donna</i>					
<i>Emory</i>					

<sup>6</sup> Adapted from <https://fairvote.app.box.com/s/9kb6tha5w2odkiwits614e791o91i4m7>, downloaded 2-8-2022.

<i>Frances</i>					
<i>Gloria</i>					
<i>Hanna</i>					

As Ranked Choice Voting (RCV) gains popularity in the U.S., these ballots are becoming more familiar. A possible error in RCV is marking more than one choice at the same level, but, as shown on this sample ballot, RCIPE accepts this marking. In the case where there are fewer choice levels than candidates, RCIPE allows ranking all candidates by marking some at the same level. As in RCV, failure to rank all candidates is not an error, but it does reduce the voter's decision-making power if none of the candidates the voter did rank are among the finalists.

### 2.1.2 How the Votes Are Counted<sup>7</sup>

RCIPE is similar to RCV in that any candidate who has a majority of first-choice votes is declared the winner.<sup>8</sup> If no candidate has a majority of first-choice votes when the votes are first tallied, a process of elimination is conducted to determine the winner, using the voters' second, third, etc. choices.

The first important difference between RCIPE and RCV is in the process used to eliminate losing candidates. RCV eliminates the candidate who has the fewest first-choice votes in each round. Ballots that ranked the eliminated candidate first now have their second choice transferred to their first-place choice. The elimination rounds continue until a candidate has a majority of first-choice votes. That candidate wins. The goal of RCV is to eliminate the candidates with least support, and to elect the candidate with the broadest support.

The goal for RCIPE is also to select the candidate whom most voters ranked highest, but the process for determining the losing candidates is different. On rare occasions, this can change the results. When an elimination round is conducted in RCIPE, each candidate is compared with every other candidate to determine the number of voters that ranked one higher than or equal to the other. If one candidate loses in every pairwise comparison with all other candidates, that losing candidate is eliminated. First-place choices on ballots with a losing candidate as the first choice are reassigned to the second choice on those ballots. As in RCV counting, elimination rounds continue until a majority candidate exists.

It is possible that no candidate fails every one-on-one comparison with other candidates. In this case, the candidate with the fewest first-place votes is eliminated.

The second important difference between the usual ranked choice vote-counting method and RCIPE is the treatment of ballots on which two candidates are ranked at the same level. A possible error in RCV is marking more than one candidate at the same choice-level; this error is treated differently in different electoral jurisdictions. RCIPE allows marking two candidates at the same level, but uses special counting rules to compensate for the duplicate choices. In the elimination rounds, ballots that rank two candidates at the same level are ignored when

<sup>7</sup> Adapted from [http://www.votefair.org/instant\\_pairwise\\_elimination.html](http://www.votefair.org/instant_pairwise_elimination.html), downloaded 2-19-2022.

<sup>8</sup> Ranked Choice Oregon Ballot Initiative, [https://www.rankedchoiceoregon.org/ballot\\_initiative.html](https://www.rankedchoiceoregon.org/ballot_initiative.html), downloaded 2-15-2222.

comparing those two candidates with each other, although they are counted in pairwise comparisons with other candidates who were ranked at a different level.

If both candidates marked at the same level by a voter advance to the next round, any ballots that have a tie between the same two candidates as their second choice are summed. Then half the votes are given to one of the two and half to the other. This is an important adjustment so that the vote counting conforms to the principle that every vote should be counted equally (one-person-one-vote).

Here is an example of counting RCIPE ballots<sup>9</sup>. The candidates are flavors of ice cream, **Chocolate**, **Strawberry**, **Vanilla**, **Banana** and **Mint**. In this example, voters rank these choices as shown below:

R a n k	Voter															
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Chocolate	Banana	Vanilla	Chocolate	Banana	Chocolate	Chocolate	Vanilla	Vanilla	Chocolate	Vanilla	Mint	Banana	Chocolate	Chocolate	Chocolate
2	Chocolate	Chocolate	Chocolate	Banana	Chocolate	Vanilla	Chocolate	Banana	Chocolate	Mint	Chocolate	Chocolate	Chocolate	Chocolate	Chocolate	Banana
3	Vanilla	Chocolate	Chocolate	Vanilla	Chocolate	Chocolate	Vanilla	Vanilla	Mint	Chocolate	Chocolate	Chocolate	Banana	Vanilla	Vanilla	Vanilla
4	Banana	Vanilla	Mint	Chocolate	Vanilla	Banana	Mint	Chocolate	Chocolate	Vanilla	Mint	Mint	Vanilla	Chocolate	Mint	Chocolate
5	Mint	Mint	Banana	Mint	Mint	Mint	Banana	Mint	Chocolate	Banana	Vanilla	Chocolate	Mint	Vanilla	Vanilla	Mint

A majority of voters is 9. No candidate has 9 first-place votes, so one candidate must be eliminated. Each candidate is compared with every other one to see which ones win in these one-on-one pairwise comparisons. For instance, Chocolate is ranked higher than Vanilla on 10 ballots; Vanilla is ranked higher on the remaining 6. These comparisons can be summed as shown below:

All Possible Pairs of Choices	Number of Votes with Indicated Preference		
	Prefer X Over Y	Equal Preference	Prefer Y Over X
X = Chocolate Y = Strawberry	5		11
X = Chocolate Y = Vanilla	10		6
X = Chocolate Y = Banana	8		8
X = Chocolate Y = Mint	13		3
X = Strawberry	10		6

<sup>9</sup> Adapted from [http://www.votefair.org/instant\\_pairwise\\_elimination.html](http://www.votefair.org/instant_pairwise_elimination.html), downloaded 2-20-2022.

<b>Y = Vanilla</b>			
<b>X = Strawberry</b> <b>Y = Banana</b>	8	2	6
<b>X = Strawberry</b> <b>Y = Mint</b>	15		1
<b>X = Vanilla</b> <b>Y = Banana</b>	7		9
<b>X = Vanilla</b> <b>Y = Mint</b>	12		4
<b>X = Banana</b> <b>Y = Mint</b>	12		4

Mint is the candidate to eliminate, because Mint loses in every one-on-one comparison with other candidates, 13 to 3 with Chocolate, 15 to 1 with Strawberry, 12 to 4 with Vanilla, and 12 to 4 with Banana. So, for the next round, the single first-place vote for Mint is allocated to that voter's second choice, Strawberry:

<b>R a n k</b>	<b>Voter</b>															
	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>I</b>	<b>J</b>	<b>K</b>	<b>L</b>	<b>M</b>	<b>N</b>	<b>O</b>	<b>P</b>
<b>1</b>	Red	Yellow	Light Brown	Red	Yellow	Brown	Red	Brown	Light Brown	Red	Light Brown	Yellow	Red	Yellow	Red	Brown
<b>2</b>	Brown	Brown	Red	Yellow	Brown	Light Brown	Brown	Yellow	Light Brown	Yellow	Light Brown	Red	Yellow	Red	Brown	Yellow
<b>3</b>	Light Brown	Red	Brown	Light Brown	Red	Red	Light Brown	Light Brown	Brown	Light Brown	Brown	Brown	Light Brown	Light Brown	Yellow	Light Brown
<b>4</b>	Yellow	Light Brown	Yellow	Brown	Light Brown	Yellow	Yellow	Red	Light Brown	Yellow	Light Brown	Light Brown	Brown	Brown	Light Brown	Red

Strawberry gets an additional vote, but still doesn't have enough to win. In the next round, Vanilla is the biggest loser:

<b>All Possible Pairs of Choices</b>	<b>Number of Votes with Indicated Preference</b>		
	<b>Prefer X Over Y</b>	<b>Equal Preference</b>	<b>Prefer Y Over X</b>
<b>X = Chocolate</b> <b>Y = Strawberry</b>	5		11
<b>X = Chocolate</b> <b>Y = Vanilla</b>	10		6
<b>X = Chocolate</b> <b>Y = Banana</b>	8		8
<b>X = Strawberry</b>	10		6

<b>Y = Vanilla</b>			
<b>X = Strawberry</b> <b>Y = Banana</b>	8	2	6
<b>X = Vanilla</b> <b>Y = Banana</b>	7		9

Vanilla loses 10 to 6 to Chocolate, 10 to 6 to Strawberry, and 9 to 7 to Banana. Voter C's first-choice vote for Vanilla is given to second-choice Strawberry. Voters I and K, however, have a tie in second place, for Strawberry and Banana. Half of the 2 votes go to Strawberry and half to Banana.

<b>R a n k</b>	<b>Voter</b>															
	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>I</b>	<b>J</b>	<b>K</b>	<b>L</b>	<b>M</b>	<b>N</b>	<b>O</b>	<b>P</b>
<b>1</b>	Red	Yellow	Red	Red	Yellow	Brown	Red	Brown	Red	Yellow	Red	Yellow	Red	Yellow	Red	Brown
<b>2</b>	Brown	Brown	Brown	Yellow	Brown	Red	Brown	Yellow	Brown	Brown	Brown	Red	Yellow	Red	Brown	Yellow
<b>3</b>	Yellow	Red	Yellow	Brown	Red	Yellow	Yellow	Red	White	Yellow	White	Brown	Brown	Brown	Yellow	Red

Strawberry still lacks one vote to win. The next round eliminates Chocolate.

<b>All Possible Pairs of Choices</b>	<b>Number of Votes with Indicated Preference</b>		
	<b>Prefer X Over Y</b>	<b>Equal Preference</b>	<b>Prefer Y Over X</b>
<b>X = Chocolate</b> <b>Y = Strawberry</b>	5		11
<b>X = Chocolate</b> <b>Y = Banana</b>	8		8
<b>X = Strawberry</b> <b>Y = Banana</b>	8	2	6

In this round there is no pairwise losing candidate because the pairwise tie between Chocolate and Banana (which is 8 to 8) is not a loss for either candidate. So now the ballots are counted according to which remaining candidate is ranked highest.

Eight voters ranked Strawberry higher than either Banana or Chocolate, 5 ranked Banana highest, and Chocolate was ranked highest by 3 voters, remembering that Strawberry and Banana each get one vote from the two voters who equally ranked Strawberry and Banana. Chocolate is eliminated as having the smallest vote count.

R a n k	Voter															
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Red	Yellow	Red	Red	Yellow	Red	Red	Yellow	Red	Yellow	Red	Yellow	Red	Yellow	Red	Yellow
2	Yellow	Red	Yellow	Yellow	Red	Yellow	Yellow	Red	White	Yellow	White	Red	Yellow	Red	Yellow	Red

In the next and final round, ballots I and K become exhausted ballots because they express an equal preference for the remaining two candidates, so they are not counted. The remaining ballots give 8 votes to Strawberry and 6 votes to Banana, so Strawberry wins.

### 2.1.3 Choosing Single Winners with STAR

#### The Ballot

STAR voting is a rating method. (In election science terms, “rating” methods are considered cardinal while “ranking” systems are ordinal.) The ballot asks for a score from 0 to 5 for each candidate<sup>10</sup>:

<sup>10</sup> STAR Voting, [https://en.wikipedia.org/wiki/STAR\\_voting](https://en.wikipedia.org/wiki/STAR_voting), downloaded 4-8-2022.

 **STAR VOTING**  
SCORE - THEN - AUTOMATIC - RUNOFF

- Give your favorite(s) five stars.
- Give your last choice(s) zero stars.
- Show preference order and level of support.
- Equal scores indicate no preference.
- Those left blank receive zero stars.

	<b>Worst</b>					<b>Best</b>
<b>Score Candidates:</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Andre</b>	0	1	2	3	4	5
<b>Blake</b>	0	1	2	3	4	5
<b>Carmen</b>	0	1	2	3	4	5
<b>David</b>	0	1	2	3	4	5
<b>Ella</b>	0	1	2	3	4	5

The two highest scoring candidates are finalists.  
Your vote goes to the the finalist you prefer.

This method is familiar to most voters from rating products or services online.

#### 2.1.4 How the Votes Are Counted

When rating scores for products or services are presented, they are usually shown as the number of people giving a rating of 5, the number giving a rating of 4, etc. STAR counts the ratings differently; the scores for each candidate on each ballot are added, to produce an overall score for each candidate. Thus, if Carmen was given a 5 on 2 ballots, a 4 on 1, and a 2 on 2 ballots, her overall score would be 18 (5 + 5 + 4 + 2 + 2).

To this point, STAR voting is similar to range voting described in our Election Methods Update Study 2016. That method is known to encourage strategic voting. Voters who give their favorite a 5 and all others a 0 have an advantage, and, if most voters use this strategy, the method is little different from plurality. STAR advocates say the next stage of their counting discourages this strategy.

In the next stage, the two candidates with the highest scores are finalists; all ballots are re-examined to count how many times each finalist was ranked higher than the other one. The finalist who was ranked higher on the most ballots is the winner.

During this second stage, any ballots which have the same rating or number of "stars" for the two remaining candidates are considered "no preference" and have no influence.

STAR Voting is "batch summable." That means that STAR ballots can be counted locally at a precinct. This is an advantage for two reasons. Ballots need not change hands before counting is done, so are more secure, and results can be estimated more quickly. This is unlike RCV or RCIPE which have to be centralized (aggregated – physically or electronically) before results are

finalized. The centralization is needed to determine how many votes were cast, and thus what would constitute a majority winning threshold.

## 2.2 Choosing Multiple Winners

John Adams' belief that a representative assembly "should be in miniature, an exact portrait of the people at large" is echoed in the LWVOR position that states "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." Looking forward, to make this possible, election methods must have a way of choosing multiple candidates.

Methods that use plurality to elect candidates from multi-member districts (bloc methods) are notoriously unfair, in that they consistently elect only candidates from the largest block of voters. Fifty-one percent of the people may elect all candidates, while 49% none. The unfairness is lessened by creating geographic districts, as was mandated by the Apportionment Act of 1842 for the US House of Representatives. If voters with different interests are grouped geographically, and if the districts are not gerrymandered to favor one group, a system electing more than one candidate may offer the plurality of voters in that district a voice. It may also improve representativeness in the legislative body. Unfortunately, these two conditions are rarely achieved in practice. Voters with similar positions on an important issue or with the same social situation may be scattered throughout the legislative body's area. Also, despite the League's efforts to mitigate gerrymandering, it continues to be a serious problem.

The method that is most often discussed as a possibility for proportional representation for American voters is the single transferable vote (STV). In most parts of the world (or where it is used in the US), this refers to a proportional type of Ranked Choice Voting. RCIPE and STAR would borrow from the STV counting method if a multiple winner election were adopted using either of the two electoral systems. When the RCIPE and STAR multi-winner systems are evaluated, they are most often compared to commonly used STV. The multiple-winner versions of RCIPE and STAR are usually called RCIPE STV and STAR STV (also known as Allocated STAR). Simple explanations of how more-commonly-used STV works can be found in our 2016 study update and at <https://www.youtube.com/watch?v=l8XOZJkozfl> and <https://www.youtube.com/watch?v=P38Y4VG1Ibo>.

When choosing multiple winners, all three of these methods have a few common problems to solve: what will the ballot look like, what threshold number of votes will a winner have to receive, and how will votes for a candidate who has more than the threshold be counted.

### **The Ballot**

For all three vote counting methods, the ballot for choosing multiple winners is the same as that for choosing single winners. Voters rank or rate multiple candidates. The ballots are counted in different ways to yield more than one winner.

### **The Threshold**

All three of these systems count ballots in rounds and elect candidates that have reached a threshold (or quota) of votes in that round, continuing until all seats have been filled. The threshold can be calculated in different ways, but is generally the minimum number of votes each candidate needs such that no more candidates can win election than there are seats. For example,

in a race where 3 seats are to be filled from one district, the threshold could be 25% of the total votes + 1 vote, because no more than 3 candidates could reach that number.

### **Votes in Excess of the Threshold**

All three systems allocate votes that exceed the threshold for a winning candidate to the second choices of voters whose ballots had the winner in first place. This is to ensure that those voters have a chance at representation by another candidate, since they as a group are larger than the threshold number of votes that chose the winning representative. It also ensures that their votes are not wasted by remaining with a candidate who does not need them. Most simple explanations of STV say that the ballots that are over the threshold are the ones re-allocated. This ignores the question of which ballots are to be selected as the ones that are over the threshold. One group of ballots may allocate second-choices to different candidates than another group.

Therefore, in real-world vote counts, using STV, when there is an excess over the threshold, all ballots that elected the winner have a partial vote for the winner and also a partial vote remaining to allocate to a second choice.

RCIPE/STV and STAR/STV also use this counting method. Specifically, the number of votes in excess of the threshold is divided by the total number of top-choice votes for the winning candidate, and this percentage is used to determine the number of votes each second choice of the group gets in this round of counting. For example, if 30 votes is the threshold for winning and Candidate A gets 50 votes, then the excess is 20 votes, or 40% of 50. If 15 of the 50 voters ranked Candidate B in second place, Candidate B would get 40% of 15, or 6 additional votes in this round of counting. If 10 of the 50 ranked Candidate C in second place, Candidate C would get 40% of 10, or 4 additional votes in this round, and so on.

This counting method ensures that candidates represent all voters in proportion to their support in the community.

### **2.3 Choosing Multiple Winners with RCIPE STV**

As in STV, in RCIPE STV a candidate is declared elected if they receive at least a threshold of votes in any round of counting. If no candidate meets the threshold, then the pairwise elimination of single-winner RCIPE is used to eliminate one candidate and reassign that candidate's votes to the second choices of voters who voted for that candidate as their first choice. If none of the candidates qualifies for pairwise elimination, the candidate with the fewest first-choice votes is eliminated, as in STV.

Also, as in STV, if first-place choices for a winning candidate exceed the threshold, the excess is divided by the total first-place votes for the candidate. The resulting percentage is the percentage of the number of second-place votes received by candidates voting for the winning candidate that is allocated to those second-place candidates.

The pairwise elimination method for eliminating the losing candidates is a major difference between proportional ranked choice voting using STV and using RCIPE STV in counting votes. Another difference is that RCIPE STV ballots on which a voter has ranked two or more candidates at the same ranking level are transferred in the same way as with single-winner RCIPE.

## 2.4 Choosing Multiple Winners with STAR STV

Winners in STAR STV are selected in rounds. Each round elects the candidate with the highest total score and then designates as represented a threshold or quota's worth of voters from that candidate's strongest supporters (as shown by the ballots that rated that candidate highest). Subsequent rounds include all voters who are not yet fully represented<sup>11</sup>.

As in the count for single winners, the scores for each candidate on each ballot are added, to give an overall score for each candidate. Winners are then selected in rounds. The candidate with the highest score on a round is that round's winner. Ballots for the winner of the round are sorted by the score they contributed to the winner's total score (all 5's, all 4's, etc.). These ballots are given a weight for the next round.

Starting with the highest-ranked ballots, the ballots that are greater than the threshold for electing a winner are given a weight of zero, meaning that they are not counted in later rounds, because those voters are considered to be fully represented. This is in contrast to standard STV or RCIPE, where ballots over the threshold for the winning candidate are fractionally reassigned to second choices of all voters who chose the winner.

If only a portion of a sort level contributed to the winner's threshold (for instance, if the threshold was 21 ballots and there were 13 ballots with a score of 5 and 10 with a score of 4), the voters who scored the candidate at the lowest contributing level (4 in this instance) are considered only partially represented.

All ballots at the lowest contributing level continue to the next round, but the scores for each candidate on those ballots are all reduced. The reduced (or weighted) scores are calculated by first determining how many of the ballots at the lowest contributing level did **not** contribute to the winning candidate's total score. In the example above, eight of the ten ballots that rated the winner at level 4 were needed to meet the threshold ( $13 + 8 = 21$ ). Two of the ten ballots did not contribute to the winning score. Thus  $2/10$  or 20% of the scores on those ballots are considered unrepresented. These weighted scores have a partial influence on the other winners for all subsequent rounds. All other ballots maintain their current weight, which is 1.

For the next round, the winner is eliminated from all ballots, and the overall scores for each candidate are again added, using the weighted scores. Rounds continue until all winners are selected.

Here's an example. Three winners must be selected from a slate of five, so the threshold is 25% of the number of ballots + 1 vote. Because there are 12 voters' ballots in this example, 25% is 3 voters' ballots + 1 = 4 voters' top choice. Continuing with our ice cream flavors, call the candidates **Chocolate**, **Strawberry**, **Vanilla**, **Banana**, and **Mint**. The entries in the table below are the number of stars each voter gave each candidate.

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<sup>11</sup> Allocated Score, [https://electowiki.org/wiki/Allocated\\_Score](https://electowiki.org/wiki/Allocated_Score), downloaded 3-6-2022. The Equal Vote Coalition has designated Allocated Score (in this report called STAR/STV) as the official recommendation for proportional STAR voting.

Candidate	Voter												TOTAL
	A	B	C	D	E	F	G	H	I	J	K	L	
Chocolate	4	4	4	2	4	5	4	5	1	3		3	39
Strawberry	5	3	5	4	3	3	4	2	4	5	4	4	46
Vanilla	3	2		3	2	4	3	3	5	2	1	1	29
Banana	2	5	2	4	5	2	1	4	4	1	4	5	39
Mint	1	1	3	1	1	1	2	1	3	4	3	2	23

On the first round, Strawberry is a clear winner with 46 total stars. How did the voters contribute to this total?

- Voters with 5 stars for Strawberry: 3
- Voters with 4 stars for Strawberry: 5
- Voters with 3 stars for Strawberry: 3
- Voters with 2 stars for Strawberry: 1
- Voters with 1 star for Strawberry: 0

Eight voters gave Strawberry a 5 or a 4. With a threshold of 4, the ballots with 4 stars for Strawberry are the lowest contributing level. All 3 ballots with 5 stars for Strawberry are eliminated in the next round (as those voters are considered fully represented). Those with 4 stars for Strawberry are considered partially represented by Strawberry's win. Specifically, they are about 1/5, or 20%, represented, since one ballot of their five contributed to Strawberry. All their other choices now count 100% minus 20%, or 80% in the next round, which looks like this:

Candidate	Voter												TOTAL
	A	B	C	D	E	F	G	H	I	J	K	L	
Chocolate		4		1.6	4	5	3.2	5	0.8			2.4	26
Strawberry													
Vanilla		2		2.4	2	4	2.4	3	4.0		0.8	0.8	21.4
Banana		5		3.2	5	2	0.8	4	3.2		3.2	4.0	30.4
Mint		1		0.8	1	1	1.6	1	2.4		2.4	1.6	12.8

The second winner is Banana, with 30.4 stars. The votes contributing to that score were:

- Voters with 5 stars for Banana: 2
- Voters with 4 stars for Banana: 2

Voters with 3.2 stars for Banana: 3

Voters with 2 stars for Banana: 1

Since the threshold is 4 top-choice ballots, all the voters with 5 stars for Banana and all those with 4 stars for Banana can be considered fully represented without any remainder left over. Those ballots are eliminated and scores on other ballots remain the same for the next round.

Candidate	Voter												TOTAL
	A	B	C	D	E	F	G	H	I	J	K	L	
Chocolate				1.6		5	3.2		0.8				10.6
Strawberry													
Vanilla				2.4		4	2.4		4.0		0.8		13.6
Banana													
Mint				0.8		1	1.6		2.4		2.4		8.2

And the third winner is Vanilla.

### 3 COMPARING THE METHODS – PROS AND CONS

#### 3.1 The Expert Criteria

Experts in voting methods compare the methods on a set of criteria that have obscure names and complex meanings. Which criteria are most important is hotly debated among advocates of different election methods. Also, if a method fails a given criteria, it is not always clear how often or under what circumstances the failure might occur.

The criteria in LWVOR’s position reflect the experts’ criteria in reader-friendly terms. The table on the next page organizes the criteria according to their relevance to LWV positions and gives a quick summary of which methods pass, fail, or partially satisfy the criteria. Extensive notes at the end of the table explain the entries.

Following the table and its notes, you will find more information about “sincere voting,” one of the criteria favored by LWVOR. Then we conclude this section by summarizing the comparisons that are shown in the table.

## Comparison of single-winner election methods: STAR, RCIPE, RCV(IRV) & FPTP (Plurality)

Goal	Comparison	STAR	RCIPE	RCV	FPTP
Voter participation	Promote participation, including those with minority opinions	Yes	Yes	Yes	No
Be simple, easy to use & understand	Ballot design – how voter fills out ballot <sup>1</sup>	Yes (caveat) <sup>1</sup>	Yes (caveat) <sup>1</sup>	Yes (caveat) <sup>1</sup>	Yes <sup>2</sup>
	Ballot counting – easy to explain how votes are counted	Yes (caveat) <sup>3</sup>	No	Debatable <sup>4</sup>	Yes
Easy to Administer	Be verifiable & auditable: hand count possible, Risk Limiting Audits (RLA) <sup>5</sup> .	Yes (caveat) <sup>6</sup>	Yes (caveat) <sup>7</sup>	Yes <sup>8</sup>	Yes
	Current software & hardware in Oregon adequate for vote counting <sup>9</sup>	No	No	No <sup>10</sup>	Yes
	'Certified' Software already <i>available</i>	No	No	Yes <sup>11</sup>	Yes
	Precincts can summarize count for faster election-night processing <sup>12</sup>	Yes	No	No	Yes
Promote sincere over strategic voting	Feel free to vote preference. (See explanation following table footnotes. This includes criteria named "Later-No-Harm", "Independence of Clones" and "Independence of Irrelevant Alternatives.")	No	No	Yes (caveat)	No
Consistent Scoring between voters <sup>13</sup>	Resistant to inconsistent scoring between people, where all votes are not equal and those "in the know" have an unfair advantage.	No	Debatable	Yes	N/A
Discourage negative campaigning	Little incentive to pit one candidate against another.	Debatable <sup>14</sup>	Yes	Yes	No
Compatible with vote-by-mail	Each system works with mail-in paper ballots.	Yes	Yes	Yes	Yes
Majority winner guaranteed.	Majority is highest threshold when electing a <b>single winner</b> (50% +1). A multiple-winner proportional representation threshold depends on number of positions available. See Mutual Majority, also. <sup>16</sup>	No <sup>15</sup>	Yes	Yes	No
Close Preference Issue	Avoids close preferences changing results problematically <sup>17</sup>	Debatable <sup>18</sup>	Yes	No (caveat) <sup>19</sup>	N/A
Expressive Ballot <sup>20</sup>	Demonstrates nuanced level of support. STAR does so with number of stars given; RCIPE by allowing two candidates ranked identically; RCV by allowing for set levels (1-2-3 etc.)	Yes	Yes	Debatable	No
Few Discounted Votes <sup>21</sup>	Each voter's preferences counted in every round of voting.	Debatable	Yes (caveat) <sup>22</sup>	Debatable	Yes
Competitive elections and promoting voter access	These are important LWVOR goals. STAR, RCIPE & RCV may easily promote competitiveness, whereas FPTP (with traditional 'spoiler' situations) discourages competition.	Yes	Yes	Yes	No
Vote effectiveness	<b>LWVUS goal:</b> "maximize effective votes/minimize wasted votes" related to <b>multiple winner elections.</b>	Yes	Yes	Yes	No
Proportionally reflect voters	<b>LWVUS &amp; LWVOR goal:</b> elect policy making bodies (legislatures, councils, boards and commissions) that proportionally reflect the people they represent.	Debatable <sup>23</sup>	Yes (assumed)	Yes	No
	Compatible with <i>candidate</i> -based <b>multi-winner methods</b> , to improve minority representation, reduce wasted votes, inhibit gerrymandering	Debatable (footnote above)	Yes	Yes	No <sup>24</sup>

<sup>1</sup> STAR, RCIPE and RCV ballots require voter education for first time users.

<sup>2</sup> FPTP is easy to understand but history shows ballot design can still be dysfunctional.

<sup>3</sup> With STAR, voters can easily understand how the "numbers add up," but may be confused by the discounting of equal-preference choices in the second round.

<sup>4</sup> Based on post-election surveys, voters seem to understand how RCV works. Not as easy to count as STAR or FPTP. RCV has historical data of hand counting, recounts and audits, even for multi-seat elections. In Cambridge MA, the entire multi-seat election was counted by hand using RCV/STV for over 5 decades before computers. Opponents point to recount difficulty because ballots must be centralized (aggregated physically or electronically) before results are finalized; advocates point to many recounts in California over the past 20 years.

<sup>5</sup> Automatic "hand recount audits" depend on margin of victory (e.g. tie or 0.2%) in Oregon. Risk Limiting Audits (RLAs), which are less common but are increasingly used, provide strong statistical evidence of outcome accuracy. In Oregon, county clerks are authorized to determine when to conduct RLAs. Recounts requested by a candidate are not considered an audit.

<sup>6</sup> Some opponents question STAR's compatibility with RLAs since that type of audit requires a margin of victory and each of the two rounds has its own statistical margin of error. Supporters disagree. More actual elections would provide greater information.

<sup>7</sup> RCIPE auditability is assumed; no data on actual audits is available.

<sup>8</sup> RCV has a history of audits both in California and Cambridge MA (as mentioned above). Data includes the Risk-Limiting-Audit pilot in San Francisco (2019) as well as presidential RLAs done for three elections in 2020.

<sup>9</sup> RCV and RCIPE typically require software upgrades, but not hardware upgrades. It is uncertain whether STAR would need a hardware, as well as software, upgrade.

<sup>10</sup> Benton County is the only Oregon county with software used for a RCV election. The four largest voting software vendors all have RCV capabilities, according to RCV Resource Center. Any Oregon county that uses another vendor may not have RCV capacity and may also need new hardware.

<sup>11</sup> In addition to certified software, a "Universal Tabulator" is available for RCV through the RCV Resource center. They state: "The RCV Universal Tabulator, RCVUT, is federally tested open-source software that can tally RCV election results using cast vote records from most voting system

vendors. In addition, RCVUT can combine results from multiple different voting systems into one complete final result and can be used to audit RCV results generated by other voting systems. The RCV Universal Tabulator is the most comprehensive RCV tabulation module to be tested under the Voluntary Voting System Guidelines (VVSG) and the first open-source software to meet VVSG standards." More info at [rcvresources.org](http://rcvresources.org).

<sup>12</sup> RCV and RCIPE ballots from all precincts must be aggregated centrally to advance the count past the first round. FPTP and STAR can be counted locally for single winners.

<sup>13</sup> Consistent scoring between voters has also been called "Inconsistent Translation of Preference into Score."

- RCV ranking is consistent across voters (if we both prefer A over B, we will both rank A above B).
- Opponents say RCIPE may be inconsistent across voters, because voters can rank A and B the same and ideas of "sameness" may differ, as well as whether all candidates are ranked by giving some equal rank.
- STAR rating may be inconsistent across voters, with those preferring A to B giving A anywhere from 5 to 2 stars (votes), and candidate B anywhere from 4 to 1. In other words, grading philosophy matters. You and I may totally agree on a candidate, but our personal attitude about grades may differ. There's no honest "internal" score within us, whereas a RCV rank is clear.

<sup>14</sup> Star advocates and the LWV Washington Report states that "It [STAR] encourages positive campaigning since candidates are scored on their own merits." However, candidates may encourage "bullet voting" ("score only me").

<sup>15</sup> With STAR it's possible for the 1st choice of a majority of voters to lose. If a candidate earns 5 stars from the majority of voters, but is rated at a low level by other voters, the majority winner may not advance to the runoff. This can happen when the total scores of candidates with lower ratings (3 or 4 stars) may be greater than the total score for a candidate with a majority of 5 star ratings. While STAR fails the majority criterion, it may pass the Mutual Majority criterion (see footnote below).

<sup>16</sup> "Mutual Majority" is another criterion used to compare voting systems. If there is a subset of the candidates in which more than half of the voters strictly prefer all members of that subset, the winner should come from that group. Here is a Mutual Majority example from Congressional district 31 in California: A "Top 2" primary contest had 5 Democrats & 2 Republicans. Voters in that district strongly favored Democrats, but were divided over

which candidate to support. Two Republicans won the FPTP (plurality) primary and ran in the general election. Democratic voters (a strong majority of populace) had no representation.

<sup>17</sup> Close Preference Issue (monotonicity): Ranking or rating a candidate higher should never cause that candidate to lose, nor should ranking or rating a candidate lower ever cause that candidate to win, assuming all other candidates remain rated or ranked the same. For instance, in RCV, if several candidates have nearly the same level of support (say Right, Center, Left) and one of them is the second choice of most voters (say Center), Center may advance to the runoff and then win the election, because of Center's many 2<sup>nd</sup>-place votes.

In this case, a Left or Right supporter would be best advised **not** to place their favorite highest if it would mean a defeat in the 1<sup>st</sup> round for the other non-Center candidate. Having enough information to use this strategy is unlikely: not only is excellent data on voters' 1<sup>st</sup> place choices necessary, but also, knowing their 2<sup>nd</sup> choices is required as well. These conditions rarely occur, but frequency is debated:

- Opponents cite a 2013 paper based on theoretical computer models which showed non-monotonicity in up to 15% of cases. ["Frequency of monotonicity failure under Instant Runoff Voting: Estimates based on a spatial model of elections" Joseph T. Ornstein (University of Michigan); Robert Z. Norman (Dartmouth College).]
- In a 2020 paper, empirical data from actual elections contradict that frequency. ["Lack of Monotonicity Anomalies in Empirical Data of Instant-runoff Elections," Journal of Representative Democracy, Adam Graham-Squire (High Point Univ.); Nick Zayatz (High Point University)].

<sup>18</sup> STAR may pass this criterion, but not as clearly as its cousin Score (or Range) voting. As an example, if in the runoff a ballot rates multiple candidates as a '5', then the ballot doesn't count. (See "discounted votes" below). Thus, rating one candidate higher (but the same as another), might actually help defeat them.

<sup>19</sup> See note #17 above under Close Preference Issue as to why RCV is not listed as a simple 'NO,' yet it is weakest among the 3 alternative systems here.

<sup>20</sup> All three of the alternative ranking or rating systems have a more expressive ballot that indicates level of support than FPTP. Most expressive is STAR, allowing voters to award a certain number of stars (usually 0 to 5). RCIPE allows two candidates to be ranked identically for the same seat (favorite, second favorite, etc.), and allows ranking the least-preferred

candidate lower than all others even when the ballot has fewer ranking levels than candidates. RCV allows for set levels (0-1-2-3 etc.), not demonstrating how much they prefer their favorite over the next, and not allowing identical rankings.

<sup>21</sup> Discounted votes are votes on ballots that are correctly marked, but that are dropped during the counting process due to the rules of a system. STAR, RCIPE and RCV use runoffs, which can result in inactive ballots (discounted votes), but differ in how that happens and the nomenclature used to describe these ballots. STAR refers to these ballots as "no preference". As with RCV, STAR voters may not have voted for a candidate who makes it to the final round. More importantly, voters who gave equal scores to the two finalists find their votes are discounted (tagged as "no preference" and ignored in the count). Only ballots with different scores for candidates in the second round will count. If using a 0–5-star scale, in any race with 6 or more candidates, voters will have to give 2 or more candidates the same score if wishing to score all them. In the three races using STAR for the Oregon Independent Party, one of those races saw almost 30% of the vote discounted as "no preference."

RCV refers to discounted votes as "exhausted ballots." They only occur when voters do not rank all the candidates, and none of those they have ranked have made it to the final round. Advocates liken it to a delayed runoff where the voter doesn't vote a runoff ballot.

<sup>22</sup> RCIPE should have fewer discounted ballots: since voters are able to mark more than one candidate at the same level, they will find it easier to rank more of them. However, it is not immune to exhausted ballots (as shown in the example in Section 2.1.1).

<sup>23</sup> Proportionally Reflect voting populace – STAR could clearly be used with Multi-winner seats (sometimes called multi-member districts). This can be accomplished by one of two approaches, using 'bloc voting' (where all seats are elected by a majority, rather than a proportional threshold). Or the approach that advocates have settled on using a PR threshold, but there is no election history to date.

<sup>24</sup> FPTP is compatible with a ballot having multiple winners but not with proportional representation outcomes. RCV systems to elect multiple winners with a proportional outcome are proven worldwide. See the previous section for STAR and RCIPE multi-winner systems.

### 3.2 Strategic and Sincere Voting Criteria: Practical Issues Considered by LWVOR

Electoral system criteria can be quite confusing and arcane. We chose to keep them as simple and straightforward for the reader as possible. The criteria discussed below that affect strategic vs. sincere voting were covered in the LWVOR 2016 Election Methods Update study. We briefly touch on them here. Then we explain how each voting method may be vulnerable to strategic voting.

For this report, we make a distinction between **tactical campaigning** and **strategic voting**. Tactical campaigns are those developed to persuade a group of people to vote as a party may wish; the information is transparent and is available to all voters equally. Marking a ballot strategically is different. To vote strategically—instead of sincerely—is to vote in a way that does not indicate your true preferences, but which you hope will affect the outcome. It is neither transparent, nor fair, because all voters are not equally informed of the strategy.

While some tactical decisions may be required when voting with any system, **only when tactics or maneuvers can be employed PRE election to elevate one voter’s choice over others, do we consider it a violation of sincere voting.**

*Examples:*

*Tactical campaigning* includes the Republican effort during the 2022 Ranked Choice Voting special election in Alaska that encouraged voters to “Rank the Red.”

*Strategic voting* includes voting for a second-choice candidate in a First Past the Post (Plurality) race. During the 2022 Oregon governor’s race, some voters chose to vote strategically, when they preferred the unaffiliated candidate, Betsy Johnson, but feared that a vote for Johnson would hurt their second favorite.

Not all experts disapprove of strategic voting, but LWV Oregon has maintained opposition to it in favor of sincere voting. While there may be tactical decisions in all vote casting, our practical explanation of sincere voting is common. When a voter can choose their honest preferences, without worry about being penalized by others manipulating the outcome, they are free to vote sincerely.

We do not consider “strategic” voting to incorporate the tactic of “not voting” as a significant problem, as the goals can be transparent to all and the risks clear. For instance, in the 2022 Alaskan special RCV election, in which Sarah Palin lost, her tactic was to ask voters to “Rank only her.” Had she asked them to “Rank the Red” candidates, as some were suggesting she do, it is quite likely the Democrat in the race would not have won. This assumes that the second choice of Palin voters would have been the other Republican. The key here is that if those Republican voters indeed would have preferred ANY Republican over a Democrat or Independent, then ranking accordingly, and “sincerely,” would have been their best approach.

**If a voter’s best option is to vote sincerely when casting their ballot, we deem the voting method to be free of strategic voting.**

### 3.3 Strategic Voting and Plurality (FPTP)

In plurality races with more than two candidates, voters often say they choose the "lesser of two evils," because a vote for someone other than one of the two major-party candidates may help elect their least favorite candidate.

The 2008 LWVOR report (in which more can be read about sincere voting) we quote Poundstone<sup>12</sup>:

*Spoilers [are often described as] "Minor candidates who draw enough votes from a would-be winner to cause him to lose. In a two-party system, spoilers are the most familiar form of vote splitting." Vote Splitting: [is a] central flaw of plurality voting. A group of like-minded voters may split their votes among two or more similar candidates rather than rallying behind one. Vote splitting diminishes the chances that any of the affected candidates will win.*

The 2022 Oregon Governor's race included a total of 5 candidates. A strong unaffiliated candidate was deemed a spoiler for simply seeking the office and creating a competitive 3-way race among those viable in the election. Such 3-way races in our traditional plurality system discourage sincere voting.

### 3.4 Strategic Voting and STAR

The Later-No-Harm criterion is defined as "Expressing preference beyond favorite should not harm favorite."<sup>14</sup> It is one of the most important criteria to the LWVOR, because it encourages sincere voting. RCIPE and RCV pass this criterion. STAR fails it. STAR voters who rank second and third choice candidates can increase those candidates' total scores relative to the total score of their first choice and therefore could cause their first choice to lose.

There are three ways STAR voting may encourage strategic voting:

1. Since rating 2nd, 3rd, etc. choices may increase their scores to greater than a voter's 1st choice, STAR may lead to voters giving scores to only two candidates. The STAR runoff discourages pure one-candidate type bullet voting, (in which the voter selects fewer candidates than allowed) but does not eliminate it as a strategy. See Glossary.
2. Candidates may encourage giving a maximum score to your favorite and minimum to your 2nd favorite as backup. This strategy comes into play with STAR in part due to the complexity of how ratings on the ballot are counted (or not) in the runoff round. (See discounted votes).
3. A different (and risky) strategy is to rate your 2nd choice (but stronger) candidate much lower, so a weak candidate (possibly your least favorite) makes it into runoff against your favorite.

### 3.5 Strategic Voting and RCIPE

The criteria known as Independence of Clones is most similar to the spoiler effect with which American voters are so familiar. As stated in our previous report, "*The winner must not change if a candidate that is virtually identical to another is added to the race.*" LWVOR sees this as a vital criterion and acknowledges the label of "spoiler" that many candidates suffer and that discourages voters. It is a common scenario, especially since some "clones" are not identical.

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<sup>12</sup> Poundstone, W., 2008, *Gaming the Vote*, New York: Hill and Wang, p. 289.

RCIPE does not meet this criterion. There are scenarios in which giving a rank to additional candidates can affect whether a voter's first choice wins.<sup>13</sup>

Advocates claim such scenarios would rarely occur in real elections.

### 3.6 Strategic Voting and RCV

The most cited flaw of RCV is the close preference issue (non-monotonicity). It occurs rarely (known to have occurred once in 400 U.S. elections with sufficient data to examine), because it can only happen when there is a particular set of preferences among three candidates. Increasing a candidate's support should not cause the candidate to lose. Because RCV is sensitive to the order in which candidates are eliminated, there are situations where it is possible for a candidate to lose when ranked higher on some ballots.

As an example, suppose that, at some point before the election, at least three candidates have nearly the same level of first-choice support (say Chocolate in first place, Strawberry in second, Vanilla in third) and the third-place candidate, Vanilla, is the second choice of most voters. Then, if some Strawberry supporters change their preference to increase the support of the first-place Chocolate, Strawberry may lose the first-round runoff. Strawberry's second choices will increase Vanilla's count, and Chocolate will lose, even though Chocolate would have won before some voters increased support for Chocolate.

It is very unlikely that voters would have enough information to use this as a strategy: not only is excellent data on voters' first place choices necessary; data on second choices is required as well. Knowing by how many votes to increase the first-place support is also necessary.

RCV fails the independence of irrelevant alternatives (IIA) criterion (see Glossary); it is not discussed here because RCIPE and STAR also fail the criterion.

## 4 SUMMARY OF THE COMPARISONS

### 4.1 Plurality (First-Past-The-Post)

Plurality voting (FPTP) has basically only its familiarity to recommend it. It is easy to understand and use the ballot and easy to count the results. Counting machinery and software are certified and in use in all Oregon counties. However, when there are more than two candidates, it encourages strategic voting and often elects a candidate who is the least desired by a majority of voters. It discourages newer candidates from running, because name recognition is a major advantage under plurality voting. Further, it does not elect multiple members of a legislative body in proportion to their representation in a district.

### 4.2 Ranked Choice

Ranked Choice Voting (RCV) solves the major problems of FPTP with a slight decrease in simplicity. Instead of just choosing one candidate, voters can rank candidates, and their best strategy is to rank all of them so that their second, third, etc. choices will be considered if their first choice is eliminated.

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<sup>13</sup> Kristomun, [https://electowiki.org/wiki/Talk:Ranked\\_Choice\\_Including\\_Pairwise\\_Elimination](https://electowiki.org/wiki/Talk:Ranked_Choice_Including_Pairwise_Elimination), accessed 7-13-2022.

Certified counting software exists and is in use in many U.S. jurisdictions and internationally. Within Oregon it is in place only in Benton County. Although software is not in place in these areas, voters have approved both RCV and STV for Portland, and RCV for Multnomah County. The Single Transferrable Vote (STV), which is the method of counting RCV ballots for multiple winners, is in use in multiple countries, including local jurisdictions in the U.S., and shows consistent proportional representation on political and social criteria. One of the benefits of RCV is the familiarity it is gaining among administrators and voters around the nation; this may give it an advantage when comparing it with newer systems.

As discussed above under Strategic Voting, it is unlikely that voters will have sufficient information before an election to vote strategically with RCV.

### 4.3 RCIPE

Ranked Choice Including Pairwise Elimination (RCIPE) was designed to improve RCV by counting in a way that eliminates the close preference issue and giving voters the option of ranking two candidates at the same level. It does this at the cost of simplicity in counting and especially in explaining the counting method to voters. Certified software is not available; the method has not been tested in any governmental elections, but has been used for counting votes in some polls, surveys, and contests. The method for choosing multiple candidates has not been tested to date.

RCIPE is a new method and has not yet been subjected to a great deal of expert attention. Expert opinion on which criteria it passes or fails changed during the course of this informational update. RCIPE may be susceptible to strategic voting, because scenarios have been identified where voters who give sincere rankings to all candidates can be at a disadvantage compared to voters who rank only their favorites. (See [Strategic Voting and RCIPE, section 3.5.](#))

In addition, RCIPE has been criticized because a candidate that no one ranks first but whom many voters rank second can win, which is not possible in RCV. This might encourage candidates who do not take forceful stands on issues.<sup>14</sup> A counter-argument is that this feature encourages moderate candidates.

### 4.4 STAR

STAR provides voters with a method that is simple to use and understand and is “more expressive” in the sense that voters can rate candidates on a scale, giving some candidates the same rating if they choose, showing differences in support for different candidates more than a simple ordering of them does. It also eliminates the close preference issue. Certified software is not available. The method has not been tested in any governmental elections (although it was used for selecting nominees at the 2020 primary election conducted by the Independent Party of Oregon and for choosing Oregon Democratic delegates to the 2020 presidential convention). The method for choosing multiple candidates has had no testing to date.

STAR voters' ratings may have different magnitudes of influence on the outcome. A voter who prefers one or more candidates to the others and gives their favorites five stars will have more

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<sup>14</sup> Chessin, Steve, from Californians for Electoral Reform ([cfer-info@cfer.org](mailto:cfer-info@cfer.org)), personal communication, 23 Nov. 2021.

influence on the outcome than another voter who gives their favorites less than five stars. Some experts<sup>15</sup> feel that this violates the "one-person-one-vote" principle.

STAR consists of a form of range voting in the first round, followed by a top-two runoff. It suffers from range voting's propensity to strategic voting. Range methods encourage rating one's favorite as high as possible and giving all others the lowest rating. The methods work best when voters are not affected strongly by the outcome or when their choices are all very similar. Voters who care deeply about the outcome will be motivated to vote strategically. STAR advocates believe that the automatic runoff step in the counting will discourage strategic voting, but it can be shown that it will only mitigate, not eliminate it.

Unlike RCV and RCIPE, STAR can fail to elect a candidate who has majority support. In some cases, because all candidates' ratings, not just the highest ones, are counted on the first round, the first-choice candidate of a majority of voters may not advance to the run-off stage and therefore will lose. Candidates who are the first choice of a majority of voters do win in elections with plurality and with ranked choice voting.

The following example is a contest among flavors of sorbet, where three voters (a majority) prefer raspberry, but raspberry doesn't advance to the run-off. There are no duplicate votes in the following example. If some voters mark several candidates at the same level, it is even more likely that the candidate with the greatest number of 5-star ratings will not advance to the run-off.

Candidates	Voters					Total Stars
	A	B	C	D	E	
Raspberry	5	5	5	2	0	17
Lemon	4	4	4	3	3	18
Watermelon	3	3	3	5	5	19

Lemon and Watermelon advance to the run-off and Lemon wins, even though Raspberry was the first choice of a majority of voters.

STAR voters can rate two candidates equally, but this may lead to their ballots being discounted in the runoff round. In the runoff, the winner is decided based on which candidate was placed highest on the most ballots. The ballots that rated them equally are necessarily discounted; they are not part of the final round.

## 5 PRIMARY ELECTION REFORMS

There are two major reasons why we hold primary elections.

1. For nonpartisan elections (e.g., local positions), holding a primary election is one way to limit the number of candidates to be voted on in the general election. When a large

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<sup>15</sup> Close, Robert, [robert.close@classicalmatter.org](mailto:robert.close@classicalmatter.org), personal communication, 13 July 2021. He may also be contacted at the website: <https://www.alloregonvotes.org/contact>.

number of candidates are running for the same office, a primary can select a manageable number of candidates who are most appealing to the largest share of the public.

2. For partisan elections (e.g., state legislators, governor), primaries are one way for political parties to choose the candidates who will represent them in the general election. Until the early 20th Century, political party leaders usually chose each party's candidates. In the "Progressive Era," primary elections were created to more fully involve the parties' voters in choosing the parties' nominees.

In Oregon, the major political parties (those with greater than 5% of all registered voters) now hold state-funded primary elections on the third Tuesday in May in even-numbered years. Voters registered with the major parties elect one candidate for each partisan office to advance to the November general election.

Oregon primary elections also include nonpartisan candidates running for local and state offices. The two nonpartisan candidates for each local or state office who receive the most votes in the primary advance to a run-off in the general election. If a nonpartisan candidate receives more than 50% of the vote in the primary, that candidate is elected and doesn't have to run again in the general election, although candidates for sheriff, county clerk or county treasurer who have won will appear on the general election ballot without opposition. Every voter, whether registered with a party or not, is eligible to vote for nonpartisan candidates.

## 5.1 Problems with Closed Partisan Primary Elections

In Oregon major political parties can decide whether their primary will be open to non-affiliated voters. However, most primaries recently have been closed – open only to registered party members. Although primaries were designed to give ordinary voters the power to select the candidates who will run in the general election, there are several significant problems with Oregon's closed partisan primary elections.

1. Over time, many citizens have chosen not to register in any party because they feel alienated from the only two parties consistently capable of winning general elections under our current plurality voting system. Fully a third of registered voters in Oregon are not affiliated with a political party. As a result, they usually are excluded from the partisan primary election process.
2. The turnout for primary elections is low because unaffiliated voters are less likely to make the effort to vote twice, even for nonpartisan candidates and ballot measures. As a result, those who vote in a partisan primary election are a minority of a minority of voters – those who have a strong attachment to a party and make the extra effort to vote twice in one year for elected positions.
3. There is a concern that candidates who win partisan primary elections are more extreme. This has not been definitively shown. Yet, there is some evidence that incumbents who fear competition from a more extreme candidate in a party primary are less willing to compromise in their governing posture.<sup>16</sup>

There is now a lively national debate as to how the candidates appearing on any general election ballot should arrive there. Should it be:

1. via the current partisan primary elections which are "closed," so only registered members of the party are allowed to vote, or

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<sup>16</sup> [Pildes, Richard H., More Places Should Do What Alaska Did to Its Elections. New York Times. Feb. 15, 2022.](#)

2. via partisan primary elections which are “open” to any voter, although a voter may only vote on their choice of one of the partisan ballots, or
3. via “Top-2” primary elections, or
4. via “Final-4” or “Final-5” primary elections which are open to all voters, in which all candidates are on one ballot.
5. There is also an effort to put an initiative on the ballot requiring an “open primary” with all candidates on one ballot without specifying an election method.

The last two of these are being considered for adoption in Oregon. Before describing the open primaries under consideration, we give a brief description of Top Two, which has been adopted elsewhere.

## 5.2 Open Primary Using Top Two

The Top-Two approach, which is used in Washington and California, among other places, was covered in our 2016 study (p. 38), and is not being discussed in detail here. Most experts agree that it has not had a meaningful effect on the major reason for its implementation, that of moderating the candidates’ ideological positions. In order to achieve a mitigation of extremes ideologically, it is now presumed that voters should have more candidates to choose among in the general election.

Top-Two can fail to elect a candidate who is preferred by a majority of voters. For instance, a contest in CA Congressional District 31 had 5 Democrats and 2 Republicans. Voters in that district strongly favored Democrats but were divided over which candidate to support. The two Republicans won and ran in the general election. Democratic candidates were shut out of the general election, although supported by a strong majority.

## 5.3 Open Primaries Under Consideration

### 5.3.1 Open Primary Using Final-Four or Final-Five Elections

The Final-Four or Final-Five (Top-4 or Top-5) approach is only in the early idea stage in Oregon; however, we have a role model. All eyes are on the state of Alaska, which used the Final-Four system in August 2022 for the first time. (Voters seemed to understand how to use the system, since 99.8% of ballots were valid in the RCV portion – a percentage comparable with plurality voting.) A number of election experts feel it has great promise to improve our selection of candidates for general elections. Some feel that Final-Five would be even more advantageous, providing a natural place – the middle – for centrist candidates, and possibly more opportunities for under-represented communities, e.g. rural, renters, BIPOC or women voters.

Here is how it works in Alaska: candidates list themselves on the ballot in three possible ways<sup>17</sup>:

1. as affiliated with a political party or political group
2. as undeclared or
3. as nonpartisan

The four candidates who get the most votes using plurality (FPTP) advance to the general election where Ranked Choice Voting will determine the winner.

Advantages of the Final-Four/Final-Five system are expected to include:<sup>18</sup>

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<sup>17</sup> Pildes, Richard H., op cit.

- All registered voters are allowed to vote on the same slate of candidates.
- Because no one is left out, it is anticipated that a great many more voters will participate in the primary than the total of those who participate in separate partisan primaries currently. Turnout for the 2022 Alaska primary was higher than for the previous three Alaska primaries.
- Candidates in the general election should reflect a wider range of political ideologies and ideological intensities, mirroring the range of political philosophies of the public.

Combining Ranked Choice Voting with Final-Four/Final-Five, as is being done in Alaska, may further encourage candidates to moderate their ideological approaches. Since second or third choices on the ballot may have a major impact on who wins, candidates will want to appeal to a broader sector of the electorate. Minor party candidates have a better chance because, while they may not be the 1st choice of most voters, they may be the 2nd or even 3rd choice of enough voters that a minor party or non-affiliated candidate could win.

Some advocates of RCV, STAR or RCIPE believe that it would be preferable to use their method in both the primary and general election, which Alaska is not doing. Furthermore, the use of RCV, STAR or RCIPE in the general election could eliminate the need for a primary.

### 5.3.2 “Open” Partisan Primary Elections

In this approach, all voters would be eligible to vote in one state-funded primary that includes all party candidates. Right now, non-affiliated voters – who make up about one-third of all registered voters in Oregon – are barred from voting in the state’s publicly funded Democratic and Republican primaries for presidential, congressional, legislative and statewide executive offices.

This method may be a ballot measure in November 2024. All Oregon Votes, formerly Oregon Open Primaries, (<https://www.alloregonvotes.org>) is sponsoring a state constitutional initiative petition, which “would enable all registered voters to vote and all qualified candidates to compete in publicly funded primaries for congressional, legislative, and statewide executive offices.”<sup>19</sup>

From the sponsors: “Unlike open primary initiatives in other states, the amendment doesn’t prescribe how the state’s open primaries would be conducted. It doesn’t specify how candidates would be presented on the primary ballot, or the maximum number of candidates that would advance from the primary to the general election, or the voting method that would be used to capture voter preferences. The amendment focuses solely on guaranteeing basic rights of access for voters and candidates. In doing so, it will force the state legislature to redesign the primary process and enact statutory changes that implement the Constitution’s new requirements. Gone will be the days of partisan limits on who can participate.”

As of the date of this report, another group is working on a more comprehensive statutory measure.

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18 Troiano, Nick, Party Primaries Must Go, The Atlantic. March 30, 2021, <https://www.theatlantic.com/ideas/archive/2021/03/party-primaries-must-go/618428/>, accessed 6-13-2022.

19 Oregon Open Primaries, “An innovative way to pry open a closed primary”, <https://oregonopenprimaries.org/wp-content/uploads/2022/03/Aninnovativewaytopryopenaclosedprimary-TheWay.pdf>, accessed 6-13-2022. This link is now inactive, but the information is at <https://www.alloregonvotes.org/why> and <https://www.alloregonvotes.org/faq>.

## 5.4 Comparing Open Primaries with Closed Primaries

When comparing these open primary alternatives with our current closed primary elections, it is important to consider that closed (partisan) primaries provide advantages that open primaries do not provide.

	Advantages	Disadvantages
Closed Partisan Primary	<ul style="list-style-type: none"> <li>• Allows parties to choose candidates for general election</li> <li>• Winners give the party clues to what the party platform should be</li> <li>• Party affiliation provides useful information to voters</li> </ul>	<ul style="list-style-type: none"> <li>• Many voters don't affiliate with a political party, so are excluded from voting on partisan races</li> <li>• Turnout is low because non-affiliated voters see less reason to vote</li> <li>• Candidates may fear being "primaried" by a more extreme party candidate and so govern in a less compromising manner</li> </ul>
Open Primaries	<ul style="list-style-type: none"> <li>• All voters vote for the full slate of candidates</li> <li>• Turnout expected to be higher</li> <li>• Limits number of candidates for general election</li> <li>• Final-Four/Final-Five anticipated to allow room for centrist candidates to run/win*</li> </ul>	<ul style="list-style-type: none"> <li>• Voters will have less information about candidates who may not choose to list party affiliation**</li> <li>• With more candidates on the ballot, voters will need to digest more candidate information</li> </ul>

\* Combining Ranked Choice Voting with Final-Four/Final-Five, as is being done in Alaska, may further encourage candidates to moderate their ideological approaches. Since second or third choices on the ballot may have a major impact on who wins, candidates will want to appeal to a broader sector of the electorate.

Writing about the first general ranked choice voting election in Alaska, the Sightline Institute made this observation: "The pairing of the open primary with ranked choice voting yielded a group of winning candidates that, collectively, is moderate and independent, just like Alaska's electorate. The system also helped to check extremist candidates; was easy for voters to understand; reduced the power of political parties and hyperpartisan primary voters; and ensured no candidate won without a majority in the final round." <sup>20</sup>

\*\* Various open primaries have different rules for whether a candidate may list a party affiliation.

Other ways to change primary elections are possible, but they are not considered here because this document is limited to election reforms that are under consideration in Oregon.

## 6 CONCLUSION

No voting method is perfect. Yet, the voting methods examined in this update are some of the most recent efforts to improve voting. The advocates for these changes are sincerely dedicated to creating more representative governments by making voting easier, more accessible, and able to

20 Lee, Jeannette. Sightline institute Research. Alaska's Midterm Elections Yield Mixed Results (But In A Good Way): In the state's first full ranked choice election, the same pool of voters elected candidates from across the political spectrum, November 23,2022, [https://www.sightline.org/2022/11/23/alaskas-midterm-elections-yield-mixed-results-but-in-a-good-way/?fbclid=IwAR1uTH7duz8wFSxfB2xUNIik\\_fp7Z924ay7Swa-9OOAMVZFUrMG0HW5J6Bc](https://www.sightline.org/2022/11/23/alaskas-midterm-elections-yield-mixed-results-but-in-a-good-way/?fbclid=IwAR1uTH7duz8wFSxfB2xUNIik_fp7Z924ay7Swa-9OOAMVZFUrMG0HW5J6Bc), accessed 11.23.2022.

elect government officials who represent the interests of more of their constituents. The methods we examined have both strengths and weaknesses.

- RCIPE (Ranked Choice Including Pairwise Elimination) attempts to improve the most commonly used ranked choice voting method by changing the way votes are counted. RCIPE also allows voters to rank more than one candidate at the same level. RCIPE was designed to make sure that the voters' favorite candidates are elected and that fewer ballots have errors that disqualify them. However, these changes introduce a different problem: they can encourage strategic voting. This is a failure of an important League criterion. They also have the disadvantages of being confusing to explain to voters and requiring new and uncertified vote-counting software.
- STAR (Score Then Automatic Runoff) offers a more expressive ballot with a rating system that is familiar to most voters. Because it has only two rounds in a single-winner election, the counting process is simpler and easier to explain. One of the most important ways it fails our criteria is that it encourages strategic voting. It also can fail to elect a majority winner; it gives more weight to some votes than to others; and it requires new uncertified vote-counting software.
- Open Primaries and Final-4 and Final-5 primaries hold the promise of allowing greater voter participation and electing candidates that appeal to more community members. However, these methods are just being tried. Although their supporters hope that open primaries will elect moderate candidates, the data so far suggests that they do not. The Final-4 primary (with Ranked-Choice Voting in the General Election) was newly tried in 2022 by Alaska. Final-5 has not yet been attempted but is considered a "reform worth pursuing" according to Drutman.<sup>21</sup>
- The ease of combining different systems on one ballot (and ease of counting) depends on software. Neither STAR nor RCIPE have history to support this (although we assume it will be possible); RCV does. Ballot design will be most important in any new system, and if a combination of systems is used, even more so. **Ballot design and voter education are vital to all changes.**

In the future, new research findings combined with shifts in the political landscape may call for reconsideration of our existing position and criteria. New proposed methods could warrant a re-study. We could also choose to study new criteria for evaluating election methods.

Based on what we have learned with this update, we conclude that LWVOR's current position will continue to provide appropriate guidance in the near term. Therefore, we see no reason to change our LWVOR election methods position at this time.

The search for more perfect election methods will certainly continue. As other methods are created, League members will be able to evaluate them using our current criteria. When proposed methods meet the standards in our criteria, we then can work for their adoption in Oregon and in cities and counties around the state.

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<sup>21</sup> Drutman, Lee, "What We Know about Congressional Primaries and Congressional Primary Reform". *New America*, July 21, 2021, <https://www.newamerica.org/political-reform/reports/what-we-know-about-congressional-primaries-and-congressional-primary-reform/>, accessed June 16, 2022.

## 7 APPENDIX 1: LWVOR 2016 ELECTION METHODS POSITION

### LWVOR Election Methods Position, Adopted 2017

The League of Women Voters of Oregon recognizes that election methods affect how voters participate in our democracy, who can run for office, and who can get elected. Therefore, the League supports election methods that:

- Encourage voter participation and voter engagement.
- Encourage those with minority opinions to participate.
- Are easy to use.
- Are verifiable and auditable.
- Promote access to voting.
- Promote competitive elections.
- Promote sincere voting over strategic voting.
- Discourage negative campaigning.
- Prevent political manipulation (e.g. Gerrymandering).
- Are compatible with vote-by-mail elections.

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. We support systems that promote stable government, but we do not support systems that protect the two-party system. The League of Women Voters of Oregon supports enabling legislation to allow local jurisdictions to explore alternative election methods. If an alternative election method is adopted, then funding for startup and voter education should be available. The League of Women Voters of Oregon does not support nonpartisan elections for state legislators.

(Previous position) Adopted 2009 The League of Women Voters of Oregon believes that any election method should be evaluated on its ability to:

- Promote voter participation.
- Be simple and easy for voters to understand.
- Be verifiable and auditable.
- Promote access to voting.
- Promote competitive elections.
- Prevent political manipulation.
- Be compatible with vote-by-mail elections.

The League supports enabling legislation to allow local jurisdictions to explore alternative election methods, e.g. instant runoff or fusion voting. If a local jurisdiction adopts an alternative election method, that jurisdiction should bear the costs of startup and voter education. Only after experience and evaluation at the local level should the state consider alternative election methods for statewide adoption. The League does not support nonpartisan elections for state legislators.

## 8 APPENDIX 2: EXPERTS, ADVOCATES AND INTERVIEW QUESTIONS

We restricted the number of experts and system advocates, as this is an informational update to two already-detailed studies<sup>22</sup>. Each interview was held with a group of LWVOR members present.

### 8.1 ADVOCATES

Electoral System advocates who were interviewed regarding their preferred system included:

#### 8.1.1 Sara Wolk (STAR or Score Then Automatic Runoff)

Sara Wolk is Executive Director at Equal Vote, Secretary at Equal Vote (STAR Voting! - Equal Vote Coalition) and STAR Voting Action (STAR Voting), and Project Coordinator at STAR Elections. She is Previous Chief Petitioner for the first ballot initiative for STAR Voting in Multnomah County, OR.

#### 8.1.2 Richard Fobes (RCIPE – Ranked Choice Including Pairwise Elimination)

Richard Fobes is a writer and software developer and author of **Ending The Hidden Unfairness In U.S. Elections** and **The Creative Problem Solver's Toolbox**. He is administrator of [VoteFair.org](http://VoteFair.org) (as opposed to DC-based FairVote), and developer of an interactive software tool, VoteFair Ranking, which has calculated results for thousands of surveys, polls, and elections. He advocates RCIPE for general elections and advocates allowing additional, sufficiently popular candidates (beyond one nominee per party) to also reach the general election. He is an LWV member and served as a member of this informational update committee.

#### 8.1.3 Deb Otis (RCV, Ranked Choice Voting)

Deb Otis is the Director of Research at FairVote. With a decade of experience in research and analytics, Deb is passionate about sharing the data-driven case for why our country needs election reform. In addition to ranked choice voting and proportional representation, Deb's areas of research include comparative electoral systems, political polarization, redistricting, representation for women and people of color, the electoral college, and election recounts.

### 8.2 OTHER EXPERTS

The bibliography includes the work of many experts; those below were contacted for information or interview:

#### 8.2.1 Jack Santucci (Interviewed)

Jack Santucci is Assistant Teaching Professor of Politics at Drexel University, teaching courses on political parties, research methodology, and American political institutions in comparative perspective. His academic interests include current developments in electoral reform affecting representation, and theory of electoral-system reforms in American cities during the Progressive Era and New Deal. He holds a Ph.D. from Georgetown University (2017).

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<sup>22</sup> [Election Methods: Review of Alternatives and Oregon Proposals](#), downloaded 4-8-2022. [Election Methods Study Update 2016](#), downloaded 4-8-2022.

## 8.2.2 Steve Chessin

Steve Chessin is President of Californians for Electoral Reform (CfER), a long-time electoral system expert and expert consultant for California Ranked Choice Voting campaigns. He is a member of LWV. Previously Senior Principal Software Engineer at Oracle, he holds a Ph.D. in Physics from the University of California, Berkeley.

## 8.2.3 Other Contributing Advocates

We would also like to acknowledge helpful communications from: **Robert Close** (Oregon-based advocate of open primaries) and **Jameson Quinn**, (co-author *Declaration of Election Method Reform Advocates*, helped with STAR PR development); **James P. Kahan**, Ph.D. (advocates "ranked Preference using Condorcet criteria"); and **Will Auld** (Oregon-based advocate of open primaries).

## 8.3 INTERVIEW QUESTIONS FOR ADVOCATES

Each system advocate was asked the following questions regarding their particular method:

### 1. General Questions

- a. Please describe how your recommended method works.
- b. Is there evidence that your method is easy for voters to understand and use?
- c. What does a voter need to know about how to mark a paper ballot at home, without assistance? How is the ballot counted if a voter marks two candidates at the same preference level? Is there a way the voter can mark the ballot that partially, or fully, reduces the influence of that ballot? If so, how do you justify that reduced influence?
- d. Are there any specific kinds of elections that your method is, or is not, suitable for? In particular: non-partisan elections; primary or general elections; one-nominee-per-party general election; Top 2 open primaries; Top 4/5 open primaries.

### 2. League criteria questions: Strategy and Manipulation

- a. Will your method prevent or inhibit political manipulation, especially gerrymandering?
- b. In what ways does your method promote sincere voting over strategic voting? Is there evidence of voters or campaigns promoting either sincere or strategic voting with your method?
- c. Does your method allow more people to run without changing the outcome? That is, if an additional candidate joined a race but did not win, would their presence change which of the other candidates ended up winning? (Ex: with FPTP, Nader joining the race may have caused Bush to win instead of Gore).
- d. Can voters using your method safely express support for more than one candidate without harming their favorite? Do you have evidence that voters using your method actually take advantage of ranking or scoring multiple candidates?

### 3. Comparison Questions

- a. How important is getting a high rating for voter satisfaction efficiency (VSE)? What does this measurement mean to you?
- b. How important is it that the election winner is supported by more than half the voters? Can your method fail to elect the majority winner? If so, why is this failure acceptable?

4. **Proportional Representation Question.** Does your method pair well with a method that elects policy-making bodies -- such as legislatures, councils, commissions, and boards -- in a way that proportionally represents all the voters? How does this method work? What evidence do you have that it achieves proportional results?
5. **What else would you like us to know?**

## 8.4 QUESTIONS FOR EXPERTS ON VOTING SYSTEMS

1. **Basic Question.** Which vote-counting method do you think could be, and should be, adopted for use in Oregon? Why do you prefer this method over other methods?
2. **Evaluation Criteria**
  - a. Which criteria do you think are most important when evaluating voting methods? Why?
  - b. Which criteria that are sometimes used for evaluating voting methods do you think are less important and why?
  - c. What are the most important problems that a change in voting methods can solve? Are there any important problems that some advocates claim a voting method can solve, yet you believe their promoted method cannot solve?
  - d. How important is getting a high rating for voter satisfaction efficiency (VSE)? What does this measurement mean to you?
3. **STAR Method Questions**
  - a. How do you recommend handling the collision of ballot types when the same printed ballot includes both STAR elections and ranked-choice elections? Currently both kinds of ballot markings -- rankings (for ranked-choice elections) and ratings (for STAR elections) -- are used in Oregon, so this collision will occur, and increase, if both ballot types continue to grow in popularity. (For example, how would you explain that "first choice" on a ranked-choice ballot is like marking a score of 5 on a STAR ballot? Also, how would you explain that gaps between preference levels are important when marking a STAR ballot, but those gaps have no effect when marking a ranked-choice ballot?
  - b. If STAR voting were used in the general election to elect Oregon's governor, and 48 percent of the voters voted tactically in support of both the winning candidate and another candidate from the same party, while the other 52 percent voted honestly in support of a single opposition candidate, why would that outcome be acceptable?
4. **Proportional Representation**
  - a. How do you determine whether an election method yields proportional results?
  - b. Of the methods that yield proportional results, which do you prefer or recommend? Which ones do you recommend against using?
5. **Further Investigations**
  - a. Are there any new criteria or new methods for evaluating voting methods that we should consider?
  - b. What are the top 3-5 articles or books you consider essential reading when studying voting methods?
6. **What else would you like us to know?**

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## 10 GLOSSARY

*Only some of the terms defined in this Glossary are terms used in this report. An asterisk (\*) indicates a “bonus entry.” While related to the material in the report, these entries have not necessarily been fully described or directly discussed in this Update. The bonus entries are included for those readers who may want to delve more deeply into understanding the full range of election methods and ways of evaluating them. You also can learn more about election methods by reading the two previous LWVOR studies of Election Systems and Methods: [Election Methods: Review of Alternatives and Oregon Proposals, 2008](#), and [Election Methods Study Update 2016](#).*

### A

**Active Ballot.** A ballot which counts toward an active candidate in the current round of counting. Compare to an Inactive Ballot.

**Active Candidate \* (or Continuing Candidate \*).** A candidate who has not been eliminated during a round-by-round vote count. In a count which lasts multiple rounds, the number of active candidates is expected to decrease with each round.

**Actual Representation.** \* The idea that constituents have voted for (and share views of) the same officials who represent them. Compare to Virtual Representation.

**Approval Voting.** \* A voting method in which voters can vote for, or approve of, as many candidates as they wish. Each candidate approved receives one vote and the candidate with the most votes wins. The winner need not garner a majority of the votes. This is a “cardinal” system; it is also currently listed as not supported by the LWVOR position. Unlike STAR, it does not offer the opportunity to weight each vote.

**At Large.** \* A type of electoral jurisdiction where representatives are elected from the whole political region, such as a whole city, county, state, or nation.

In some Oregon counties, positions relevant to a governing council (such as County Council, City Council, Port Commission, etc.) are elected at-large. The entire area (county or city, for example) is the “district” from which they are elected. The entire electorate of the county or city concerned participates in the election.

### B

**Ballot Image Data.** \* An electronically produced record of all votes cast by a single voter. Often this allows a voter to verify their vote.

**Blanket Primary.** \* A blanket primary uses a ballot that includes all candidates for an office, regardless of respective political party. Generally, this refers to ‘vote for one’ systems in which the single candidate with the most votes from each political party advances to the general election.

There are several types of primaries denoted as a ‘blanket primary.’ (See entries for Open Partisan Blanket and Nonpartisan Blanket Primary.)

**Bloc Voting (or Block Voting).** Bloc Voting, as an *electoral system*, is different than Block voting as a tactical strategy. The electoral system called ‘Bloc’ (although sometimes referred to as ‘Block’) is a First-Past-the-Post (FPTP) system to elect numerous candidates in one at-large or multiple-seat election. Candidates choose which seat they are running for, and voters have one vote for each seat, instead of choosing their favorites from the whole group of candidates. The counting system is the same as plurality or FPTP (with the candidates having the highest vote total winning each open seat). It is also referred to as *multi-winner plurality*, *majoritarian representation*, and sometimes erroneously as “*at-large voting*” – erroneously because at-large voting can also be held with proportional or semi-proportional methods. Unlike proportional representation systems, Bloc allows for the majority group of any district to win all the seats available. Even if a majority (50%+1 vote) level is required for each seat (versus a plurality or FPTP), the majority group still generally wins control of all seats.

Block voting as a *tactical strategy* is a term used in other systems (like Cumulative Voting where voters have multiple votes to distribute), which allow a group of voters to ‘cast their lot’ as a block. Or as a term to simply describe a campaign strategy to encourage a block of voters to cast their votes the same.

**Borda Count.** \* Often confused with RCV, Borda uses a “weighted” ranking ballot for ranking candidates in order of choice for “Single-Winner” races. Unlike STAR, in which voters assign their own ‘stars’ (or points), with Borda, ranked positions earn a specific point value (more for first favorite). The most points wins.

**Bucklin Voting.** \* A voting method in which voters rank candidates in order of choice for single-winner races. If no candidate earns a majority of first choices, all second choices are added to all first choices. Unlike Ranked Choice Voting—in which every voter has one choice in each round, with their votes only transferring in the case of their preferred candidate’s elimination—under Bucklin voting, if there is no majority in the first round, a ballot can be simultaneously counted for the voter’s first, second, etc. choices until a candidate achieves a majority. It has been questioned for violating “one person / one vote.”

**Bullet Voting.** \* A vote in which the voter has selected only one candidate, despite the option to indicate a preference for more than one candidate. Voters may bullet vote strategically (in “block voting” systems), in a misguided attempt to vote strategically (in the case of Ranked Choice Voting) or because the voter lacks the desire to evaluate more than one candidate on the ballot.

In a non-ranking form of election (such as cumulative voting, limited voting, approval voting, score/range voting or STAR), putting all the voters’ choices (or scores) on one candidate is sometimes – in collaboration with other voters who have a similar political perspective – a form of strategic voting.

## C

**Cardinal Voting System.** A system in which voters rate or grade candidates.

**Closed List Proportional Representation.** \* A party-based type of Proportional Representation (vs a candidate-based system) in which electors vote for a political party, and seats are awarded to individuals based exclusively on the list provided by the political party.

**Closed Primary.** This primary election is open only to voters registered with a particular political party. Nonaffiliated voters are excluded from participating. Compare to “Open Primary” types and “Semi-Closed Primary.”

**Competitiveness.** \* A measure of the partisan balance in a district or within a race. A highly competitive district would have a relatively even partisan balance, making competition between the two major parties more intense. Some experts use a rate of 7% (plus or minus) to classify a district as competitive. A competitive district allows its voters to hold their representative accountable with an increased chance for a change in their representative. See also Safe District.

**Condorcet Criterion.** \* One of the criteria used to evaluate voting methods. Often described as the “head-to-head” evaluation. The Condorcet criterion is satisfied if, when there exists a candidate who would defeat every other candidate in a head-to-head election, that candidate always wins. Such a candidate is known as a Condorcet Winner.

**Condorcet Voting.** \* An election method in which voters rank candidates in order of choice, and that elects the candidate who wins every pairing of head-to-head (or "pairwise") elections against each of the other candidates, if such a candidate exists. A candidate with this property is known as the Condorcet Winner. If no Condorcet winner exists, then some back-up procedure is used to identify a winner. RCIPE (Ranked Choice Voting Including Pairwise-Elimination) is not a Condorcet method because it does not always elect the Condorcet winner, but it uses the same kind of pairwise vote counting to eliminate candidates who lose head-to-head pairings with each of the other candidates.

**Condorcet Winner.** \* The candidate who would defeat every other candidate in a head-to-head or pairwise election.

**Continuing Candidate.** \* See Active Candidate.

**Contingent Voting.** \* A voting method in which voters rank candidates in order of choice for single-winner races. Contingent voting is similar to Ranked Choice Voting but is limited to two rounds. If there is no majority winner in the first round, the top two vote-getters advance to a final round, rather than a series of one-by-one elimination rounds. Also known as Supplementary Voting.

**Cumulative Voting.** \* A “semi-proportional” voting method used in Multi-Winner elections. Voters have a number of votes equal to the number of seats to be filled and may allocate (or “cumulate”) their votes among the candidates in any way they see fit. Votes can give multiple votes to a single candidate or spread their votes among multiple candidates. Cumulative Voting is used in some U.S. jurisdictions, imposed as a result of Voting Rights Act (VRA) lawsuits.

## D

**D'hondt Formula (or Jefferson Method).** \* A “highest average” formula used to award seats in a List Proportional Representation system.

**Descriptive Representation.** \* When distinguishing technical uses of the word “representation” in regard to the governed, this is a body of elected representatives that reflect the descriptive identities, such as such as race, ethnicity, age, gender, etc. of the populations they represent. Compare it with Substantive Representation.

**Direct Recording Electronic Voting Machine (DRE).** \* A voting device in which votes are cast and stored entirely electronically often without any paper copy that can be used for recounts or audits.

**Discounted Votes.** Votes on ballots that are correctly marked, but that are dropped during the counting process due to the rules of a system. STAR, RCIPE and RCV use runoffs, which can result in inactive, exhausted or discounted ballots. See footnote 21 for the chart, “Comparison of single-winner election methods” in [Section 3.1](#).

**District.** The geographical regions into which a city, state, or country is divided for election purposes. Single-Winner Districts elect one member of the legislature whereas Multi-Winner Districts elect two or more. An at-large area can elect either single or multiple winners.

**Droop Quota.** \* The threshold of votes required to win one seat under certain forms of Proportional Representation, including most implementations of the Single Transferable Vote (STV). The formula for the threshold is one vote more than the quotient of the total number of votes cast divided by the number of seats to be elected plus one. For one to be elected the number of votes cast is divided by two, so the threshold is  $50\% + 1$ . For two seats to be filled, the threshold is  $1/3$  of the number of votes cast or  $33.3\% + 1$ ; for three seats it is  $25\% + 1$ ; and so on.

**Duplicate Ranking or Rating.** \* An instance in which a voter assigns multiple rankings to a single candidate in a ranked voting method. For example, a ballot on which the same candidate is ranked as both first and second choice contains a duplicate ranking. This is a ballot error for RCV and may or may not cause the ballot to be invalidated, depending on jurisdiction vote counting rules. Ranking or rating two or more candidates at the same level is not an error in RCIPE or STAR systems.

## E

**Election Audits.** A review conducted after polls close for the purpose of determining whether the votes were counted accurately (a results audit) or whether proper procedures were followed (a process audit), or both. (Also see Risk-Limiting Audits – RLA)

**Election method (or Electoral System).** The ballot marking and vote-counting processes in an election.

**Evaluative Criteria.** A voting method criterion refers to whether a voting method can behave in a certain way. Evaluative criteria are used as one way to compare various voting methods. The League of Women Voters has certain preferred criteria.

**Exhausted Ballot.**\* See Inactive Ballot.

## F

**Fair Representation.** While the description is subjective, the term refers to the principle that a legislative body should reflect all of the voters who elect them. Like-minded voters should be able to elect representatives in proportion to their number. Fair Representation voting methods include Proportional Representation methods as well as Semi-Proportional Representation methods such as Cumulative Voting and Limited Voting. Compare with Winner-Take-All.

**Favorite Betrayal Criterion.** \* One of the criteria used to evaluate voting methods. The favorite betrayal criterion is satisfied if there is no situation in which a voter could obtain a more preferred outcome by not voting for their sincere favorite as their top choice.

**Final Four or Final Five System.** These terms refer to a recent type of proposed two-step election. The first step is an ‘open primary’ which advances four (or five) candidates to the general election which is conducted with Ranked Choice Voting (RCV). Both steps could incorporate RCV, but to date RCV is limited to the final, general election and the first ‘primary’ is ‘vote for one’. (Also see Nonpartisan Blanket Primary).

**First Past the Post (or plurality).** “Whoever gets the most votes wins.” A majority threshold is not needed.

## G

**Gerrymandering.** The manipulation of district boundary lines in order to advantage or disadvantage a candidate or political group.

**Gregory Method for Reallocation.** \* A method of “Surplus Vote Transfer” under the Single-Transferable Vote (STV) in which surplus votes on ballots for winning candidates are transferred fractionally. When a candidate wins a seat with more votes than needed, a portion of the ‘surplus’ amount is transferred proportionally from all the winning ballots to the next-highest ranked candidates on those ballots. The voting method using Gregory reallocation is known as the Inclusive Gregory Method. This method has been noted in recent Portland, Oregon plans.

## H

**Hare Quota.** \* Is a less-favored form of setting a winning threshold when using Proportional Representation (PR) systems. With Hare, the quota of votes required to win one seat (of the PR system) is ascertained by dividing the total vote by the number of seats. Compare this to the more common Droop Quota (or formula) which requires the number of votes be divided by the number of seats plus one. Droop has generally replaced Hare; some experts say this is because Hare quota tends to exaggerate representation of smaller blocs of voters, even allowing a minority voting bloc to win a majority of seats.

## I

**Inactive Ballot (RCV- “Exhausted” ballot. STAR – ballot of “no preference”).** A ballot which does not count toward an active candidate in the current round of counting. Ballots become inactive if all validly ranked candidates have become inactive during the count. With RCV this can happen due to a voter's choice not to rank all candidates, a limit on the number of rankings imposed by a jurisdiction, or an error which disqualifies the ballot. Also known as an exhausted ballot. In STAR voting, a ballot can become inactive either if there is no candidate chosen who qualifies for the Top-Two runoff, or the top two candidates are given the same scores on that ballot. Compare to Active Ballot.

**Inactive Candidate.** \* A candidate who has been eliminated during the round-by-round instant runoff count (in RCV), or is not in the Top-Two runoff of STAR. Compare to Active Candidate.

**Independence of Clones Criterion.** \* Another way of saying there is no “spoiler.” A technical name for one of the criteria used to evaluate voting methods. This criterion is satisfied if an otherwise winning candidate is not caused to lose by introducing another very similar candidate. Similar to another condition, the Independence of Irrelevant Alternatives Criterion, that is satisfied if adding an additional non-winning candidate to a contest will never change the winner.

**Independence of Irrelevant Alternatives (IIA).** \* This criterion for election methods is explained as a scenario in which “if A is preferred to B, introducing a third option X, expanding the choice set to {A,B,X}, must not make B preferable to A.” RCV, RCIPE and STAR all fail this criterion. The IIA criterion has been considered less relevant in practical terms to public elections. This criterion can only be evaluated by checking whom the voters *would have* chosen without the losing candidate; solid data for strategic voting are not available PRE election. Polls can (as they do now) try to predict outcomes and encourage tactics, but they are neither transparent nor sufficiently complete. As such, using this strategy would require considerable **prior** knowledge about voters’ preferences. To vote strategically in the few elections where conditions are such that strategy could change the candidates’ chances of winning, the top choices of the entire electorate would have to be known before the election.

**Insincere Voting.** See Strategic Voting.

**Invalid Votes.** \* Cast ballots that are unable to be included in the vote total due to accidental or deliberate errors on the ballot. (See inactive ballot.)

## L

**Later-No-Harm Criterion.** \* A voting method criterion discussed at length in the 2016 LWVOR study, is one that is satisfied if expressing support for a second or lower choice candidate cannot cause a more favored candidate to lose. “Your second choice will not hurt your first choice.”

**Limited Voting.** \* A semi-proportional voting method used in multi-winner elections, in which voters have fewer votes (but often more than one) than the number of seats to be filled. Like plurality, the candidates with the highest vote totals win the seats.

**List Proportional Representation.** \* A form of Proportional Representation (PR) used in multi-winner elections. Each party submits lists of candidates to be elected and voters vote for the party (or candidate within the party’s list). Seats are allocated to each party in proportion to the share received in the jurisdiction or district via Open, Free or Closed types of Party List PR.

## M

**Majority Criterion.** One of the criteria used to evaluate voting methods. The majority criterion is satisfied if, when there exists a candidate who is the preferred by more than half of voters, that candidate always wins. (A stricter version is the “mutual majority” criterion.)

**Majority Winner.** A term for a candidate who earns at least one vote more than 50% of votes. Voting methods which require majority support mean that a candidate must earn the votes of greater than 50% of voters in order to win. Compare with Plurality Winner in which “whoever gets the most votes wins,” even when the winner receives fewer than 50% of the votes.

**Mixed-Member Proportional Representation (MMP).** \* Generally listed as a Proportional Representation system but considered a hybrid electoral method because some legislative seats are elected from single-winner districts using winner-take-all rules and additional "compensatory" seats are awarded to underrepresented parties in order to achieve proportional representation overall. MMP combines geographic representation with proportional representation of ideological interests. The FairVote organization has a similar "Districts Plus" model reform.

**Monotonicity Criterion.** One of the criteria used to evaluate voting methods. The monotonicity criterion is satisfied if (1) giving greater support for a candidate can never hurt that candidate, and (2) giving less support for a candidate can never benefit that candidate. Hypothetically, RCV could fail this criterion, but only under unusual circumstances.

**Multi-Winner District.** A district from which more than one member is elected. Also known as a multi-member district (MMD) or a multi-seat district. Compare to single-winner district.

**Mutual Majority Criterion.** One of the criteria used to evaluate voting methods. The mutual majority criterion is a stricter version of the majority criterion (see elsewhere). It is satisfied if, when there exists a subset of candidates, such as all candidates from one political party, such that a majority of voters prefer every member of that group to all other candidates, the voting method must always elect a member of that group.

## N

**Nonpartisan Blanket Primary.** \* Voters may choose any one candidate, regardless of party, in a nonpartisan blanket primary. Top-Two Open Primary (sometimes referred to as Jungle Primary) or Final 4 and Final 5 plans are two types. In the Top-2 method, the top two candidates selected the most, regardless of party, move onto the general election. Final 4 or Final 5 primaries advance the top 4 or 5 candidates (despite party) to a general election. Top-Two and Final 4 or Final 5 differ from an Open Partisan blanket primary in that no party is guaranteed that the primary will pick one of their candidates for the general election. While called a "nonpartisan Blanket primary," candidates are usually listed with party affiliation.

**Numbered Posts.** \* A method of conducting Multi-Winner elections by dividing them into separate single-winner elections, all elected "At-Large." Some numbered posts require that the candidate be a resident of a particular geographical area; others are simply assigned a contested seat. A voter's favorite candidates can be in contest for the same seat, or a voter may be forced to choose candidates they least preferred due to seat assignments. This type of system is used in several Oregon areas where there is no geographical resident requirement, including among others, Ashland, Douglas County and Portland.

## O

**One Person, One Vote.** \* A constitutional principle based on Article I, Section 2 and the 14th Amendment which holds that each voter should have the same effective voting power as each other voter. If a jurisdiction uses districts, those districts must have an approximately equal number of persons per representative elected in each district.

**Open List Proportional Representation.** \* Like “Closed List Proportional,” this is a party-based type of Proportional Representation (vs. a candidate-based system). In Open List, electors can express their preferences in the order of candidates within a party list, as well as casting a vote for the party.

Free List Proportional Representation (or Panachage) is a type of Open List, in which the voter has as many votes as there are seats open to fill (similar to Cumulative). In Free List, the voter can draw from different party lists.

**Open Partisan Blanket Primary.** \* Voters may choose their favorite candidate on a ballot offering all candidates in an Open Partisan Blanket Primary, regardless of voter’s own party affiliation. Each party advances its candidate with the most votes. Note: This type of primary was determined “unconstitutional” in the US; See: California Democratic Party v. Jones. (Difference from Top-two and Final 4 or Final 5 primaries can be seen under Nonpartisan Blanket Primary.) Some states simply do not register voters in a party, which then allows them to vote without affiliation.

**Open Primary.** A primary election in which a separate primary election is held for each political party, but voters may be allowed to participate in any such primary regardless of their party registration. In some states, only unaffiliated voters may request a particular party ballot for that election.

**Optical Scan.** \* An electronic vote-counting system which reads marked paper ballots and tabulates the results.

**Ordinal Voting System.** A system in which voters can rank candidates in order of preference.

**Overvote.** \* A vote in which the voter has indicated a preference for more than the maximum number of selections allowed. With some voting methods, overvotes disqualify ballots. Under Ranked Choice Voting and rating voting methods, one type of overvote is ranking or rating more than one candidate at the same level. That is allowed in RCIPE and STAR.

## P

**Plurality Winner.** The candidate who got the most votes, compared to other candidates, is a plurality winner, regardless of the percentage of votes. A plurality winner may have received much less than 50% of the votes, compared with a Majority Winner who must garner at least 50%+1 of the votes.

**Proportional Representation.** Voting methods in which a major goal is to ensure political groups are allocated seats in legislative bodies in proportion to their share of the vote. It is often explained as “a group representing 60% of the voters, should get approximately 60% of the seats, but not all, while a group representing 40% of voters should get approximately 40% of the seats, but not none.”

## R

**Random Method for Reallocation.** \* This is another method to reallocate (or transfer) surplus votes in a multiple-winner election. Compared to the Gregory method in which a fraction of the

vote is transferred, with Random method, surplus votes are transferred from a random selection of ballots.

**Ranked Choice Voting (RCV).** RCV allows voters the option to rank candidates in order of preference: one, two, three, and so forth. If your vote cannot help your top choice win, your vote counts for your next choice.

In races where voters select one winner, if a candidate receives more than half of the first choices, that candidate wins, just like in any other election. However, if there is no majority winner after counting first choices, the race is decided by an "instant runoff." The candidate with the fewest votes is eliminated, and voters who picked that candidate as 'number 1' will have their votes count for their next choice. This process continues until there's a majority winner or a candidate won with more than half of the vote.

Single-winner RCV is also known as instant runoff voting, the alternative vote, and preferential majority voting. Modified systems include RCIPE.

Multi-winner RCV is also known as single transferable vote (STV), proportional ranked choice voting, the Hare system, and choice voting. Modified systems of multi-winner RCV include bottom-up RCV, and sequential ranked choice voting.

**Ranking.** The number assigned by a voter to a candidate to express the voter's choice for that candidate. The number "1" is the highest-ranking order, followed by "2" and then "3" and so on. Ranking is considered an "ordinal" system.

**RCIPE (Ranked Choice Voting Including Pairwise-Elimination).** A counting system for RCV that uses pairwise vote counting to eliminate candidates who lose when compared to all the other remaining candidates. Also, the RCIPE method allows two or more candidates to be ranked at the same choice level, without regarding those marks as an overvote.

**Risk Limiting Audit (RLA).** This is one type of audit (a review conducted after polls close for the purpose of determining whether the votes were counted accurately). With an RLA, a portion of ballots are manually checked against official election results to determine whether ballots were tallied correctly.

**Rounds.** A sequence of vote tabulations in a RCV election, similar to a series of delayed runoffs, which can be seen as the next 'rounds' of a contest.

## S

**Safe State or District.** \* Opposite to a "swing state" or "swing district", or "competitive district", the outcome of a safe election is generally easy to predict. Margins are wide, favoring either red (Republican) or blue (Democratic) candidates, and not currently favoring a third party.

**Score Voting (or Range Voting).** A voting method generally designed for single-winner districts in which voters award each candidate a "score." Voters' scores are then either summed or averaged together for each candidate. The candidate with the highest total score wins. STAR voting is a two-step method using first SCORE and then a Top-Two runoff. Score (or Range) Voting is considered a "cardinal" method.

**Section 2 of the Voting Rights Act (VRA).** \* See Voting Rights Act (below)

**Sequential Ranked Choice Voting.** \* Used for Multi-Winner elections, this is not a proportional system, but a “winner-take-all” ranked choice voting method. Votes are counted as a sequential series of single-winner ranked choice voting contests. After one seat has been awarded, the elected candidate is removed from consideration, all ballots are returned to full value, and a new single-winner ranked choice voting count occurs. This process repeats until all seats have been filled. Unlike the Single Transferable Vote (STV), this form of ranked choice voting is not a method for obtaining Proportional Representation. Instead, it is a "majoritarian" method, meaning a single cohesive majority has the power to elect every seat. Sometimes called Instant Runoffs, Majoritarian Ranked Choice Voting, or Block Preferential Voting.

**Semi-Closed Primary.** \* A primary election in which a separate primary election is held for each political party, and the primary is open either to voters registered with that party or to unaffiliated voters, who may choose which ballot to vote on (meaning which party primary they participate in).

**Semi-Proportional Voting Methods.** \* The most common “semi” proportional systems worldwide (and within the US) are Cumulative Voting and Limited Voting. While these electoral systems are more representative than Winner-Take-All, they do not guarantee a proportional representation result. Semi-proportional systems are not all the same, but generally produce results that are between the proportionality of full representation systems and the disproportionality of winner-take-all systems.

**Sincere Voting.** Votes cast by voters for their most preferred candidate. This is in comparison to Strategic Voting, in which voters select a candidate other than their first preference in order to best pursue their political interests. Instead, “sincere voting” is sometimes described as “vote your hopes, not your fears.”

**Single Choice Plurality Voting.** \* (Plurality voting or First-Past-the-Post - FPTP). A voting method used in single winner elections, in which the winning threshold is “whoever gets the most votes wins,” without necessarily receiving a majority of votes. It’s the most common system used in countries descended from British and French Empires, including the United States and Canada. Certain jurisdictions couple the use of a single-choice plurality with a “delayed runoff” if no candidate attains the majority of votes in the initial round of counting. This delayed runoff is also known as a two-round system, not to be confused with “Top Two primaries.”

**Single Non-Transferable Vote (SNTV).** \* This is a system for electing multiple winners but is “semi-proportional.” It draws on single-choice Plurality Voting as each voter chooses only one candidate. During counting phase, all votes are added. The candidates with the most votes are elected until all the positions are filled. This is not to be confused with STV – single transferable vote (proportional Ranked Choice Voting). Also known as Multi-winner single choice Plurality.

**Single Transferable Vote (STV, aka proportional Ranked Choice Voting).** A multi-winner system using ranked choice voting with the goal of Proportional Representation. Candidates who meet and exceed the threshold of votes to be elected see a fraction of their surplus votes transferred to other candidates their supporters have chosen. Votes can be reallocated by several methods: Random Reallocation (not fractional), or the most common, Gregory method for Reallocation (which has been suggested for the Portland Oregon system).

**Single-Winner District.** A district from which only one member is elected. Also referred to as a single-member district (SMD) or a single-seat district. Compare this type of system to Multi-Winner districts. A single-winner district never results in proportional representation.

**Skipped Ranking.** \* In a ranked voting method, an instance in which a voter has left at least one ranking order unassigned but ranks a candidate at a subsequent ranking order. For example, a ballot which contained a valid ranking for first choice and for third choice, but not for second choice, is a ballot containing a skipped ranking. A jurisdiction will have rules set up beforehand as to how these ballots are handled.

**Spoiled Ballot.** \* A ballot that has been marked or altered in a way that prevents it from being counted, whether due to voter error that prevents accurate reading, or particular rules of the jurisdiction.

**Spoiler Effect (Vote Splitting).** A phenomenon seen commonly in First-Past-the Post (FPTP) or single-choice plurality elections. A head-to-head race between two viable candidates would have led to one candidate winning. However, in the presence of a third, non-viable candidate, who divides the potential winner's support, the other viable candidate can win with a plurality vote instead. Vote splitting is a general term for the phenomenon when two similar candidates (like “clones”) divide their base of support. On occasion, parties will orchestrate a fake-third candidate (whom they would not support) to pull votes from the favorite of the voters and benefit the party.

**STAR Voting (acronym for "Score Then Automatic Runoff").** A two-round system that combines a form of Score Voting (first round) followed by a Top-Two runoff to determine the winner. STAR voting first identifies the two candidates with the two highest scores, selected by adding all the voters' scores (typically 1-5) of each candidate. In a second (final) round, the candidate who was rated higher on the most ballots wins (based only on ballots with unique scoring for the two candidates).

**Strategic Voting.** In contrast to sincere voting (above), strategic voting is a synonym for insincere voting. It occurs when a voter votes for a candidate other than their preferred choice to prevent an unwanted outcome. As an example, in a pick-one plurality election, there is often a strong incentive for supporters of a minor party to throw their vote to a larger party candidate with a greater chance of victory. This prevents a party or candidate the voter dislikes most from winning.

**Substantive Representation.** \* When distinguishing technical uses of the word “representation” in regard to the governed, this demonstrates the tendency of elected legislators to advocate on behalf of the values and interests of certain groups. Compare with Descriptive Representation. (Also see Actual and Virtual Representation)

**Surplus Votes.** The number of excess votes a candidate receives beyond the minimum needed in order to receive a seat in a Single Transferable Vote (STV) election. These extra votes are transferred to voters' next choice candidates. Surplus votes can be transferred as whole ballots (as in Random Reallocation) or using fractional transfer methods such as the Gregory Method for reallocation.

**Swing State.** \* Opposite of what is known as a “Safe State”, a Swing State is one for whom the outcome of a presidential election is difficult to predict because the margin is expected to be

narrow. Swing states are sometimes known as "purple states" because they are not uniformly red (Republican) or blue (Democratic).

## T

**Threshold.** Basically, the number of votes that a candidate must receive in order to be elected. The threshold (often expressed as a percentage of the turnout) varies depending on the type of election:

- Plurality or First-Past-the-Post (FPTP) elections – a candidate must receive more votes than any other candidate. A plurality threshold may be significantly lower than a majority, depending on how many candidates are on the ballot, and how the voters vote.
- Majority election – a candidate must receive a majority of the votes cast (more than half or 50% plus 1 vote). This can be obtained in a delayed (or second round) runoff if necessary.
- Proportional representation election – a candidate must receive a number of votes roughly inversely proportional to the number of seats being filled. For example, in proportional RCV (Single Transferable Vote) the threshold is the fewest votes that only the winning number of candidates can obtain (typically calculated using the Droop Quota). If five seats are being filled, the threshold is one-sixth of the votes cast plus one more vote.

If the election is a less-common list proportional representation election, the threshold is not for individuals, but the percentage of the overall vote that a party gets determines how many of its members are elected.

**Top-Two Primary.** A top-two is a primary election in which all candidates appear on the same ballot and voters may choose any one candidate regardless of party. The top two vote-getters advance to the general election, regardless of their political party. Consequently, it is possible for two candidates from the same political party to win in a top-two primary and compete against each other in the general election. Assuming no significantly strong write-in, the winner will receive a majority (50% +1 vote). (This is sometimes referred to as a “jungle primary” based on the Louisiana system or the Cajun primary. Top-Two has been adopted in California and Washington states.)

**Two-Round System.** \* Elections for choosing only one winner (Winner-Take-All methods) in which a second election is held following a preliminary or primary election. In some cases, the second election is contingent upon no candidate receiving a majority in the first election, often called “delayed runoff.” In other cases, such as California's top-two primary system, the second election is held regardless of whether a candidate received a majority in the first election. Also known as runoff elections.

## U

**Undervote.** \* An undervote, or under-voting, occurs when the voter has selected less than the maximum number allowed for that contest, or when no selection is made for a single choice contest. Under Ranked Choice Voting (RCV) the term typically means the voter has skipped voting for the office entirely, but it can also refer to an unused ranking on a ballot (choosing

choice 1 and 3, but not 2). Some jurisdictions stop counting a ballot if an RCV choice is skipped; others go to the next choice clearly intended by the voter.

**Universal Tabulator.** RCTab, formerly, the RCV Universal Tabulator (RCVUT), is a federally tested, open-source software that can tally RCV election results. RCTab can accept data from any voting machine (from most voting system vendors) capable of exporting a cast vote record (CVR). It can tabulate a single-winner RCV election according to the rules of any US city. (See <https://www.rcvresources.org/rctab>)

## V

**Virtual Representation.** \* The idea that constituents are represented by officials they did not vote for. For example, a Democratic voter in a safe Republican district is still virtually represented by Democrats elected elsewhere, even if they cannot vote for those Democrats. It is sometimes used to suggest that the winning official represents all constituents equally, whether they share views or not. Compare to Actual Representation.

**Vote Counting System.** (See nuanced difference between this and total “Voting System”). When specifying the “vote counting system”, it includes the combination of mechanical, electromechanical, or electronic equipment (including the software, firmware, and documentation required to program, control, and support the equipment) that is used to count votes; to report or display election results; and to maintain and produce any audit trail information.

**Vote Splitting.** (See Spoiler Effect). A phenomenon in plurality elections in which candidates with similar characteristics divide their supporters between themselves, potentially preventing any of them from earning enough votes to win the election. This Vote Splitting can lead to the “Spoiler Effect.”

**Voting Rights Act (VRA).** \* The Federal Voting Rights Act of 1965 is a landmark piece of federal legislation in the United States that prohibits racial discrimination in voting. It protects the right of voters to vote with the opportunity to elect candidates of their choice, free from discrimination on the basis of race, ethnicity, or language minority status. When a law has the effect of denying the right to vote or the opportunity to elect candidates to a group on the basis of their race, ethnicity, or language minority status, then a lawsuit may be brought under Section 2 to challenge that law. (It is generally understood that section 5 of the VRA was drastically weakened by the US Supreme Court in 2013 (Shelby County v Holder) which ultimately removed “preclearance” oversight of certain states and local governments. Certain Proportional Representation (STV) and Semi-Proportional representation systems (Cumulative voting and limited Voting) have been adopted in response to Section 2 lawsuits.

The Oregon Voting Rights Act (HB 3310), passed in 2019 for School Boards, offers two pathways for school boards to ensure equal opportunity. One authorizes the option to alter the electoral method for the board (such as adopting RCV). The other pathway allows an individual to bring a lawsuit against a district; then a judge can determine what electoral system is the best remedy.

**Voting System.** Equipment, materials, and documentation used to conduct elections, including to capture votes, count votes, and generate reports. (The vote counting system, see elsewhere, is included in this total package. Sometimes the terms are used interchangeably.) Additionally,

people often refer to voting methods like ranked choice voting (RCV) or STAR as voting systems, but these methods are better understood as either “voting methods” or “electoral systems.”

## W

**Wasted Votes.** As used by political scientists, wasted votes describe votes that are not useful in the election of the winning candidate or party. The votes for any losing candidate are wasted in this sense. Occasionally, it is used only to describe a vote that was not useful in determining a winner or loser (such as a spoiled ballot or an under-voted one). Votes cast for a winning candidate over-and-above what was needed (surplus or excess) are also sometimes referred to as wasted (although in STV, a portion is transferable). Gerrymandering seeks to manipulate where these wasted votes (of either type) are concentrated or dispersed (“packed” or “cracked”). Further, in the United States, the term “wasted vote” is used uniquely to refer to votes cast for a third-party candidate, implying that any vote for a third-party candidate aids the election of someone else.

**Winner-Take-All (WTA).** Used in single-member districts, single-winner elections, single-position elections, or at-large elections, all methods when electing only one winner are WTA. Yet, not all are equal; they can operate either with a plurality or majority threshold. WTA is the principle that elected officials should reflect only a single group of voters, usually the majority group. Rather than like-minded voters being able to elect representatives in proportion to their number (as with proportional representation), with WTA one group of voters can elect all representatives while other groups elect none. WTA is vulnerable to gerrymandering and (with the exception of some systems like RCV) vulnerable to the spoiler effect. (Compare to Fair Representation.)

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