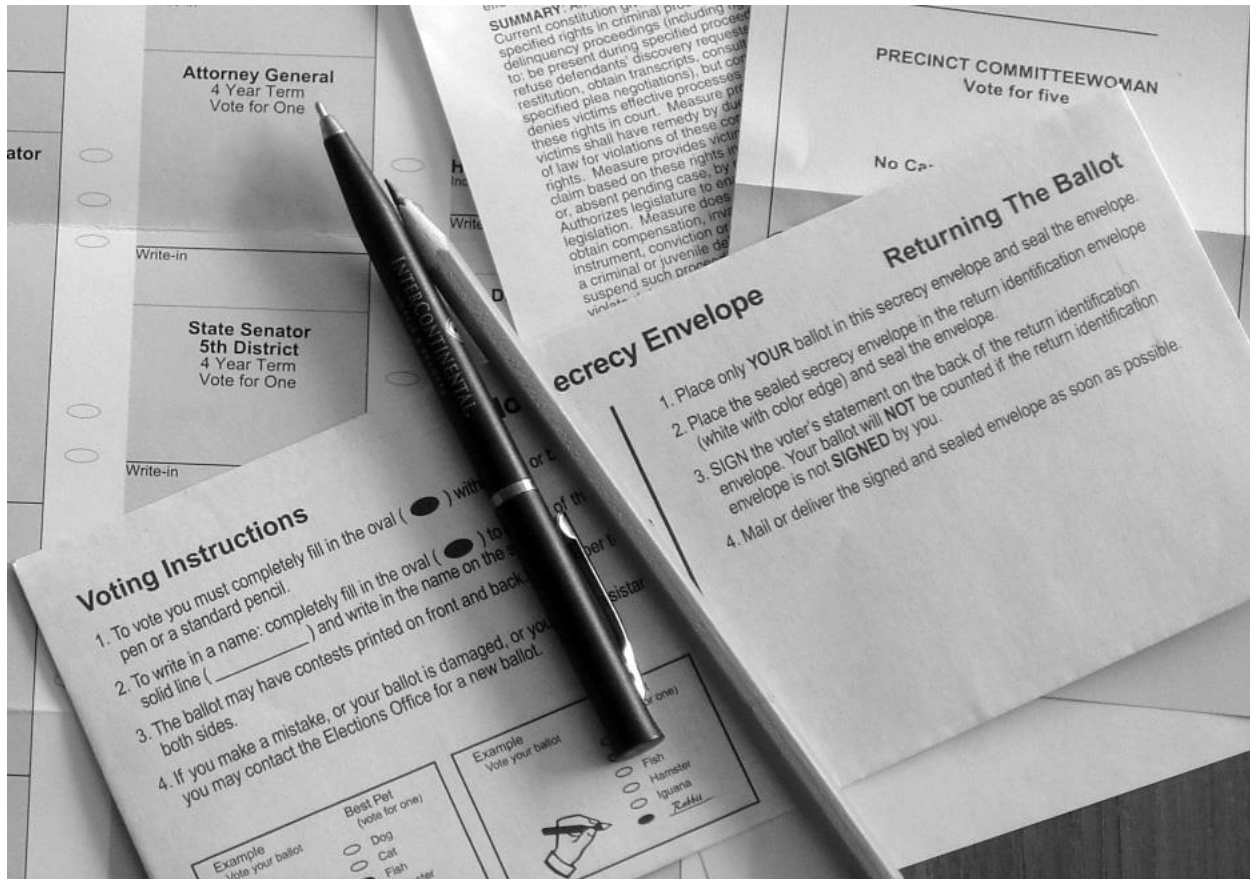


# Election Methods Study Update 2016



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## CHAPTER 1. INTRODUCTION

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How shall we choose our representatives?

From ancient civilizations to the far, far future this basic question of how to combine each individual's nuanced preferences and opinions into a single aggregate choice is a procedural concern affecting every aspect of our lives. Our current winner-take-all, plurality system, while easy to understand and administer, faces growing competition from other systems, such as those used in many other countries to elect officials who are more representative of their constituencies.

In 2008, the League of Women Voters of Oregon (LWVOR) conducted a comprehensive review of election methods;<sup>1</sup> this update looks only at election methods currently in use and likely to be considered for adoption in Oregon.

In taking this approach, we hope to achieve a consensus position to allow us to advocate for or against proposed changes in election methods at the state, regional, and local level in Oregon. The League, as a trusted source of information, should be able to advise on issues that are basic to our democracy. In 2014, for lack of a position, LWVOR was unable to support or oppose Measure 90 which advocated for a single primary ballot listing all candidates, from which the top two would proceed to a general election. Currently, a signature drive successfully qualified a ranked choice voting measure for Benton County<sup>2</sup> that will be on the November 2016 ballot.

As election methods—good, bad, and ugly—continue to be proposed, the League should help Oregonians evaluate their merits.

### 1.1 THIS REPORT

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Essentially all Oregon elections elect one representative per geographic district, or elect one representative per position in legislative bodies, typically city councils, with several positions. This report discusses these single-member-district, winner-take-all systems first, and then looks at the voting methods – plurality, instant-runoff, range, approval, and delayed runoff – that are likely alternatives for single winner elections.

For single-member offices such as Governor, Mayor or Secretary of State, single winner elections are appropriate because only one person will serve at a time. But for legislative elections such as state Senate, House, or city councils, there are reform opportunities with established track records beyond the single-member status quo. This report discusses systems for these multi-member districts next, along with different voting methods appropriate to them -- list voting, mixed-member proportional voting, single transferrable vote, cumulative voting, and limited voting.

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<sup>1</sup> League of Women Voters of Oregon (2008), Election Methods: Review of Alternatives and Oregon Proposals, retrieved 7-1-2016 from <http://lwvor.org/wp-content/uploads/2015/12/ElectionMethods2008.pdf>

<sup>2</sup> See <http://www.betterballotbenton.com/>

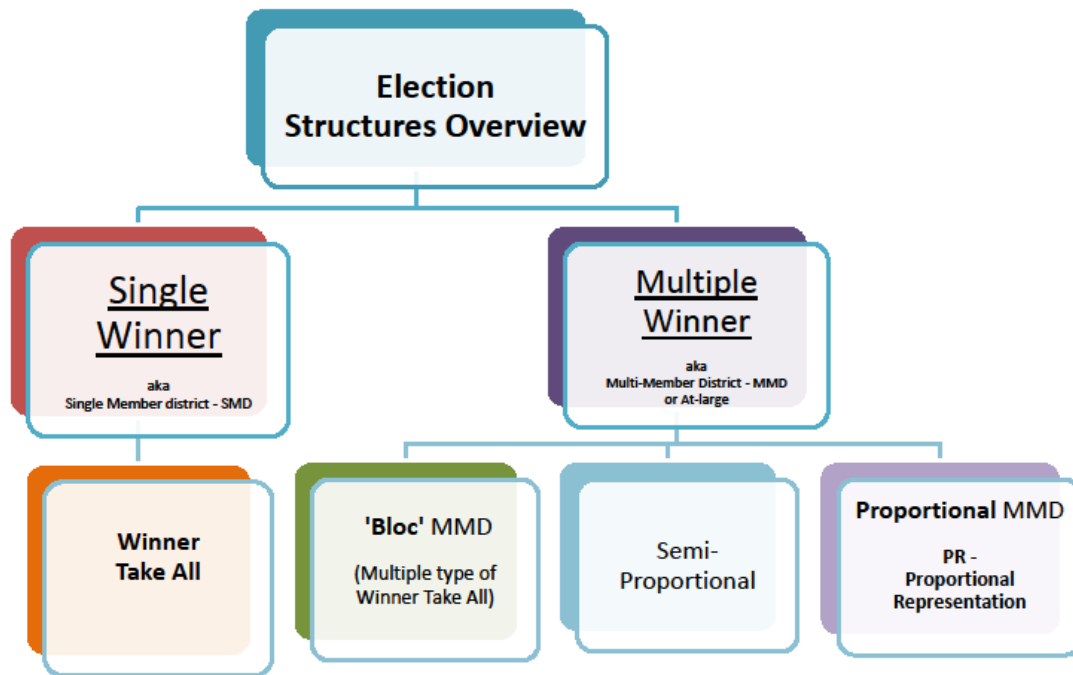


FIGURE 1. OVERVIEW OF ELECTION SYSTEMS

Following our discussion of election systems and voting methods used with them, we address how Oregon political parties choose candidates, including closed and open primaries, fusion voting, and the questions of top-two primaries.

Finally, we look at how elections are administered in Oregon and what changes would be required to implement a new election system or voting method.

---

## 1.2 OUR GOAL

We hope to achieve a consensus position that states conditions under which one election system or voting method is preferable to another. Such a position will allow us to act for or against proposed changes to voting methods in Oregon.

## CHAPTER 2. SINGLE-WINNER SYSTEMS

Almost all Oregon elections—including the state Senate and state House—are for single-winner, winner-take-all seats. An example of an exception is party precinct persons, where ballots might read “Vote for 3” or “Vote for 5”, etc.

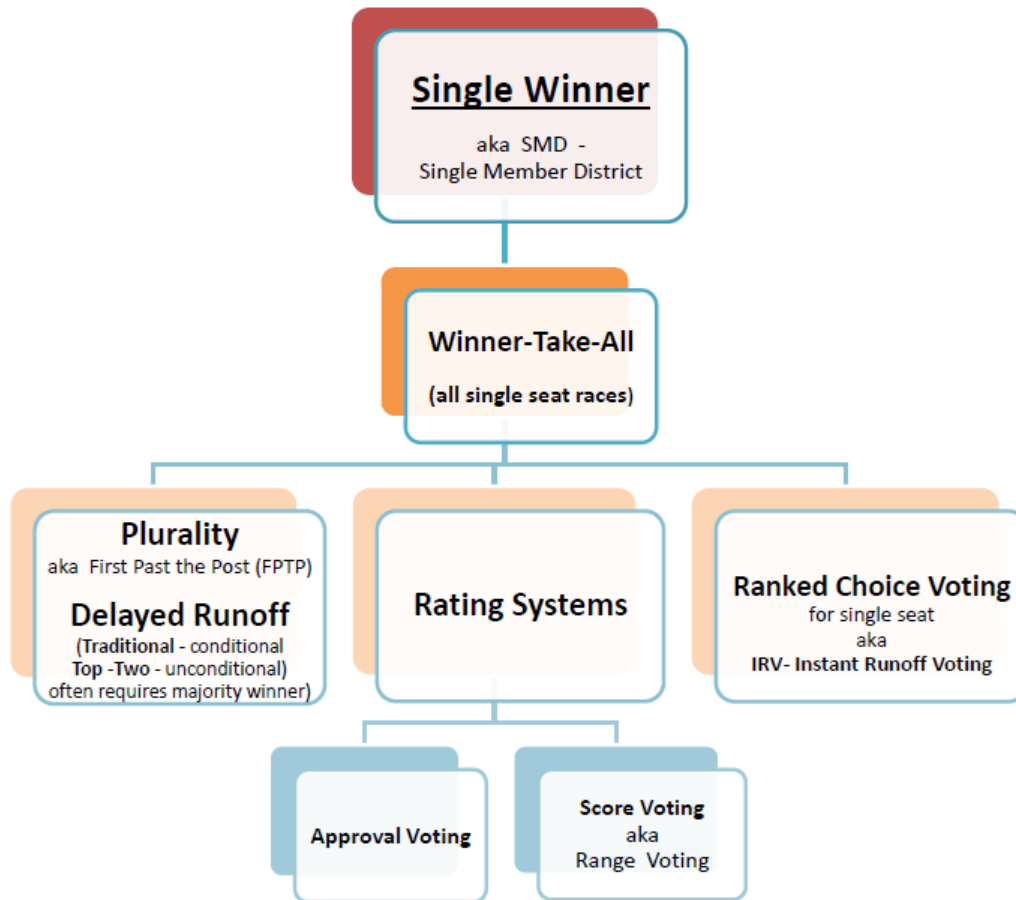


FIGURE 2. SINGLE-WINNER SYSTEMS

When electing one person to a single-member office, like president, there can be only a single winner and a winner-take-all election system is appropriate. For multiple-member offices however, like a city council or the Oregon legislature, proportional representation, practiced by many world governments, is an alternative. Proportional representation elects district representatives of all major political opinions, as opposed to a single winner, whose constituencies will include residents who don’t feel represented. Bloc multi-member elections are also alternatives for multiple member offices. Oregon elects two U.S. Senators and Portland elects four city councilors in bloc multi-member elections. As we explain in the next chapter, these bloc systems are still winner-take-all elections.

Voting methods that we can use for winner-take-all elections are plurality, delayed runoff, approval, range or ranked choice voting for a single seat. (Instant-runoff voting is an example of ranked choice

voting.) In single seat contests, while some of these alternatives may produce fairer outcomes than others, each is still a winner-take-all system.

The balance of this chapter describes single-winner voting methods. We refer readers to details in Appendix 2 for an overview of ways to evaluate single-member voting methods using quantifiable, objective methods. Three areas of research are covered in the appendix.

1. A list of criteria that researchers have devised to characterize good voting methods, including explanations of the criteria and ratings of the voting methods in this chapter.
2. Simulation research to evaluate methods on their ability to elect candidates with the highest value to the electorate as a whole, i.e., the most representative candidate. Simulated elections are necessary for this research so the true value of each candidate to each voter can be assigned; in actual elections, the use of strategy by voters obscures their real preferences.
3. Simulation research on the balance of power between *sincere* and *strategic* voters. Sincere voters cast ballots reflecting their actual preferences. Strategic voters cast ballots they believe will most likely result in the best possible outcome given their preferences, the specifics of the voting system, and the information they have about how other voters are likely to vote. An example of a strategic voter would be someone who prefers a third party candidate, but in elections projected to be close, votes for the major party candidate closest to their values. Methods highly susceptible to strategy in effect give some voters more control over the outcome than others. Researchers simulate elections to evaluate different methods on their resistance to strategic voting.

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## 2.1 PLURALITY – THE AMERICAN STATUS QUO

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In Oregon, delegates to the U.S. House of Representatives and all members of the state Legislature are elected in single-seat plurality<sup>3</sup> elections. Plurality voting is easy for voters to understand: you get one vote, and the candidate with the most votes wins. Majority winning thresholds are not required; results are not proportional to voting populations. Voting and counting are clear and citizens accept (if not always like) the gamesmanship required of both candidates and voters. These contests require less evaluation than ranked or rating systems. Whether good-government groups view this as positive or negative for voter education, it is a plus in the “easy” column for voters. A sample ballot is familiar to all of us:

Vote for One	
<input type="radio"/>	Rosalind Franklin
<input checked="" type="radio"/>	Marie Curie
<input type="radio"/>	Rachel Carson
<input type="radio"/>	Jane Goodall

---

<sup>3</sup> The Electoral World does not agree on all terminology, which can be frustrating to readers, students or activists. We have chosen to use **Plurality** to describe an election which is often called **First Past the Post** in which the voter can choose only one candidate, the winning threshold is simply the candidate with the most votes, and there is a single winner.

Plurality is also the easiest system to administer. Programming is straightforward which enables use of older and simple voting machines. Results can be summed at the precinct level and aggregated centrally.

Plurality is the voting method of choice in two-candidate, single-member elections, or in voting for or against ballot measures. When there are only two options, the majority will rule. In cases with more than two candidates, however, plurality scores near the bottom compared to other methods. It passes or scores well on only 4 of 13 criteria listed in Appendix 2. It ranks lowest in ability to elect a candidate with the highest value to the whole electorate, and is a distant second in resistance to strategic voting.

Determination of the “winner with the highest value to the whole electorate”—the most representative candidate—is accomplished in research by knowing the real, personal value of each candidate to each voter, then summing these values over the whole electorate. It seems reasonable that plurality would fare poorly in this area: In even a three-candidate election, a plurality vote may elect a candidate with less than a majority of the votes. The 2014 Oregon gubernatorial election had a greater winning percentage than many elections; however, the winning tally was still less than 50%. Most Americans do not even question this system. “The person with the most votes wins.” Still, more than half of Oregon voters may have felt unrepresented by these results. This can lead to disillusionment and a sense that the system is unfair and that democracy is not fulfilling its promise of giving every voter a voice.

A voting method that encourages strategic voting undervalues voters who vote sincerely, for candidates they actually prefer. The most common strategy plurality voters use is to avoid the spoiler effect. If a major party candidate is likely to win, a voter who prefers a minor party candidate may vote insincerely for her second choice in a major party candidate. Otherwise, she risks causing her least favorite candidate to win. In the 2002 Oregon governor’s race, Libertarian Tom Cox was considered a spoiler since he received 5% of the vote and was assumed to have cut into Republican Kevin Mannix’s 46% vote. Many third-party candidates argue that THEY are not spoilers, rather the system is the spoiler.

Another Oregon example is the 1990 Oregon gubernatorial race that Democrat Barbara Roberts won with 46%, less than a majority. It was believed that unaffiliated candidate Al Mobley, with 13%, cost Dave Frohnmyer, with 40%, the race. We may find such results pleasing, if the winner suits us, but when one candidate wins even though a majority of voters would have preferred the losing candidate in a two-candidate race, our democracy is not functioning as well as we might hope.

Plurality voting in a three-candidate race doesn’t just encourage strategic behavior in voters; candidates and political parties also resort to strategy to win.

- Two former Democratic Party officials in Michigan were indicted in 2011 for attempting to put three fake Tea Party candidates on the ballot to split the Republican vote, without the knowledge of the candidates.<sup>4</sup>
- As noted by the *Milwaukee-Wisconsin Journal Sentinel*, the *No Quarter* blog obtained letters in 2011 from local Republican Party officials that encouraged the support (and signature gathering)

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<sup>4</sup> Condon, Stephanie (3-18-2011), “Two Michigan Democrats indicted in fake Tea Party scandal,” CBSNEWS, accessed 9-9-2016 at <http://www.cbsnews.com/news/two-michigan-democrats-indicted-in-fake-tea-party-scandal/>.



for two long-time Republican donors and supporters to attain ballot status as Democratic candidates, thus to act as spoilers.<sup>5</sup>

- That same year, a similar tactic was attempted in an election for Arizona senate leader and Tea Party president Russell Pearce (later recalled by special election). After moderate Republicans in the state decided to run an opposing candidate, among the many strange tactics disclosed by the *Phoenix New Times* was the ‘phantom campaign’ of Olivia Cortes, officially on the ballot as a third candidate, and later discredited as an attempted spoiler against the moderate Republican.<sup>6</sup>
- A more appalling stunt also came out of Arizona, but the year earlier. Hoping to split the liberal vote, in 2010 a Republican political operative in Tempe AZ recruited homeless people to run for a variety of offices throughout Arizona as Green Party members. It made national news.<sup>7</sup>

In addition, due to the very nature of the plurality method, candidates in plurality elections are rewarded for discouraging voter turnout by frustrating voters with negativity, half-truths, or misinformation, just so long as they win more votes than their opponent. Other voting methods lead to less negative campaigns by encouraging candidates to win over the most voters, even if some of those voters also cast a vote for an opponent. For example, a successful candidate for mayor of Minneapolis reported reaching out to voters who could place her second in a ranked-choice election.<sup>8</sup>

In summary, plurality ranks high in ease of use and administration, but compares poorly to other systems by many criteria.

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## 2.2 DELAYED RUNOFF

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There are two types of delayed runoff voting.

Delayed runoff voting (aka two-round runoff) is the *common and traditional* type. It is *conditional*, in the sense that a second and separate election is required to determine the winner only if a certain threshold is not won in the first election. It is held between the two highest vote receivers from the first election. Such traditional and *conditional* delayed runoffs only occur when a predetermined threshold (such as 50% or 40%) is not surpassed by any candidate in the first election.

A different type of delayed runoff is *unconditional*, such as top-two systems. It takes place automatically between the top two candidates regardless of the first round outcome. This will also result in a majority winner after the second election. In partisan contests, it can produce final election races with candidates from only one party. We discuss this further in Chapter 4.

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<sup>5</sup> Bice, Daniel (6-5-2011), “Wisconsin GOP leaders encouraging colleagues to place fake Democrats on recall ballots,” *Milwaukee Wisconsin Journal Sentinel*, accessed 9-8-2016 at <http://archive.jsonline.com/watchdog/noquarter/123202643.html>.

<sup>6</sup> Biggers, Jeff (9-19-2011), “Arizona Recall Election Heats Up: Dirty Tricks for Tea Party President Pearce Backfire”, *The Huffington Post*, accessed 9-8-2016 at [http://www.huffingtonpost.com/jeff-biggers/arizona-recall-election-h\\_b\\_969159.html](http://www.huffingtonpost.com/jeff-biggers/arizona-recall-election-h_b_969159.html).

<sup>7</sup> Lacy, Mark, “Republican Runs Street People on Green Ticket,” *New York Times* (9-10-2010), accessed 9-8-2016 at [http://www.nytimes.com/2010/09/07/us/politics/07candidates.html?\\_r=2&partner=rss&emc=rss](http://www.nytimes.com/2010/09/07/us/politics/07candidates.html?_r=2&partner=rss&emc=rss).

<sup>8</sup> Hodges, Betsy (9-26-2014), “Mayor Hodges on Ranked Choice Voting”, accessed 9-8-2016 at <https://www.youtube.com/watch?v=vSGEcQoR70&feature=youtu.be&t=29>.

Nine states have a runoff for state or federal offices when majority levels are not reached in the primary: Alabama, Arkansas, Georgia, Louisiana, Mississippi, Oklahoma, South Carolina, Texas, and Vermont. As noted, not all runoffs are conducted for lack of a majority in the first election; some jurisdictions have other thresholds. States with a necessary threshold less than 50% during primaries include North Carolina (40%) and South Dakota (35%). Kentucky had a 40% threshold for governor before it was repealed. Both Florida and Kentucky have used delayed runoffs but have now abandoned them.

Delayed runoffs share most properties with instant-runoff voting, a ranking system. The key difference is that instant-runoff allows a majority winner to be determined on one ballot, in one election, ensuring the same voter turnout. Delayed runoffs typically have much lower turnout in either the opening round (in automatic, unconditional runoffs like top-two) or in the conditional delayed runoff, when it is held after a high turnout election with more offices on the ballot.

In the 2015 Oregon Senate regular session, SB651 was introduced and sponsored by 11 senators. It called for a 50% threshold for any candidate running for state Senate or Representative in a general election. Without a candidate winning a majority of votes, a delayed runoff election would be required; the runoff would be held in December of the same year as the November general election. The bill was held up in committee.

The Employment Relations Board for public employees' representation in Oregon already has such a provision. Division 25 outlines procedures for reaching a single winner majority. Section 115-025-0060 of the Election Procedures states:

(5) Runoff Election. In any representation election where there are more than two choices on the ballot and none of the choices receives a majority of the valid votes cast, a runoff election shall be conducted. The ballot in a runoff election shall contain the two choices on the original ballot that received the largest number of votes. Employees eligible to vote in the original election and who are still employees on the date of the runoff election shall be eligible to vote.

Oregon State University student government took a different approach: after using a conventional delayed runoff system for many years they adopted a one-ballot runoff. Their website explains their reasoning<sup>9</sup>:

Previously, Oregon State used a two-round [delayed] process with a primary election where the top two candidates advanced to the general election. [A member of the OSU student government, Jacob] Vandever says the process had a negative impact on turnout and participation, "There was a big drop off between the amount of people who voted in our primary election and the people who voted in our general elections." Turnout in last year's election fell from just 9.6% in the primary to only 6.7% in the general election.

The City of Portland and several other Oregon cities use runoff systems. In Portland a nonpartisan primary is held in May. If no candidate attains a 50% threshold, the two with the greatest number of

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<sup>9</sup> "2014: Oregon State University Boosts Turnout with Ranked Choice Voting", The Oregon Pen (2016), retrieved 3-17-2016 from <http://www.oregonpen.org/articles--archive/2014-oregon-state-university-boosts-turnout-with-ranked-choice-voting>

votes compete in a November runoff. For example, in the 2016 May mayoral and City Council Position 1 primaries, a candidate got more than 50% of the vote, he, thus precluding the need for a November runoff. There will be a November runoff between the top two vote getters for City Council Position 4 because no candidate exceeded 50% of the vote.

## 2.3 RATING ELECTION METHODS

In rating systems, rather than just mark a box for one candidate, voters indicate preferences independently for each candidate. The simplest indication of preference is Yes or No, as in approval voting. Range Voting allows for greater nuance of preference, allowing voters to indicate how much they like each candidate on a scale of, say, one to five. This facilitates greater voter expression than plurality ballots since the voter can offer an opinion about each candidate, but the ballots are simpler than ranking because comparing candidates in order to rank them is not required. The major rating methods are discussed in this section: range voting, majority judgement, and approval voting.

### 2.3.1 RANGE VOTING

In range voting, a voter rates candidates on a scale. The candidate with the highest average rating wins. Voters score each candidate and may give multiple candidates the same score or indicate “no opinion”, without affecting that candidate’s average. It’s important to note that even winning candidates may not have high scores; this expression of voter opinion is conveyed in range voting.

Each candidate’s scores are tallied. The one with the highest average score wins, except that a winning candidate’s total score *before averaging* must achieve a *quorum*, at least 50% of the sum received by any other candidate. Some form of a quorum is necessary to prevent a little-known candidate, rated “no opinion” by most voters, from winning by having a very few voters rank her very high, leading to a very high average.

The range voting that is probably most familiar to the public is the five-point scale YouTube, Amazon, and other websites use to rate videos, books, or other products. Range voting has not been used for governmental elections.

A ballot could look like:

Rate each candidate from 1 (worst) to 5 (best). If you do not know enough about a candidate or do not wish to rate them, indicating “No Opinion” will not affect the candidate’s score						
1/Poor	2/Acceptable	3/Good	4/Very Good	5/Excellent	No Opinion	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Serena Williams
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Jackie Joyner-Kersey
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Mia Hamm
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	Lisa Leslie

Labeling numerical scores, as above, or using letter grades, addresses a number phobia some cite as a range voting concern. This concern may not be significant, as indicated by the popularity of

[hotornot.com](http://hotornot.com), a website targeted to young people, using a ten-point ranking system to evaluate photographs. As of 2008,<sup>10</sup> more than twelve billion votes had been cast on [hotornot.com](http://hotornot.com), more than four times the votes that had been cast in all United States presidential elections.

One advantage of range voting is the increased likelihood of being able to use current voting technology, especially if one-to-five or one-to-ten score ranges are used.

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### 2.3.2 MAJORITY JUDGMENT VOTING

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Majority judgment voting is a version of range voting developed in France by Michel Balinski and Rida Laraki.<sup>11</sup> There are two major differences between their method and range voting. One is that majority judgment does not use numerical scores but rather these labels: excellent, very good, good, acceptable, and poor, while also allowing reject and no grade options. These can be combined with a numerical score.

More significant is the second difference between range and majority judgment voting: Range voting adds and then averages candidate scores to determine a winner (assuming a quorum is met), while majority judgment finds each candidate's median score. The candidate with the highest median score wins.

*Quick reminder:* averages are determined by adding scores and then dividing by the number of scores. The median is the middle number in a sequence of numbers. For example, the median of this set {3, 3, 5, 7, 98} is 5 with two numbers above and below the median. The average is 23.2. As this example shows, averages can be affected by either very high or very low scores. A voter could increase her favorite candidate's chances by exaggerating her score; using median scores could reduce a voter's incentive to use this strategy. Using median scores, however, could result in more ties. Balinski and Laraki provide a tie-breaking method.

Majority judgment voting is not known to have been used for governmental elections.

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### 2.3.3 APPROVAL VOTING

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Approval voting ballots list each candidate's name and allow voting for one or more candidates. Voters are asked for each candidate "do you approve of this candidate for this position?" The voter can support one, some, or all candidates. In the example below, the voter approves of Jackie Joyner-Kersey and Lisa Leslie. Voter support for each candidate is counted. The winning candidate is the one most voters support.

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<sup>10</sup> Poundstone, William (2008), *Gaming the Vote*, Hill and Wang, New York, p. 231-233.

<sup>11</sup> Balinski, Michel and Rida Laraki (2010), *Majority Judgment*, MIT Press

Mark the box next to each candidate you approve for this position. You may mark as many boxes as you like.	
<input type="radio"/>	Serena Williams
<input checked="" type="radio"/>	Jackie Joyner-Kersey
<input type="radio"/>	Mia Hamm
<input checked="" type="radio"/>	Lisa Leslie

Approval voting is essentially a simple form of range voting with only two score options, 0 and 1, without the “no opinion” choice of range voting. Approval voting is like plurality voting, without discarding ballots that vote for more than one candidate.

Approval voting can readily be administered in Oregon. In Lake Oswego, city council candidates are listed on ballots and voters can choose as many candidates as there are positions vacant. If there are three positions, voters can vote for three candidates and the top three vote recipients win. Although Lake Oswego does not use approval voting (where voters could indicate their approval for as many candidates as they desired), it illustrates that elections offices in Oregon already own equipment to accommodate these ballot styles.

Approval voting is used by several academic associations to elect officers. It has not been used in political candidate elections, although Oregonians used approval voting when the legislature referred five advisory questions on different tax options to the May 1990 ballot. The questions were listed as A through E. Voters could vote “yes” or “no” on all, some, or none of the five options. As advisory questions, these votes were not binding, but the legislature learned which option was approved by the most voters and got a sense of public interest in the remaining four options.<sup>12</sup> This illustrates the expressive nature of rating systems.

Approval voting was used by the Independent Party of Oregon to determine which candidate from other parties to support on the November, 2016 ballot.<sup>13</sup>

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### 2.3.4 BENEFITS AND CRITICISMS OF RATING SYSTEMS

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Both approval and range voting have an impressive score on the quantifiable evaluation criteria listed in Appendix 2: 6 of 13 for range voting, and 7 of 13 for approval. For two of the criteria, however, range and approval pass only if it is assumed that voters vote sincerely and not strategically.

Majority consistency and monotonicity are criteria most often discussed when comparing approval or range voting to ranked choice voting. Approval and range voting fail majority consistency: A candidate who would be the majority first choice is not the guaranteed winner. Both methods pass the monotonicity criterion; however, it is not possible to cause a candidate to lose by increasing her support, as it is in certain circumstances with ranked choice voting.

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<sup>12</sup> Oregon Blue Book, “Initiative, Referendum and Recall, 1988 - 1995”, retrieved 7-1-2016 from <http://bluebook.state.or.us/state/elections/elections21.htm>

<sup>13</sup> Independent Party of Oregon (2016), *Presidential Ballot and Member Survey Voters’ Guide*, retrieved 8-2-2016 from [http://www.indparty.com/IPO\\_TABLOID\\_FINAL.pdf](http://www.indparty.com/IPO_TABLOID_FINAL.pdf), p. 7.

As we've noted above, both range and approval are easy to use and administer. Results can be tallied at the precinct level, and existing equipment is adequate for approval voting and easier to implement for range voting than for ranked choice methods.

In terms of outcome representativeness, or how well the choice reflects the overall real values of the electorate, both range and approval voting do outstandingly well. Some data from Warren Smith illustrates this.

Warren Smith is a major range vote analyst who developed the idea of comparing different voting systems using Bayesian regret as a statistical measure to “gauge how voting systems fail the voters by electing candidates other than the one that would have resulted in the greatest overall satisfaction.”<sup>14</sup> Thomas Bayes was an 18<sup>th</sup> century pioneer in the theory of statistical probability. Bayesian regret is a measure of the difference between the overall value of the winner and the overall value of the best possible winner. A smaller number means less regret, so smaller is better. (See Appendix 2 for more details.) A result of this analysis is conveyed in the following chart.

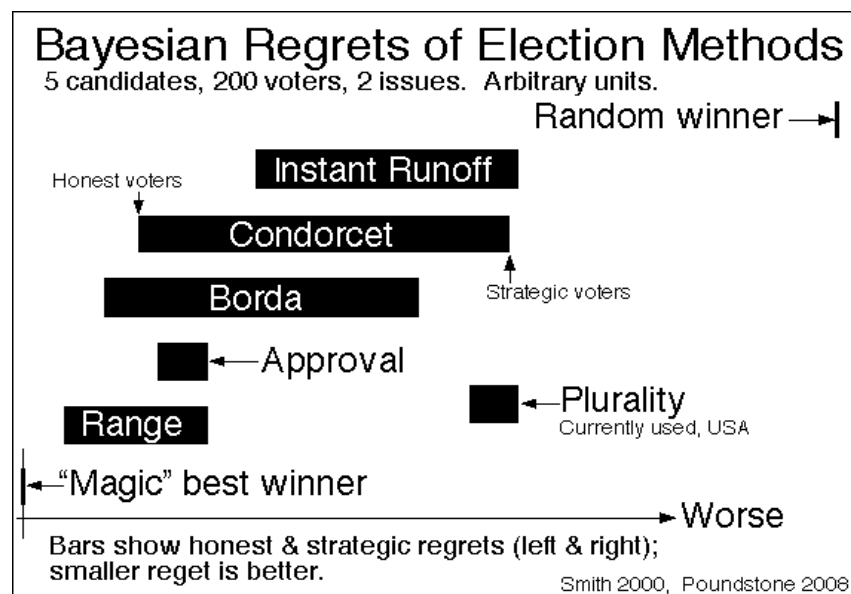


FIGURE 3. BAYESIAN REGRET OF SEVERAL SINGLE-WINNER VOTING METHODS.

Range and approval voting score best (least regret) at electing a candidate who represents the overall values of the electorate.

In addition, in representativeness as measured by Green-Armytage *et al.*,<sup>15</sup> range voting had a perfect 1.0 score, and approval was next, at 0.95.

Rating methods are vulnerable to strategic voting. On the Green-Armytage *et al.* measure of vulnerability to strategy, range voting scored much lower than all others and approval was second lowest. Voters would be even less motivated to vote sincerely with these methods than they currently

<sup>14</sup> Poundstone, William (2008), *op. cit.*, p. 237.

<sup>15</sup> Green-Armytage, James, T. Nicolaus Tideman and Rafael Cosman (2015), Statistical Evaluation of Voting Rules, Social Choice and Welfare, retrieved 7-18-2016 from <http://inside.bard.edu/~armytage/strategy-utility.pdf>

are with plurality voting. The most common range voting strategy is to use only the end points of the scale, i.e., to bullet vote, giving the highest score to the preferred one of two candidates most likely to win and the lowest to all others. This strategy reduces the method to plurality. The approval and range scores showing least regret above are based on voters voting sincerely, not strategically.

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## 2.4 RANKING ELECTION SYSTEMS

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Ranking systems allow voters to submit a single ballot to show their preferred ordering of all election options. This ordering is key to ranked systems and provides each voter's comparative support for all candidates or options. Various countries and organizations have used ranked voting systems for more than a century. This section will discuss several strengths and weaknesses of ranked choice voting<sup>16</sup>. Although there are many potential selection systems once you have a voter's ranking of candidates, ranked choice voting is emphasized because there have been many developments—popular, academic, and political—concerning ranked choice voting since our 2008 study. (Two other ranked methods that are not typically used are explained briefly in Appendix 3.)

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<sup>16</sup> We used the term “ranked choice voting” in this report because of its popularity in several US cities. It is also known as instant-runoff voting. Canada and the United Kingdom have similar systems, which they call the alternative vote; Australians and Robert's Rules of Order use the term preferential voting.

#### US Cities Using Ranked Choice Voting

[Berkeley, CA](#): Since 2010 (for mayor, city council and other city offices)

[Cambridge, MA](#): Since the 1940s (for the nine seat city council and six seat school board)

[Minneapolis, MN](#): Since 2009 (for mayor, city council and several other city offices)

[Oakland, CA](#): Since 2010 (for a total of 18 city offices, including mayor and city council)

[Portland, ME](#): Since 2011 (for mayor)

[San Francisco, CA](#): Since 2004 (for mayor, city attorney, Board of Supervisors and five additional citywide offices)

[San Leandro, CA](#): Since 2010 (for mayor and city council)

[St. Paul, MN](#): Since 2011 (for mayor and city council)

[Takoma Park, MD](#): Since 2007 (for mayor and city council)

[Telluride, CO](#): Since 2011 (for mayoral elections)

The single-transferable vote method was developed in the 1850s by Englishman Thomas Hare. The first use of a system like modern ranked choice voting was in a state election in Australia in 1908. The single-transferrable vote terminology is currently reserved for a multi-seat race, under the category of proportional representation. While the process is similar, the remainder of this section addresses ranked choice voting for a single winner election.

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#### 2.4.1 HOW IT WORKS: USING RANKED CHOICE VOTING

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A ranked choice voting ballot lists all candidates for an office and asks voters to assign an order to them. Ballots are tabulated by first counting the first place vote on each ballot. If any candidate receives a majority of (first-place) votes cast (50% +1) she is declared the winner. If no candidate has a majority, the candidate with the fewest number of first place votes is eliminated. The ballot of any voter who ranked the eliminated candidate first is then redistributed to that voter's second choice candidate. If any candidate has a majority after this process, she wins. If still no candidate has a majority, the elimination process continues until one candidate has 50% +1 of the votes, to win. The system can be imagined as a simulated series of runoff elections where voters cannot change their preferences between rounds. See a short video of this counting process here: <http://vote.minneapolismn.gov/rcv/>.



Here is a sample ballot for ranked choice voting:

Mark only one candidate per column. Vote only once for any candidate.				
1 <sup>st</sup> Choice	2 <sup>nd</sup> Choice	3 <sup>rd</sup> Choice	4 <sup>th</sup> Choice	
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Michelle Obama
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	Lady Bird Johnson
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Hillary Clinton
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Eleanor Roosevelt

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## 2.4.2 BENEFITS OF RANKED CHOICE VOTING

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Ranked choice ballots are more descriptive than plurality ballots. They allow voters to express a wider range of options, including no opinion. Voters in ranked elections can express relative feelings for any or all candidates. Ranked choice voting decreases the likelihood of a spoiler effect. Voters can vote for an obscure favorite without harming a candidate they also support and who is more likely to win.

In ranked choice voting, the winning candidate is supported by a majority of voters in the final round. Compare this to a plurality system where, depending on the number of candidates, the winner could have received a very low percentage of overall votes.<sup>17</sup> In fact, the winner in a plurality contest may be a candidate the majority of voters would have least wanted. Earning broad support across the majority of voters is a worthy goal. Ranked choice voting rewards candidates who do so. In contrast, plurality encourages candidates to pursue the largest minority (aka: the plurality).

Ranked choice voting elections make campaigns more substantive by encouraging candidates to seek second-place as well as first-place votes, a strategy that can be undermined by overly negative campaigning. Under ranked choice voting, candidates risk alienating potential supporters (who could give them last place votes) if their campaigning is overly negative. Mudslinging is sometimes an effective strategy for candidates under plurality, since in a zero-sum game, a voter's decision not to vote for a leading opponent is as good as a vote for the candidate.

Ranked choice voting is strongly resistant to strategic manipulation<sup>18</sup> by voters. In order to game-the-system, a strategic coalition of voters would need a relatively close race between at least three candidates and reliable information about how a very large percentage of voters would rank each candidate. Even with this information, a coalition runs a substantial risk of their plan backfiring and electing a less favorable candidate. Some discussion of inadvertent unintended effects is discussed below as monotonicity. Since success is unlikely, given the high risk gamble combination of all these factors, ranked choice voting is considered by experts to be resistant to strategic manipulation. In his simulation data on resistance to strategy, Green-Armytage *et al.* give ranked choice voting a near perfect score of 0.98.<sup>19</sup>

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<sup>17</sup> Possible lowest percentage of votes for winning candidate under plurality system: 33%+1 in 3 candidate election; 12.5%+1 in 8 candidate election; etc.

<sup>18</sup> Green-Armytage, *Journal of Social Choice Welfare* (2014) 42: 111; Chamberlin, John (1985), *An Investigation into the Relative Manipulability of Four Voting Systems*. *Behavioral Science* 30:4, 195-203.; Lepelley, Dominique and Boniface Mbih (1994), *The Vulnerability of Four Social Choice Functions to Coalitional Manipulation of Preferences*. *Social Choice and Welfare* 11:3, 253-265.

<sup>19</sup> Green-Armytage, James, T. Nicolaus Tideman and Rafael Cosman (2015), *op. cit.*

One important benefit of ranked choice voting is that it is currently and popularly<sup>20</sup> used in several American cities, foreign nations, and well-known contests (such as the Oscars). It has a long history, having been used continuously for more than a century in Australia. Proponents of ranked choice voting point to recent testimony from Minneapolis, San Francisco, Portland, ME, and Oakland, showing a perceived decrease in negative campaigning and general support for the system.<sup>21</sup> See the chart at the beginning of this section for a list of cities using ranked choice voting.

### 2.4.3 CRITICISMS OF RANKED CHOICE VOTING

In the scholarly body of elections study and among election methods reformers, there are several criticisms of ranked choice voting. One of the most important is that ranked choice voting is not monotonic. Monotonicity is the criterion that, all other things being equal, if you increase your desired candidate's ranking then it must never hurt their overall election result. Because ranked choice voting is very sensitive to the order in which candidates are eliminated, there are situations where it is possible to cause your favorite candidate to lose by ranking her higher on your ballot. Similarly, it is conceivable that ranking a disfavored candidate lower on your ballot could cause that candidate to win.<sup>22</sup>

<sup>20</sup> Peter Fray comment regarding Australian preference: <http://www.governing.com/topics/politics/gov-adopting-ranked-choice-voting-make-politics-civil.html> also St. Cloud State University Survey Report: Ranked Choice Voting 2009 City of Minneapolis Municipal Elections, retrieved 8-1-2016 from [http://vote.minneapolismn.gov/www/groups/public/@council/documents/webcontent/convert\\_282497.pdf](http://vote.minneapolismn.gov/www/groups/public/@council/documents/webcontent/convert_282497.pdf) (see table 10)

<sup>21</sup> FairVote, Ranked Choice Voting in Practice, Candidate Civility in Ranked Choice Elections, 2013 & 2014 Survey Brief, retrieved 7-1-2016 from [https://d3n8a8pro7vhmx.cloudfront.net/fairvote/pages/426/attachments/original/1449179101/CivilityBriefForApSa2015\\_Updated.pdf?1449179101](https://d3n8a8pro7vhmx.cloudfront.net/fairvote/pages/426/attachments/original/1449179101/CivilityBriefForApSa2015_Updated.pdf?1449179101)

<sup>22</sup> Imagine an RCV election with 17 voters who have the following preferences

Number of voters	1 <sup>st</sup> choice (favorite)	2 <sup>nd</sup> choice	3 <sup>rd</sup> choice (least favorite)
6	A	B	C
6	B	C	A
3	C	A	B
2	C	B	A

Number of voters	1 <sup>st</sup> choice (favorite)	2 <sup>nd</sup> choice
9	A	B
8	B	A

In the first round candidate C is eliminated (having only received 5 1<sup>st</sup> place votes), Candidate C's votes are redistributed to the 2<sup>nd</sup> choice candidates on those ballots, and A wins the election with 9 votes to Candidate B's 8 votes.

Now imagine that after a particularly good LWV Forum showing by Candidate A, two voters switch their votes from B>C>A to A>B>C (changing candidate from last place to first place while still ranking B above C). The resulting totals would then be:

Number of voters	1 <sup>st</sup> choice (favorite)	2 <sup>nd</sup> choice	3 <sup>rd</sup> choice (least favorite)
8	A	B	C
4	B	C	A
3	C	A	B
2	C	B	A

Number of voters	1 <sup>st</sup> choice (favorite)	2 <sup>nd</sup> choice
8	A	C
9	C	A

This method is similar to a delayed runoff, but is counted instantly. It is important to note that the winner under a ranked choice voting election is preferred to the alternatives on a majority of ballots cast *in the last round*. If a voter's ballot contains only votes for candidates eliminated before the final round, that voter's ballot will not count towards the final total, so the winner may have less than a majority of all of the ballots returned.

Ranked choice vote detractors also point to a few administrative difficulties in switching to a ranked choice system. Criticisms include increased time to calculate a winner and the need for a central elections administration office to determine which candidate(s) to eliminate in each round. Time needed to determine a winner can be longer under ranked choice voting than other systems because a higher percentage of total ballots must be counted before a winner can be assured. Preliminary data is often released, but can be confusing to the public. Recount procedures are more complicated under ranked choice voting and would require additional administrative procedures for Oregon election officials.<sup>23</sup> Some Oregon counties<sup>24</sup> already own optical vote tallying equipment that can handle ranked choice voting, while others would likely need to purchase new equipment. None currently have the needed software.

Another criterion sometimes used to evaluate election methods is the independence of irrelevant alternatives. This principle states that if voters prefer Candidate A to Candidate B, introducing a third candidate should not change relative results between Candidates A and B. Again, since ranked choice voting is dependent on the order in which candidates are eliminated and the number of first place votes, inserting a third (even irrelevant) candidate into the mix can affect relative results between other candidates. The voting methods that possess independence of irrelevant alternatives (when voters vote sincerely) are range voting and approval voting.

For these reasons and others, some areas that previously adopted ranked choice voting have later voted to repeal it and revert to plurality (Pierce County, WA in 2009; Ann Arbor, MI in 1976; Burlington, VT in 2010; Aspen, CO in 2010).

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#### 2.4.4 COST CONSIDERATIONS

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Financial implications of adopting a ranked choice voting system vary by jurisdiction and circumstances. A ranked choice voting election can replace an election in cases where a preliminary election is followed by a runoff election, with formidable savings. If ranked choice voting were adopted for any of Oregon's delayed runoff elections, for instance nonpartisan city council races like those in Portland, there would not be a need to hold two elections. The populace could vote on all candidates in the November general election and choose a unique majority winner. This would save money and increase voter choice in November elections, when a larger and more diverse electorate participates. However, in many cases it is not possible to combine two entire elections. Oregon has little control over the federal partisan

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This time Candidate B is eliminated in the first round (with only 4 1<sup>st</sup> place votes), her votes are redistributed to candidate C and Candidate C is the winner of the election with 9 votes to only 8 votes for Candidate A. These two Candidate A supporters inadvertently caused their favorite candidate to lose by moving her up to first place on their ballots.

<sup>23</sup> Scott, Tim (Director of Elections for Multnomah County), Committee interview conducted 10-21-2015

<sup>24</sup> For example: Jackson and Tillamook Counties use the ES&S DS850 vote scanner, the same model used in Minneapolis for their RCV elections.

primary process. In these cases removing a single office from the ballot does not result in significant savings. Also, not all Oregon counties currently own equipment to run a ranked choice voting election. New equipment, materials, training, etc. would be needed. Finally, the process for conducting a recount under ranked choice voting is more complicated and would require additional staff time, and thus funding.

## 2.5 EVALUATING SINGLE-WINNER VOTING METHODS ON OBJECTIVE CRITERIA

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This section is excerpted from the summary in Appendix 2, with some additional explanation. Appendix 2 lists many of the 2008 study evaluation criteria. These criteria were aspirational goals; few could be assigned to one voting method or another without argument. The major portion of the Appendix concentrates on criteria and academic research that can be evaluated objectively.

We can offer the following observations based on the objective research we surveyed:

1. *Plurality and delayed runoff methods score poorly.* They pass the fewest criteria. Plurality scores highest in Bayesian regret, lowest in representativeness and second lowest in resistance to strategy.
2. Range, approval and instant-runoff voting methods all score similarly well overall in the number of objective criteria they pass: 6 or 7 out of 13 criteria.
3. Range, approval and ranked choice voting score very well at electing a candidate who represents the overall values of the electorate if voters vote sincerely instead of strategically. On Green-Armytage *et al.*'s<sup>25</sup> measure of representativeness, range voting had a perfect 1.0 score, approval was next, at 0.95, with ranked choice voting a close third at 0.94. The Bayesian regret data<sup>26</sup> show similar results.
4. Instant-runoff voting scores a near perfect 0.98 in resistance to strategy, meaning that voters could vote sincerely using this method without regard to how others plan to vote. Range voting scores very poorly at 0.18, and approval voting is next lowest at 0.71. Plurality is near the score of approval voting.

Which voting method you prefer depends on which criteria you think are most important.

If you care only about outcome representativeness, about how well the elected candidate reflects overall values of voters, range voting does outstandingly well, and approval and ranked choice voting do very well. This is illustrated by the Bayesian regret data from Warren Smith and the simulation data of Green Armytage *et. al.* Plurality and delayed runoff do least well.

If, in addition, you care about resistance to strategy, instant-runoff voting is the best. Range voting gets a score of only 0.18 on a 0 – 1 scale; approval is much better at 0.71; plurality scores 0.74; and instant-runoff voting is near perfect at 0.98. This result is not disputed by range and approval voting proponents; they argue instead that strategy has a useful place in voting. Other researchers, however, suggest that range voting is only acceptable if voters do not benefit personally by the outcome of their vote – in Olympic judging or restaurant rating, for instance.

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<sup>25</sup> Green-Armytage, James, T. Nicolaus Tideman, and Rafael Cosman (2015), *op. cit.*

<sup>26</sup> Poundstone, *op. cit.*

How do these objective evaluations relate to our numerous aspirational goals? For methods we consider, readers should be able to make some conclusions by carefully reading Appendix 2. For instance, because of the Mutual Majority criterion, instant-runoff voting is most likely to ensure majority rule and is most likely to encourage “sincere” voting. Because of the Consistency criterion, however, it is least easy to use and administer. Readers may come to conclusions about other aspirational goals, but some are definitely not addressed by this research, such as how do any systems score when trying to prevent fraud.

## CHAPTER 3. MULTI-WINNER SYSTEMS

### 3.1 TYPES OF MULTI-MEMBER DISTRICTS

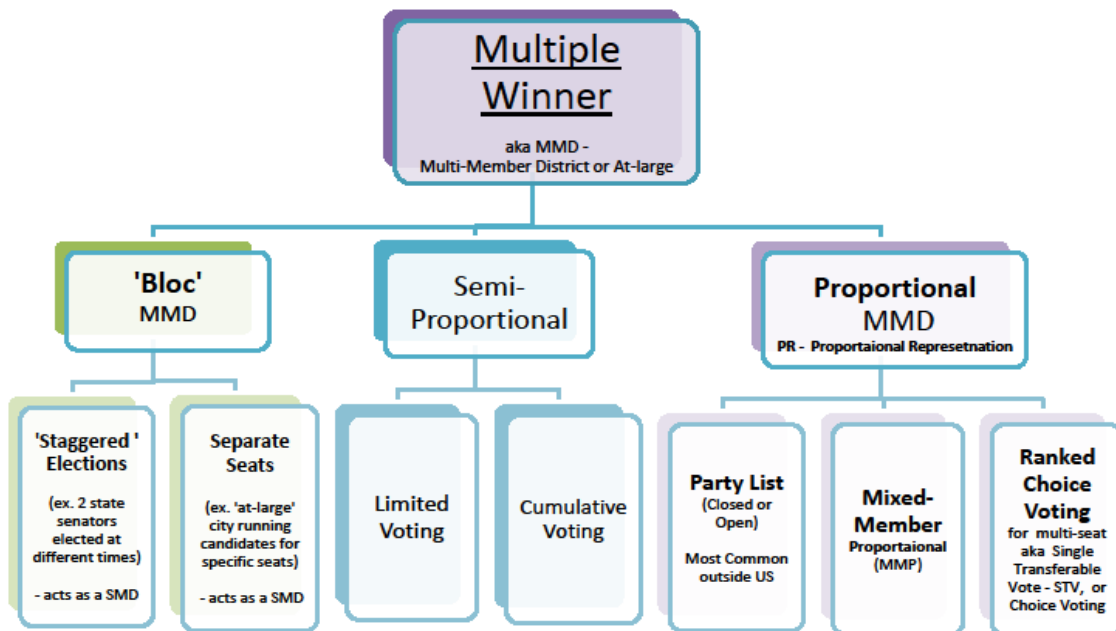


FIGURE 4. MULTI-MEMBER DISTRICTS

A multi-member district elects, and thus is governed by, more than one legislator or representative. In the U.S. this is most often two or three winners. In other countries two-member multi-member districts are rare; three or five or even more seats are more common.

An important clarification: there are three different classes of multi-member districts and they are quite different in their effect on voter representation. The three multi-member district classes are:

1. **Bloc types** are traditional in the U.S. Oregon examples include Portland and Ashland, whose council members are elected at-large rather than by geographic districts. All city voters elect multiple city council members. However, candidates must run for specific positions in single seat elections. Instead of being allowed to consider the best of all candidates, voters must pick one from those pitted against each other for each individual seat. If a voter's favorite two candidates from among all those running vie for the same position, she must choose one and reject the other. Races are not restricted by a district, but they are restricted by positions, reducing voter choice. According to Western Carolina University political science experts,<sup>27,28</sup> bloc types are

<sup>27</sup> Richardson, Lilliard E. Jr and Christopher A. Cooper, [Western Carolina University], The Mismeasure of MMD: Reassessing the Impact of Multi Member Districts on Descriptive Representation in U.S. State Legislatures, retrieved 10-3-2016 from <http://paws.wcu.edu/ccoooper/mismeasure.pdf>

<sup>28</sup> Vermont Legislative Research Service, The Pros and Cons of Multi-Member Districts, retrieved 10-1-2016 from <http://www.uvm.edu/~vlrs/PoliticalProcess/MMD.pdf>

simply disguised single-winner seats, conducted either in different years (such as staggered year elections for U.S. senators) or in different parts of the ballot (such as Position A and Position B for at-large city-council members, each of which acts as a single-winner election for that position).

2. **Semi-Proportional** methods allow voters more choice than bloc type single-winner elections, and may result in more proportional results if groups within the electorate carefully coordinate their voting strategy. Candidates run in multi-member districts. Voters have multiple votes in the same race. The top vote-receivers win the number of seats that are available.
3. **Proportional representation** (impossible without multi-seat elections) is designed to allow like-minded voters to elect representatives in proportion to their numbers in the electorate. Proportional representation comes in several flavors: party list, mixed member, or ranked choice voting. In all cases, a pool of candidates contends for a number of seats. Winners are selected based on the proportion of votes they receive. Voters simultaneously elect multiple candidates for multiple seats in one race.

This chapter describes these three kinds of multi-member districts.

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### 3.2 BLOC MULTI-MEMBER DISTRICTS

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The Constitution does not specify a method for federal representative apportionment. This led most of the original thirteen states to use multi-member districts in the first congressional elections. Additionally, multi-member districts are not restricted from use within states or for legislative bodies within the state. States differ in their use of multi-member districts. Federal Senate elections are bloc multi-member districts. Two senators are elected from Oregon; candidates stand for election to one seat or the other in different years and do not run against each other.

Before 1842, 31% of U.S. House seats were filled from multi-member districts (mostly bloc). These were banned in favor of single member districts by the Apportionment Act of 1842, which required states to elect representatives from geographic districts. According to Stephen Calabrese, a Carnegie Mellon political scientist,<sup>29</sup> bloc type multi-seat elections allowed state parties to transform their majorities (even narrow or fleeting ones) into control of the entire delegation. Because entire state electorates participated in each election for each congressional seat, the majority political opinion won every seat. If this were the rule in Oregon today, Rep. Greg Walden, the only Republican in the five-seat Oregon House delegation, is unlikely to have been elected. According to Ballotpedia,<sup>30</sup> bloc multi-member districts continued to be used by a majority of states into the 1960s to some extent (i.e. in one state legislative chamber).

In 1967 Congress passed the Uniform Congressional District Act, still in effect today. It refined the 1842 law to specify that districts must be contiguous and reasonably compact territory and must not differ in population by more than 10% after 1972. Hawaii and New Mexico were exempted. By then most states had already succumbed to pressure to abandon bloc multi-member districts so as not to marginalize and reduce the ability of minority parties or cultural minorities to win an election. Although federal law

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<sup>29</sup> Calabrese, Stephen (2006), An explanation of the continuing federal government mandate of single-member congressional districts. Public Choice 130:23–40

<sup>30</sup> Ballotpedia, State legislative chambers that use multi-member districts retrieved 7-14-2016 from [https://ballotpedia.org/State\\_legislative\\_chambers\\_that\\_use\\_multi-member\\_districts](https://ballotpedia.org/State_legislative_chambers_that_use_multi-member_districts)

ended bloc multi-member districts for federal House seats, many states elect state legislatures using bloc multi-member districts. Today, according to Ballotpedia, “of the 7,383 seats in 50 state legislatures, 1,082 are elected from districts with more than one member, a total of 14.7 percent.” Few if any of these are elected using proportional representation. U.S. Senate seats are still filled from bloc multi-member districts.

While multi-member districts were banned from federal House elections, the U.S. Supreme Court has not held that multi-member districts are unconstitutional for legislative districts. It did invalidate plans in which a multi-member district was used (intentionally or not) to impede the ability of minority voters to elect a representative of their choice. Despite recent Supreme Court Voting Rights Act changes, the court would not affirm any bloc type multi-member districts. If they did, such cases would likely be contested. Because of this, the door remains open to consider the proportional representation system that, instead of impeding minorities, would likely aid their efforts without harming majority voter representation.

The distinction made above that there are three types of multi-member districts is worth repeating. Multi-member districts with proportional representation systems are designed to allow like-minded voting groups to elect representatives in direct proportion to group strength. They are more representative of electorates than single-member districts. The majority can rule, yet the minority is represented. Conversely, bloc multi-member districts are likely to be less representative than single-member districts. The 2007 LWVOR redistricting report<sup>31</sup> states “... the use of multi-member districts can be used to decrease the gerrymandering possibilities and increase the competitiveness of the districts. However, the use of multi-member districts, with at-large elections for each seat [winner-take-all contests as in bloc methods] can reduce most types of representation.”

Bloc multi-member districts offer some of the lowest fair representation results of all systems. Conversely, proportional representation offers some of the highest. When debates over multi-member districts’ merits are in progress, we need to understand what *type* is referred to.

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### 3.2.1 BLOC MULTI-MEMBER DISTRICTS IN OREGON

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Oregonians are familiar with the multi-member district concept because school boards or city councils are frequently chosen in this manner (usually termed “at-large” elections). These are almost all bloc multi-member districts. Candidates run for individual seats, not in opposition to the entire candidate pool. This is basically a single winner system.

Multiple seat elections occur in some Oregon political jurisdictions. For example, Lake Oswego city council members are elected at large with three positions up for election every two years. The three candidates who receive the highest number of votes are elected to fill those three positions. A change to multiple seat elections might be considered by other Oregon political jurisdictions “in conjunction with adoption of an alternative election system.”<sup>31</sup>

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<sup>31</sup> League of Women Voters of Oregon (2007), Redistricting in Oregon: A Study of Current Processes and Future Possibilities, p. 13, §5.1.4 SMD vs MMD.



According to Oregon Statutes,<sup>32</sup> college boards *may* be elected from the district at-large. No specifics are given on the type of voting structure this could take, but a multi-member district is allowed. It appears to be standard procedure in Oregon for these elections to be conducted with one director being elected from each of the zones established under ORS 334.032, but clearly there are other provisions that could be adopted as the League phrases it<sup>31</sup> “in conjunction with adoption of an alternative election system.”

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### 3.2.2 BENEFITS AND CRITICISMS OF BLOC VOTING

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**Representativeness:** A bloc multi-member district can have some of the lowest levels of voter representation. The preponderance of times that multi-member districts have been used in US districts have created less representation for voters, often effectively excluding minority groups and opinions.

**Usability:** Bloc multi-member districts are familiar to U.S. residents (being more like single-member districts) making them more comfortable to voters than proportional representation systems.

**Women’s representation:** There is some evidence that a bloc multi-member district will help elect more women than a single-member district<sup>33</sup>. When given a chance to choose more than one candidate, voters are more likely to include a woman than with only a single choice. Bloc multi-member districts have not been demonstrated to elect more of other minority groups.

**Competitiveness:** Although competitiveness, as well as voter representation, can be increased with multi-member districts using a proportional system, in bloc multi-member districts, competition can be a problem. The majority generally wins all seats, instead of sharing a proportion with minority voices. Due to this lack of competition, coupled with winner-take-all results, minorities (or minority voices) end up with much less power in bloc multi-member district systems (usually even less than with single-member districts).<sup>34</sup>

**Gerrymandering:** District line drawing can be less problematic in a multi-member district. As stated in our 2008 study, “the larger the district, the more difficult it is to finely slice district boundaries to effect a gerrymander.” However, the exclusion of gerrymandering is accomplished in bloc multi-member districts by having all voters in the larger district elect all representatives in multiple races, meaning that only the majority voice is heard.

**Campaigning:** Multi-member districts are larger geographic areas, making it harder for candidates to meet constituents or cover the territory. Some election systems encourage saving campaign expenditures by promoting slates and other innovative methods. With standard campaigning procedures it costs more to run in larger districts. Mailing costs are significantly higher. Technological innovations may overcome some barriers, but the issue remains.

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<sup>32</sup> Oregon Laws Relating to Public Schools and Community Colleges: A compilation of statutes from the 2005 Legislative Assembly. Section 334.025 Number of board members; election; local advisory committees, retrieved 10-11-2015 from <http://www.ode.state.or.us/policy/state/laws/2005oregonlaws.pdf>

<sup>33</sup> Representation 2020, Why do multi-member districts increase women’s representation?, retrieved 10-11-2016 from <http://www.representation2020.com/why-do-multi-member-districts-help-women.html>

<sup>34</sup> League of Women Voters of Oregon (2008) *op. cit.*, p. 19

Just as a multi-member district costs more for candidates running traditional campaigns, it is more cumbersome for media and those running forums, debates and educational meetings. This is true because of both the larger geographic territory and the increased number of candidates.

**Incumbents:** A 2011 University of Vermont report<sup>35</sup> concluded that, when evaluating the protection level of incumbents in multi-member districts as opposed to single-member districts, incumbents in single-member districts have slightly greater protection. Quoting political scientists Malcolm Jewell and David Breaux, “a plausible argument could be made that incumbents are most difficult to defeat if they are entrenched in relatively small single-member districts.”<sup>36</sup> Additionally, the report goes on to say that because candidates in multi-member district elections often develop slates, there is a likelihood that competitive elections would increase. The bottom line is that, compared to single-member districts, outcomes are less assured and probably more competitive in the multi-member district election.

**Administration:** Ballots in any type of multi-member district are generally longer, which increases printing and postage costs. Oregon counties have machinery that can run bloc multi-member elections and are familiar with its use. However if proportional systems are used, existing machinery may be able to run the system, but does not currently have necessary software.

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### 3.3 SEMI-PROPORTIONAL SYSTEMS

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Two voting methods are more proportional than winner-take-all, but are not fully proportional representation.

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#### 3.3.1 CUMULATIVE VOTING

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In cumulative voting, candidates run in multi-member districts and voters have as many votes as seats available. However, voters can give multiple votes to a single candidate or split their vote as they wish.<sup>37</sup>

By coordinating their vote-assignment strategies wisely, minority group members can win seats they could not win with winner-take-all bloc voting. Where the threshold of victory in a majority winner-take-all election is always 51%, the threshold for cumulative voting is 33% for a two-member district, 25% for a three-member district, 20% for a 4-member district, etc. For example, if, in a three-seat district, people of color make up one-quarter of the population and they all put all three votes on a candidate of color, together they could elect that candidate. However, if two candidates of color run and voters split between those two candidates, they could end up electing neither. Similarly, a smaller party could win seats if its voters all doubled down on one third-party candidate. Port Chester, New York, adopted cumulative voting for its Board of Trustees in response to a 2006 Department of Justice complaint. The complaint alleged that the previous system, which allowed voters as many votes as there were seats,

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<sup>35</sup> James M. Jefford’s Center Vermont Legislative Research Service, The Pros and Cons of Multi-Member Districts, retrieved 10-1-2015 from <http://www.uvm.edu/~vlrs/PoliticalProcess/MMD.pdf>

<sup>36</sup> 12 Malcom E. Jewell and David Breaux (1991), Southern Primary and Electoral Competition and Incumbent Success, Legislative Studies Quarterly, Vol 16, No. 1, pp.129-143

<sup>37</sup> FairVote, Cumulative Voting, A Commonly Used Proportional Voting Method, retrieved 6-30-2016 from <http://archive.fairvote.org/?page=563>

but only one vote for any one candidate, diluted the strength of its Hispanic population. In 2010, the city elected a Hispanic trustee, and he was easily re-elected in the next election.<sup>38</sup>

Illinois used cumulative voting in three-member districts to elect members of the state House of Representatives from 1870 to 1980.<sup>39</sup> The system elected black candidates who would not otherwise have won. Most black members of the house were elected in white-majority districts. Another dynamic of the system was that Democrats were more frequently elected from Republican-dominated downstate districts and Republicans were more frequently elected from Democrat-dominated Chicago districts.

Cumulative voting is often used for corporate stockholders' voting. Councils, homeowners' associations and boards in some U.S. localities use it to help elect more minority group members.

Cumulative voting offers an improvement in representativeness over winner-take-all. However, it requires a certain amount of nomination and vote-coordination strategy to be effective.

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### 3.3.3 LIMITED VOTING

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Limited voting is a multi-member system, but is generally considered to achieve majoritarian results, similar to some winner-take-all voting.<sup>40</sup> In limited voting, candidates run in multi-member districts and voters have more than one vote, but fewer votes than there are candidates. For example, in a five-member district, voters might be able to cast votes for their favorite three candidates. The five candidates with the most total votes win. The country of Gibraltar<sup>41</sup> uses limited vote, and several American cities and school boards use it.

Limited voting is simpler than mixed-member proportional or single-transferrable vote because voters simply cast a limited number of votes, rather than ranking. However, as with cumulative voting, like-minded groups must carefully coordinate their nomination and voter-coordination strategies to avoid vote-splitting. For example, if the Independent Party or people of color have one-third of the vote they can elect a candidate if they all vote together under limited voting. If they run two candidates and voters split between them, neither will win and the Independent Party or people of color will be left without a representative, despite their strong numbers. Alternatively, a minority-party candidate may win by making a deal for votes from the dominant party. If elected, such a victor will probably offer rather tame opposition.

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## 3.4 PROPORTIONAL REPRESENTATION SYSTEMS

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Proportional representation is an umbrella term for electoral systems in which each party or constituency wins legislative seats in proportion to the number of votes it wins.

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<sup>38</sup> Gaskins, Keesha and Archita Taylor (3-22-2013), "Cumulative Voting Succeeds in Port Chester Election", Brennan Center for Justice, accessed 9-8-2016 at <https://www.brennancenter.org/blog/cumulative-voting-succeeds-port-chester-election>.

<sup>39</sup> FairVote, Black Representation Under Cumulative Voting in IL, retrieved 6-30-2016 from <http://archive.fairvote.org/?page=419>

<sup>40</sup> Electoral Reform Society, Voting systems made simple, retrieved 6-30-2016 from <http://www.electoral-reform.org.uk/voting-systems>

<sup>41</sup> International Institute for Electoral Assistance, Countries using LV electoral system for national legislature, retrieved 6-30-2016 from <http://www.idea.int/esd/type.cfm?electoralSystem=LV>

In contrast to single-winner districts and winner-take-all voting, in which some votes win more legislative seats than others, proportional representation ensures that each vote carries equal power to win legislative seats.<sup>42</sup> Under proportional representation voting, the premise is that if a party wins one-third of the votes, it wins one-third of the seats. Ethnic and racial minorities can also win proportional representation. For example, when New Zealand adopted mixed member proportional voting, the Maori—New Zealand’s native people—formed a party and won seats. Cambridge, Massachusetts has used single transferable voting for decades and African-Americans consistently win a proportional share of seats on the city council and school board.

Most advanced democracies, and all countries electing members of the European Parliament,<sup>43</sup> use some form of proportional representation. There are three voting systems that achieve proportional representation: list voting, mixed-member proportional, and single-transferrable vote (the multi-winner type of ranked choice voting).

Two other ways of voting are generally considered semi-proportional because they achieve less proportional results than full proportional representation, but are more proportional than single-winner districts with plurality voting or bloc multi-member districts: The cumulative voting and limited voting methods described earlier.

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### 3.4.1 LIST VOTING

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List voting (also known as Party List) is the most commonly used voting method for proportional representation. Around the world, 80 countries use it exclusively. Another three use list voting in combination with another electoral system.<sup>44</sup> Of the top 20 nations with the best representation of women, 15 use list proportional representation.<sup>45</sup> In 2013, the number of women legislative representatives elected by list proportional representation was 6.3 percentage points higher than average (legislatures elected by plurality averaged 2.8 percentage points lower).<sup>46</sup>

List voting can be through open or closed lists. In both forms, parties present candidate lists running in multi-member districts. One potential benefit is eliminating primaries, saving taxpayer cost and reducing voter fatigue. Parties choose their lists and voters only vote in one high-turnout general election.

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<sup>42</sup> Electoral Reform Society, Proportional Representation, retrieved 6-30-2016 from <http://www.electoral-reform.org.uk/proportional-representation>

<sup>43</sup> European Parliament, European Elections, retrieved 6-30-2016 from <http://www.europarl.europa.eu/atyourservice/en/20150201PVL00036/Elections>

<sup>44</sup> International Institute for Democracy and Electoral Assistance (2005), *Electoral System Design: The New IDEA Handbook*, Section “Advantages and Disadvantages of List PR”, retrieved 6-30-2016 from <http://www.idea.int/esd/type.cfm?electoralSystem=List%20PR>

<sup>45</sup> ACE Electoral Knowledge Network, *Electoral Systems*, Section 7.2.3.1, retrieved 6-30-2016 from <http://aceproject.org/ace-en/topics/es/esd/esd02/esd02c/esd02c01>

<sup>46</sup> *ibid.*

### 3.4.1.1 OPEN LIST

Most European democracies, including Austria, Sweden, and Switzerland,<sup>47</sup> use open list voting.<sup>48</sup> An open list ballot works similarly to how Americans are used to voting—voters mark a box for their favorite candidate. However, because candidates are listed by party, the vote counts for both the individual candidate and for the party that listed the candidate. The party wins seats in proportion to the number of votes for any candidate on the party’s list. The party assigns those seats to its list of candidates according to the number of votes each candidate won. For example, if a party won enough votes to win two seats, the two candidates on its list who got the most votes would get the two seats. This system gives voters power to choose a favorite party and also to choose a favorite candidate. Here is an example of an open list ballot:

You have one vote. Indicate the candidate for whom you wish to vote. Your vote counts for both the candidate and their party.							
Classics Party		Non-fiction Party		Fiction Party		Memoir Party	
<input type="radio"/>	Jane Austen	<input type="radio"/>	Anne Frank	<input type="radio"/>	J.K. Rowling	<input type="radio"/>	Azar Nafisi
<input type="radio"/>	Harper Lee	<input type="radio"/>	Naomi Klein	<input type="radio"/>	Sandra Cisneros	<input type="radio"/>	Cheryl Strayed
<input type="radio"/>	Charlotte Brontë	<input type="radio"/>	Simone de Beauvoir	<input checked="" type="radio"/>	Toni Morrison	<input type="radio"/>	Elizabeth Gilbert
<input type="radio"/>	Emily Brontë	<input type="radio"/>	Rebecca Solnit	<input type="radio"/>	Jhumpa Lahiri	<input type="radio"/>	Marjane Satrapi

Oregon could implement open list voting for the state legislature by combining districts to create, for example, 20 three-member House districts and 10 three-member Senate districts. Each state party could list up to three candidates for each district on general election ballots. Voters would vote for their favorite single candidate. Their vote would count for their candidate and that candidate’s party. See Appendix 4 for a hypothetical Open List Oregon State Legislature.

### 3.4.1.2 CLOSED LIST

The other form of list proportional representation is closed list voting. Closed list is similar to open except voters only choose a party. The party chooses which candidates win seats. Each party has an ordered candidates list on the ballot. Voters can only cast a vote for the party. Parties win seats in proportion to vote numbers and assign seats to candidates in the order they presented them on the ballot. For example, if a party won enough votes to win two seats, the top two candidates on the party’s ballot list would get the two seats. This system gives more power to parties and less power to voters. Voters can only vote for or against the party’s ordering of candidates, whereas in open list voting the voter has the power to choose a favorite candidate within the party’s list. Here is a closed list sample ballot:

<sup>47</sup> Wikipedia, “Open list”, retrieved 6-30-2016 from [https://en.wikipedia.org/wiki/Open\\_list#List\\_of\\_countries\\_with\\_open\\_list\\_proportional\\_representation](https://en.wikipedia.org/wiki/Open_list#List_of_countries_with_open_list_proportional_representation)

<sup>48</sup> Amy, Douglas J., *Proportional Representation Voting Systems*, Mt. Holyoke College, retrieved 6-30-2016 from <https://www.mtholyoke.edu/acad/polit/damy/BeginningReading/PRsystems.htm>

You have one vote. Indicate the party for whom you wish to vote.			
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Classics Party	Non-fiction Party	Fiction Party	Memoir Party
Jane Austen	Anne Frank	J.K. Rowling	Azar Nafisi
Harper Lee	Naomi Klein	Sandra Cisneros	Cheryl Strayed
Charlotte Brontë	Simone de Beauvoir	Toni Morrison	Elizabeth Gilbert
Emily Brontë	Rebecca Solnit	Jhumpa Lahiri	Marjane Satrapi

### 3.4.2 MIXED-MEMBER PROPORTIONAL

The mixed-member proportional electoral system is newer, and therefore less common<sup>49</sup> than list voting. Electoral system experts prefer it.<sup>50</sup> In mixed-member proportional, there are a set number of local representative seats, elected as Americans do now, through single-winner districts and plurality voting, and a set number of list seats, elected through list voting. Each voter gets two votes: one for her favorite candidate in her district, regardless of party, and one for her favorite party.<sup>51</sup> Parties win list seats in proportion to how many list votes they get, and can fill them from party lists (if the voting is closed list) or according to vote preference (if open list). A small party can compete for list votes even if it is not able to run candidates in many individual districts. The more list seats, the more proportional the legislature will be. A video explains mixed-member proportional voting:

<https://www.youtube.com/watch?v=QT0l-sdoSXU>.

Proponents consider mixed-member proportional the "best of both worlds" because it retains a local representative while allowing for overall proportionality. Here is a sample mixed-member proportional ballot:

Vote once in each column			
District Vote			Party Vote
<input type="radio"/>	Jane Austen, Classics		<input type="radio"/> Classics Lee, C. Brontë, E. Brontë
<input checked="" type="radio"/>	Anne Frank, Non-fiction		<input type="radio"/> Non-fiction Klein, de Beauvoir, Solnit
<input type="radio"/>	J.K. Rowling, Fiction		<input checked="" type="radio"/> Fiction Cisneros, Morrison, Lahiri
<input type="radio"/>	Azar Nafisi, Memoir		<input type="radio"/> Memoir Strayed, Gilbert, Satrapi

<sup>49</sup> International Institute for Electoral Assistance, Countries using MMP electoral system for national legislature, retrieved 6-30-2016 from <http://www.idea.int/esd/type.cfm?electoralSystem=MMP>

<sup>50</sup> Bowler, Shaun, David M. Farrell and Robit T. Pettitt (2005), Expert Opinion of Electoral Systems: So Which Electoral System is 'Best'?, Journal of Elections, Public Opinion and Parties, Vol. 15, No. 1, 3-19, retrieved 6-30-2016 from [https://www.researchgate.net/publication/38175077\\_Expert\\_Opinion\\_on\\_Electoral\\_Systems\\_So\\_Which\\_Electoral\\_System\\_Is\\_Best](https://www.researchgate.net/publication/38175077_Expert_Opinion_on_Electoral_Systems_So_Which_Electoral_System_Is_Best)

<sup>51</sup> There is also a one-vote version of multi-member proportional that is less effective because a small party has to run candidates in every district to compete.

Mixed-member proportional was pioneered in West Germany after World War II and has operated successfully in Germany ever since. In 1992 and 1993 referenda, New Zealanders chose mixed-member proportional to replace single-member plurality elections for Parliament. Scotland, Wales, and London have also adopted the system, calling it the "additional member system."<sup>52</sup> Canada's ruling Liberal party declared that 2015 was their last plurality election, and the New Democratic Party favors mixed-member proportional as the replacement.<sup>53</sup>

In Germany and New Zealand, mixed-member proportional has increased the representation of women and people of color, because parties appeal for their votes by including members of those groups among their list candidates if too few are likely to win district seats. The Maoris, native people of New Zealand, formed their own political party and are able to consistently win legislative seats under mixed-member proportional.<sup>54</sup> The extent to which women and people of color gain from mixed-member proportional depends on the number of additional members relative to the total chamber size: The smaller the number of list seats, the fewer gains; the larger the number of list seats, the more gains for historically underrepresented people. In Germany, 50% of seats are list seats and they currently have 36% women members of the national legislature. New Zealand has 42% list seats and 31% women members in parliament.<sup>55</sup>

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### 3.4.3 THE SINGLE TRANSFERABLE VOTE, AKA RANKED-CHOICE VOTING

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Election experts' fairly close second favorite electoral system is the **single-transferable vote**. Ireland has used single-transferable vote since 1921, Malta has used it since 1947.<sup>56</sup> Some local jurisdictions including the city of Cambridge, Massachusetts<sup>57</sup> use single-transferrable vote. FairVote, the principal U.S. election reform organization, sometimes refers to single-transferable vote by the more generic term ranked-choice voting. However, ranked choice voting is an umbrella term for any ballot where voters get to rank candidates, encompassing both multi-winner races via single-transferable vote, and single-winner races via instant-runoff voting.

Single-transferable vote uses multi-member districts and a ranked-choice ballot. The ballot is the same as the example in Chapter 2 under ranked-choice voting for single winners. All candidates in the district run against each other in a single pool, and all voters rank their favorite candidates. Any candidate who passes a certain threshold wins a seat.

There are various ways of determining winning thresholds. The most common formula is 100% divided by the number of seats plus one,<sup>58</sup> so in a three-seat district any candidate with at least  $25\% + 1$  of the

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<sup>52</sup> Electoral Reform Society, Additional Member System, retrieved 6-30-2016 from <http://www.electoral-reform.org.uk/additional-member-system>

<sup>53</sup> O'Malley, Kady (2015), NDP Proposal Puts Electoral Reform on House Agenda, Huffington Post Canada, retrieved 6-30-2016 from [http://www.huffingtonpost.ca/2014/12/02/ndp-electoral-reform-craig-scott\\_n\\_6257486.html](http://www.huffingtonpost.ca/2014/12/02/ndp-electoral-reform-craig-scott_n_6257486.html)

<sup>54</sup> Wikipedia, List of political parties in New Zealand, retrieved 6-30-2016 from [https://en.wikipedia.org/wiki/List\\_of\\_political\\_parties\\_in\\_New\\_Zealand](https://en.wikipedia.org/wiki/List_of_political_parties_in_New_Zealand)

<sup>55</sup> Inter-Parliamentary Union (2016), Women in national parliaments, retrieved 6-30-2016 from <http://www.ipu.org/wmn-e/classif.htm>

<sup>56</sup> International Institute of Electoral Assistance, Countries using STV electoral system for national legislature, retrieved 6-30-2016 from <http://www.idea.int/esd/type.cfm?electoralSystem=STV>

<sup>57</sup> FairVote, Spotlight: Cambridge, retrieved 6-30-2016 from [http://www.fairvote.org/spotlight\\_cambridge](http://www.fairvote.org/spotlight_cambridge)

<sup>58</sup> Wikipedia, Droop quota, retrieved 6-30-2016 from [https://en.wikipedia.org/wiki/Droop\\_quota](https://en.wikipedia.org/wiki/Droop_quota)



vote would win. In a five-seat district, each candidate with at least 17% of the votes would win. If not all seats are filled with first-choice votes, then second choice votes get counted and so on until all seats are filled. If a candidate receives more votes than the minimum necessary to win, her excess votes are transferred to candidates listed next on ballots that had the winning candidate, in proportion to the number of votes for the next-place choices. The chart below illustrates the process. A video explaining single-transferrable vote at <https://www.youtube.com/watch?v=l8XOZJkozfl> is more descriptive. Another video with a more conservative cutoff of 20% for a 5-member district is: <https://www.youtube.com/watch?v=Ac9070OIMUg>.

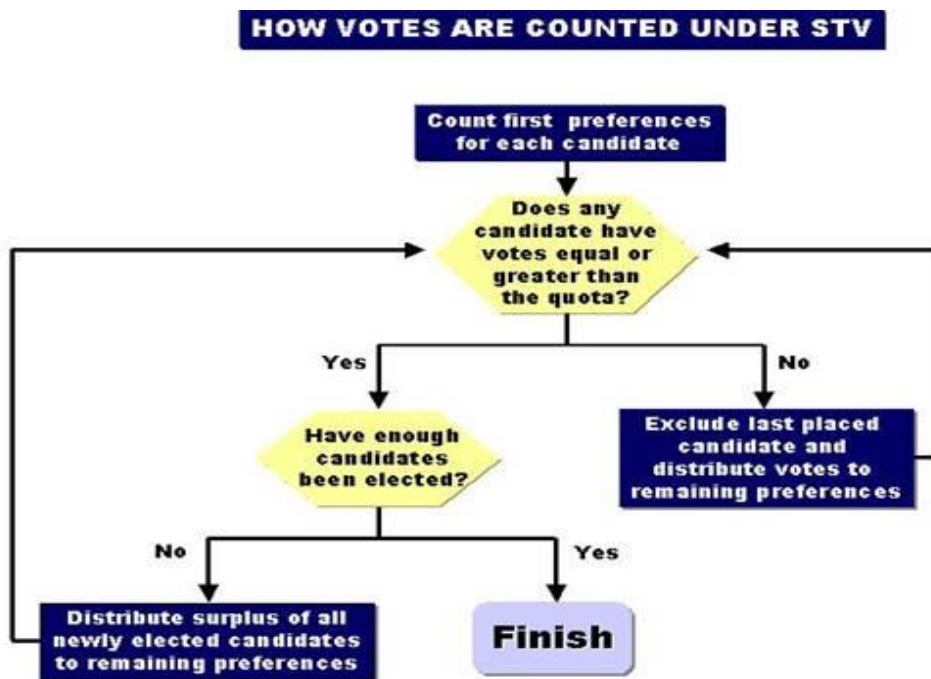


FIGURE 5. STV VOTE COUNTING

Single-transferrable vote may appeal to Americans because it preserves the tradition of voting for individuals rather than parties, whereas other forms of proportional representation require a vote that is explicitly or implicitly for a party. Voting for candidates rather than parties makes single-transferrable vote especially well suited for local elections or where the ballot is nonpartisan or national level party platforms aren't as immediately relevant. In a partisan single-transferable vote election, a voter who cares about issues that transcend party platforms can cross party lines, perhaps ranking a Green first, a Democrat second, a Republican third, and so on.

Single-transferable vote may be used in a primary in order to keep the general ballot list to a manageable length.

Single-transferable vote makes gerrymandering less powerful. With single-winner districts, parties can guarantee themselves a seat by drawing lines around an area containing, say, 55% Democrats. Republican voters in that single-member district can't help the party win a seat in the legislature. With multi-winner districts and single-transferrable vote, each voting group can win seats, no matter where district lines are drawn. If a five-member district leans 55% Democrat, it will likely elect 3 Democrats and



2 Republicans, or maybe 2 Democrats, 2 Republicans, and one Independent. In any case, with single-transferable vote, one party can't silence another party's voters through gerrymandering.

Oregon's Constitution, Article II, Section 16 specifically allows provision for proportional representation through ranked-choice voting.<sup>59</sup> Appendix 4 suggests ways single-transferrable vote could be used to elect the Oregon legislature.

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### 3.4.4 DESIGN CONSIDERATIONS FOR PROPORTIONAL REPRESENTATION SYSTEMS

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#### 3.4.4.1 THRESHOLDS

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Implementers of list voting and mixed-member proportional systems must decide on minimum support thresholds parties must demonstrate to list candidates on ballots and win seats. Too high a threshold can exclude legitimate parties from representation; too low a threshold can allow smaller or more fringe groups to win seats, and is often criticized as a destabilizing factor in government. In most countries, including Germany and New Zealand, the threshold is 5%.<sup>60</sup> A party must win at least 5% of the vote to be eligible for any legislative seats. Turkey has a relatively high threshold of 10%.<sup>61</sup> Israel has a very low threshold. Prior to 1988 it was 1%, raised in 1988 to 1.5%, in 2003 to 2%, and in 2014 to 3.25%.<sup>62</sup>

Single-transferrable vote systems have de facto candidate thresholds, rather than parties, determined by district size<sup>63</sup> and counting method.<sup>64</sup> Generally, a 5-member district has a 17% threshold for any candidate to win a seat. In other words, if 17% of voters rank a candidate number one, that candidate wins a seat. A seven-member district has a 13% threshold. A three-member district has a 26% threshold.<sup>65</sup>

#### 3.4.4.2 SIZE OF DISTRICT

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List voting and single-transferable vote both use multi-member districts while mixed-member proportional uses both single-member districts for local representatives plus multi-member districts for list candidates.

The number of members per district is an important design consideration. Larger districts achieve more proportionate results, but may be too geographically large, so voters lose a sense of connection to their representatives. (Under mixed-member proportional, voters already have a local representative, so the list candidates can run in larger multi-member districts or even one big multi-member district covering

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<sup>59</sup> RCV Oregon (2016), Oregon Election Law and Ranked Choice Voting, retrieved 6-30-2016 from <http://www.rcvoregon.org/oregon-election-law-and-ranked-choice-voting/>

<sup>60</sup> ACE, The Electoral Knowledge Network, Electoral Systems, Section 7.4.2, retrieved 6-30-2016 from <http://aceproject.org/ace-en/topics/es/esd/esd02/esd02e/esd02e02>

<sup>61</sup> [ibid.](#)

<sup>62</sup> Wikipedia, Elections in Israel, retrieved 6-30-2016 from [https://en.wikipedia.org/wiki/Elections\\_in\\_Israel](https://en.wikipedia.org/wiki/Elections_in_Israel)

<sup>63</sup> Wikipedia, Droop quota, retrieved 6-30-2016 from [https://en.wikipedia.org/wiki/Droop\\_quota](https://en.wikipedia.org/wiki/Droop_quota)

<sup>64</sup> Wikipedia, Single transferable vote, retrieved 6-30-2016 from [https://en.wikipedia.org/wiki/Single\\_transferable\\_vote#Counting\\_methods](https://en.wikipedia.org/wiki/Single_transferable_vote#Counting_methods)

<sup>65</sup> Note that, although thresholds indicate that candidates can be elected with less than a majority, STV is unlike plurality (which also does not require a majority) because more than one person is elected at a time. A plurality still wins most of the open seats, but not all the seats. A plurality system always and only advantages the largest voting group; a proportional representation system represents the largest group, but gives a meaningful voice to minority groups as well.

the entire region). Too many members per district may create an overwhelming ballot. Smaller districts may feel more local to voters, but achieve less-proportional results and are more prone to gerrymandering.

Most experts say the best size for a district is five members, and three and seven are also acceptable.<sup>66</sup> Fewer than three and the legislature will not achieve proportional results; more than seven becomes unwieldy for voters. Irish districts contain three or five members each. Cambridge, Massachusetts has a 9-member city council and a 7-member school board, both elected via single-transferrable vote. Single-transferrable vote has achieved proportional representation for people of color in Cambridge.<sup>68</sup>

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### 3.4.5 BENEFITS OF PROPORTIONAL REPRESENTATION

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Founding Father John Adams believed the legislature “should be in miniature, an exact portrait of the people at large. It should think, feel, reason, and act like them. ... [E]qual interest among the people should have equal interest in it.”<sup>69</sup> In other words, the legislature should proportionally represent the people. But in the United States and other countries using plurality voting systems, legislatures often represent only a plurality, not all of the people. In contrast, proportional representation systems ensure full, proportional representation.

Proportional representation systems in general are praised because they:<sup>70</sup>

- Fairly translate votes cast into seats won, avoiding some of the destabilizing and “unfair” results of plurality, single-winner district electoral systems and bloc multi-member district systems. Groups of voters under-represented in the current system—women, people of color, and independents or minor parties—can be heard with proportional representation.
- Encourage political parties or groups of like-minded candidates to put forward lists. This may clarify policy, ideology, or leadership differences and guide voters so they don’t have to familiarize themselves with every individual candidate.
- Compared with single-winner plurality systems, very few votes are “wasted” (irrelevant) in proportional representation voting. Almost all votes go toward electing a candidate of choice. This increases voters’ perception that it is worth voting, because their individual vote will actually make a difference in election outcomes, however small.
- Better voter participation. Voter turnout is much higher using proportional representation than in countries using winner-take-all, possibly because of points mentioned above<sup>71</sup>.
- Facilitate smaller parties’ access to representation. Unless the threshold is too high, or district size is too small, any political party with enough supporters can gain representation. This makes

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<sup>66</sup> ACE, The Knowledge Network, op. cit.

<sup>67</sup> ACE, The Electoral Knowledge Network, Electoral Systems, Section 7.4.1, retrieved 6-30-2016 from <http://aceproject.org/ace-en/topics/es/esd/esd02/esd02e/esd02e01>

<sup>68</sup> FairVote, Spotlight: Cambridge, retrieved 6-30-2016 from [http://fairvote.org/spotlight\\_cambridge#minority\\_representation\\_in\\_cambridge](http://fairvote.org/spotlight_cambridge#minority_representation_in_cambridge)

<sup>69</sup> Kurland, Philip B. and Ralph Lerner, Eds. (1986), *The Founders Constitution*, University of Chicago Press Books Division, retrieved 6-30-2016 from <http://press-pubs.uchicago.edu/founders/documents/v1ch4s5.html>

<sup>70</sup> ACE, The Knowledge Network, Electoral Systems, Section 7.1, retrieved 6-30-2-16 from <http://aceproject.org/ace-en/topics/es/esd/esd02/esd02a>

<sup>71</sup> Sightline Institute, Voter Turnout by Country, retrieved 6-30-2016 from [http://sightline.wpengine.netdna-cdn.com/wp-content/uploads/2015/06/Voter\\_Turnout\\_By\\_Country-060915d-300ppi.png](http://sightline.wpengine.netdna-cdn.com/wp-content/uploads/2015/06/Voter_Turnout_By_Country-060915d-300ppi.png)

government more inclusive, crucial to stability in divided societies. It can prevent partisan gridlock. Inclusive democracies are more effective at governing, maintaining rule of law, controlling corruption, reducing violence, and managing the economy—particularly minimizing inflation and unemployment while managing pressures arising from economic globalization.<sup>72</sup>

- Prevent ‘regional fiefdoms’. Because Democrats can win representatives in rural areas and Republicans can win representatives in urban areas, in proportion to their numbers, proportional representation systems are less likely to lead to situations where a single party holds all seats in a given district. This can lead to more nuanced decision-making as voices of rural liberals and urban conservatives, almost entirely unrepresented in Oregon’s current single-winner district system, are able to participate.
- Lead to greater continuity and policy stability. West European experience suggests parliamentary proportional representation systems are better at governmental longevity and economic performance. The rationale is that regular switches in government between two ideologically polarized parties, as can happen in plurality systems, makes long-term economic planning more difficult, while broad proportional representation coalition governments help engender stability and coherence in decision making, allowing national development.
- Make power-sharing between parties and interest groups more visible. In many new democracies, power-sharing between the numerical population majority which holds political power and a small minority holding economic power is an unavoidable reality. Where the numerical majority dominates the legislature and a minority sees its interests expressed in control of the economic sphere, negotiations between different power blocks are less visible, less transparent, and less accountable (e.g. in Zimbabwe during its first 20 years of independence). It has been argued that proportional representation, by including all interests, offers a better hope that decisions will be made in the public eye and by a more inclusive cross-section of society.
- Achieve better representation of women and people of color. The United States ranks 94<sup>th</sup> globally for female representation because less than 20% of Congressional seats are held by women.<sup>73</sup> Of Oregon’s seven Congressional members, only one is a woman.

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### 3.4.6 CRITICISMS OF PROPORTIONAL REPRESENTATION

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Most criticism of proportional representation is based on the tendency of proportional representation systems to give rise to coalition governments and fragmented party systems. Arguments most often cited against proportional representation are that it leads to:<sup>74</sup>

- Coalition governments, or many parties with less than a majority, leading to legislative gridlock and consequent inability to carry out coherent policies. There are particularly high risks during an immediate post-conflict transition period, when popular expectations of new governments

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<sup>72</sup> Lijphart, Arend (1999), *Patterns of Democracy: Government Forms and Performance in Thirty-Six Countries*, Yale University, retrieved 6-30-2016 from [https://www.amazon.com/Patterns-Democracy-Government-Performance-Thirty-Six/dp/0300078935?ie=UTF8&\\*Version\\*=1&\\*entries\\*=0](https://www.amazon.com/Patterns-Democracy-Government-Performance-Thirty-Six/dp/0300078935?ie=UTF8&*Version*=1&*entries*=0)

<sup>73</sup> International Parliamentary Union, [op. cit.](#)

<sup>74</sup> ACE, The Knowledge Network, Electoral Systems, Section 7.2, retrieved 6-30-2016 from <http://aceproject.org/ace-en/topics/es/esd/esd02/esd02b>

are high. Quick and coherent decision making can be impeded by coalition governments comprised of numerous factions.

- Small parties getting a disproportionately large amount of power, especially if the threshold is very low. Large parties may be forced to form coalitions with much smaller parties, giving a party with support of only a small vote percentage the power to veto any proposal from larger parties. This effectively holds larger parties ransom in coalition negotiations. In Israel, for example, with a low threshold, extremist religious parties are often crucial to formation of a government, while Italy endured many years of unstable shifting coalition governments.
- A platform for extremist parties. Proportional representation systems are often criticized for giving space in the legislature to extremist left or right parties. It has been argued that the collapse of Weimar Germany was in part due to the proportional representation electoral system giving a foothold to extreme left and right groups.<sup>75</sup>
- Governing coalitions that have insufficient common ground in terms of either their policies or their support base.
- Voter inability to enforce accountability by throwing a party out of power or a candidate out of office. Under a proportional representation system, it may be very difficult to unseat a reasonably-sized center party. However, this is not so different from the current situation in the United States where the two major parties are ensconced in power. In proportional representation systems, smaller parties may retain power as part of the governing coalition, despite relatively low popular support. For example, the Free Democratic Party (FDP) in Germany was a member of the governing coalition for all but eight of the 50 years from 1949 to 1998, although it never gained more than 12 per cent of the vote. However, if Oregon moved to proportional representation it would not likely achieve thresholds under 12 percent, so very small parties would likely not have the chance to rise to power.
- Difficulties either for voters to understand or for the electoral administration to implement the sometimes complex rules of the system. Some proportional representation systems are considered to be more difficult than non-proportional representation systems and may require more voter education and training of poll workers to work successfully. Training needs would be a particular issue in Oregon since with vote-by-mail balloting there are no polling places with the opportunity they provide for poll workers to help with voter questions.

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### 3.5 SUMMARY OF MULTI-WINNER VOTING METHODS

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Our report has explored three (3) different classifications of multi-winner voting systems (**bloc**, **semi-proportional** and **proportional representation**). Any voting method belonging to one of these classifications must be administered in an at-large or multi-member district, where more than one seat is filled during an election. That is where the similarity ends.

When the goal is to provide for the greatest level of representation of all voices, these methods run the gambit from best to worse.

This report has explained **bloc** multi-member districts, which are the most common in the US and carry the greatest risk of shutting out voices (especially any type of minority voice that does not represent a

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<sup>75</sup> British Broadcasting Company, Weimar – strengths and weaknesses, retrieved 7-12-2016 from [http://www.bbc.co.uk/schools/gcsebitesize/history/mwh/germany/weimarstrengthweakrev\\_print.shtml](http://www.bbc.co.uk/schools/gcsebitesize/history/mwh/germany/weimarstrengthweakrev_print.shtml)

large percentage of any district). At-large bloc systems perform like several plurality races together, electing numerous seats at once with voters having a single vote for each seat to be filled. The chance of bloc multi-member districts demonstrating full representation or being a reflection of the voting population is poor. The benefit of these bloc systems is that they are well-known to American voters.

The **semi-proportional** methods in the report (limited and cumulative) do not run the same risks of under representation as do bloc methods, which mimic winner-take-all. However, neither do they have the complete advantage of a full proportional representation system. Both of these semi-proportional methods have a history of being used in the US currently (such as for city councils, school boards, stockholders, homeowner's associations or in past Illinois elections). Based on their historical use and approach, both of these semi-proportional methods are assumed to be easier to administer than full PR systems would be.

The at-large **proportional representation** (PR) systems which the report includes are list (aka party list), mixed-member proportional and ranked choice voting (single transferable vote for multi seats). While not as well known to Americans, they have established track records worldwide. These more sophisticated ballot designs offer the best opportunity (not a guarantee) to elect a government that represents the most diverse views. In the simplest of terms, they can be distinguished by the ballot directions. In mixed-member proportional you 'vote for one person and one party.' For list voting you 'vote for your favorite under their party name' (open) or simply 'vote for your favorite party' (closed). For single transferable vote (ranked choice) you 'rank your favorites 1,2,3, etc.' List and mixed-member proportional both have a strong political party segment; ranked choice voting (much like its single winner type cousin) is based on voting for individuals (candidates), not parties. Closed list is perhaps the easiest of PR systems to administer, but probably least inviting to Americans. It is possible that party list open and mixed-member proportional are easier to administer than ranked ballots, but distribution of seats would be no easier to explain than single transferable voting. Due to the fact that mixed-member proportional uses both a single winner and multi winner system combined, there may be further administration obstacles to explore. All three PR systems have significant history of being used outside the US.

There are other elections systems, but the assignment of this update was to look at methods in use. Each related section of our report has described the benefits and drawbacks of these systems under the three classifications.

## CHAPTER 4. POLITICAL PARTIES AND OREGON REFORMS

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### 4.1 FUSION VOTING

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In 2009 the Oregon Legislature enacted<sup>76</sup> a change to our electoral ballots to allow a candidate to list up to three parties on the ballot (provided each party has nominated them). This system is known as **fusion voting** and provides voters with more information about the platforms or values a candidate supports. For example, a candidate might be listed as both a Democratic and Pacific Green Party candidate. Candidates sometimes win the nomination of two major parties; this usually occurs when one party does not run a candidate and write-in votes by that party's members are sufficient to nominate the other party's candidate.

Oregon's system uses what is sometimes referred to by political scientists as fusion light or aggregated fusion to distinguish it from another system known as full fusion. Under a full fusion system a candidate receiving multiple nominations would be listed multiple times on the ballot, once for each party nominating them. Full fusion gives voters a chance to impart more information about their preferences. In addition to which candidate a voter supports, a full fusion ballot also allows her to indicate which platform (or aspects of the candidate's platform) attracted her vote. Both forms of fusion help minor parties who would otherwise have no role in many contests, but full fusion also allows minor parties to exert influence on major parties because election results clearly demonstrate the exact number of votes due to minor party support.

Aggregated fusion cannot differentiate votes received by a candidate, so a candidate (or political party) may not know exactly where their support originates or which aspects of their platform have the most traction with constituents. Full fusion would also aid minor parties in achieving 5% of the vote for Governor in the most recent election, which is one of the ways minor parties can maintain their official party status and, therefore, their ballot access.

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<sup>76</sup> Oregon Legislative Information System, retrieved 7-1-2016 from <https://olis.leg.state.or.us/liz/2009R1/Downloads/MeasureDocument/SB326/Enrolled>

Sample “Aggregated Fusion” ballot  
(Oregon’s current system)

Vote for One	
<input checked="" type="radio"/>	Shakira The Columbians, The Spanish Speakers
<input type="radio"/>	Beyoncé Knowles The Americans
<input type="radio"/>	Celine Dion The Canadians, The French Speakers

Sample “Full Fusion” ballot

Vote for One	
<input type="radio"/>	Shakira The Columbians
<input checked="" type="radio"/>	Shakira The Spanish Speakers
<input type="radio"/>	Beyoncé Knowles The Americans
<input type="radio"/>	Celine Dion The Canadians
<input type="radio"/>	Celine Dion The French Speakers

## 4.2 PRIMARY REFORMS

This section is a summary of work done previously by two members of the study update committee<sup>77,78</sup>.

Oregon’s primary is in May and both partisan and nonpartisan races are on the ballot.

Nonpartisan races, like many city council or county commissioner seats, are listed on all ballots and will be the only races on the ballots of voters who are not registered with a major political party. In many cases, if a nonpartisan candidate wins more than 50% of the primary election vote, she is declared the winner. If no candidate wins a majority, a delayed runoff is held.

The purpose of partisan races in primary elections is to select major party candidates to run for partisan seats, like State Senator or Governor, in November general elections. Whether partisan races are on any particular voter’s ballot depends on the voter’s party registration. Major political parties in Oregon are allowed to declare whether their primary elections are open or closed. Democratic and Republican parties have chosen closed primaries – only registered Democratic voters see Democratic candidates on their ballot and only Republican voters see Republican candidates.

In 2016 the Independent Party chose an open primary allowing Independent Party members and non-affiliated voters to choose which Independent candidates advance to the general election. Minor parties choose nominees for the general election at their own expense, using caucuses or other state-approved methods.

<sup>77</sup> Thompson, Janice (2014), Open Primary/Top Two – Measure 90 In-depth, Common Cause, retrieved 7-1-2016 from <http://www.commoncause.org/states/oregon/issues/voting-and-elections/measure-90/>

<sup>78</sup> Klein, Barbara and Robyn Prud’homme-Bauer (2013), Pro/Con report on Top 2 (‘Open Primaries’, League of Women Voters of Arizona, retrieved 7-1-2016 from <http://lwvaz.org/procon-report-on-the-top-2-aka-open-primaries/>

In 2008 and 2014 Oregon voters rejected initiatives to create an open primary in which all candidates of all major and minor parties would appear on all ballots in May and the top two vote-getters would advance to November general elections. These two candidates could be from different political parties, from the same party, or not registered with a party. This is known as a top-two primary.

Types of Primary Elections			
Closed	Limited Open	Open	Top-Two
Voters only get their party's ballot. Each party's top vote-getter advances to the general election.	Unaffiliated voters choose which party's ballot to receive. Voters registered with a party can only vote for candidates from that party. Each party's top vote-getter advances to the general election.	<p>1. Blanket type open primary. All voters get the same ballot. A voter can choose candidates from different parties for different offices. Each party's top vote-getter advances to the general election.  <b>Note:</b> In 2000, the US Supreme Court struck down the use of this system stating that it was a violation of the 1st Amendment, specifically the freedom of association provision, which states it is the right of an organization (party) to exclude nonmembers from participating in a process that chooses its candidates or nominees. (CA Democratic Party V. Jones, 530US 567)</p> <p>2. Open Primary (currently used in many states). Voters do not register as a party member. Candidates DO run on their own party's ballot. Voters request whatever ballot they want on day of primary. Candidates do blanket mailings. Each party's top vote-getter advances to general election.</p>	Primaries are not party-based. All voters receive the same ballot. Like the blanket primary, voters can choose candidates from different parties for different offices. However, unlike the blanket primary, only the top two vote-getters advance to the general election, regardless of party affiliation. The top-two system is often described as a hybrid open primary. [It is also considered an unconditional delayed runoff.]

#### 4.2.1 ARGUMENTS IN FAVOR OF TOP-TWO

**Unaffiliated voters are able to vote in the primary for partisan offices.** Non-affiliated voter registration is growing. As of May, 2016, 21.8% of Oregon registered voters were not affiliated with a party. If minor party candidates are included, over 24% of registered voters are not eligible to vote in partisan primaries. This statistic was a major impetus for the 2014 initiative.

**Minor parties and major parties would be treated the same in terms of state payment for the primary election** Minor parties would no longer have to run caucuses or other selection processes to choose their candidates. All candidates would be included on one primary ballot, regardless of party affiliation or non-affiliation because the top-two primary is not a nomination process for any party.

**Minor parties might garner more members** because all voters, regardless of party affiliation, would be eligible to vote in primary elections.



**Minor party candidates will not be general election spoilers.** However, this may be offset by their additional primary election votes splitting major party candidates' votes.

In districts overwhelmingly populated by voters of one major party or the other, this provides an actual competitive race in the general November election (when two candidates from the same party compete).

**Fusion voting would still provide additional information.** In general elections, when candidates from the same party run, minor party nominations, if accepted by the candidate, could help to differentiate between them.

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#### 4.2.2 ARGUMENTS AGAINST TOP-TWO

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**Major parties object to losing their ability to nominate their candidates in a state-paid primary.**

**All major parties might not be listed on the general election ballot.** Currently, so long as a party nominates a candidate or cross-nominates one via fusion voting, they are guaranteed a place on general election ballots. This is true even in districts where a major party may have a big voting advantage. Under top-two, in districts dominated by one party, the top two candidates may be from that party, and candidates from another major party or from a minor party, may not appear.

**Minor parties are unlikely to be on the general election ballot.** The top two winners in the primary will almost always be a Democrat and a Republican, meaning other parties will almost never appear on the general ballot. In three cycles of top two elections in Washington state, a minor party candidate never made it to the general ballot when both a Democrat and a Republican participated in the primary.<sup>79</sup> For minor parties, this would eliminate one way they achieve party recognition—by maintaining voter registration numbers of at least 0.1% of total votes in the last election for governor and running a statewide candidate who gets at least 1% of general election votes. Their remaining alternative would be to maintain membership of 0.5% of registered voters. This would eliminate some existing parties. In addition, general election ballots, when voter turnout is highest, provide visibility for minor parties.

**Campaigning may become more costly.** In many Oregon districts, with a preponderance of voters for one major party or the other, the greatest campaign spending occurs only in the primary. If both candidates who advance to the general election are from the same party, those candidates will be forced to campaign heavily in both the primary and general elections. In addition, primary campaigning is currently directed only to party members; it would have to be extended, at greater cost, to entire districts under top-two. Increased campaign costs, however, could facilitate more information for voters which might be particularly helpful to distinguish general election candidates from the same party.

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#### 4.2.3 EQUIVOCAL ARGUMENTS FOR TOP-TWO

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Supporters and opponents of top-two disagree on whether a top-two primary would increase voter turnout and on whether top-two would elect more moderate candidates.

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<sup>79</sup> Drew Spencer (2012), FairVote, The Top Two Primary in Action: Washington State, 2008-2012, retrieved 7-18-2016 from [http://www.fairvote.org/top-two-in-washington-state#.Ullgim\\_A9qw](http://www.fairvote.org/top-two-in-washington-state#.Ullgim_A9qw)

**Voter Turnout.** Supporters argue that voter turnout would increase in primaries because unaffiliated voters would have more incentive to vote. They argue that more competitive general election races, which could happen in districts where two members of the same party are advanced, would generate more voter interest. Opponents note that smaller percentages of unaffiliated voters vote in general, as well as primary, elections. They cite research of top-two elections in Washington and California that do not support increased voter turnout or have conflicting results.

**Electing Moderate Candidates.** Supporters argue that under the current system, primary voters are more committed party members and are more likely to choose extreme candidates, and that a two-party system would lead to an easing of polarization in our legislative bodies. Contrary to this notion, research on California and Washington elections has led to conflicting results. Even when moderating trends have been identified, they haven't always been symmetrical. In other words, candidates from one party may be more moderate but moderation isn't always evident in the other party's candidates.

## CHAPTER 5. ADMINISTRATION OF ALTERNATE METHODS

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Changes in election methods may also require changes in voting administration hardware and software, training and voter education campaigns, as well as updates to other aspects of election administration. The three Oregon county clerks<sup>80</sup> interviewed as part of our research all agreed that complexity and cost of equipment are important concerns and should be included along with other criteria when considering administering different voting methods.

### 5.1 EQUIPMENT LIMITATIONS

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Many older vote-counting machines are designed specifically for the single voter, single winner election and can't count other ballot styles. Therefore, even if Oregon wished to change its voting methods for state-level elections, some counties would likely require new equipment in order to comply. Since elections are conducted by the counties, the counties typically also foot the costs for administering them. In a decade when some smaller, former timber counties are struggling to provide basic county services, it is clear that new investments in equipment, training, and voter education are not in the budget and would need to have an identified funding source.

The exact equipment costs to convert to an alternative method would depend on the specifics, but in general a more complicated ballot with more options for voters, would be more likely to require new equipment. A single vote-tallying machine often costs between \$3,000 and \$5,000.<sup>81</sup> The ballots for ranked-choice voting are one example of a more robust ballot type and would require new equipment in more counties than other methods which are closer to plurality ballots (such as approval voting which uses an identical ballot with instructions to vote for as many candidates as you approve of). Alan Zundel of RCV Oregon, an organization that advocates for ranked-choice voting in Oregon, researched which counties in Oregon have voting machines that can handle ranked-choice voting. His research<sup>82</sup> indicates that at best 12 of Oregon's 36 counties have equipment as of mid-2016 that could handle a ranked-choice ballot.

### 5.2 RECOUNTS

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Another aspect of election administration that is important to evaluate when discussing election methods reform is how recounts will be conducted. Recounting ballots in cases where results are close or contentious serves a symbolic as well as procedural role. The public needs to know that election results are reliable and accurate within a reasonable amount of time.

All methods discussed in this report can be verified after the initial count, but there are differences in the amount of effort and time required. In the rare/worst case of a full recount needing to be performed by hand with several close candidates, ranked choice ballots would be the most difficult to recount.

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<sup>80</sup> Jackson, Lane, and Multnomah Counties

<sup>81</sup> Brennan Center for Justice, "The Machinery of Democracy: Voting System Security, Accessibility, Usability, and Cost" pp.133-134, retrieved 8/1/16 from:

[https://www.brennancenter.org/sites/default/files/publications/Machinery\\_Democracy.pdf](https://www.brennancenter.org/sites/default/files/publications/Machinery_Democracy.pdf)

<sup>82</sup> Retrieved 8/1/16 from: <http://www.socialecologicaljustice.com/democracy-elections/bring-ranked-choice-voting-oregon/>

Because the extra information contained in the candidate rankings for lower candidates can have an effect on the result between leading candidates, it is important to capture more information when reviewing each ballot. In cases where an electronic recount is allowed, these concerns are allayed.

### 5.3 VOTER EDUCATION

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When changes are proposed to the mechanisms of democracy, voters need to be given the information and training to use the new system successfully. Media campaigns, outreach efforts to community groups, online marketing, and other forms of getting the message out are typically required to prepare voters for the new ballots. Lacking outreach and education, efforts to change our election methods (even to a vastly better system) will increase confusion, cast doubt on the outcomes, and discourage civic participation. These types of education and outreach require resources and intention to execute successfully leading up to any changes to election processes. An Oregon specific factor in evaluating voter education needs is that vote-by-mail ballots means there are no longer precinct polling places with poll workers on hand for voter inquiries.

## CHAPTER 6. CONCLUSION

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For thousands of years across numerous cultures we have struggled to find methods for making democratic decisions that are fair and reflective of the electorate. From throwing chits into urns to hundred-million dollar presidential primaries and the Electoral College, we have experimented with a wide variety of methods.

Over the past several decades as social scientists, economists, mathematicians, designers, and computer scientists have turned their attentions and the tools of their disciplines to closely study theoretical and widely used processes, we have learned a tremendous amount about social choices. Some methods produce more representative results when used in homogenous communities, others require sophisticated technologies to execute, while still others emphasize ideological instead of geographic ideas of representation. Although there is wide variation in types of election methods, there are also ways they can be compared and a surprising amount of consensus on some aspects of social decision making.

As a national leader on democracy innovations such as vote-by-mail, the direct election of US Senators, and the recent adoption of automatic voter registration (New Motor Voter), Oregon has a history of blazing democracy trails. Will growing numbers of non-affiliated voters, dissatisfaction with spoilers and other distortions lead us to depart from the historical default and try something new?

Adjustments to the very foundation of our democracy must be made carefully and with due consideration so as not to have disastrous unintended consequences. This is why the League with our almost century-long, broad, nonpartisan perspective is the right organization to be reviewing and weighing in on changes when they are proposed. We hope the information contained in this update provides the information we need to make these decisions and help our community adapt to a growing and changing democracy. Together we make democracy work!

## APPENDIX 1. LWVOR 2009 ELECTION METHODS POSITION

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This is the current LWVOR position developed following the 2008 study.

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 full 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.

## APPENDIX 2. EVALUATION OF SINGLE-WINNER VOTING METHODS

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This appendix covers ways voting methods can be evaluated with a single winner outcome. We summarize the evaluation section of our 2008 study and then add recent, mathematically-oriented research.

Our 2008 study devoted a paragraph each to a dozen criteria for evaluating voting methods:

- Ensure majority rule
- Encourage minority representation
- Encourage fair gender representation
- Produce fair and accurate representation of different political views
- Increase voter participation
- Encourage geographical representation
- Encourage “sincere” voting
- Maximize effective votes/minimize “wasted” votes
- Provide a reasonable range of voter choice
- Prevent fraud and political manipulation
- Encourage competitive elections
- Be easy to use and administer

The study listed another eleven:

- promoting healthy political parties,
- ensuring stable government,
- encouraging issue-oriented campaigns,
- protecting fundamental rights which include freedom of speech and association,
- discouraging extremism,
- helping manage political conflict,
- being responsive to changes in public opinion,
- producing results viewed as legitimate,
- reducing campaign spending,
- establishing close links between constituents and representatives
- evaluating whether or not an election method has a proven track record

As we recognized in 2008, **no election method can possibly meet all these criteria**, but they are important aspirational goals to inform our thinking.

Many other criteria have been proposed.<sup>83</sup> Often, like many of those listed, criteria are hard to measure; proponents and opponents could argue endlessly about whether or not methods met them.

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<sup>83</sup> Electoral Reform Society, The Government review of voting systems. Key findings from the Ministry of Justice ‘Review of Voting Systems’. Report from the All Party Group on Electoral Reform, retrieved 1-15-2015 from <http://www.electoral-reform.org.uk/sites/default/files/Review-of-voting-systems.pdf>

In this chapter we focus on objectively measurable criteria, ones which almost everyone would agree that a given method does or does not meet. Objectively measurable criteria give us a solid basis for comparing methods and forming opinions about how well each method meets our aspirational goals.

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## A2.1 LIMITATIONS OF COLLECTIVE DECISION-MAKING

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We begin our discussion with a big caveat: If there are more than two candidates, **there is no perfect election method**. The basic reason is that a community can't be expected to be a rational being the way an individual can.

If we know that an individual prefers apples to oranges and prefers oranges to pears, we can say with certainty that she prefers apples to pears. This *transitivity* has been a basic tenet of logic since the ancient Greeks. This kind of rationality can't be expected of a community, however. Consider preferences of three voters for three candidates. The outcome could very well be circular:

Voter 1:  $A > B > C$

Voter 2:  $B > C > A$

Voter 3:  $C > A > B$

(For the ">" sign, read "is better than" or "is preferred to".) What is the preference of the group? A is preferred to B for a majority, and B is preferred to C for a majority, but A is **not** preferred to C for a majority. There is no clear winner because the comparisons are not transitive.

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### A2.1.1 THE ARROW IMPOSSIBILITY THEOREM AND THE GIBBARD-SATTERTHWAITE THEOREM

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Given this limitation, it should not be surprising that there is a mathematical proof that no system can satisfy all of the following simple, rational conditions:

1. Dictators are not allowed.
2. All orderings of the choices by individuals are allowed; there are no forbidden orders. If a tie results, there is some previously agreed way of breaking it. (Arrow was concerned only with ranking methods, but his results can be extended to other methods by assuming that voters have an internal rank order.)
3. If all voters prefer A to B, then A is preferred in the group ordering.

Strategic Voting occurs when voters dishonestly represent their preferences to improve their chances of a desirable outcome or decrease the chances of a less desirable outcome.

In our typical plurality elections strategic voting is most common when voters who prefer a minor party candidate choose to vote instead for one of the major parties to avoid making their candidate a "spoiler" and causing their least favorite to win.



4. The method should be independent of irrelevant alternatives. That is, if the group ranks A over B, they will still rank A over B if C enters the race. C might be ranked before both A and B, or it might be between them, or it might be after them, but A must still be ranked ahead of B.

Kenneth Arrow provided the proof<sup>84</sup> in the 1950's.

A further result that has been built on Arrow's work is the Gibbard-Satterthwaite theorem. Allan Gibbard and Mark Satterthwaite<sup>85</sup> showed that, when there are more than two options, no ranking system with unrestricted domain is free of the possibility of strategic voting.

So there is no perfect system. Voters will always have to consider voting strategically instead of honestly. There is no way to ensure the "will of the people" has been found, because a collection of people does not have a single "will". As Nicolaus Tideman, Professor of Economics at Virginia Polytechnic Institute, points out<sup>86</sup>, voting systems can't reveal what a community *desires*, because a community isn't a single rational being; they can only determine what the community *agrees to do*.

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## A2.2 EVALUATING AND COMPARING IMPERFECT SYSTEMS

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### A2.2.1 EVALUATION CRITERIA

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Following publication of the two theorems showing that perfection in a voting method seems unreachable, researchers focused on finding criteria for evaluating voting methods to determine which were better. A whole host of criteria were formulated, with partisans for one voting method or another pointing out instances where rival methods fail and arguing that failures of their own method are unimportant.

Table 1 summarizes how election methods we consider in this report meet or fail to meet commonly-cited criteria. Some criteria were discussed in all sources; others were present in only one. Because this gives some indication of the relative importance of the criteria, the table includes a column in which sources are shown.

Using this list-of-criteria approach is problematic. Note how similar some criteria are (Independence of Irrelevant Alternatives and Independence of Clones, Resistance to Spoilers and Strategic Voting, Monotonicity and Participation). Nor is there any indication of how important each criterion is. (How useful is Reversal Symmetry?)

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<sup>84</sup> Maskin, Eric and Amartya Sen, *The Arrow Impossibility Theorem*, Columbia University Press, New York, 2014

<sup>85</sup> Tideman, Nicolaus (2006), *Collective Decisions and Voting*, Ashgate Publishing Co., Burlington, VT, Chapter 11. He cites Gibbard, Allan, Manipulation of Voting Schemes: A General Result, *Econometrica* 41 (1973): 587-601 and Satterthwaite, Mark, Strategy-proofness and Arrow's conditions: Existence and Correspondence Theorems for Voting Procedures and Social Welfare Functions, *Journal of Economic Theory* 10 (1975): 187-217.

<sup>86</sup> Tideman, Nicolaus (2006), op. cit., p. 126.

Criterion	Definition	Source <sup>87</sup>	Plurality (Note a)	IRV	Approval (Note a)	Range	Delayed Runoff
Majority Consistency	A candidate ranked first by more than half the voters must win. Plurality passes <b>IF</b> there is a majority candidate.	1,2,3,4,5	Pass	Pass	Fail	Fail	Pass
Mutual Majority	If candidates in some subset of all candidates are ranked ahead of all others, the winner must come from that subset.	1,2,4	Fail	Pass	Fail	Fail	Fail
Condorcet Winner	A candidate who wins in a one-on-one match with every other candidate must win.	1,2,3,4,5	Fail	Fail	Fail	Fail	Fail
Condorcet Loser	A candidate who loses in a one-on-one match with every other candidate must lose.	1,2,4,5	Fail	Pass	Fail	Fail	Pass
IIA	If <i>A</i> is preferred to <i>B</i> , introducing a third option <i>X</i> , expanding the choice set to $\{A,B,X\}$ , must not make <i>B</i> preferable to <i>A</i> .	1	Fail	Fail	Pass (Note b)	Pass (Note b)	Fail
Independence of Clones	The winner must not change if a candidate that is virtually identical to another is added to the race.	1,2,4	Fail	Pass	Pass (Note c)	Pass (Note c)	Fail
Consistency	The method allows ballots to be tallied at the precinct level and summed centrally.	1,4,5	Pass	Fail	Pass	Pass	Fail
Monotonicity	A voter can't decrease a candidate's chances of winning by increasing his ranking or support, or vice-versa.	1,2,3,4,5	Pass	Fail	Pass	Pass	Fail
Participation	Adding a ballot where candidate <i>A</i> is preferred to candidate <i>B</i> , to an existing tally of votes should not cause <i>A</i> to lose to <i>B</i> .	1	Pass	Fail	Pass	Pass	Fail
Reversal Symmetry	If candidate <i>A</i> is the unique winner, and each voter's individual preferences are inverted, then <i>A</i> must not be elected.	1,4,5	Fail	Fail	Pass	Pass	Fail
Later-No-Harm	Giving an additional ranking or positive rating to a less-preferred candidate cannot cause a more-preferred candidate to lose.	1,2,3	N/A (Note d)	Pass (Note e)	Fail	Fail	Pass
Center Squeeze	A method is resistant to the center squeeze effect if the method does not encourage extremism.	3	Fail	Fail	Pass (Note f)	No Data	No Data
Resistance to Spoilers	A third candidate with similar views to one of two major candidates must not be able to siphon votes from the similar major candidate and cause the candidate who is least preferred by the electorate as a whole to be the winner.	2,3	Low	High /Mitigates the effect (Note g)	Med/ 'Arguably immune' (Note g)	Med/ 'Arguably immune' (Note g)	Med/No Data
Resistance to Strategic Voting	Voters are able to indicate their sincere preferences.	2,4	Low/6.3 (Note h)	High/9.7 (Note h)	Low/3.9 (Note h)	Low/4.0 (Note h)	High/8.1 (Note h)

TABLE 1. CRITERIA USED TO EVALUATE VOTING METHODS.

<sup>87</sup> Sources are keyed to the following list:

1. The website of the organization FairVote, a nonprofit generally supportive of ranked choice voting, <http://www.fairvote.org/reforms/instant-runoff-voting/irv-and-the-status-quo/irv-versus-alternative-reforms/single-winner-voting-method-comparison-chart/>, accessed 11-14-2015
2. The website of the Center for Election Science, a nonprofit generally supporting approval and range voting, <http://electology.org/topic/voting-method-criteria-analysis>, accessed 1-13-2016.
3. Wikipedia's extensive article on voting systems, [https://en.wikipedia.org/wiki/Voting\\_system](https://en.wikipedia.org/wiki/Voting_system), accessed 1-13-2016.
4. N. Tideman, *op. cit.*, (Tideman is generally supportive of ranking methods.)
5. Felsenthal, D.S. (2012), Review of paradoxes afflicting selection of a single candidate, in *Electoral Systems*, Springer Berlin Heidelberg, pp. 19-91.

## Notes to the Table

- a. For plurality and approval voting, we use the case where rankings exist for each voter and affect the criteria, avoiding the sophistry that candidates not voted for are equivalent for the voter.
- b. “Approval voting, range voting, and majority judgement satisfy Independence of Irrelevant Alternatives (IIA) if it is assumed that voters rate candidates individually and independently of knowing available alternatives in the election, using their own absolute scale. For this to hold, in some elections, some voters must use less than their full voting power or even abstain, despite having meaningful preferences among available alternatives. If this assumption is not made, these systems fail IIA.”<sup>1</sup>
- c. Approval and range voting satisfy Independence of Clones if it is assumed that voters vote sincerely, not strategically. A strategic approval voter might not approve (or disapprove) all the clone candidates to maximize his or her voting power for one candidate, and a range voter might give only one candidate a maximum rating and rank all others at the minimum. In these cases, irrelevant alternatives could affect the outcome.
- d. FairVote indicates that plurality passes Later No Harm simply because voters are not allowed to indicate later choices on the ballot.
- e. Center for Election Science (CES) notes that, although instant-runoff voting strictly satisfies Later No Harm, a voter can still cause a less-preferred candidate to win by his/her ranking of less preferred candidates. See the Monotonicity criterion.
- f. CES argues that a centrist candidate with broad support, that is the second choice of both left and right, but is ranked lower than either left or right as a first choice, will be eliminated in favor of one of the extremes in either plurality or instant-runoff voting, but that voters from both left and right approving the candidate could lead to his/her win.
- g. FairVote and CES differ on this criterion. FairVote’s ratings are shown first, CES ratings second. CES claims that the non-monotonicity effect that can result when three candidates are closely rated is an example of a spoiler.
- h. FairVote’s ratings are shown first, followed by Tideman’s. Tideman’s are on a scale of 1 to 10, where 10 means “most resistant to strategy”. CES discusses strategy in articles showing what are voters’ best strategic voting patterns given pre-election polls for approval and range voting, but does not rate any methods on this criterion.
- i. CES argues that a centrist candidate who has broad support, one that is the second choice of both left and right, will be eliminated in favor of one of the extremes in either plurality or instant-runoff voting, but that voters from both left and right approving the candidate could lead to his/her win.

Almost the only immediate conclusion from the table is that plurality and delayed runoff methods do not fare well. More recently, research has focused on computer simulations of elections using different methods when voters' real preferences are known.

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## A2.2.2 EVALUATING METHODS IN COMPUTER SIMULATIONS

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If a researcher knows the real personal value of each candidate to each voter in an election, those values can be used to simulate how each voter will vote using different election methods. If a program simulates a ranked voting method, for instance, the voter might rank the candidate with highest personal value first, the next second, and so on. For approval voting, the voter might approve of all candidates with a value greater than the voter's personal average. For plurality, the rule is commonly to choose the candidate with highest value.

In addition, if all true values are known, it is possible to sum or average them for each candidate, to find which candidate has the highest value for the group and is the best possible winner, the one most representative of the group.

Over many simulations, methods can be scored on how often they choose the best possible winner, with or without including strategy in the voting. Again, these results depend on knowing the true preference of every voter.

The next two sections describe two of these simulations.

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### A2.2.2.1 BAYESIAN REGRET -- WARREN D. SMITH

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Warren D. Smith, a Temple University mathematician and an outspoken advocate of range or approval voting, self-published a report in 2000<sup>88</sup> in which he compares different voting methods in terms of some of the criteria discussed earlier and in terms of their Bayesian regret. Bayesian regret is a measure of the difference between the overall value of the winner and the overall value of the best possible winner.<sup>89</sup> **A smaller number means less regret**, so smaller is better.

Smith ran hundreds of thousands of simulations, evaluating 16 voting methods plus 12 versions of some of the same methods while incorporating strategy in the voting; using

- 0, 1, 2, 3, 4 or "unlimited" issues
- 2, 3, 4, or 5 candidates
- 6 different sizes of electorate, from 5 to 200 voters
- incorporating some form of "voter ignorance" in some runs

Smith assigned each candidate's value for each voter randomly by drawing them from a normal distribution.

Smith's paper does very little summarization of these results, but the ordering of methods is generally the same for all data. One summary is given in Chapter 2, in the section on range voting. Below is another summary of data for four of the methods we are considering with 5 candidates, unlimited

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<sup>88</sup> Smith, Warren D (2000)., Range voting, retrieved 12-29-2015 from <https://web.archive.org/web/20060823124734/http://math.temple.edu/~wds/homepage/rangevote.pdf>.

<sup>89</sup> *Ibid.*, p. 17.

issues, 200 voters and no voter ignorance. Entries show the spread of regret between sincere voting and strategic voting. So the regret for Plurality, for instance, was as low as 4 and as high as about 5.5.

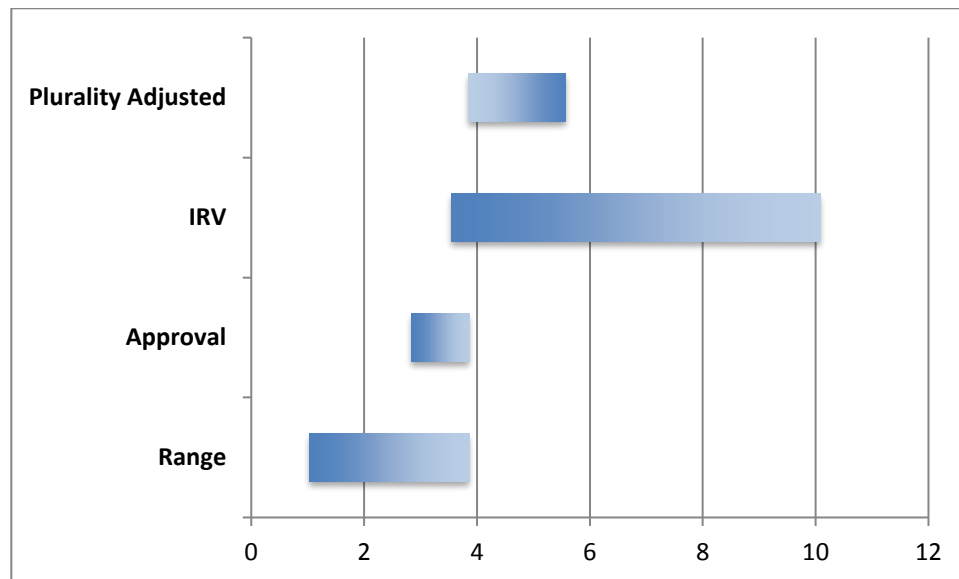


FIGURE 1. BAYESIAN REGRET OF SOME VOTING METHODS, CALCULATED FROM SIMULATED ELECTIONS USING 5 CANDIDATES, UNLIMITED ISSUES AND 200 VOTERS, FROM SMITH<sup>90</sup>.

Two important points about this graph are:

1. Most methods produce a better outcome *for the group* (but perhaps not for any individual voter) if all voters vote sincerely. That is, the lowest regret represents sincere voting for most methods. *The exception is plurality, where the lowest regret is for strategic voting.*
2. For sincere voters, plurality produces the most regret and range voting the least.

Strategic outcome sizes may depend on how a strategic vote was defined. Smith assumed that pre-election polls ordered the candidates in the same order as their numbering in the experiment, i.e., 1 most likely to win, 2 next, etc. Then the strategies were:

**Plurality:** Vote for the best of favorites, as long as it does not cause a spoiler effect.

**Instant-runoff voting:** Give the best of the two frontrunners first place, the worst of them the last place, and order the remaining candidates honestly.

**Range:** Assuming a range of 0 to 1, give the favored of the two front-runners a 1 and the other a 0. For each of the remaining candidates, in poll order, assign the candidate a 1 if his/her utility is better than the average of the already-scored candidates, or a 0 otherwise. So the voter just uses the end points of the scale. Smith presents a mathematical proof that using this “moving average” as a threshold for a maximum or minimum vote maximizes utility for a single voter.

<sup>90</sup> Smith, Warren D. (2001), Voter simulation output data, retrieved 12-29-2015 from <https://web.archive.org/web/20081015184905/http://math.temple.edu/~wds/homepage/voFdata>

**Approval:** Approve of all the candidates that would get a 1 in the Strategic Range case. (This explains why Strategic Approval and Strategic Range points in the graph above have the same value.)

Whether these are the likely strategies voters will use can be debated. For example, Jean-François Laslier<sup>91</sup> developed a mathematical model showing that the rational strategy for an approval voter was to approve of any candidate that she prefers to the front-runner and to approve of the front-runner if she prefers that candidate to the runner-up. This is similar, but not identical, to Smith's choice. In the case of instant-runoff voting, many voters commonly place their favorite first and the most favored of the two front-runners second.

#### A2.2.2.2 EFFICIENCY AND RESISTANCE TO STRATEGY – JAMES GREEN-ARMYTAGE *ET AL*

James Green-Armytage, of Bard College, NY, supplied a paper accepted for publication in 2015<sup>92</sup> in which he and colleagues Nicolaus Tideman and Rachael Carson use simulated elections to evaluate several election methods for their efficiency in choosing the best possible candidate and for their resistance to strategic voting.

Efficiency was defined as the likelihood, over many elections, that the winner would be the best possible. Thus it is similar to Smith's Bayesian regret, but has the opposite order. A higher efficiency is better.

Resistance to strategy was determined by the number of elections in which any coalition of voters could change their ballots in any way to elect a candidate who would not be the winner if they voted sincerely.

Green-Armytage *et al.* used five different sources of data to generate candidate values for voters. Some were generated randomly from statistical distributions. Others were survey data. One source was the Politbarometer, a survey asking German voters to rate politicians on a scale from -5 to +5, conducted monthly since 1977. Another was the American National Election Studies (ANES) survey of candidates conducted every presidential election year since 1978. Since this is survey data, there is reason to presume that voters reported sincerely, without strategizing, and that ratings reflect real personal values for the voters polled.

Hundreds of thousands of three-candidate elections were simulated using different voting rules and one of the five sources of voter values, with and without rules for voting strategically that varied for each election method.

Results from all data sources are similar. We present the Politbarometer data results here for the election methods that concern us. Scores range from 0 to 1 and a perfect score on either variable is 1.00.

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<sup>91</sup> Laslier. Jean-François (2006), Strategic approval voting in a large electorate, retrieved 11-13-2015 from <https://halshs.archives-ouvertes.fr/halshs-00121751>

<sup>92</sup> Green-Armytage *et al.* (2015) *op. cit.*

	Efficiency	Resistance to Strategy
Range	1.0000	0.1814
Approval	0.9537	0.7188
IRV	0.9445	0.9804
Plurality	0.9027	0.7749

TABLE 2. EFFICIENCY AND RESISTANCE TO STRATEGY OF ELECTION METHODS, FROM GREEN-ARMYTAGE *ET AL.*

These data can be presented graphically by plotting each method as a point in a two-dimensional, efficiency-by-resistance to strategy space, as in the following figure:

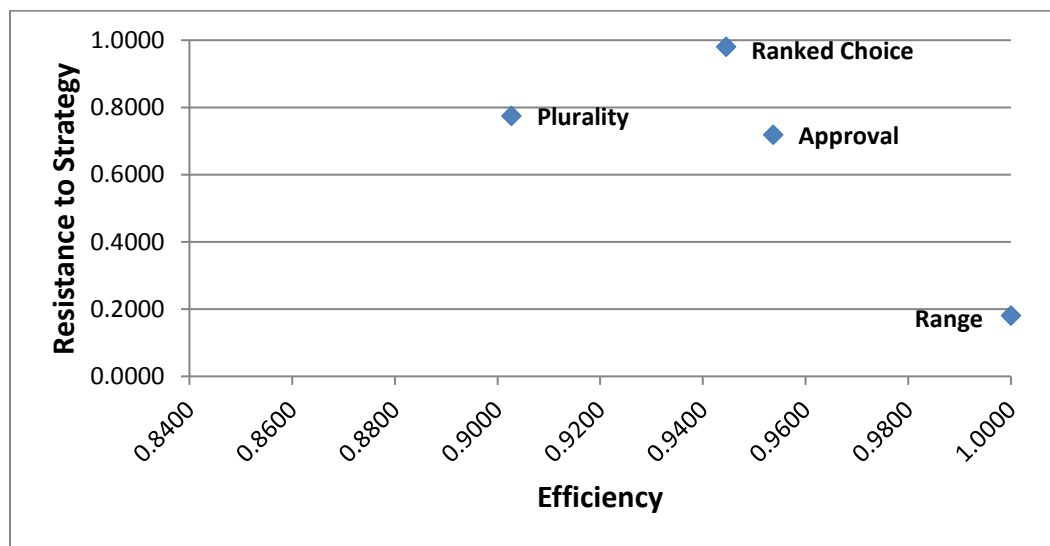


FIGURE 2. EFFICIENCY AND RESISTANCE TO STRATEGY OF SEVERAL VOTING METHODS, FROM GREEN-ARMYTAGE *ET AL.* NOTE THAT THE X AXIS IS ZOOMED TO EMPHASIZE DIFFERENCES.

### A2.3 SUMMARY

The first, easy conclusion from the objective evaluation criteria we surveyed is that *both plurality and delayed runoff score poorly*. They pass the fewest criteria, and plurality scores highest in Bayesian regret, lowest in efficiency and second lowest in resistance to strategy.

Range, approval and ranking instant-runoff voting systems have similar scores in the number of criteria they pass. They differ in how likely they are to choose the best candidate if voters vote sincerely and in how likely it is that voters will strategize instead of voting sincerely. For sincere voters, both simulation studies show that range voting produces the best possible candidate most often. The Green-Armytage *et al.* data give it a perfect 1.0 score. Approval is next (0.95), with instant-runoff voting close behind at

0.94. According to the Smith data, the difference between the three methods is much greater if voters vote strategically (although his choice of strategic methods differs from other researchers<sup>93</sup>).

The biggest differences between the three systems are in resistance to strategy. Range voting gets a score of only 0.18 on a 0 – 1 scale; approval is much better at 0.71, and instant-runoff voting is near perfect at 0.98. This result is not disputed by range and approval voting proponents; they argue instead that strategy has a useful place in voting. Other researchers, however, suggest that range voting is only acceptable if voters do not benefit personally by the outcome of their vote – in Olympic judging or restaurant rating, for instance.

How do these objective evaluations relate to our aspirational goals? For the methods we consider, the reader should be able to make some conclusions. For instance, because of the Mutual Majority criterion, instant-runoff voting is most likely to ensure majority rule and is most likely to encourage “sincere” voting. Because of the consistency criterion, however, it is least easy to use and administer. The reader may make other conclusions about other aspirational goals. Some of them are definitely not addressed by this research, such as how any of the systems score when trying to prevent fraud or political manipulation.

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<sup>93</sup> Laslier (2006), *op. cit.*



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## APPENDIX 3. ADDITIONAL RANKED CHOICE METHODS

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Once voters have ranked candidates, there are many ways to choose a winner from the ballots. The two discussed in this appendix are the most common after those described in Chapter 2.

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### A3.1 BORDA COUNT

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The Borda Count election method also allows voters to rank one, some, or all candidates on their ballot. Each ranking is converted into a score for each candidate. The most common way to do this is to give a candidate a point for each candidate ranked lower on ballots (typically unranked candidates count as being ranked below all other candidates). A Borda Count ballot would look the same as the ranked choice sample ballot shown previously:

Mark only one candidate per column and only one option per candidate row				
1 <sup>st</sup> Choice	2 <sup>nd</sup> Choice	3 <sup>rd</sup> Choice	4 <sup>th</sup> Choice	
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Shirley Chisholm
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	Kate Brown
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Hillary Clinton
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Tina Kotek

For this voter, Tina Kotek would be given 3 points, Hillary Clinton 2 points, Shirley Chisholm 1 point, and Kate Brown would receive no points. After performing this scoring for all ballots cast the candidate with the highest total number of points is declared the winner.

One drawback to the Borda Count method is that an individual voter can maximize their effective impact on the election by insincerely elevating or burying candidates. If it is well known that candidates A and B are front-runners and a voter strongly prefers Candidate A (even if Candidate A is not their favorite overall), the voter can rank Candidate A first (elevate/upvote) and Candidate B last (bury/downvote) and increase the relative strength of their vote over voters who vote sincerely.

The Borda Count in different forms is currently used to elect offices in the nations of Nauru, Slovenia, Iceland, and Kiribati as well as for electing offices and making decisions in several universities, societies and organizations.

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### A3.2 CONDORCET METHOD

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The 18<sup>th</sup> century French nobleman and mathematician the Marquis de Condorcet developed an interesting method for group decision making, which, while often impractical, has had profound effects on the study of election methods. Condorcet's method matches up every candidate against every other candidate in a pairwise election. A voter indicates between each candidate which one they would prefer. Although this sounds like a long and impractical ballot, especially when there are many candidates for office, it can often be shortened to simply asking a voter to rank all of the candidates. For Condorcet, the winner of an election (the Condorcet winner) was the candidate who beat every other candidate in pairwise contests. An interesting property that quickly emerges when using Condorcet's method in practice is that after votes are aggregated there is often not a Condorcet winner. However, the concepts of Condorcet winner and Condorcet loser (a candidate who would lose to every other

candidate in a series of head to head contests) have been extremely useful in the study of elections. The common sense idea that if there exists a candidate who would beat every other candidate in a two-person election, then that candidate *should* be the overall winner is a metric against which election systems are often measured. Some systems, such as plurality, can allow a Condorcet loser to *win* the election.<sup>94</sup>

In governmental elections the counting process for Condorcet's Method is difficult to explain to voters, thus appearing too complicated or not transparent enough. Additionally, without computers, hand counts or recounts may prove onerous. While advances in technology make the administration of Condorcet's method much easier, it is still rarely used for voting on candidates. Condorcet's method is used for some limited purposes such as voting on motions and amendments under Robert's Rules of Order, but it is most often considered when evaluating other voting systems.

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<sup>94</sup> Consider for instance Candidate A (a far left candidate), B (a center left candidate), and C (a far right candidate). If we assume that all supporters of A (far left) and B (center left) would prefer the left leaning candidate to C (far right), then a first past the post-election where 25% of voters vote for A, 35% vote for B, and 40% vote for C illustrates this point. If C were only running against B, C would lose 40% to 60%. Similarly, in an election only against A, C again loses 40% to 60%.

## APPENDIX 4. HYPOTHETICAL EXAMPLES OF PROPORTIONAL REPRESENTATION

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This appendix is adapted from a report published online by a committee member.<sup>95</sup>

### A4.1 MIXED-MEMBER PROPORTIONAL

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Here is one way Oregon could adopt Mixed-Member Proportional (MMP) voting for the state legislature:

- **A 50-member single-chamber legislature:** Combine the 60-member state House and 30-member state Senate, and reduce the number of members to create one 50-member legislature.
- **30 districts, with 1 representative per district:** Each of 30 legislative districts (the current Senate districts would suffice) elects one legislator to the new, single-chamber legislature. District representatives speak for the interests of their geographic areas and the values of their preferred party.
- **Plus 20 statewide party representatives:** 20 statewide party representatives round out the 50-member legislature. Statewide legislators speak not for any particular locality but for the broader philosophy, values, and priorities of the party.
- **No primaries:** Parties decide which candidates to run.
- **Two votes:** Voters get two votes: one for their favorite local district candidate and one for their favorite party.
- **Who wins district seats:** Voters elect one legislator from each Senate district in the same winner-take-all way voters currently elect Senators. The two major parties will likely dominate the 30 local district races.
- **Who wins statewide party seats:** Voters' party preferences determine how many statewide seats each party gets. Parties appoint enough statewide representatives to "true up" the legislature, ensuring each party holds the same proportion of total seats in the legislature—both district and statewide seats—as the proportion of votes the party won. If 40 percent of voters prefer the Democratic Party, then Democrats would hold 20 seats (40 percent of the 50-member legislature). MMP would empower smaller Oregon parties to obtain seats in proportion to their statewide popularity, even if they can't win the winner-take-all district races.

For example, imagine that Oregon adopted MMP and the same parties won the same district seats as held Oregon Senate seats in 2015: 18 Democrats and 12 Republicans. Now imagine that sixteen percent of voters chose the Independent Party with their second, statewide party vote. The Independent Party would appoint eight legislators (16 percent of the 50-member legislature) to represent statewide Independent Party values. If 4 percent of voters chose the Working Families Party, the party would appoint two legislators (4 percent of the 50-member legislature), to represent Working Families Party values. If Democrats won 44 percent of the party vote, they would appoint four statewide representatives on top of their 18 district seats to reach a total of 22 representatives (44 percent of the 50-member legislature). Republicans, with 36 percent of the party vote, would appoint six statewide

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<sup>95</sup> Eberhard, Kristin (2016), "Three Ways Oregon and Washington Could Vote Better", retrieved 8-2-2016 from <http://www.sightline.org/2016/05/02/three-ways-oregon-and-washington-could-vote-better/>

representatives on top of their 12 district representatives to reach a total of 18 (36 percent of the 50-member legislature).

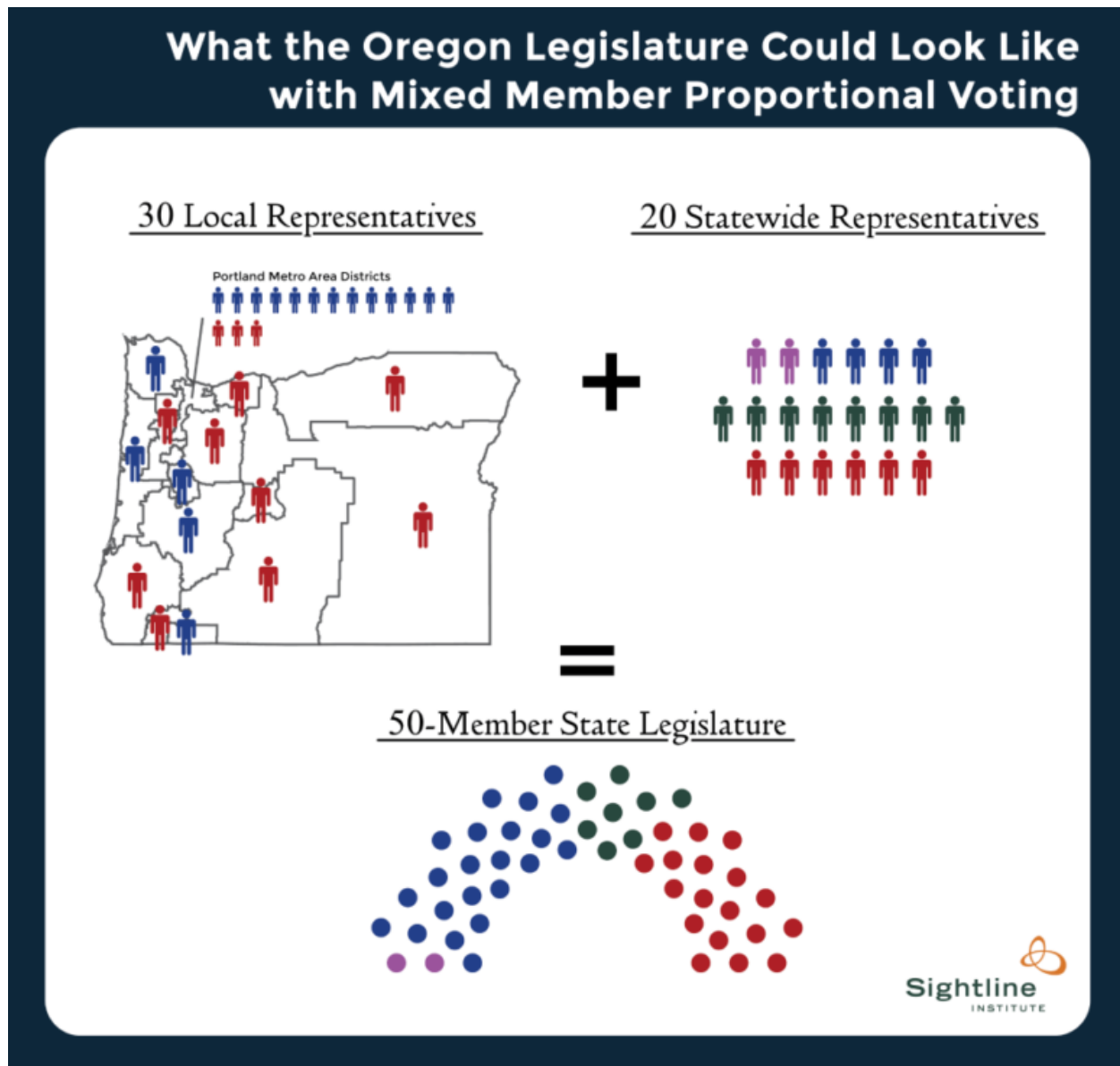


FIGURE 1. WHAT THE OREGON LEGISLATURE COULD LOOK LIKE WITH MIXED-MEMBER PROPORTIONAL VOTING.<sup>96</sup>

<sup>96</sup> Sightline Institute, retrieved 7-18-2016 from [http://sightline.wpengine.netdna-cdn.com/wp-content/uploads/2016/04/Potential-OR-legislature-makeup-under-MMP-voting-system-by-Sightline-Institute\\_resize-772x738.png](http://sightline.wpengine.netdna-cdn.com/wp-content/uploads/2016/04/Potential-OR-legislature-makeup-under-MMP-voting-system-by-Sightline-Institute_resize-772x738.png)

## A4.2 SINGLE-TRANSFERABLE VOTE

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Here's one way that Oregon could adopt ranked-choice proportional representation for the state legislature:

- **A 90-member single-chamber legislature:** Combine the 60-member state House and 30-member state Senate to create one 90-member unicameral legislature, like Nebraska has had for almost 100 years. (The Republican who pushed for a single legislature in Nebraska reasoned that the two-house system was outdated, inefficient, and unnecessary. It made no sense, he said, for two bodies of elected officials to do the same thing twice.)
- **30 districts, with 3 representatives per district:** Each of 30 legislative districts (the current Senate districts would suffice) elects three legislators to the new, single-chamber legislature. District representatives speak for the interests of their geographic areas and the values of their preferred party or parties.
- **Ranked-choice open primaries:** All candidates for the three district seats run against each other in a single pool in each district. In the open primary, voters rank candidates in order of preference, regardless of the voter's party affiliation. The top six vote-getters in each district advance to the general.
- **Ranked-choice general elections:** In the general, voters rank the six district candidates in order of preference. The top three vote-getters in each district win seats.  
Who wins: The three candidates with the most votes win the three district seats. Each district would likely send representatives from at least two different parties to Salem.

Third-party candidates with sufficient support would win, and unusual candidates, such as rural progressives and urban conservatives, could also win seats, creating bridges and alliances across parties. Voters of all stripes would likely have at least one district representative who reflects their political views.

For example, metropolitan Portland districts might elect a Democrat, a Working Families Party candidate, and a Republican. Rural Oregon districts might elect a Republican, an Independent, and a Democrat. Or two Republicans and one Democrat. Ranked-choice voting would empower voters to choose their real favorite—even a third-party candidate—without fear of throwing their vote away; if their favorite candidate gets eliminated, their vote is not wasted. Rather, it gets reassigned to their second-choice candidate. Ranked-choice voting could open up new avenues for deal-making in the legislature, too, as members of the Independent Party and the Working Families Party win seats alongside Democrats and Republicans, and as legislators from the same district but different parties work together to represent their diverse constituents.

## APPENDIX 5. POSITIONS FROM OTHER LEAGUES

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### A5.1 LEAGUE OF WOMEN VOTERS STATE POSITIONS

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#### A5.1.1 ARIZONA

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The League of Women Voters of Arizona believes in the election system principle of greater vote representation. The LWVAZ maintains the hope that election system reform that provides a stronger voice for the greatest number of voters should have a positive effect on voter participation. Therefore, the LWVAZ:

- Supports changing the present election systems so that they more accurately represent the wishes of voters:
- Adopting the Instant Runoff Voting (IRV) system for single seat races;
- Adopting proportional representation for multi-seat races, specifically Ranked Choice Voting.
- Believes that education of the voting public is important to election systems.
- Supports giving Arizona voters the option of more choice among election systems.

Consensus 2005, Amended 2008

#### A5.1.2 CALIFORNIA

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##### Election Systems Position

Support election systems for executive offices, both at the state and local levels, that require the winner to receive a majority of the votes, as long as the majority is achieved using a voting method such as Instant Runoff Voting, rather than a second, separate runoff election.

(In 2011 Expanded to all single winner elections.) Adopted 2001; Modified 2003; Expanded to all single-winner elections, 2011.

#### A5.1.3 FLORIDA

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Following statewide local League consensus meetings, the League of Women Voters of Florida announced a new Election Law, Voting Process position making the method of instant runoff voting a recommended alternative to plurality voting.

#### A5.1.4 MAINE

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Endorsed ranked choice voting in 2011.

President Barbara McDade wrote in Bangor paper in 2011:

“A recent OpEd piece asserted that run-off elections are not needed. The League of Women Voters of Maine disagrees. “Majority rules” is the bedrock of our democracy. The majority of the people should elect our governor, providing him or her the mandate necessary to lead effectively.

“The League endorses Instant Runoff Voting (IRV). With IRV, voters rank all candidates on the ballot in order of preference. In round one, the first-choice votes are counted. If a candidate gets more than 50 percent of the votes, he or she is declared the winner. If no candidate has a majority, the counting goes to round two. The candidate with the lowest number of votes is eliminated, and the votes cast for the

eliminated candidate are then transferred to the second choice listed on each ballot. If a candidate gets a majority, the election is over. If no one receives a majority, the counting continues to round three and so forth.

“This system would elect the candidate with the broadest support of the people. The election would be accomplished in one day, avoiding many of the problems associated with traditional runoff elections, including additional expenses for municipalities, extension of the campaign season, increased cost of campaign financing, and significant reduction in voter engagement and turnout in the runoff.

“IRV legislation will be introduced in Maine’s Legislature this session. Our legislators should give IRV careful consideration as a means to ensure broad support for the state’s chief executive.

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#### A5.1.5 MASSACHUSETTS

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VOTING SYSTEMS - GOAL: Voting systems should be easy to use, administer and understand, encourage high voter turnout, encourage real discussion on issues, promote minority representation, and encourage candidates to run.

When electing someone to a single executive office at the state level, such as governor or attorney general, including primary and general elections, the voting system should require the winner to obtain a majority of the votes.

The League supports instant runoff voting. Cost and complexity make two-round runoff not acceptable. Adopted 2005

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#### A5.1.6 MINNESOTA

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Position on Alternative Voting Systems:

Alternative Voting Systems: Support of the option to use Instant Runoff Voting to elect State or Local Officials in single seat elections. LWVMN also supports the continued use of the plurality voting system in our elections. The LWVMN Board reserves the right to decide the appropriateness of legislation proposing to replace the plurality voting system with the Instant Runoff System at the state level. LWVMN strongly supports the right of local governments and municipalities to choose Instant Runoff Voting for their own elections. Voters need to understand how votes in an election are tabulated and how a candidate actually wins an election. If a change in elections occurs, LWVMN strongly supports adequate voter education. LWVMN does not support Approval, Borda Count, or Condorcet as alternative voting systems.

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#### A5.1.7 NORTH CAROLINA

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IRV Endorsement: In accordance with the League of Women Voters’ position of promoting political responsibility through informed and active participation of citizens in government, the LWVNC will support legislation that assures that the candidate preferred by a majority of voters wins the election.

Specifically, the LWVNC will support instant runoff voting (IRV) for all statewide and local elections. Adopted: May 31, 2008.

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#### A5.1.8 OKLAHOMA

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Took position in favor of IRV over runoffs in 2011.

#### A5.1.9 SOUTH CAROLINA

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Adopting election systems that ensure better proportional representation of the varied segments of our voting population, within South Carolina, by city, county or statewide, as is appropriate. Our present “winner-take-all” system in many instances fails to achieve a goal of fair representation of minorities and women. Most of the world’s major democracies use a form of proportional representation, and we endorse this opportunity for the following reasons:

- a. To achieve better election and/or influence for minorities and women in proportion to their numbers in the population.
- b. To lessen election costs, in part by eliminating costly runoff elections.
- c. To eliminate redistricting and its frequent abuse through gerrymandering.
- d. To lessen the advantages now in place for incumbent candidates over new office- seekers.
- e. To lessen polarization among segments of the population.
- f. To increase voter turnout and decrease voter cynicism.
- g. To encourage election campaigns based on issues rather than personal attacks.
- h. To promote a greater opportunity for the voices of third party candidates.

Continued support for the League’s one-person, one-vote position, with added emphasis on the right of each community to develop its own election system, after careful examination of the demography of its community. Systems which may be considered include Instant Runoff Voting (IRV), Limited Voting, Cumulative Voting, and others. Of these, IRV has been used in various states and localities, and is being introduced into various election districts. It is likely to be the most effective and widely accepted new system.

The actions supported below speak to local elections only because it is unrealistic to consider them at a statewide level before actual local practice has taken hold so that the public may be aware of the advantages of a new system, as well as its simplicity in practice. In order to seek the method most suitable for the local population, we recommend that the local League determine whether a form of proportional voting would benefit the community in so far as providing more equitable elected representation and if the result is affirmation, proceed as follows:

- a. Determine what alternative election system would be desirable to achieve the above goals.
- b. Engage in a concerted voter-education process within the community so as to gain community understanding and support.
- c. Work with the city or county council to change their respective election methods to incorporate at-large elections, as well as a selected alternative election system, either through Council vote or by voter referendum.
- d. Work with legislators to change school board election methods. (Any agreement to change the voting method will require subsequent approval of the US Justice Department.)
- e. Provide continuing voter education to enhance public acceptance and ease of voting under a new election system and work with County Election officials to ensure successful execution at the first election under a new system.

Background/Action: A study of alternative election systems was passed at the LWVSC 2003 convention. The number 11 support position was adopted by the state board at its March 2005 meeting. In 2007, with completion of a two-year study of electronic voting in SC, Section 9.f. was amended and Section 12 was added.



#### A5.1.10 VERMONT

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##### CONSENSUS ON INSTANT RUNOFF VOTING (IRV):

In accordance with the LWV's position of promoting political responsibility through informed and active participation of citizens in government, the LWVVT will support legislation that assures that the candidate preferred by a majority of voters wins the election.

Specifically, the LWVVT will support instant runoff voting (IRV) for all statewide Elections.

Adopted: 1999

##### Vermont Position on Redistricting and Voting Methods:

The emphasis on geographic representation in legislative bodies in the U.S. may be anachronistic. It is more important that voters be represented by elected officials who reflect their political views, than happen to live nearby. Single-seat winner-take-all elections, regardless of method of redistricting, elevate the representation of geography above political philosophy, and other priority voter self-identities.

It is impossible to redistrict single-seat districts in such a way as to promote BOTH competitive elections AND a highly representative delegation (as these two priorities are in inherent conflict in single-seat districts). Therefore,

The League of Women Voters of Vermont supports the principle of legislative districts using alternative voting methods, such as proportional representation in multi-seat districts, as a way of achieving both competitive elections and fair representation of both majorities and minorities within a district.

Adopted: 2008

#### A5.1.11 WASHINGTON

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**POSITION IN BRIEF:** Action to facilitate changes in the state constitution to achieve a representative and effective state legislature. Action to promote an informed electorate. Action to limit methods of financing political campaigns in order to ensure the public's right to know, combat undue influence, enable candidates to compete more equitably for public office and promote citizen participation in the election process. Action to support access for citizens to initiate or modify legislation through the initiative and referendum process. Action to protect the interests of all affected parties in considering the formation of new counties. Action to clarify in legislation the processes in county formation and to require that the entire county have the ability to vote on separation. Action to allow more options for alternative election systems that promote "representative-ness" such as proportional representation, citizen participation and accountability and a primary that is "open" and encourages minor party participation. ...The LWVWA adopted a two-year study, "An Evaluation of Major Election Methods and Selected State Election Laws," at the 1999 state convention in Spokane, WA. This study, completed in 2000, described a number of election systems in use throughout the world which could serve as alternatives to the system commonly used in the United States. Election methods dealing with both multimember and single-member races were described. The study provided a list of criteria by which election methods could be evaluated, and these criteria were ranked by League members, with representative-ness, citizen participation and accountability receiving top ranking. The term "representative-ness" was coined to signify the degree to which a legislative body reflects the demographic makeup of the state (mirrors the political preferences of the voters, including ethnic,

racial, philosophic, or minorities) and also to signify protection of the right to representation for ethnic, racial, philosophic and other minorities. After reading and discussing the study, League members concluded that the State should enable jurisdictions in Washington to experiment with a variety of election methods. ...Recognizing the complexities of the topic of election methods, delegates at the 2001 LWWVA convention adopted a one-year continuation of the Election Methods study focusing on the three alternative election methods currently receiving considerable public attention:

- Instant Runoff Voting (IRV) for single winner offices (produces a majority vote winner.)
- Choice Voting (Single Transferable Voting) for representative bodies used to achieve proportional representation.
- Cumulative Voting (achieve semi-proportional representation)
- An explanatory program was developed which utilized visual aids and mock voting using current voting methods as well as the three major alternative systems. This program was a great help in better understanding the relationship between the election method used and election results. Members are enthusiastic about sharing this program with the public and in seeing alternative election methods adopted at the state and local level... The League of Women Voters of Washington:
- Supports state election laws allowing for more options for alternative election systems in governmental jurisdictions at both the state and local levels.
- Believes that consideration should be given, when evaluating election systems, to how well they promote "representative-ness", citizen participation and accountability. \*\*\*
- Supports adoption of election methods that produce proportional representation when electing representative government bodies such as councils, legislatures and Congress.
- Supports the concept of a majority vote requirement for winners of single offices such as mayor or governor, as long as it is achieved using a voting method such as the Instant Runoff Vote, rather than a second, separate runoff election.

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## A5.2 LOCAL LEAGUE: POSITION EXAMPLES

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### A5.2.1 BERKLEY (CA)

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"Instant runoff voting" should be used in all elections involving more than two candidates for a single position. *Adopted: 2000*

### A5.2.2 OAKLAND (CA)

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"Instant runoff voting" should be used in all elections involving more than two candidates for a single position. *Adopted: 2003*

### A5.2.3 MONTGOMERY (MD)

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"We support the option to use Instant Runoff Voting for single seat or executive office elections, both at the county and local level. This would require the winner to receive a majority of the votes cast.

a) To fill vacancies in any county offices, when special elections are held, we support a single election requiring a candidate to receive a majority of votes (using Instant Runoff Voting) instead of conducting both special political party primaries and a special general election.

b) In addition, we support using a single election, instead of both a primary and general, which requires a candidate to receive a majority of votes (using Instant Runoff Voting) in order to be elected to the nonpartisan Board of Education. The election should be concurrent with the general election.

Election Equipment We believe all newly acquired voting equipment (hardware and software) for use in Montgomery County should allow alternative ways of casting and counting ballots and be usable for all county and municipal elections. (NOTE: In 2008, this includes support of Instant Runoff Voting and Single Transferable Vote.) *Adopted 2008*

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