“This is the site for learning about democracy.”
—Zoe Weil, author of Most Good, Least Harm, president of the Institute for Humane Education.

“...a huge contribution to the democracy cause.”
—John M. Richardson Jr., former Chairman of the National Endowment for Democracy.

“Congratulations on a brilliant piece of work.”
—Robert W. Fuller former President of Oberlin College, author of Somebodies and Nobodies, and All Rise.

The primer, games and pictures let you Read, Touch and See How

The best voting rules are fast, easy and fair. They help groups from classrooms to countries. The results are well centered and widely popular.

They strengthen the votes supporting one chairperson or policy and fair shares of seats or spending.

to Use and Enjoy

Share this illustrated eBook with friends. Grow support in your school, club or town. Enjoy better politics, relations and policies.

by Robert Loring VotingSite@gmail.com
Here are **three steps** to learn **four** voting tools
They are inclusive, yet centered, quick and easy
Each step reveals more in the powerful tools

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I. Voting Primer

Two of Many Tragedies

Old ways of adding up votes fail to represent large groups in many places. In the USA, North Carolina had enough Black voters to fill up two election districts. But they were a minority spread out over eight districts. So for over 100 years, they won no voice in Congress. As voters, they were silenced—with tragic results.¹

The Northwest tore itself apart by changing forestry laws again and again. In a year with weak forestry laws, hasty logging wastes resources. But sudden limits on logging bankrupt some workers and small businesses. If this policy pendulum swings far, it cuts down forests and species, then families and towns, again and again.²

What can big swings in other policies do?
What’s Wrong

We all know how to take a vote when there are only two candidates: We each vote for one or the other. For such a contest, the yes or no votes say enough.

But as soon as three candidates run for one office, the contest becomes more complicated. Then that old yea or nay type of voting is no longer suitable.

It's even worse at giving fair shares of council seats, setting many budgets, or finding a balanced policy. Our defective voting rules come from the failure to realize this:

There are different uses for voting, and some need different types of voting.

Will their votes be effective?
In the 19th Century
Winner-Take-All Districts → Off-Center Councils

Some English-speaking countries still count votes by England's old plurality rule. It elects only one rep from each district—and winning does not require a majority. It merely elects the one who gets the most yes votes.

A district with only one rep tends to develop only two big parties. Only their candidates have good chances. It gets worse: a district's bias often makes it a “safe seat,” a captive audience for one party. So plurality voters get either a very limited choice or no real choice.

The few voters who get a limited choice might flip the council’s majority from one side to the other. If so, many budgets and policies swerve. Fears of the swerves often polarize politics as this is a war of winner takes all.
In the 20th Century
Fair-Share Elections → One-Sided Majorities

Fair Representation was developed around 1900 to end some major problems caused by plurality rule. Most democracies now use “Fair Rep.” It elects several reps from each election district. It gives a group that earns say, 20% of the votes, 20% of the council seats. So Fair Rep delivers fair shares of representation. It’s often called Proportional Representation or PR.

It leads to broad representation of issues and views. But usually there is no central party (C above) and the two biggest parties normally refuse to work together. So the side with the most seats forms a ruling majority. Then it enacts policies skewed toward its side.
In the 21st Century
Ensemble Councils → Balanced Majorities

Council Elected By Central And Fair-Share Rules

Ensemble rules will elect most representatives by Fair Rep, plus a few reps (C above) by a central rule.

So the points of view within the council will have a spread, plus a pivotal midpoint, that match the voters more accurately. ○ + ● = 🎯 That’s the target*

Later pages will show how a rule can elect a rep with wide support and views near the center of the voters. So winners will be near the center of a Fair Rep council. There they can be the council’s powerful swing voters, with strong incentives to build moderate majorities.

Many voters in this wide base of support won’t want narrow centrist policies. They’ll likely want policies to combine the best suggestions from all groups.

* It’s colors suggest archery or political bunting.
A centrist policy implements a narrow set of ideas. It blocks rival ideas: opinions, needs, goals, and plans. A one-sided policy also blocks rival ideas.

A compromise policy tries to negotiate all the ideas. But contrary ideas forced together often work poorly.

**A balanced policy** blends compatible ideas from all sides. This process needs advocates for diverse ideas. And more than that, it needs independent **moderators**. These swing-voting reps can please their wide base of support by building moderate majorities in the council.

**A broad, balanced majority** works to enact broad, balanced policies. These tend to give the greatest chance for happiness to the greatest number of people.

Excellent policies are a goal of accurate democracy. *Measure* their success by the typical voter's education and income, freedom and safety, health and leisure.⁸

Older rules often skew results and hurt a democracy. An ensemble is **inclusive**, yet **centered** and **decisive** — to help make its actions **popular**, yet **stable** and **quick**. The best tools to set budgets or pick a policy will also show these qualities in our stories, graphics and games.
Let’s think about this election: Nine voters want to elect a leader. The figures in this picture mark the positions chosen by those voters. They stand along a political spectrum from left to right. It is as though we asked them, “If you want high-quality public services and taxes like France or Germany, please stand over ↓ here. Stand here ↓ if you want to be like Canada. To be like the USA stand over here ↓. For Mexico's low taxes and government services stand over there ↓.”

Throughout this booklet, we're going to show political positions in this compelling graphical way.

Nine voters spread out along an issue.
Plurality Election

Here we see three rivals step up, asking for votes. Each voter prefers the one with the closest position. A voter on the left votes yes for the candidate on the left.

Ms. K is the candidate nearest four voters. L is nearest two and M is nearest three. Candidates L and M split the voters on the right.

Does anyone get a majority (over half), Yes or No? Who gets the plurality (the largest number), K, L or M? Who gets the second-largest number of votes?

Answers to questions are at the bottom of each page.

A mere plurality gives the winner a weak mandate. This is the authority effective votes loan to a winner. Strong mandates, for the reps, budgets and policies, support and speed action to achieve popular goals.

By plurality rule, the one with the most votes wins.

Voters for K

Vote L

Vote for M

K is nearest four voters. M is nearest three. L is nearest two.

Answers: No. K. M.
Runoff Election

From the plurality tally, the top two may advance to a runoff. It eliminates the other candidates all at once. The two voters who had voted for L now vote for M. Do they each have more power than some other voter?

Wasted votes fail to turn a loser into a winner. Effective votes succeed; a voting rule with more of them is more accurate, fair and responsive.

Does the plurality election waste more votes? Does that discourage members from voting? Does the runoff make a stronger mandate?

Runoffs practically ask, “Which side is stronger?” Later, these voters will use another voting rule to ask, “Where is our center?” And a bigger group will use a rule to ask, “Which trio best represents all of us?”

In a runoff, the top two compete one against one.

Voters for K

Vote for M

Four wasted votes. Candidate M wins a runoff.

Answers: No, each voter has one vote in each tally. Yes, five votes. Yes. Yes, a majority mandate.
Politics in Two Issue Dimensions

When more issues (or identities) concern the voters, a voting rule keeps its character.¹

Here we see voters choosing positions spread over two issue dimensions: left to right plus up and down. A person's position on one dimension is little help for predicting their position on the other one.

A voter may rank candidates on any issue(s). He prefers the candidate he feels is closest.

“Please step up for more protective regulations. Please step down if you want fewer protections. Take more steps for more change.”

The chapter on simulation games and research shows more tallies with two and even three issue dimensions.

Seventeen voters take positions on two issues:
more or less regulation ‡ and taxes for services ↔

K wins a plurality. M wins a runoff.

For clarity, a candidate is “she” and a voter is “he.”
The goal of **Instant Runoff Voting** is this:

**A majority winner, from a single election.**

Voting is easy. **Rank your favorite** as first choice, and **backup choices**: second, third, etc. as you like.*

Your civic duty to vote is done.

Now your vote counts for your top-ranked candidate. If no candidate gets a majority, the one with the **fewest votes loses**. So we eliminate that one from the tally. Your vote stays with your favorite if she advances. If she has lost, then your vote counts for your backup. This repeats until one candidate gets a **majority**.

---

**Why Support Instant Runoff Voting, IRV**

- **Backups** give you more power and freedom to express opinions with less risk of wasting a vote.
- **No hurting your first choice** by ranking a backup, that does not count unless your first choice has lost.
- **No worry about vote splitting** in a faction as votes for its loser(s) can count for each supporter's backup.
- **A majority winner** from one election, so no winner with a weak mandate and **no costly runoff** election.
- **High voter turnover** also creates a strong mandate. The turnout for an election runoff often goes down.²
- **More civility** and consensus³ arise as candidates ask a rival’s fans for their backup votes.⁴,⁶

*Pages 33 and 46 show ballots.
Running for president of South Korea, the former aide to a military dictator faced two reformers. The two got a majority of the votes but split their supporters. So the aide won a **plurality**. (37%, 28%, 27%, 8%) Years later, he was convicted of treason in the tragic, government killing of pro-democracy demonstrators.\(^5\)

A voter’s backup is often like his favorite, but more popular. So by dropping one reformer, IRV might well have elected the stronger one with a majority.

\begin{figure}
\centering
\includegraphics[width=\textwidth]{irv-patterns.png}
\caption{From five factions to a majority mandate.}
\end{figure}

\begin{enumerate}
\item Violet loses; so backup choices get those votes.
\item Amarilla loses; so backup choices get those votes.
\end{enumerate}

This **chief executive** starts in a big band of voters on the biggest side, then builds a majority. This helps her work with reps on the biggest side of a typical council.

For 11 years, Papua New Guinea used IRV, then plurality rule for 27 years; ethnic violence increased. They changed back to IRV and the violence decreased.\(^6\)

Irish and Australian voters have used it for decades. They call it the Alternative Vote or Preferential Vote. In the USA, groups call it Ranked Choice Voting, RCV. The endorsements page lists many groups using it. It often helps women achieve parity in politics.\(^7\)

The workshop’s IRV game starts on page 39.
2. Electing Representatives

Three Single-Member Districts

A class of 27 wants to elect a 3 member committee. Someone says, “Elect a rep from each seminar section. You need support from just 5 voters to win a seat.”

- **Section One**
  - 1 vote wasted on a loser
  - 8 M votes; 3 are wasted in a surplus

- **Section Two**
  - 5 C votes elect a rep
  - 4 K votes wasted on a loser

- **Section Three**
  - 5 B votes elect a rep
  - 4 J votes wasted on a loser

- An 11 voter minority gets 2 reps; that’s majority power. But with 3 or 4 voters in each section they’d get no reps. It can waste many votes so it’s erratic and easy to rig.
A better idea, “Keep the class whole. Change the votes needed from 1/2 of a section to 1/4 of the class plus 1. You need support from 7 voters to win a seat. A voter may rank a first choice and a backup choice. If his first choice loses, his vote counts for his backup.”

Now the minority gets 1 rep and the majority gets 2. Their mandate is fair, accurate, popular and strong.
The principle of **Fair Representation** is: Majority rule by representing the groups in proportion to their voters.

That is, 60% of the vote gets you 60% of the seats, not all of them. And 20% of the vote gets you 20% of the seats, not none of them. These are **fair shares**.

How does it work? There are three basic ingredients:

- We elect more than one rep from an electoral district.
- You vote for more than one; you vote for a list.
  - You pick a group's list, or you list your favorites.
- The more votes a list gets, the more reps it elects.

**Why Support Fair Representation, Fair Rep**

- **Fair shares** of reps go to the rival groups so
  - **Diverse candidates** have real chances to win so
  - Voters have **real choices** and **effective votes** so
  - **Voter turnout** is strong.¹

- **Women win** two or three times more often¹ so
  - **Accurate majorities** win—also due to more: choices, turnout, effective votes and equal votes per rep so
  - **Policies match** public opinion better.²

Many people call this Proportional Representation, PR.
Chicago elects no Republicans to the State Congress, even though they win up to a third of the city's votes. But for over a century it elected reps from both parties. The state used a fair rule to elect 3 reps in each district. Most gave the majority party 2 reps and the minority 1. So no district was unwinnable and neglected by 1 party, a captive audience for the other party.

Those Chicago Republicans were usually moderates. So were Democratic reps from Republican strongholds. Even the biggest party in a district tended to elect more independent-minded reps. They could work together for moderate policies.³

New Zealand switched in 1996 from Single-Member Districts to a layer of SMDs within Fair Representation. They call this Mixed-Member Proportional or MMP. A small, one-seat district focuses more on local issues. Fair Rep frees us to elect reps with widespread appeals.

The seats won by women rose from 21% to 29%. The native Maoris reps increased from 7% to 16%, which is almost proportional to the Maori population. Voters also elected 3 Polynesian reps and 1 Asian rep.⁴
Why It Elects More Women

**New Zealand and Germany** elect half of their MPs in Single-Member Districts and half from Fair Rep lists. Theirs is the best rule to elect a parliament, some say.\(^5\) The SMDs elect few women; but in the same election, the party lists elect two or three times more women.\(^1\)

The **safest nominee** for a party in a Single-Member District, is from the dominant gender, race, religion, etc. So SMDs often lead to poor representation of others.

Fair Rep leads a party to nominate a **balanced team** of candidates to attract voters. This promotes women.\(^6\) A team can have class, ethnic, and cultural diversity. And that gives us diverse reps to approach for help.

**MORE: Competition, Real choices, Voter turnout, Effective votes, Strong mandates, Diverse reps, Women reps, Popular policies**

Some leading women spoke of **starting a new party** in **Sweden**, which uses Fair Rep. Under plurality rule, a big new party splits their own side, so it likely loses. But Fair Rep gives every big party its share of seats.

This credible threat made one old party decide job experience was not as important as **gender balance**. So it dropped some experienced men to raise women higher on their party’s list. And they won.\(^7\) Now they are incumbents with experience, power and allies.
Voting Rules and Policy Results

Local SMDs can elect reps with unequal vote totals. So a majority of reps might not represent most voters. Fair Rep requires more equal votes per rep. (page 17) So each majority of reps does stand for most voters, producing policies closer to public opinion.³

Less: Wasted votes, Gerrymandered districts, Monopoly politics, Dubious democracy

Many voters see a woman in a multi-winner race less as fighting her rivals, more as supporting her issues.

Councils with fewer women tend to do less for health care, childcare, education and other social needs.⁸ Then the poorest schools and clinics are blighted; so are the citizens and workers hurt by poor health or education.

If such urgent needs overwhelm us, we neglect the essential need to fix their structural sources. The plurality rule is a key defective part to replace. It wastes votes and underrepresents most voters. It gives the reps less incentive to help most voters.

A more accurate democracy leads toward a better quality of life, as measured by the scores on page 60. We would all like better quality-of-life results for our country, and for our towns, schools, clubs and co-ops. So help friends talk about and try these voting rules.

The Fair Rep games and sims will show more.
Electing reps is the most obvious use of voting rules. Rules to pick projects or a policy are also important. These group decisions occur more often than elections. They even occur in many groups with no elections.

The members of clubs, co-ops, colleges, grant givers and more can enjoy the merits of Fair Share Voting.

Fair Representation distributes council seats fairly. Likewise, votes can distribute some funding fairly.

**Democratic rights progress.** Each step is more fair, thus accurate, responsive, widely supported and strong.

- Voting by rich men, poor men, Black men, women
- Fair Representation of all big political groups
- Fair Share Voting by big groups of voters or reps

All big groups have the right to spend some funds.
Patterns of Unfair Funding

**Participatory Budgeting**, PB, lets neighbors research, discuss and vote how to spend part of a city's budget. In South America it spread from one city in 1989 to hundreds today. Progress often advances this way. The World Bank reports PB may reduce corruption and it tends to raise a community’s health and education.¹

In 2010, a Chicago alderman gave $1,300,000 to PB.² But a plurality rule made the votes and voters unequal. For example, in 2011 each vote to help a park won $501. That was its cost divided by its voters. But if cast for bike racks, each vote won a mere $31. That's too unfair. Even worse, most of the votes were wasted on losers.³

A costly winner makes many lose.

A bad election rule gets worse when it picks projects. It is **not cost aware**; so it often funds a very costly item and cuts a bunch that get many more votes per dollar. To win this bad tally, load various proposals into one. Keep raising its cost if that attracts more votes.

One year, a scholarship fund got many **surplus votes**. These were wasted votes because they had no effect. So the next year, some supporters chose not to waste a vote on this “sure winner.” It lost! They saw the need for a voting rule that would not waste surplus votes.⁴
The principle of **Fair Share Voting** is:

**Spending power for groups, in proportion to their voters.**

So 60% of the voters can spend 60% of the fund, not all of it. Your ballot’s share from the fund lets you vote to pay your shares of the costs for your favorite items.

Voting is easy: simply rank your choices, like in IRV.

Your ballot pays one share for each of its present top ranks—as many as it can afford. A tally of all ballots drops the item with the fewest shares. Those two steps repeat until each remaining item gets full funding.³

**Paying one share proves you feel the item is worth its cost and you can afford it in your high priorities.**

### Some Merits of Fair Share Voting, FSV

- **Each winner is a popular priority worth its cost:**
  To qualify for funding from our group’s source, an item needs our “base number” of voters or more.

- **FSV is fair** to an item of any cost and to its voters:
  A ballot pays a costly share to vote for a costly item. \(\text{cost/base} = 1\) share  
  e.g. \$100 / 25 ballots = \$4  
  If more ballots divide a cost, each of them pays less.

- So, a ballot's money can help more low-cost items.  
  This motivates a voter to give his top ranks to the items he feels give **the most joy per dollar**.

- See RCV points 1 and 3 on page 14.
Fair Shares and Majorities

If a majority controls all the money, the last item they choose adds little to their **happiness**; it is a low priority. But that money can buy a high priority of another big interest group, adding more to their happiness.

**In economic terms**: The *social utility* of the money and winners tends to rise if we each allocate a share. Fair, cost-aware voting gives *more* voters *more* of what they want for the same cost = *more* satisfied voters. Shares also spread good opportunities and *incentives*.

**In political terms**: The total spending has a wider *base of support*: It appeals to more voters because more see their high priorities get funding.

---

Plurality rules let **surplus votes** waste a big group’s power and let rival items **split** it, as seen on page 16. The biggest groups often have the biggest risks.

**FSV protects a majority’s right** to spend a majority of the fund. It does this by eliminating split votes, as did IRV, and **surplus** votes, as we’ll soon see.
Budget Levels

A co-op that helped develop Fair Share Voting lets each voter rank **budget levels** for some items.

A budget level needs to get the base number of votes. It gets one if a ballot offers to share the cost up to that level or a higher level. \[ \text{cost} / \text{base} = 1 \text{ share} = 1 \text{ vote} \]

The item with the weakest top level loses that level. Any money your ballot had offered to it moves down your ballot to your highest ranks that lack your support. This repeats until the top level of each item is fully funded by its supporters. Thus fair shares and backup ranks select a set of winners with **more supporters**.

Many voters must concur, this cost is a high priority within my budget.

A group with 100 members set our base number at 25 votes. My first choice got just enough votes, so my ballot paid 4% of the cost. \[ 100\% / 25 \text{ votes} = 4\%. \]

My second choice lost; did it waste any of my power?

My third choice got 50 votes, so my ballot paid only 2% of the cost. Was there any surplus? Did I waste much of my power by voting for this sure winner?

* These are “reciprocals.” None. None. Not much.
More Merits of Fair Share Voting

After discussion, a quick poll can pick many items. It reduces agenda effects such as leaving no money for the last items or going into debt for them.

It lets subgroups fund items; so it’s like federalism but without new layers of laws, taxes and bureaucracy. And it funds a big group even if they are scattered.

Each big group controls only its share of the fund. This reduces their means and motives for fighting. It makes (hidden) empires less profitable.

Fairness builds trust in spending by subgroups and raises support for more. This can reduce spending at the extremes of individual and central control.

New Tool

Merits of FSV for an Elected Council

FSV gives some power to reps in the opposition, so Electing them is more effective, less of a wasted vote.

They ease starvation budgets that damage projects. This makes project management more efficient.

A voter can see grants from his rep to each project, tax cut, or debt reduction; then hold her accountable.

In games, we may vote for treats and eat the winners!
4. Enacting a Policy

Condorcet Test Number Two

The Runoff on page 12 was a one-against-one contest between the positions of candidates M and K. Five voters preferred M's position over K's. $5 > 4$

Here is a second test with the same voters: K's position loses this one-against-one test. Candidate L wins by five votes to four. $5 > 4$

Each person votes once with a ranked choice ballot. Pages 33 and 46 will show two different, simple ballots. A workshop page shows a pairwise tally table. And a simulation map shows Condorcet voters with two issue dimensions.

People often struggle to find a group’s center of opinion

K is nearest four voters. L is nearest five voters.
Candidate L wins her last test by six to three.  $6 > 3$
She has won majorities against each of her rivals.
So she is the “Condorcet winner.”  $L > M.  L > K.$

“…such a mandate is no doubt a vital ingredient in the subsequent career of the winner.”

Who is the Condorcet winner on page 13,  $K$, $L$ or $M$?

Thus a Condorcet Tally picks a central winner:

It can elect a moderator to a council,  see page 8,
or moderates from districts for MMP,  see page 19.
But is it likely to elect diverse reps,  yes or no?
It can select the base number for FSV,  see page 26.
But is it likely to spread spending fairly,  yes or no?
Does a PM mostly moderate or advocate,  and a CEO?

Here is the center.

![Vote L, Vote L, Vote L, Vote for M]

L has six votes.       M has three.

Answers:  L.  No.  No.  Discuss this.
The goal in a Condorcet Tally is this:

**Majority victories, over every single rival.**

The winner must top every rival, **one-against-one**.

The sports **analogy** is a “round-robin tournament.” A player has one contest with each rival. If she wins all her tests, she wins the tournament.

Each voting test sorts all the ballots into two piles. If you rank option K above L, your ballot goes to K. The option that gets the most ballots wins this test. If one wins all its tests, it wins the Condorcet Tally.

In a rare, “voting cycle,” majorities rank K > L, L > M, and M > K. **IRV** can break the tie.²

\[ \begin{array}{c}
K & \rightarrow & L \\
\cup & & \cup \\
M & & K
\end{array} \]

**Why Use a Condorcet Tally, CT**

**Choice ballots**: rank the related options on one ballot. **Simplify** the old rules of order and **speed up** voting. **Reduce agenda effects**, from simple errors and **gridlock**, to “free-rider” and “wrecking” amendments.

**A balanced policy** tends to be **stable**, thus decisive. Yet, a balanced process can calm some fears about reviewing and **changing** a good policy to improve it. This saves time and builds respect for democracy.

**No split-vote** worries as duplicates don't help or hurt each other. An ad hoc majority can rank all of their favorites over the other options. Ballots from all voters help decide which of the majority’s favorites wins.
Policies with Wider Appeal

A plurality or runoff winner gets no votes from the losing side and doesn't need to please those voters. But each CT option needs support from all sides, because every voter can rank it against its close rivals. Thus every voter is “obtainable” and valuable.

So the winner is well balanced and widely popular. Voters on the center and right give it a majority over any left-wing policy. At the same time, voters on the left and center like it more than any right-wing policy. All sides like it more than a narrowly-centrist policy.

“Our center is near me.”

“I think it's right here.”

“I am the center!”

✓ Everyone helps locate our center.

Chairs with Balanced Support

CT can elect a chairperson and vice chairs to be the swing voters in an Ensemble Council, as pictured on pages 8 and 54. The broad base of support they need to win their CT election gives them strong incentives to help the council balance its process and policies.

IRV has slightly different effects, incentives, and uses. Games will put us inside each tally to feel how it works.
Resist Rigged Votes

By plurality rule, candidate M lost on page 11. Now let's say her party gerrymanders the borders of her election district. It adds in voters, pictured in purple, who tend to like the party and cuts out some who don’t. In this safe-seat district, bluish voters can elect M or a less central candidate who might polarize politics.¹

But this gerrymander didn’t change the CT winner, L. So policies stay stable and take big swings less often.

Many wasted votes often can expose gerrymanders; Fair Rep reduces both,⁵ as shown on pages 16 and 17.

To steal a CT or IRV seat via ads, bots and news stories, I must mislead a majority, not just a plurality. And my gifts to the other side’s “spoilers” fail to split it.

Foul manipulations of plurality rules are not rare. And point voting invites extreme high and low votes, as voters worry, “Do my lower choices hurt my top choice?” But a chance to manipulate IRV or Condorcet/IRV in a real election is rare, risky and hard.² So you don’t need to worry about your own or other voters’ tactics.

³ 2 rank L>M>K. ⁴ 3 rank K>L>M. ⁵ 4 rank M>L>K.
Some meetings concoct a policy by a series of yes-no choices, with or without rules of order, agendas or votes. An early proposal might have to beat each later one. An early decision might preclude some later proposals. So “stacking the agenda” can help or hurt proposals.

Other meetings discuss the rival options all at once. But often, many members express no backup choices. So similar options split supporters and hurt each other. Then a minority pushing one option can appear to be the strongest group. Even sadder, a member with a well-balanced option but few eager supporters might drop it.

Too often, a committee chooses all the parts in a bill. Other members can say only yes or no to that bundle. Rigged votes often build bad policy and animosity.

To reduce these risks, let the voters rank more options.

**Ballot On Issue A**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Continue Discussion</td>
</tr>
<tr>
<td>2</td>
<td>Original Bill, the main motion</td>
</tr>
<tr>
<td>1</td>
<td>Bill with Amendment 1 (a free rider?)</td>
</tr>
<tr>
<td>8</td>
<td>Bill with Amend. 2 (a wrecking amend.?)</td>
</tr>
<tr>
<td>7</td>
<td>Bill with Amendments 1 and 2</td>
</tr>
<tr>
<td>4</td>
<td>Postpone for 7 days</td>
</tr>
<tr>
<td>5</td>
<td>Refer the Bill to a Committee</td>
</tr>
<tr>
<td>6</td>
<td>No Change (a vote for gridlock exposed?)</td>
</tr>
</tbody>
</table>

The “Incidental Motions” do not wait for the ballot, e.g. a personal complaint or request.
Ranking Choice Voting has proven to...

1,2,3,4. Make voting easy, more often effective.
   Give you power to rank a backup choice; so...  
   Reduce your risk of wasting your vote; so...
   Vote worry free for your true first choice.
   Boost mandates as more voters count.

1,2. Reduce attack ads that scare, anger and polarize.
   Weaken gerrymandarers and spoilers.

2. Give fair shares of reps to the rival groups; so
   Give diverse candidates real chances to win; so
   Give voters real choices and effective votes; so
   Voter turnout is stronger.

2. Elect women two or three times more often; so
   Accurate majorities win—also due to more: choices,
   C, effective votes and equal votes per rep; so
   Policies match public opinion better.

Even then, old decision rules push policy pendulums.

New Related Legislative Rules can

4. Elect a central chair whose swing vote pulls reps from many factions to moderate policies.

3. Give Fair Share Voting for projects, savings, etc.
   Let voters see each rep’s FSV spending.

3,4. Reduce agenda effects and scams.
   Streamline group decision making.
A group’s decision rules pull its culture toward fair shares or toward winner takes all. They spread power wide and balanced, or narrow and lopsided. Other relations among members may follow their models.

Fair rules make cooperation safer, faster and easier. This favors people and groups who tend to cooperate. It can lead others to cooperate more often.

Politics are more principled and peaceful when all the rules help us find fair shares and central majorities. This might reduce political fears within our community; which helps us to be more receptive, creative and free.

So better rules can help us build better decisions, plus better relationships. Both can please most people. Fair rules won’t please some who get money or self-esteem from war-like politics. But countries with fair rules tend to rank higher in social trust and happiness. Voting is an exemplary tool between people.
Group decision-making has two linked processes. A discussion process may have a facilitator, agenda, some reports and proposals. Plus the members may suggest some questions and changes for each proposal. A decision process asks all members which proposals have enough support to be winners.\textsuperscript{2}

Voting only yes or no leads us to discuss and decide one formal “motion” at a time in a very strict sequence. It stifles the sharing of ideas and development of plans.

But both consensus and ranked choice ballots let us decide some closely-related options at the same time. Both reward blending compatible ideas. pages 9, 31 They’re less divisive than yes-or-no voting. p. 14, 45, 56 So more members want to help carry out the decision.

Why Take a Vote

Discussing an issue well often resolves most parts, with mandates up to 100%. Yet we might want to decide some parts with the best voting tools. Why?

The best rules strengthen some reasons for voting:

- Choice ballots can speed up meetings. pages 27, 33
- Secret ballots reduce social pressure and coercion.
- Well-designed ballots and tallies promote equality:
  Even busy or unassertive people can cast full votes.
Groups that seek consensus on basic agreements may vote on other issues: They may vote on a detail like a paint color or on a bunch of optional projects.

**Fair Share Voting gives fair shares of power.** Inclusive yet fast, it won't let one person block action. It is cooperative, not consensual or adversarial. It is less about blocking rivals, more about attracting allies. Its ballot guides a voter to limit and prioritize projects. Its tally weighs dozens of desires, of varied cost and priority, from dozens of intersecting groups. We may modify our FSV results through our usual process.

**All majorities prefer the Condorcet winner.** A proposal must top each rival by 50% plus one; and we may require it to win 60% or even 100% over the status quo on issues involving our basic agreements. If so, 41%, or even one voter, may block a Condorcet winner by showing it breaks a basic agreement.

**Carpentry Analogy**

The nice consensus methods are like nice hand tools, and these nice voting methods are like nice power tools. The power tools speed cutting through piles of boards or issues, and cutting through a steel-hard one. The high-touch tools help us discover and develop insights into new options. So most of us want both kinds of tools.

This primer told the *stories* of the best voting tools. The games will let us *be inside* the simple tallies.
How You Can Try a Voting Tool

It's easy to test-drive a decision tool in a survey. Or a council can form a committee of the whole to discuss, vote, tally and report results to enact by their old rules.

Many groups adopt a book of parliamentary rules; then they amend it with “special rules of order” to make their decisions more popular, stable and quick.4

Steering Analogy

When choosing a voting rule, a new Mercedes costs little more than an old jalopy. That cost is a bargain when the votes steer important budgets or policies.

Does your car have an 1890 steering tiller or a new, power steering wheel? Does your town have an 1890 voting rule or a new, centrally balanced rule? e.g. p. 33

Many groups offer apps to tally your votes.
https://AccurateDemocracy.com/z_tools.htm
II. Workshop Games

Get your hands on 4 great voting rules.

See how fair-share tallies organize voters.

Vote fast for projects, reps or policies.

A tally board has

- A card for each voter,
- A column for each option,
- A finish line for the favorites.
1. Instant Runoff Voting Elects One

Tabletop games make Ranked Choice Voting lively.

- The **finish line** is the height of half the cards, plus one. That is how many votes a candidate needs to win.
- If no one wins, we **eliminate** the weakest candidate. We draw names from a hat to break ties.
- If your favorite loses, you can **move** your card. You can give it to your next backup choice.
- We **repeat** this to eliminate all but one, the winner!

This **chart** shows four columns on a tally board. The rule **eliminated** Anna, so **voter JJ moved** his card. Then Bianca lost; **BB and GG moved** to their backups. They were free to choose different backups.¹

<table>
<thead>
<tr>
<th>Anna</th>
<th>Bianca</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eliminated 1ˢᵗ</td>
<td>Dropped 2ⁿᵈ</td>
</tr>
</tbody>
</table>

JJ ranks Anna 1, Celia 2.  
GG ranks Bianca 1, Diana 2.
The winner had no surplus. The last loser held 4 votes.
Instant Runoff Quiz

1. How can your group use this voting rule?
2. A card you move counts just like others, True or False?
3. Ranking a backup can’t hurt your first choice, T or F?
4. Only 1 candidate can reach 50% plus a vote, T or F?
5. Name 4 cities or schools that use IRV. See page 62.

Answers: 2) True, each card counts once in each round.
3) True, a backup doesn't count unless your 1st has lost.
4) True, more reps would need over 100% of the votes.

Ranked Choice Voting, RCV, includes IRV and STV.
The endorsements page lists some of the users.
Most of the groups tally their votes easily with apps.

2. Fair Rep by Single Transferable Vote

A tabletop game to elect three reps works like STV.

🌟 We set the finish line at 1/4 of the cards plus one.
Don't put your card on a column that is full.

🌟 One at a time, we drop the weakest candidate.
🌟 If your candidate loses, you can move your card.
🌟 Repeat until three candidates reach the finish line!

Ask the IRV questions above again for STV adding:
4. Can only 3 candidates each win 25% plus a vote?
7. What total do a trio of reps win all together?

Answers 4) True, 6) See page 18. 7) 75%.
3. Fair Shares Buy Shared Goods

For our tabletop tally of Fair Share Voting (FSV)

We each get three 50¢ voting cards to buy treats.

We decided an item needs modest support from six of us to prove it’s a shared good worth shared funding. So the finish line marks the height of six cards, and

You may put only one of your cards into a column.

A costly item must fill several columns. A column here holds $3, so a $6 item must fill two columns.

Rule B lets you vote an average 50¢ card, a short 25¢ and a tall 75¢ to let you help your top choice more. Four eager voters can fill a column.

When an item wins, the treasurer hides its cards. We drop items that cost more than all the cards left. Then, one at a time, we drop the least popular item, the one with the lowest level of cards in its columns.

Move your cards from a loser to your lower choices.

Stop when we’ve paid up all items still in the game. Only a few items can win, but all voters can win!

An app might show our cards popping into 60¢ columns. It pops a 17¢ dot into column 1 of each voter’s favorite. Then 16¢ pops into each voter’s next column, etc. to a round of 3¢. A ballot’s 15 cards still total $1.50 but average just 10¢. After it drops an item, those left regrow from zero.²
Setting Budget Levels

A budget level needs enough cards to pay its cost. A $3 bag of apples needs its voters to fill one column; a $6 size just needs some voters to fill one more.

I can’t afford to help items I rank below a costly item. Some of us might rank it high only at low-budget levels. This leaves money in our ballots to help more favorites get the base number of votes and so qualify for funding.

Similar options, like various fruits for treats or trees for a park may split their voters; so, by plurality rules, they may lose to a plain nut.

Adjusting Ongoing Budgets

Levels for all of the ongoing budgets can make a ballot too long and hard for many voters. So instead of FSV, any members may offer an ongoing-budgets plan. Most voters feel it is easier to rank these few plans. A Condorcet Tally picks a plan. It will have majority support and it’s likely to be coherent, but it might not be fair to some groups.
4. Condorcet Tally Centers a Policy

To win a Condorcet tally, an item must top each rival, **one-against-one**. Two games show how it works.

1. ✡ Flag L stands at our center, by the median voter. Flags J, K and M surround L, 2 m. or yards from it.
   ✡ We asked 9 voters, “Are you closer to J than to K? If so, please raise a hand.” Only one raised a hand. We entered J vs. K, etc. in a **pairwise table** below.

<table>
<thead>
<tr>
<th>against</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>for J</td>
<td>—</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>for K</td>
<td>8</td>
<td>8+1=9</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>for L</td>
<td>6</td>
<td>5</td>
<td>—</td>
<td>5</td>
</tr>
<tr>
<td>for M</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4+5=9</td>
</tr>
</tbody>
</table>

   The nine voters gave L a majority over each rival.

2. ✡ Flag L has a short Red ribbon and a long Blue one.
   ✡ If the Red ribbon gets to you, the Red policy gets your vote with its narrow appeal.
   ✡ But if the Red cannot touch you, the wide appeal of the Blue policy gets your vote. Which one wins?

   If the flags mark places for a heater in an icy cold room:
   1. Do we put it at our center or in the biggest group?
   2. Do we turn on its fan to spread the heat wide?
   3. Do voters on the fringes have any influence?
   4. Can the median voter enact any policy alone?
   5. Do we get a balanced or a one-sided policy?

A tally board might serve 30 voters. It’s easier to mark paper ballots or webpages and tally by computer. Some groups need the secure paper ballots or printouts used by “risk-limiting audits” to catch frauds and errors.4

□ Yes-or-no ballots badly oversimplify most issues. They often highlight only two factions: “us versus them.” So they tend to polarize and harden conflicts.

✺ Ranked choice ballots reduce those problems. They let you rank your 1st choice, 2nd choice, 3rd etc. Ranks can reveal a great variety of opinions. Surveys find most voters like the power to rank candidates.5

**Party Menu 1**

<table>
<thead>
<tr>
<th>Treats*</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Almonds</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>6 Apples</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>6 Apricots</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>6 Bananas</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>6 Peaches</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>6 Oranges</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

Which 1 wins by plurality? Hints: 5 sweets vs. 1 nut, and the first name on a ballot gets a 2% to 9% boost.6 Which treat wins by IRV or by Condorcet? With treats, we could adjust their quantities so the costs are equal. FSV helps when the costs vary; see page 24 or online.6

* Treats are personal but a bulk buy saves money.

47
It’s easy to host a workshop in a class or a club. In an hour, 20 voters can review plurality, try IRV, then try STV for colors as shown below or FSV for treats.

Eat the winners! while you plan to take a poll, for the central majority or fair shares, in a group you know. What qualities do you want in this poll? See page 34.

Voter education can be fun to do and it is essential. FairVote.org has model ballots, voter-education flyers, videos, stories and much more to help your voters. Music video at flip2020.wordpress.com

Many groups offer apps to tally your votes. https://AccurateDemocracy.com/z_tools.htm

Hands-on games and shared treats make memories of how each tool works. Next, very simple simulations and national statistics show more high-level effects. The effects on pages 54 through 59 are important for the governance of schools, clubs, towns and more.
III. SimElection Games

2. Watch Full Rep Balancing a Council

These maps show **Choice** ballots electing **five** reps. A little shape is a voter’s ballot; a big one is a candidate. Each little ballot has the **color** and shape of its current top-ranked choice, the closest remaining candidate.²

Sim players position candidates to get votes (page 56). The numbers on a map show each candidate's current share of the votes; 16.7% will win a seat and a **halo**! After this round of counting, the weakest candidate will lose and get an **X**. The 3.7% will be the first to lose.

To make close rivals distinct, colors vary from a spectrum.
In map 2, the first loser gets an X. Her ballots change color and shape as each counts for its new top choice, a close rival. So the nearby fields of color grow. (Game maps may portray places or political positions.*)
In 6, a candidate has just enough votes to win a seat. In 8, a winner has **surplus votes**; a fair share goes to each supporter's next choice.

The maps show only two issue dimensions. But a five-seat council can form decisions in 3D, if its reps are diverse. More issues and positions get represented in campaigns and debates, then in policies and projects—in **3D**! “RCV…gives you proportionality on every axis.”

"RCV…gives you proportionality on every axis.”

"RCV…gives you proportionality on every axis.”
A Diverse and Balanced Council

This pattern of voters makes their choices easy to see. SimElection™ also created uniform, random, custom and normal bell-curve patterns for games and research. To learn about life, play in lifelike normal patterns.¹¹

In 13, the box with half the ballots holds all but one rep. Does STV tend to favor and elect fringe candidates? Five reps together need what percentage of the votes? Are the reps diverse? Balanced fairly? Centered well?

No. Over 83%. Yes. Yes. See page 55.
Fair Share Voting helps voters self organize many ad hoc groups big enough to fund their favorite items. Each voter may try to help a few different groups to give money, labor, water or another resource to one-time projects or optional items in ongoing budgets; e.g. FSV can choose repairs for roads but not new routes.

**One-Time Resource Allocations OTRAs**

This map shows the public plants proposed by voters on a campus. Often, the site closest to a voter is most useful to him and is his top choice. But this case has four distinct interest groups: Red, Yellow, Green, and Blue. Items can be close together on the map and yet be far apart in color. So this map shows a third issue dimension as deep layers of color within your screen.

This is a proposed blue-flower garden. It is far from what the red voters want, even if it is next door. A voter prefers the closest item with his favorite color.

Here a garden club had $240 for public plants and each interest group got a quarter of the votes. So how much did each group allocate?

A red rosebush cost $30, two big sunflowers $15, an evergreen $20, a blue passionflower vine $60. A group with only a few, low-cost proposals might be able to fund them all. Did that happen here?

Answers: $60, $60, $60, $60. Yes for sunflowers.
Any big group can focus or spread out their spending.

**Loring Allocation Rule** uses a Condorcet Tally to fund some items, then a Fair Share tally. The Condorcet Tally funds items with wide appeals to ad hoc majorities. It lets you vote for a sure winner without wasting any of your own power. The Fair Share tally then funds items with narrower, more intense appeals.
1. The **Loring Ensemble Rule** elects a few reps by a Condorcet Tally, the rest by an STV tally; see page 8. On this next map, a Condorcet Tally elects **Al**; then Full Rep by four-seat STV elects **Bev, Di, Fred** and **Joe**. The map shows each winner’s name in **bold**.

2. The **Condorcet Series** elects the candidates closest to the middle of the voters: **Al, Bev, GG, Joe** and **Fred**. The lower right or southeast gets no rep, so the council is not well balanced. Each winner’s name is in **italic**.

3. **Full Rep** by five-seat STV elects **Bev, Di, Fred, GG** and **Joe**. Each name is **underlined**. It eliminated **Al**!

**Notice Two Surprises**

1. It may be surprising that **broad Fair Rep** helps the **central Condorcet** winner be the council's **swing voter**. It shows political diversity can be a source of balance and moderation as well as a wide perspective.

2. **Central reps** can lead a **broad Fair Rep council** to **broader majorities**, holding moderates from all sides. This can add to or replace some of the “checks and balances” used to moderate a council's action.

* **MMP** could elect diverse & central reps, pages 19 & 29.
An **Ensemble** council combines the breadth and balance of **Fair Representation** with the centering of **Condorcet**.

A council’s **swing voter** on an issue such as budgets, or regulations, can strongly influence those decisions. **STV** works to elect a **balanced council** with moderates, and often a centrist. But it does not push any rep to please a **central majority** of voters. **Condorcet** does.
4. Watch Condorcet Find the Center

This map puts a line halfway between Al and a rival. Voters on Al’s side of a line are closer to Al and so they rank Al higher than the rival. The long line has more voters on Al’s side than on Joe’s. So Al wins that test. **Al wins a very different majority over each rival here.**

To do that, Al's political positions must be *central* and have *widespread support*. page 31

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In contrast, **STV** requires the most *intense support*, first-rank votes, to avoid early elimination. ○ page 48

**IRV** does too, with a high finish line of $50\% + 1$ vote. 56
Voting Reform Is Cost Effective

**Issue campaigns** teach voters and reps for years. This eases one problem, but rarely fixes the source.

**Election campaigns** cost a lot all at once. The biggest faction can skew all policies for a few years.

**Reform campaigns** cost no more than elections. RCV strengthens reps and policies for many years.

<table>
<thead>
<tr>
<th>Year</th>
<th>Issue</th>
<th>Election</th>
<th>Reform</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2024</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2026</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Campaign **costs in green**, **results in yellow**.

**Strengthen Votes ∴ Mandates ∴ Policies**

RCV expands the base of power, the numbers of effective votes and voters supporting:

<table>
<thead>
<tr>
<th>Votes for real choices tally up real democratic power.</th>
</tr>
</thead>
<tbody>
<tr>
<td>It needs big mandates to govern new nondemocratic powers in big money, media, marketing and more.</td>
</tr>
<tr>
<td>Mandates aid actions to achieve popular goals, building up the democracy and its leaders.</td>
</tr>
</tbody>
</table>
Voting Reforms Aid Other Reforms

Ballot access rules make it hard for small parties to get on the ballot, because big parties fear “spoilers.” To calm that fear, let voters rank their backup choices. **Ranked Choice Voting**, RCV, opens up elections.

A news firm may serve us better if the subscribers steer more parts of it than investors or advertisers do. There’s a low-cost method for any membership group: **Fair Share Voting** can reward the best news bloggers.

Public campaign funding lets reps and rivals give less time to their sponsors, more time to their voters. One plan gives each voter $50 of vouchers to donate.1 Such nameless gifts or FSV can cut corrupt paybacks. Big sponsors aim gifts to buy the few swing-seat races. RCV and Fair Representation make that harder.2 So big biz and billionaires may buy fewer seats.

“It’s very hard to see us fixing the climate until we fix our democracy.” —Dr. James Hansen3

Good schools, taxes and voting may go together.4 Schools build our group skills and political know how.

Sabbatical terms make the current rep run against a former rep returning from rest, reflection, and research. Then the candidates include two with records in the job! RCV does not split up a group with similar candidates.

Citizens’ assemblies5 and their referendums can get more choices and control by using Condorcet Tallies. The laws on voting rules, reps’ pay, sponsors, etc. need referendums as all reps have conflicts of interest. 58
Civil Society Builds Democracy

Merchants and workers in medieval guilds won some rights by building group skills, unity, and allies. Now local councils, co-ops and schools can build skills.

Empirical thinking grew in the Age of Enlightenment, leading to revolutions for human rights. Now rights must include Fair Representation and Fair Share Voting.

A big need for workers has often raised their pay and political strength, thus the political equality in a society. Now more progressive taxes can help political equality.

Move to a more democratic place (or .org)

To get good policies quickly, go where they are used. For example, do you want the democratic control and long-term savings of county or co-op owned utilities?

CEOs may need to be assertive, but not authoritarian. The latter corrupts commerce and wrecks human rights.

How can voting tools reduce abuses of power?

Better Voting, Better Living

Data on the next page suggests, to elect reps who enact superb health, education, tax⁷ and other policies, a country needs effective, not wasted votes.

Does Fair Representation elect more women?  p.20
Do they tend to raise health and education results?¹⁰
Can these lift low incomes and reduce violent crime?

Do voter turnouts or seats won by women tend to be lower in countries with more: people? diversity? religion? polygamy? corruption? militarism? hot weather?! Are those harder to change than the voting rules?

Data Definitions and Sources

Measures of respectable power and policies, circa 2016

Seats avg. per election district; Inter-Parliamentary Union
Women % of main legislature; Inter-Parliamentary Union
Turnout % Int'l. Inst. for Democracy and Electoral Assistance
Health Rank first is best; World Health Organization
Math Score Program for Int’l Student Assessment, OECD
Poverty % of children below half of median income; OECD
Murder Rate per million; 7th UN Survey of Crime Trends
Scores weighted by population give a voting rule’s average.

The table’s worst numbers are in bold.
<table>
<thead>
<tr>
<th>Country</th>
<th>Seats</th>
<th>Women</th>
<th>Health</th>
<th>Math</th>
<th>Poverty%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fair Rep</strong></td>
<td>page 14</td>
<td>37%</td>
<td>75%</td>
<td>15</td>
<td>503</td>
</tr>
<tr>
<td>Sweden</td>
<td>14</td>
<td>44</td>
<td>86</td>
<td>23</td>
<td>502</td>
</tr>
<tr>
<td>Finland</td>
<td>13</td>
<td>42</td>
<td>67</td>
<td>31</td>
<td>548</td>
</tr>
<tr>
<td>Spain</td>
<td>6.7</td>
<td>41</td>
<td>69</td>
<td>7</td>
<td>480</td>
</tr>
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<td>40</td>
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<td>490</td>
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<td>Belgium</td>
<td>8.4</td>
<td>39</td>
<td>89</td>
<td>21</td>
<td>520</td>
</tr>
<tr>
<td>Denmark</td>
<td>15</td>
<td>38</td>
<td>88</td>
<td>34</td>
<td>513</td>
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<td>37</td>
<td>80</td>
<td>17</td>
<td>528</td>
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<td>Austria</td>
<td>19</td>
<td>28</td>
<td>82</td>
<td>9</td>
<td>505</td>
</tr>
<tr>
<td>Switzerland</td>
<td>7.8</td>
<td>28</td>
<td>49</td>
<td>20</td>
<td>530</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>21, 4</td>
<td>19</td>
<td>81</td>
<td>36</td>
<td>407</td>
</tr>
<tr>
<td>Uruguay</td>
<td>30, 2</td>
<td>13</td>
<td>90</td>
<td>65</td>
<td>409</td>
</tr>
<tr>
<td><strong>Mixed, MMP</strong></td>
<td>p17</td>
<td>36%</td>
<td>71%</td>
<td>26</td>
<td>505</td>
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<tr>
<td>Germany</td>
<td>19, 1</td>
<td>39, 13</td>
<td>72</td>
<td>25</td>
<td>514</td>
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<tr>
<td>New Zealand</td>
<td>50, 1</td>
<td>45, 15</td>
<td>77</td>
<td>41</td>
<td>500</td>
</tr>
<tr>
<td><strong>STV, IRV</strong></td>
<td>p 36, 12</td>
<td>34%</td>
<td>89%</td>
<td>29</td>
<td>517</td>
</tr>
<tr>
<td>Australia</td>
<td>6, 1</td>
<td>38, 25</td>
<td>93</td>
<td>32</td>
<td>520</td>
</tr>
<tr>
<td>Ireland</td>
<td>4</td>
<td>15</td>
<td>70</td>
<td>19</td>
<td>501</td>
</tr>
<tr>
<td>Runoff</td>
<td>page 10</td>
<td>27%</td>
<td>60%</td>
<td>1</td>
<td>496</td>
</tr>
<tr>
<td>France</td>
<td>1</td>
<td>27</td>
<td>60</td>
<td>1</td>
<td>496</td>
</tr>
<tr>
<td><strong>Plurality</strong></td>
<td>page 4</td>
<td>21%</td>
<td>58%</td>
<td>34</td>
<td>486</td>
</tr>
<tr>
<td>Canada</td>
<td>1</td>
<td>26</td>
<td>68</td>
<td>30</td>
<td>527</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1</td>
<td>29</td>
<td>66</td>
<td>18</td>
<td>495</td>
</tr>
<tr>
<td>USA 2020</td>
<td>1</td>
<td>24, 25</td>
<td>66, 49</td>
<td>37</td>
<td>474</td>
</tr>
</tbody>
</table>

AccurateDemocracy.com/d_stats.htm will add
Corruption transparency.org, Democracy Index eiu.com,
Freedom freedomhouse.org, Purchasing power, Liesure.

U.S. turnout rises ~15% in presidential years.
Some Users and Endorsers

1. RCV elects leaders in more and more places: Maine, Minneapolis and New York City have adopted it; plus Duke, Harvard, Princeton, Rice, Stanford, Tufts, MIT, Cal Tech, Carlton, Clark, Hendrix, Reed, Vassar, the Universities of CA, Houston, IA, IL, MA, MN, NC, OK, TX, VA, WA, & WY.11


Many groups endorse ranked choice voting.
Organizations: Cities and colleges on pages 15 and above. The Academy Awards (Oscars), AAAS, Common Cause, Sierra Club, UUA, Church of England...
Leagues of Women Voters: Arizona, California, Florida, Maine, Massachusetts, Minnesota, North Carolina, Oklahoma, Oregon, South Carolina, Vermont, and Washington.
Journalists: David Brooks 6/1/2018, Hendrik Hertzberg...
Celebrities: Jennifer Lawrence 6/5/2018, John Cleese, Dr. James Hansen, Krist Novoselic, ...
US Senators: John McCain, Barak Obama, Bernie Sanders...
US Reps: Keith Ellison, John Anderson, Abner Mikva, John Porter, Jamie Raskin, and more
Parties: Democrats of CA, CO, MA, and ME; Green Party US, Libertarian Party, Republicans of Alaska, Utah, and more

http://www.fairvote.org/ranked_choice_voting_endorsements
About Us

FairVote is a nonpartisan champion of electoral reforms that give voters greater choice, a stronger voice, and a democracy that works for all Americans.

It has a proven record since 1992 as a trailblazer that advances and wins electoral reforms at the local, state, and national levels through strategic research, communications and collaboration. Today it is the driving force behind advancing ranked choice voting and fair representation in multi-winner legislative districts that will open up our elections to better choices, fairer representation and more civil campaigns.

About My Work  VotingSite @gmail.com

In 1990, John R. Chamberlin and Samuel Merrill III allowed me to use the simulation research results by each of them to advance a hybrid Condorcet-IRV rule. In the 1990s, I coded PoliticalSim™ and SimElection™. They compared 30 single- and multi-winner rules from around the world and were used in a few universities. Pages 48-56 show graphics from the simulation games. My sim research led to Democracy Evolves¹² in 1997. Then I helped FairVote as a webmaster and librarian. For 10 years, I cheered Twin Oaks Community as they stretched the uses of Fair Share Voting. (page 24 & 44) This ebook summarizes AccurateDemocracy.com

My goals are better group-decision results (page 61), through systemic changes (e.g. pages 34, 58), through better tools between people (e.g. pages 24, 27 and 35).
We feel this information should be free. So we give it a Creative Commons License, make this ebook free and print a few $10 copies.

Please let others share this to improve voting in your clubs, college, city and state. What will you do or give to live in a more educated and accurate democracy? Consider helping FairVote.org


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ISBN 9978-1-7362637-2-3

Kindly send any requests, questions, comments or compliments to me at VotingSite@gmail.com
Some Questions to Ask

Some basic questions to ask about any voting rule:
Has any group used it repeatedly over several years?
How consequential and competitive was their voting?
What were the percentages of turnout and of wasted votes?

What incentives does it give to voters and leaders?
Is its pattern of winners erratic or consistent over the years?
If it is consistent, is the pattern fair shares or winner takes all?
If winner takes all, is the winner from one side or the center?
If it is from the center, is the winner’s appeal wide or narrow?
How often was it manipulated by a gerrymander, a “spoiler,”
a stacked agenda, strategic voting, or other rigged votes?

Some basic questions to ask about voting-rule research:
Are the data from: 1) Real competitions, 2) Computer sims
with: A) normal distributions of voters and candidates B) weird
distributions, 3) Concocted examples, 4) Mathematical proofs.
Only the first really includes human psychology. Most sources
 cited here use real data or realistic simulations. Other kinds
of data risk “garbage in, garbage out” and may be fascinating
mathematically but misleading in real-life.

Manipulations are best resisted by Condorcet-IRV hybrids. They are even better than the usual majority IRV. All decisive
non-dictatorial voting rules can be manipulated sometimes.
So the operant questions are, 1) “How often can each rule be
manipulated in a realistic electorate?” 2) “How easy is the
manipulation?” and 3) “How damaging is its effect?”

Why do this work? To help the most people, give them tools
to make better group decisions, to allocate resources and to
reduce conflicts, page 35. The multiplier effect is huge as
a small budget for voting can steer much bigger budgets.
So, many schools, clubs and towns are adopting RCV.
Endnotes by Chapter

For each chapter, the endnote numbers restart at one. Good pdf viewers let you click on each entry’s Web link. I abbreviate and format as needed to fit the page width. I favor online sources that use data from real elections or realistic sims. This is essential for realistic research.

This is the first book about **Ensemble Councils, Fair Share Voting** and rules of order for **Condorcet policies**. It covers some **AccurateDemocracy.com (®)** pages including a_primer.htm a_workshop.htm d_stats.htm. The website has **free apps z_tools.htm**, animations d_stv2d.htm or p_tools.htm, and Web links z_bib.htm

**FairVote.org** has model ballots and bylaws, stories, analysis, an **activist_toolkit**, videos and more.

---

**I. Introduction**, Tragedies, and Progress

+ American Accademy of Arts and Sciences. Our Common Purpose, American Democracy for the 21\textsuperscript{st} Century.


5 FairVote, *Monopoly Politics 2020*, fairvote.org/monopoly_politics

7 See pages 30, 31, and 54-56.

8 The statistics on pages 60-61 compare stable nineteen democracies.

66

1. **ELECTING A LEADER**, Instant Runoff  Ⓚ c_irv.htm


“Randkded Choice Voting outperforms runoffs in upholding majority rule” Rob Richie, Madeline Brown. (FairVote, 2017)

3 The Editorial Board. “The Primaries Are Just Dumb.”

4 Ranked Choice Voting Civility Project fairvote.org/rcv_civility_project/


nytimes.com/2021/02/25/opinion/elections-politics-extremists.html

5 Korean election http://en.wikipedia.org/wiki/Roh_Tae-woo


Chau, Amy and Rubenfeld, Jed. “The Threat of Tribalism”

7 Represent Women
https://representwomen.org/representation_and_rcv_a_long_term_solution
2. Electing Representatives, Fair Rep d_intro.htm

1 and 7 Statistics on page 60-61 compare democracies. d_stats.htm


7 Krook, Mona Lena. Quotas for Women in Politics: Gender and Candidate Selection Reform Worldwide; (Oxford University Press, 2009), 123.


www.nytimes.com/2020/05/15/world/coronavirus-women-leaders.html
3. Allocating Budgets, Fair Share Voting

FSV=STV if $# = voters#, 1 share = $1, and 1 seat costs $#/ (seats+1)

1 Shah, Anwar ed., *Participatory Budgeting*; The World Bank

2 Moore, Joe *Participatory Budgeting in the 49th Ward*,
http://participatorybudgeting49.wordpress.com/
In 2014 voters in Cambridge, Massachusetts saw the same pattern.

3 Tupelo-Schneck, Robert and Robert B Loring, *Fair Share Voting*,
*Proposing a New Voting Method for Participatory Budgeting*, 2012;


5 Oaks, Adder. “Participatory Budgeting in an Income Sharing Comm-
unity;" *Communities: Life in Cooperative Culture*; #175, 6/2017.
ic.org/participatory-budgeting-in-an-income-sharing-community/
*Leaves of Twin Oaks*, 2013. To cut a budget level needed support
from 55% of the voters; so no one tried to protest a cut.

participatorybudgeting.org https://pbstanford.org

4. Enacting a Policy Condorcet Tally

1 Chamberlin et al above, also Merrill. *c_data.htm* *l_data.htm*
If A tops B, B tops C, and C tops A, we have a “voting cycle.”
Tally IRV with the motions in the top voting cycle. *a l_cycles.htm*

2 Green-Armytage, James. "Four Condorcet-Hare Hybrid Methods for
single-winner elections"; votingmatters.org.uk/ISSUE29/I29P1.pdf
"Strategic Voting and Nomination"; *Social Choice and Welfare*; 2014
Tideman, Nicolaus. *Collective Decisions and Voting*; (Ashgate
Green-Armytage, Tideman and Rafael Cosman, "Statistical Evalu-
Loring One-winner Rule, LOR *c_data.htm* *l_lor1.htm*

3 See the captions on pages 15 and 56. *c_irv.htm#compare*
Social Effects and Uses

1 Bennett-Smith, Meredith. *World's Happiest Countries 2013*, http://www.huffingtonpost.com/2013/05/28/worlds-happiest-countries-2013-australia_n_3347347.html; Cites UN, OECD.


1 Susskind, Lawrence and Jeffery L. Cruikshank; *Breaking Robert’s Rules*; (Oxford University Press, 2006).


4 Accurate Democracy motions for Condorcet: https://en.wikipedia.org/wiki/Committee_of_the_whole

II. Workshop Games, hold a vote

1 A voter’s ranks may skip around, e.g. 1st left, 2nd far right, 3rd center

2 Loring, Robert. “A Simple Tally Method,” @ p_tally.htm#tech

3 Loring, Robert. "Other Budget Rules,” @ q_other.htm


www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=25120


6 Krosnick, Jon A. "In the Voting Booth, Bias Starts at the Top", *New York Times*, nytimes.com/2006/11/04/opinion/04krosnick.html?_r=0
Workshop video 1. youtube.com/watch?v=oHRPMJmzBBw
Workshop Video 2. youtube.com/watch?v=_5SLQXNpzsk
+ https://www.fairvote.org/rcv_ballot_design
+ A ballot by the inventor of FSV http://tupelo-schneck.org:8080/tag/

III. Simulations, compare, d_stv2d.htm, p_tools.htm


11 See entries above for Robert Loring; or John R. Chamberlin et al; or Samuel Merrill III; or James Green-Armytage.

99 Brady, Henry E. "Dimensional Analysis of Ranking Data", American Journal of Political Science. 34 (11/90)

Back Matter, compare rules, z_review.htm,


Ackerman, Bruce and Ian Ayres, Voting with Dollars: A New Paradigm for Campaign Finance; (New Haven: Yale Univ. Press, 2002).

2 Gifts to “spoilers” are less effective under Ranked Choice Voting. Multi winner districts make it hard to target money on just one seat.


See also, “conservation ... depends on effective governance;” https://www.nature.com/articles/nature25139.

70

4 Compare the math scores on, pages 60-61. d_stats.htm


6 Tishman, Shari and Albert Andrade; Thinking Dispositions, https://pdfs.semanticscholar.org/57cb/278acf38e9da6490d266260f9a9c50d20da3.pdf Many people use these ways of thinking at times. But fewer have a disposition to use them routinely. learnweb.harvard.edu/alps/thinking/docs/dispositions.htm

7 See progressive taxes in Wikipedia pages on Carbon_tax, Consumption_tax#Expenditure_tax, Land (Georgism), Speculation (Financial_transaction_tax), and Wealth_tax.


9 Loring, Robert; “Egalitarian versus Authoritarian Values” https://accuratedemocracy.com/a_quotes.htm#egal


11 https://www.fairvote.org/rcv_in_campus_elections https://www.fairvote.org/where_is_ranked_choice_voting_used


https://web.archive.org/web/1999102301124/http://members.aol.com:80/loringrbtn/a_intro.htm

Back Cover, See page 62.
Resources, for education and action

AccurateDemocracy.com, gives you free software, animations of STV or Fair Share Voting, and pages on each voting tool, a a_primer.htm, a a_workshop.htm, d_stats.htm, SimElection.com, and references z_bib.htm

eBook AccurateDemocracy.com/AcDem.pdf

FairVote.org is a nonpartisan catalyst for electoral reforms. It is the best source for news, analysis and resources about voting reform in U.S. cities, states and colleges. It gives you model ballots, bylaws, editorials, research reports, voter education flyers, testimonials and videos. Ranked Choice Voting Resource Center.

New Tools

Kindly send any requests, questions, comments or compliments to me at VotingSite@gmail.com
Glossary and Index

Accurate democracy gives fair shares of seats and spending. It cuts scams and enacts a policy that tops all rivals. 4 goals
a Mandate is the authority effective votes loan to a winner. It is a basic goal. Contrast a wasted vote. .... 11-17, 57
a Majority is more than half of the votes.. ............11, 14, 30-, 56
a Plurality has the most votes–often not a majority.
" rules use yes-or-no voting; contrast RCV...6, 11, 23, 31-, 61
a Ranked Choice Vote lets you rank a 1st choice and backups. It is a tool for effective votes and fair shares. ........14-, 33, 46
a Threshold to win or finish line is the percentage of the votes a rule requires for a win. ............6, 14, 17, 42, 48
a Wasted vote went to a loser, a surplus or a powerless rep. It discourages voting and weakens democracy. .12-18, 23, 27
a Wrecking amendment ruins a bill’s chances or effects. a Free-rider " doesn’t relate to the original bill. .......30, 33, 34

See also the Summary and Index of Benefits on page 34.

Acronyms and Synonyms

Consensus process ................................................................. 33, 36-
CT, Condorcet Tally, Pairwise Comparison .... 28-30-, 45, 54-56
EC, Ensemble Council: FR & CT ... New ......................... 8-, 31, 54-56
FSV, Fair Share Voting...... New .................. 22-24-, 36-, 43-44, 52-
FR, Fair Rep, Fair Representation (US), see also STV,
   PR, Proportional Representation and MMP; ..... 7, 16-18-, 61
RCV, Ranked Choice Voting, Choice Voting (US), includes:
   STV, Single Transferable Vote for FR. ............... 42, 48-51, 54
   IRV Instant Runoff Vote (US) Majority Preferential Vote (Aus)
   AV, Alternative Vote (UK) or Hare for SMD..... 14-, 39-42, 56
SMD, a Single-Member District elects one rep. 6, 16, 19