



# Accurate Democracy

4 Great Tools in Color



Help Groups from Classrooms to Countries

Loring

ACCURATE DEMOCRACY

FairVote

“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

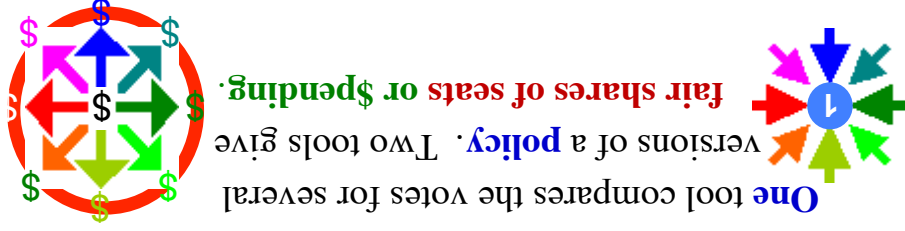
“Congratulations on a brilliant piece of work.”  
—Robert Fuller, former president of Oberlin College,  
author of *Somebodies and Nobodies*, and *All Rise*

The primer, games and pictures let you

**Read, Touch and See How**

The best types of voting are quick and easy,  
**centered and stable, yet inclusive and fair.**

They help groups, from classrooms to countries.



**Share** this colorful

booklet with friends.  
**Grow** support in your  
school, club or town.  
**Enjoy** better relations,  
politics and policies.



Glossary and Index

Accurate democracy gives groups fair shares of seats and spending  
It cuts scams and enacts a policy that tops all rivals. 4 goals

Mandate is the authority effective votes loan to a winner. It is a basic goal. Contrast a wasted vote. 11-21, 57

Majority is more than half of the votes. 11-14, 30-56

Plurality option has the most votes — often not a majority.

rules use yes-or-no voting; contrast RCV. 4-6, 11, 23, 31-61

Ranked Choice Vote lets you rank your first choice and backups. It is a tool for effective votes and fair shares. 14, 33, 45

Voting Rule (system, tally, tool) has a ballot, tally steps, and a level of support needed for a win. 6, 14, 21, 24, 30, 42-

Wasted vote, for a loser, a winner's surplus or a powerless rep, discourages voting and weakens democracy. 12-18, 23, 27

Wrecking amendment ruins a bill's chances or its effects.

a Free-rider " doesn't relate to the original bill. 30, 33, 36

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

Acronyms and Synonyms

Consensus process 33, 36-

CT, Condorcet Tally, Pairwise Comparison 28-30-44, 54-56

EC, Ensemble Council of CT plus FR New 8-31, 54-55

FR, Fair Rep, Fair Representation (US); PR, Proportional Representation. (See PRCV, STV below.) 7, 16-21, 54, 61

MMP, Mixed-Member Proportional 19-20, 55

FSV, Fair Share Voting New 22-24-36-43, 46, 52-

RCV, Ranked Choice Voting: STV Single Transferable Vote, PRCV Proportional RCV, for Fair Rep. 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, contrast FR, PR 6, 16, 19

Reform steps 4 3 2 1

Accurate

Democracy

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Help Groups from Classrooms to Countries

Robert Loring



Voters waiting

FairVote

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A voter's ranks may skip around, e.g. 1 <sup>st</sup> left, 2 <sup>nd</sup> far right, 3 <sup>rd</sup> center.	2
A Simple Tally (a)p_tally.htm#tech Other Budget Rules (a) q_other.htm	2
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fairvote.org/ranked-voting-and-questions-about-election-integrity/	www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=25120
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Portland Voters Overwhelmingly Support Ranked Choice Voting, 2015	fairvote.org/portland_voters_overwhelmingly_support_ranked_choice_voting
Krosnick, Jon A. "In the Voting Booth, Bias Starts at the Top", <i>NY Times</i> , http://nytimes.com/2006/11/04/opinion/04krosnick.html	5
+ https://www.fairvote.org/rcv_ballot_design	+ https://www.fairvote.org/rcv_ballot_design
+ A ballot by a developer of FS V http://tupelo-schneck.org:8080/tag/	6
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Loring, Robert. simelction.com 1996 http:politicalsim.com	https://accuratedemocracy.com/d_stv2d.htm (a) p_tools.htm
2 Lorence, Stella; "Massachusetts Voters May Face Ranked Choice Voting Question...". BU News Service. 3/3/2020. Quote from Dr. Moon Duchin, founder of MGGG Redistricting Lab, Tufts University.	3
See entries for Chamberlin et al; or Merrill III; or Green-Armytage.	+ Brady, Henry E. "Dimensional Analysis of Ranking Data", American Journal of Political Science. 34 (11/90)
<b>★ Back Matter</b> (a) a_goals.htm (a) z_review.htm	1
https://en.wikipedia.org/wiki/Democracy_voucher	Ackerman, Bruce; and Ian Ayres. <i>Voting with Dollars: A New Paradigm for Campaign Finance</i> ; (New Haven: Yale U. Press, 2002)
2 Gifts to "spoilers" are less effective under Ranked Choice Voting.	Multi winner districts make it hard to aim money at just one seat.
nytimes.com/2018/06/23/opinion/sunday/james-e-hanssen-climate-global-warming.html also, "conservation ... depends on effective governance;" https://www.nature.com/articles/nature25139.	3

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The **four** best voting tools are fast, easy and fair. Parts **A**, **B**, and **C** reveal how tools steer power.



# Contents





## 2. Electing Representatives, Fair Rep @ d.intro.htm

- 4 Roberts, Nigel. *New Zealand: A Long-Established Westminster Democracy Switches to PR*, (Stockholm, IDEA, 1997)  
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- 5 Mathews, Dylan, "3 Reasons New Zealand has the Best Designed Government in the World" [www.vox.com/2014/9/23/6831777/new-zealand-electoral-system-constitution-mixed-member-unicameral](http://www.vox.com/2014/9/23/6831777/new-zealand-electoral-system-constitution-mixed-member-unicameral) USA, Jan 2021.
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<https://lawreview.richmond.edu/files/2013/03/Richie-473.pdf>
- 7 Krook, Mona Lena. *Quotas for Women in Politics: Gender and Candidate Selection Reform Worldwide*, (Oxford U. Press, 2009) 123.
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- 8 <http://www.nytimes.com/2016/11/10/upshot/women-actually-do-govern-differently.html> pages 60-61 above, and @ d\_stats.htm  
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- FSV=PRCV if # = voters#, 1 share = \$1, and 1 seat costs \$# / (seats+1)
- 1 Shah, Anwar ed. *Participatory Budgeting*; The World Bank, Wash. DC; <http://participatorybudgeting49.wordpress.com/sitesources.worldbank.org/PSGLP/Resources/ParticipatoryBudgeting.pdf>
  - 2 Moore, Joe. *Participatory Budgeting in the 49th Ward*, In 2014, voters in Cambridge, Massachusetts saw similar results.
  - 3 Tupelo-Schneck, Robert and Robert B. Loring, *Fair Share Voting*, for PB Conference **slideshows**, NYC, 2012. @ p\_intro.htm
  - 4 News of the Oaks, *Leaves of Twin Oaks*, Louisa, VA, USA; 1995.
  - 5 Oaks, Adder, "Participatory Budgeting in an Income Sharing Community", *Communities: Life in Cooperative Culture*; #175, June 2017.
  - 6 *Leaves of Twin Oaks*, 2013. A budget cut required 55% of the voters. [ic.org/participatory-budgeting-in-an-income-sharing-community/](http://ic.org/participatory-budgeting-in-an-income-sharing-community/)
  - 6 Proportional PB with Additive Utilities, 2022 [arxiv.org/pdf/2008.13276.pdf](https://arxiv.org/pdf/2008.13276.pdf) [pobstanford.org/dieppe2015/ranking](https://pobstanford.org/dieppe2015/ranking) [pobstanford.org/nyc8/knap sack](https://pobstanford.org/nyc8/knap sack)

## 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. In this simple 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.<sup>3</sup> 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?



## Endnotes by Chapter

For each chapter the endnote numbers restart at one. The website and free ebook have more complete citations. 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**.

**AccurateDemocracy.com** (a) has pages on each voting rule.

They add links, videos and free software: @ [z tools.htm](https://ztools.htm).

**FairVote.org** has model ballots and bylaws, editorials,

research reports, voter-education stories, videos and more.

Ranked Choice Voting Resource Center [www.rcvresources.org](https://www.rcvresources.org)

## A. Voting Primer, Tragedies, Eras and Progress

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+ Braun, Andrés and Cabrera, Alejandro. *Nosotros, la gente*. (Córdoba,

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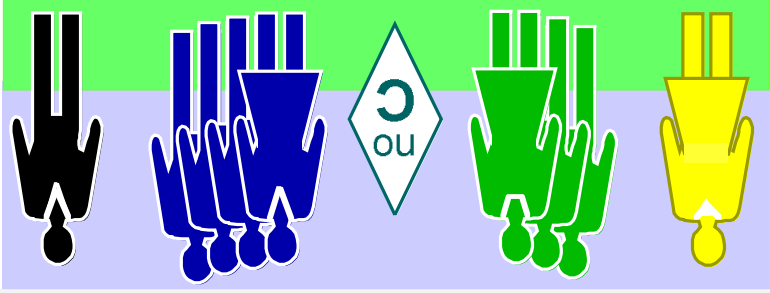
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*Seven Democracies* (Oxford: Oxford University Press, 1994)

7 Statistics on page 60-61 compare nineteen stable democracies.

## In the 20<sup>th</sup> Century Fair-Rep Elections ⇒ One-Sided Majorities



\$ \$ \$ \$ \$ Policies \$ \$

Typical Council Elected By Fair Representation

**Fair Representation** was developed around 1900 to end some major problems caused by the 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. Thus Fair Rep tallies give fair shares of representation.<sup>6</sup> 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 is enacts policies skewed toward their side.

## Better Voting, Better Living

This data suggests, to elect a good government that enacts superb health, education, tax<sup>7</sup> and other policies, a country needs effective, not wasted votes.

Does **Fair Representation** elect more women? p.18

Do they tend to raise health and education results?<sup>10</sup>

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** average 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

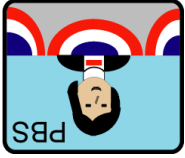
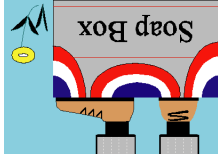
**Murder Rate** per million; 7<sup>th</sup> UN Survey of Crime Trends

Scores weighted by population give a voting rule's average.

The table's **worst** numbers are in **bold**.

60

## Progress of Democracy



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.

What's more, it needs strong, 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.<sup>8</sup>

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.

## Voting Reforms Aid Related Reforms

### 1 Ballot access rules make it hard for small parties

To calm that fear, let voters rank their backup choices.

**Ranked Choice Voting, RCV**, opens up elections.

### 3 A news firm may serve us better if the subscribers

steer more parts of it than the owners or advertisers do.

There's a low-cost method for any membership group:

**Fair \$hare Voting** can reward the best news bloggers.

### 3 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.<sup>1</sup>

Such nameless gifts or **FSV** can cut corrupt paybacks.

Big \$ponsors aim gifts to buy the few swing districts.<sup>2</sup>

### 1 2 RCV or Fair Representation make that harder.

So big business and billionaires may buy fewer seats.

*"It's very hard to see us fixing the climate until we fix our democracy." Dr. James Hansen<sup>3</sup>*

### 1 2 Good schools, taxes and voting may go together.<sup>4</sup>

Schools build our group skills and political-know how.

### 1 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!

Two alike do not break apart a group that uses **RCV**.

### 4 Citizens' assemblies<sup>5</sup> and their referendums can get

more choices and control by using **Condorcet Tallies**.

The laws on voting rules, reps' pay, \$ponsors, etc., need referendums because the reps have conflicts of interest.

## Plurality Election

Here we see three rivals step up, asking for votes.

**Each voter prefers the candidate with the closest position.**

A voter on the left votes yes for the candidate on the left.

**K** is the candidate with a stance nearest four voters.

**L** is the nearest to two and **M** is the nearest to 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, **K, L or M?**

*Answers to questions are at the bottom of each page.*

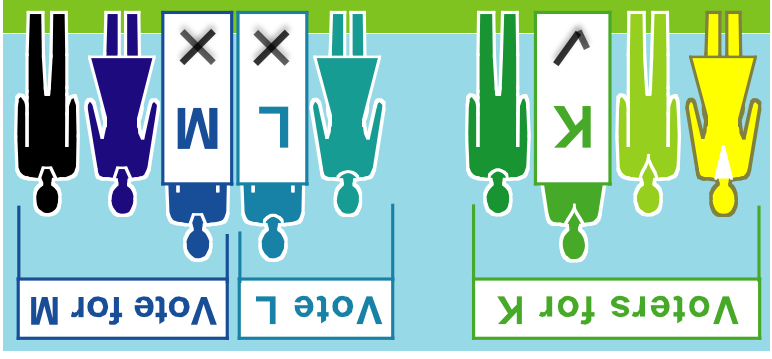
A mere plurality gives the winner a weak **mandate**.

This is the authority effective votes loan to a winner,

by consent not coercion. Strong mandates to winners

support and speed action to reach popular goals.

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

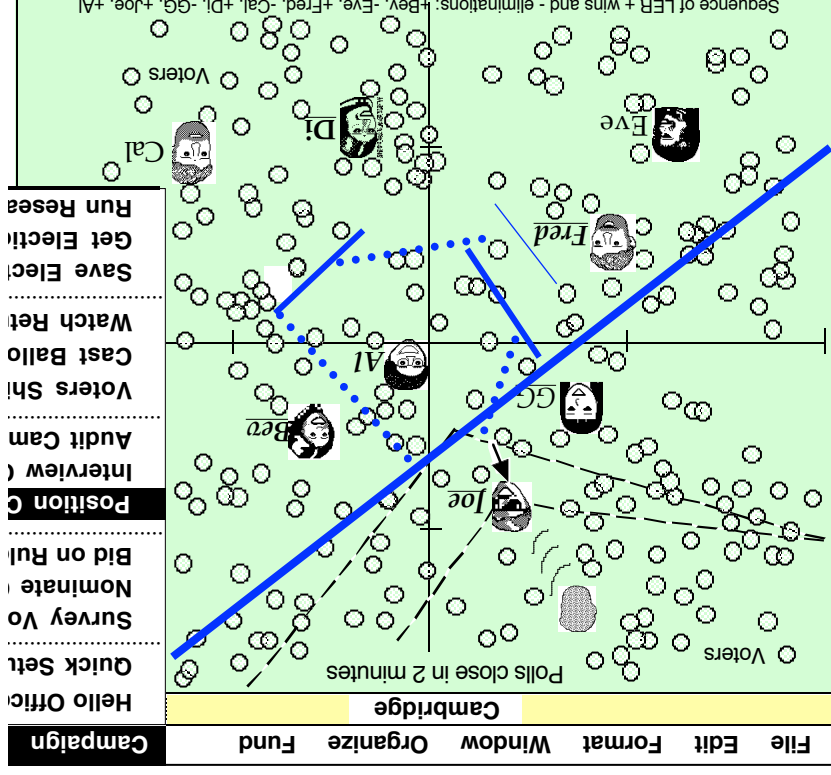


*Answers: No. K. M. L is nearest two.*



## 4. Watch Condorcet Find the Center

This map puts a line halfway between AI and a rival. Voters ○ on AI's side of each line are closer to AI, so they rank AI over the rival. The long line has more voters on AI's side than on Joe's. So AI wins that test. AI wins a very different majority over each rival here. To do that, AI's political positions must be *central* and have *widespread support*. page 31



In contrast, **PRCV** requires the most **intense support**, first-rank votes, to avoid early elimination. See page 48 ● **RCVI** does too, with a high finish line of 50% + 1 vote.

## Politics in Two Issue Dimensions

When more issues (or identities) concern the voters, a voting-tally rule keeps its character.<sup>1</sup>

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 his or her 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.”



## Contrast 3 Councils, each with 5 seats

1. **Loring Ensemble Rule** elects a few reps by a Condorcet Tally, the rest by a PRCV tally; see page 8. On this next map, Condorcet Tally elects **Al**; then Fair Rep by four-seat PRCV 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. **Fair Rep** by five-seat **PRCV** 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**. With these tools, political diversity can be a source of moderation as well as balance and a wide perspective.

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

## Ranked Choice Voting Patterns

Running for president of South Korea, the former aide to a dictator faced two popular reformers. The two got a majority of the votes but split their supporters. So the aide won a **plurality** (37%, 28%, 27%, 8%). He claimed a mandate to continue oppressive policies. Years later he was convicted of treason in the tragic, government killing of pro-democracy demonstrators.<sup>5</sup>

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



## From five factions to a majority mandate.

1) **Violet** loses; so backup choices get those votes.  
2) **Amarilla** loses; backup choices get those votes.

This **chief executive** starts in a big band of voters on the biggest side, then builds a majority. She is a strong and widely-popular **advocate** for their point of view.

➔ For 11 years, Papua New Guinea used RCV, then plurality rule for 27 years but ethnic violence increased. They returned to RCV and the violence decreased.<sup>6</sup>

Irish and Australian voters have used RCV for decades. They call it the Alternative Vote or Preferential Vote.

Some Americans call it Instant Runoff Voting, IRV. The inside cover lists some groups using it in the USA.<sup>7</sup> It often helps women achieve parity in politics.<sup>8</sup>

The workshop shows an RCV game on pages 39-42.

### 3. Simulation of Fair Share Voting

**Fair Share Voting** helps voters organize many ad hoc groups large enough to fund their favorite items. Each voter may try to help a few groups give money or labor to one-time resource allocations (OTRAs) or maybe to optional items in some ongoing budgets (e.g., FSV can choose repairs for roads but not new routes.)

**To find the best buys for our money, use Participatory Budgeting meetings then Fair Share Voting ballots and tallies.**

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 the map shows a third issue dimension as deep layers of color within the page.



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 their fave color.



Here a garden club had \$240 to buy 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 bush \$20, a blue passionflower vine \$60.**

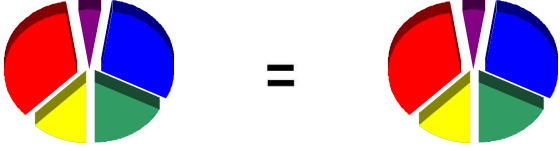
A group with only a few, low-cost proposals might be able to fund them all. Did that happen here?

Answers: **\$60, \$60, \$60, \$60.** Yes for sunflowers.

### Fair Shares and Moderates

**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. Even the biggest party in a district tended to elect more **independent**-minded reps. They could work together for moderate policies.<sup>3</sup>



✓ **Shares of votes equal fair shares of seats.**

**New Zealand** switched in 1996 from Single-Member Districts to a layer of **SMDs** within Fair Representation. This is called 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 Maori reps increased from 7% to 16%, which is almost proportional to the Maori population. Voters also elected 3 Polynesian reps and 1 Asian rep.<sup>4</sup>

## 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** uses more equal votes for each rep (p. 20-21). So each majority of reps *does* stand for most voters. This produces **policies closer to public opinion**.<sup>2</sup>

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

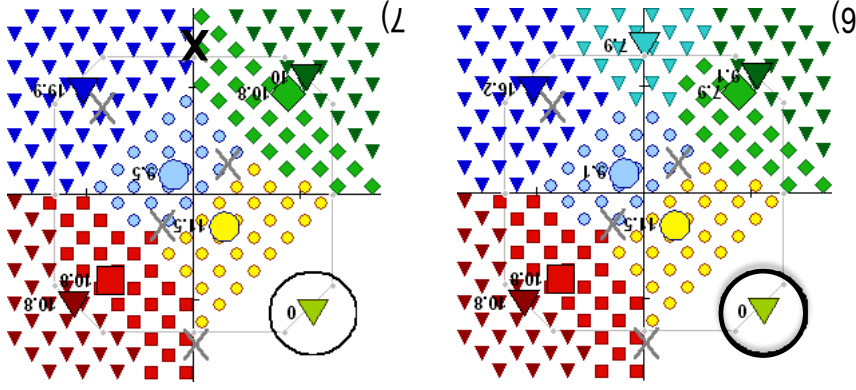
Many voters see a woman in a multi-winner race less as fighting her rivals, more as **supporting her issues**.

Councils with fewer women tend to do less for health care, childcare, education and other social needs.<sup>8</sup> Then poor health and education weaken workers and children.

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.

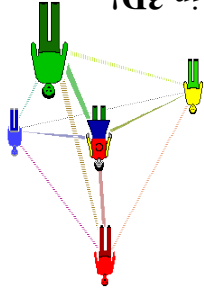
A more accurate democracy leads toward a better **quality of life**, as measured by the scores on page 60. We would all like better quality-of-life results for our country, and for our towns, schools, clubs and co-ops. So help friends talk about and try these voting rules.

## Votes Transfer, Elect Reps

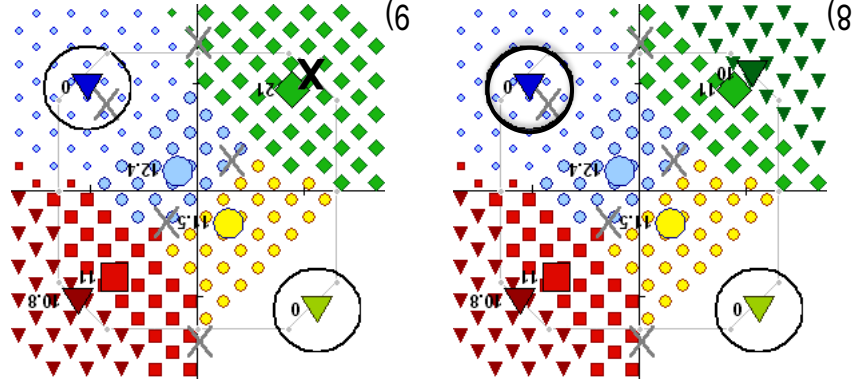


In 6, a candidate has just enough votes to win a seat. In 8, a winner has **surplus votes**; a fair share goes to each supporter's next choice.

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—all in 3D!



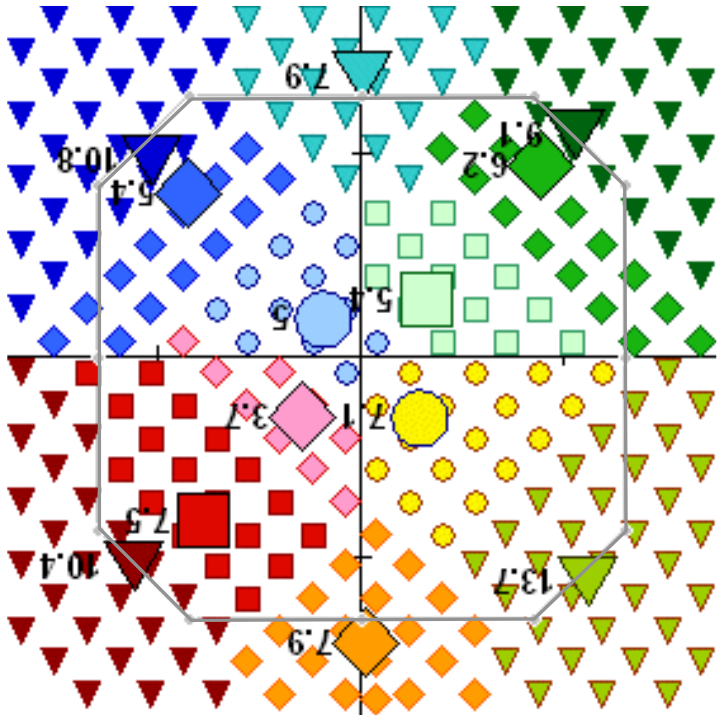
“RCV... gives you proportionality on every axis.”<sup>2</sup> ⇄ ⇄ ⇄



# C. SimElection Games

## 2. Watch Fair Rep Balancing a Council

These maps show **PRCV 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.



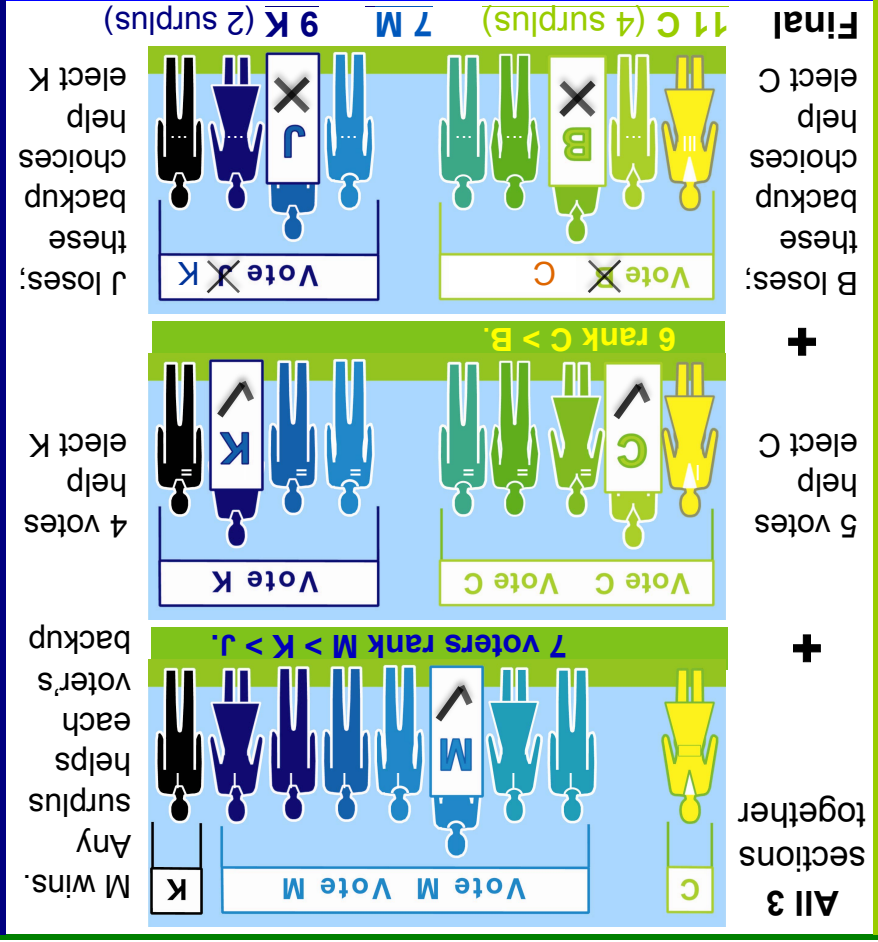
Sim players position their candidates to get votes (page 56).  
 The numbers on a map show each candidate's current share  
 of top-rank votes; getting 16.7% will win a seat and halo!  
 After this round of counting, the weakest candidate must  
 lose and get an **X**. The 3.7% **◇** will be the first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

To make close rivals distinct, colors vary from a spectrum.

48

# One Fair Representation Election

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.  
 To win here, you need to get the ballots of 7 voters.  
 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.

How many votes were wasted?

just 6

21



## Budget Levels and Long Ballots

True-life stories that say, “Avoid very long ballots.”

We have seen Ranked Choice Voting for reps is easy. It cuts worries about wasted votes, from your own ballot up to whole districts gerrymandered to waste thousands. The worries in the cases below didn’t occur in elections. Each of us had to **adjust too many budgets** at once.

We can’t afford items we rank below a **costly favorite**:

Our ballot had 40 items. Most of us ranked a few higher than the costly sure winner. But, as we picked from so many items, most got just a few shares. So most lost, even some that a few of us ranked over the sure winner. Then that costly fave won and left us with little money.

Wise voters ranked it high only at its low budget levels.

So they had money left to help more items each reach the base number of votes and qualify for funding.

## Adjusting Many Ongoing Budgets

Each year, we reset the levels of 50 ongoing budgets. Some voters said the **long ballot** was too hard and slow. Now, any .5 of us may propose a plan for these budgets. Most voters say it is easier to rank a few complete plans. Ranking plans evaluates more than each budget alone; some plans give more or less than the sum of their parts. And changing budget B may call for changing budget P. A **Condorcet Tally** then picks one plan. It is likely to coordinate all of the budgets and it has majority support. But it might be much nicer to a majority than to others.

46

## Patterns of Unfair Funding

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

In 2010, a Chicago alderman gave \$1,300,000 to PB.<sup>2</sup> But a plurality rule made the votes and **voters unequal**. 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.<sup>3</sup>



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, many 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.<sup>4</sup>

A voter’s PB share is sometimes over \$1,000 !

23

4. Condorcet Tally Centers a Policy

In a Condorcet tally, the winner 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 the **pairwise table** below.

against	J	K	L	M
for J	—	1	3	4
for K	8	8+1=9	4	5
for L	6	5	—	5
for M	5	4	4	4+5=9

The nine voters gave L a majority over each rival.

- 2) Flag L has a ribbon 1 or 2 m. long and a longer rope. If the ribbon reaches to you, the ribbon policy gets your vote with its narrow appeal. But if the ribbon cannot reach you, the wide appeal of the rope policy gets your vote. Which one wins?

If the flags mark places for **a heater** in a 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?
- Usually: Rope. Center. Yes. Yes. No. Balanced.

Fair Shares and Majorities

If the biggest group controls all of the money, the last item it buys adds little **happiness**; it is a low priority. But FSV makes some money buy *high* priorities of other big groups, adding more to their happiness.

**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.

**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.



spread the joy and opportunities.

**Plurality** rules let **surplus** votes waste a big group's power, as seen on page 20, or let rival items **split** it. 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 RCV, and surplus votes, as we'll soon see.

## Quiz RCV to Elect One

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 one candidate can reach 50% plus a vote, T or F?
  5. Name four cities or schools that use RCV. *Inside cover*
  6. What benefits does it give them? *See page 14.*
- Answers:** 2) True, we count each card 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, includes **RCV1** and **PRCV**.  
The inside cover lists some of the users.  
Most of the groups tally their votes easily with apps.

## 2. Fair Rep by Proportional RCV (PRCV)

- A tabletop tally to elect three reps works like **PRCV**.
- 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 RCV1** questions above again for PRCV, adding:
4. Can only 3 candidates each win 25% plus a vote?
  7. What total do a trio of reps win all together?
- Answers for PRCV:** 6) See page 16. 7) 75%.

42 **PRCV** is also known as Single Transferable Vote, STV. **PRCV** with a cost-aware tally gives us **FSV**. ↗

## 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.<sup>6</sup>
- Each big group controls only its share of the money.
- This reduces its means and **motivates** for **fighting**. It makes (hidden) empires less profitable.
- **Fairness builds trust** in spending by subgroups and raises support for it. This can reduce spending at the extremes of individual and central control.

## New Tool

N\$w N\$w  
N\$w N\$w

## Merits of FSV for an Elected Council

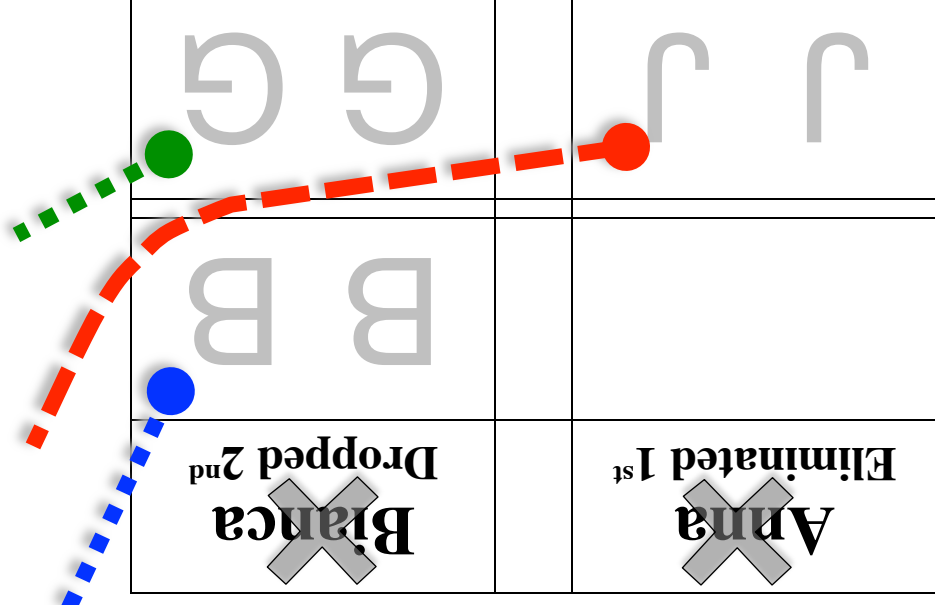
- FSV may give some funds to reps in the opposition, so Electing them is more **effective**, less of a wasted vote.
- They can relieve starvation budgets that hurt projects.
- This makes project management more **efficient**.

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

FSV games may let us vote for treats and eat the winners! 27

## 1. Instant Runoff Voting Elects One

- Tabletop tallies 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 tally **eliminated** Anna, so voter **J** moved his card. Then Bianca lost, so **B** and **G** moved their cards. They were free to choose different backups!

40 J ranks Anna 1, Celia 2.  
GG ranks Bianca 1, Diana 2.

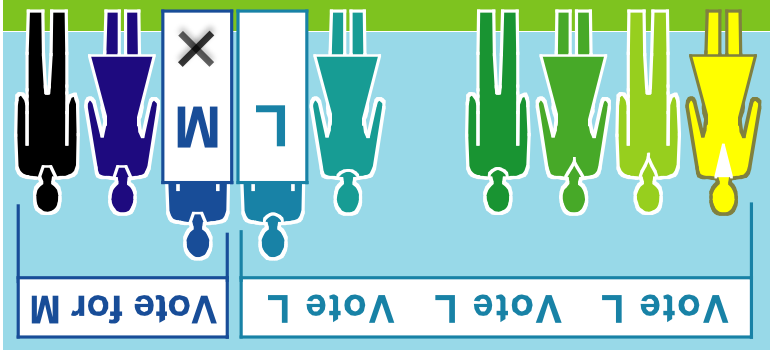
## Condorcet Test Number Three

Candidate **L** wins her last test by six to three.  $6 > 3$  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.”<sup>1</sup>

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, or moderates from districts for MMP, see page 8, or senators to make an upper house, see page 17. But is it likely to elect diverse reps, yes or no? It can select the base number for **FSV**, see page 26, or one plan for all the ongoing budgets, see page 44. But is it likely to spread spending fairly, yes or no? Do CEOs mostly **moderate**, or **advocate** (e.g. a mayor)?



Answers: L. No. No. Discuss this.



## 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 its 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.<sup>4</sup>



## Steering Analogy

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

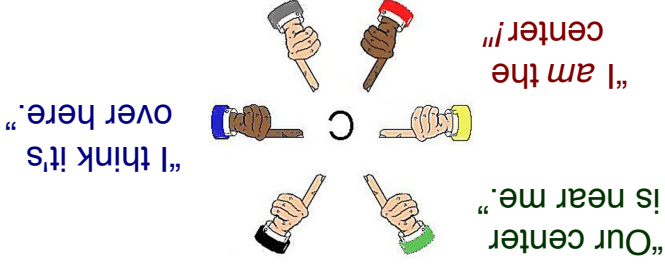
Does your car have an 1890 steering tiller or a **new**, power steering wheel? Does your town have an 1890 voting rule or a new, centrally balanced rule? e.g., p. 33.

Some groups offer apps to tally your votes.  
[https://AccurateDemocracy.com/z\\_tools.htm](https://AccurateDemocracy.com/z_tools.htm)

## Achieve 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 CT voter is "obtainable" and valuable.

So the winner is well balanced and widely popular.<sup>2,3</sup> 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.



Everyone debates our center of opinion.

## A Chair with Balanced Support

**CT** can elect a chairperson or a few **reps** to be the **swing voters** in an **Ensemble Council**, as pictured on pages 8 and 54. To win, a candidate needs to earn wide support. This gives her strong incentives to help the council balance its process and policies.

**RCV** has slightly different effects, incentives and uses.<sup>3</sup> Games will let us inside each tally to feel how it works.

Group decision-making has two linked processes.

A **discussion process** may have a facilitator, agenda, some reports and proposals. Members may ask some questions and suggest some changes for each proposal.

A **decision process** asks all members which proposals have enough support to be winners.<sup>2</sup>

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, and polarize less than yes-or-no voting. pages 9, 14, 31, 45, 56

So more members want to help carry out the decision soon and make it work; fewer try to slow it down.

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.

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 and 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 might seem 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**. It might include free-rider or wrecking amendments.

**Rigged votes** often build bad policy and animosity. To reduce these risks, let the members rank the options.<sup>6</sup>

Issue A, RCV Ballot A

Rank	Option
3	Continue discussion
2	Original bill, the main motion
1	Bill with Amendment 1 (a free rider?)
8	Bill with Amend. 2 (a wrecking amend.?)
7	Bill with Amendments 1 and 2
4	Postpone to a definite time 7 days
5	Refer the bill to a committee
6	No change (a vote for gridlock exposed?)

Any “Incidental Motions” do not wait for the ballot; these include a personal complaint or request.