

"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

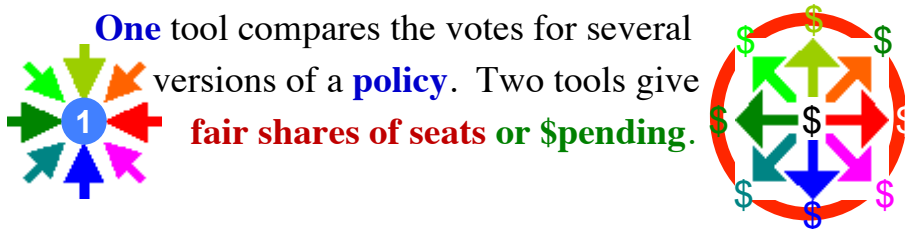
"Congratulations on a brilliant piece of work."
—Robert Fuller, former president of Oberlin College,
author of *Somebodies and Nobodies*, and *All Rise*

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They help groups, from classrooms to countries.



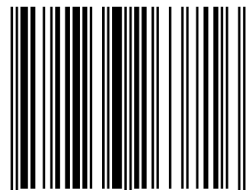
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fair shares of seats or \$pending.

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Loring

ACCURATE DEMOCRACY

FairVote



Accurate Democracy

4 Great Tools in Color



Help Groups from Classrooms to Countries

Some Users and Endorsers

1. Ranked Choice Voting, RCV, elects leaders

in more and more places: New York City and San Francisco, Alaska and Maine; colleges such as Duke, Harvard, Princeton, Rice, Stanford, Tufts, MIT, Cal Tech, Carlton, Clark, GWU, Reed, Vassar, UCSC, the Universities of Auburn, CA, IA, IL, MA, MI, MN, NC, OK, TX, VA, WA and WY.

2. Multi-winner PRCV elects whole councils at

Cambridge Mass, Portland Maine and Portland Oregon; plus colleges such as Carnegie Mellon, Clark, MIT, Oberlin, UC Cal, UC Davis, UCLA, UCSB, UT Austin, and Vassar. For decades, Australian and Irish voters have used Ranked Choice Voting in local and national elections.

Many groups endorse Ranked Choice Voting.

Organizations: Oscars, Church of England, Common Cause, Sierra Club, UUA, American Academy of Arts & Sciences,

Leagues of Women Voters: AZ, CA, FL, ME, MA, MN, NC, OR, SC, VT, WA, and more

National Newspapers Editorials: New York Times, USA Today, Washington Post; **Local Papers:** Portland Press Herald, Las Cruces Sun News, and many more

Journalists: David Brooks, Hendrik Hertzberg, and more

Celebrities: Jennifer Lawrence, Krist Novoselic, and more

US Senators: McCain, Murkowski, Obama, Sanders, more

US Reps: Keith Ellison, Jamie Raskin, Don Beyer, more

Parties: **Democrats** of CA, CO, ME and MA; Green Party, Libertarian Party; **Republicans** of Alaska, UT, VA, more.

fairvote.org/our-reforms/ranked-choice-voting-information/

About Us

About FairVote

info@fairvote.org

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

FairVote has a proven record since 1992 as a trailblazer that advances and wins electoral reforms at 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 for better government.

About My Work

VotingSite@gmail.com

In 1990, John R. Chamberlin, and Samuel Merrill III encouraged me to use their research, noted on page 63, to support a hybrid Condorcet-RCV tally. (See page 30.) In the 1990s, I created *PoliticalSim*[™] and *SimElection*[™]. They compared 30 single- and multi-winner tallies and were used in a few universities. (See pages 48-56.) My sim research led to *Democracy Evolves*¹¹ in 1997. Then I helped FairVote as a webmaster and librarian. For many years, I've advised some groups developing the use of Fair Share Voting. (See pages 24, 43 and 46.) This booklet summarizes *Accurate Democracy.com*.¹²

My **goals** include better group-decision results, [p. 61](#). [These can flow from decisive tools that have stronger incentives to cooperate.](#) (See [pages 24, 27, 33 to 35](#).)

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**

- a **Mandate** is the authority effective votes loan to a winner. It is a basic goal. Contrast a wasted vote. **11-**, 21, 57
- a **Majority** is more than half of the votes. **11-**, 14-, 30-, 56
- a **Plurality** option has the most votes — often not a majority.
" **rules** use yes-or-no voting; contrast RCV..... **4-6**, 11, 23, 31-, 61
- a **Ranked Choice Vote** lets you rank your first choice and backups.
It is a tool for effective votes and fair shares..... **14**, 33, 45
- a **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-**
- a **Wasted vote**, for a loser, a winner's surplus or a powerless rep,
discourages voting and weakens democracy. **12-18**, 23, 27
- a **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

4 Great Tools in Color
Help Groups from Classrooms to Countries

Robert Loring



Voters waiting

FairVote



We feel this **information** should be free,
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www accuratedemocracy.com/z_prints.htm
 preview of ISBN 978-1-7362637-0-9

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

- 5 Chalmers, Patrick. “The People Trying to Save Democracy From Itself”, <https://www.theguardian.com/world/2016/jul/02/democracy-tarnished-brand-desperate-need-reinvention>
- Bouricius, Terrill G. “Democracy Through Multi-Body Sortition: Athenian Lessons for the Modern Day”, New Democracy Inst., *Journal of Public Deliberation*, Volume 9 | Issue 1; 4-30-2013
- Navajas, Joaquin et al; “Aggregated knowledge from a small number of debates outperforms the wisdom of large crowds”, (Cornell U., 2017) <https://arxiv.org/abs/1703.00045> + info.vtaiwan.tw
- 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.
- 7 See progressive taxes in Wikipedia pages on: Carbon_tax, Consumption_tax#Expenditure_tax, Location_value_tax, Financial_transaction_tax (speculation), and Weath_tax.
- Piketty, Thomas and Arthur Goldhammer. *Capital in the 21st Century*; (Cambridge MA: The Belknap Press of Harvard U. Press, 2014)
- 8 <https://cyber.harvard.edu/publications/2018/01/communityfiber>
 Institute for Local Self-Reliance www.ilsr.org www.windsong.bc.ca
- 9 Loring, Robert. “Egalitarian versus Authoritarian Values”
@a_quotes.htm#egal
https://scholar.princeton.edu/sites/default/files/mgilens/files/gilens_and_page_2014_-testing_theories_of_american_politics.doc.pdf
- 10 Taub, Amanda; <https://psypost.org/2018/06/study-finds-less-corruption-countries-women-government-51530>
- Damien Cave. “Jacinda Ardern Sold a Drastic Lockdown With Straight Talk and Mom Jokes”. nytimes.com/2020/05/23/world/asia/jacinda-ardern-coronavirus-new-zealand.html Defines MMP
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- 12 web.archive.org/web/19991023011241/http://members.aol.com:80/loringrbt/a_intro.htm

B. Workshop Games, hold a vote @ a_workshop.htm

- 1 A voter's ranks may skip around, e.g. 1st left, 2nd far right, 3rd center.
- 2 A Simple Tally @p_tally.htm#tech Other Budget Rules @ q_other.htm
- 3 FairVote. "Ranked Voting and Election Integrity", 2013.
fairvote.org/ranked-voting-and-questions-about-election-integrity/
www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=25120
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- 4 Portland Voters Overwhelmingly Support Ranked Choice Voting, 2015
fairvote.org/portland_voters_overwhelmingly_support_ranked_choice_voting
- 5 Krosnick, Jon A. "In the Voting Booth, Bias Starts at the Top", *NY Times*, <http://nytimes.com/2006/11/04/opinion/04krosnick.html>
+ https://www.fairvote.org/rcv_ballot_design
+ A ballot by a developer of FSV <http://tupelo-schneck.org:8080/tag/>
- 6 https://AccurateDemocracy.com/a_teach.htm
- 7 www.youtube.com/watch?v=oHRPMJmzBBw or [v=_5SLQXNpzsk](https://www.youtube.com/watch?v=_5SLQXNpzsk)
https://accuratedemocracy.com/d_stv2d.htm @ p_tools.htm
- + <https://www.collegeciviclearning.org>

C. Simulation Examples, compare rules @ d_stv2d.htm

- 1 Loring, Robert. simelection.com 1996 <http://politicalsim.com>
https://accuratedemocracy.com/d_stv2d.htm @ 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)

★ Back Matter @ a_goals.htm @ z_review.htm

- 1 https://en.wikipedia.org/wiki/Democracy_voucher
- Ackerman, Bruce; and Ian Ayres. *Voting with Dollars: A New Paradigm for Campaign Finance*; (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.
- 3 nytimes.com/2018/06/23/opinion/sunday/james-e-hansen-climate-global-warming.html also, "conservation ... depends on effective governance;" <https://www.nature.com/articles/nature25139>.

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Contents



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A. Voting Primer

Two of Many Tragedies

Old ways of adding up votes often fail to represent large groups. In the United States, North Carolina had enough Black voters to fill two election districts, but, spread out over eight districts, they were a minority. 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. When forestry laws are weak, hasty logging wastes resources. But sudden limits on logging bankrupt some workers and small businesses.² If this **policy pendulum** swings far, it cuts down forests and species, then families and towns, again and again.



What can big swings in other policies do?

* 4. Enacting a Policy, Condorcet Tally @ [l_intro.htm](#) [l_motion.htm](#)

- 1 From Chamberlin, Cohen, and Coombs, cited on page 63 above.
- 2 If A bests B , B bests C , and C bests A , then we have a “voting cycle.” Tally RCV with the options in the top voting cycle. @ [l_cycles.htm](#)
Green-Armytage, James. "Four Condorcet-Hare Hybrid Methods for single-winner elections"; 2011; [votingmatters.org.uk/ISSUE29/I29P1.pdf](#) "Strategic Voting and Nomination"; *Social Choice and Welfare*; 2014.
Tideman, Nicolaus. *Collective Decisions and Voting*; (Ashgate Publishing Ltd. Hampshire, England; 2006) page 232.
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Chamberlin et al above, also Merrill. @ [c_data.htm](#) @ [l_data.htm](#)
Loring One-winner Rule, 1996; @ [l_lor1.htm](#)
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Journal of the Royal Statistical Society. Series A. Vol. 151, No. 2 (1988), pp. 243-275 <https://doi.org/10.2307/2982757>
- 3 See the captions on pages 15 and 56. @ [c_irv.htm#compare](#)
- 4 https://en.wikipedia.org/wiki/Primary_challenge
- 5 <https://www.nytimes.com/interactive/2018/11/10/opinion/house-representatives-size-multi-member.html>
- 6 Rules of Order https://AccurateDemocracy.com/l_motion.htm
- 7 fairvote.org/basalt_mayoral_race_features_ranked_choice_voting
+ <https://www.theatlantic.com/politics/archive/2018/02/a-better-way-to-look-at-most-every-political-issue/552752/>

* Social Effects of Group-Decision Tools

- 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. *OECD Better Life Index* <http://www.oecdbetterlifeindex.org/>
Rothstein, B. and E. Uslaner. “All for All: Equality, Corruption, and Social Trust” *World Politics*, Vol. 58, # 1, October 2005, pp. 41-72 https://projects.iq.harvard.edu/gov2126/files/rothstein_2005.pdf
- 2 Susskind, Lawrence and Jeffrey L. Cruikshank, *Breaking Robert's Rules*; (Oxford, Oxford University Press, 2006) Spanish: *Mejor Que La Mayoria*, with Francisco Ingouville, (Buenos Aires, Obelisco, 2011)
- 3 *Group-Process Pattern Language*, <http://groupworksdeck.org>
- 4 wikipedia.org Committee_of_the_whole Special_rules_of_order https://AccurateDemocracy.com/l_motion.htm

2. Electing Representatives, Fair Rep @ d_intro.htm

- 4 Roberts, Nigel. *New Zealand: A Long-Established Westminster Democracy Switches to PR*, (Stockholm, IDEA, 1997)
www.nigel-roberts.info/NSR-in-Reynolds-&-Reilly-1997.pdf
- 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
- Mathew Soberg Shugart. Emergency Electoral Reform. USA. Jan 2021.
fruitsandvotes.wordpress.com/category/american-political-reform/
- 6 Richie, Rob and Andrew Spenser. “The Right Choice for Elections” *University of Richmond Law Review*; vol. 47 #3, (March 2013)
<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.
- Healy, Andrew and Jennifer Pate. 2011. “Can Teams Help to Close the Gender Competition Gap?” *Economics Journal*, 121: 1192-1204
https://web.archive.org/web/20170706034311/http://myweb.lmu.edu/ahealy/papers/healy_pate_2011.pdf
- 8 <http://www.nytimes.com/2016/11/10/upshot/women-actually-do-govern-differently.html> pages 60-61 above, and @ d_stats.htm
www.nytimes.com/2020/05/15/world/coronavirus-women-leaders.html

3. Allocating Budgets, Fair Share Voting @ p_intro.htm

- FSV=PRCV if $\$# = \text{voters\#}$, 1 share = \$1, and 1 seat costs $\$# / (\text{seats} + 1)$
- 1 Shah, Anwar ed. *Participatory Budgeting*; The World Bank; Wash. DC;
siteresources.worldbank.org/PSGLP/Resources/ParticipatoryBudgeting.pdf
- 2 Moore, Joe. *Participatory Budgeting in the 49th Ward*,
<http://participatorybudgeting49.wordpress.com/>
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.
Leaves of Twin Oaks, 2013. A budget cut required 55% of the voters.
ic.org/participatory-budgeting-in-an-income-sharing-community/
- 6 Proportional PB with Additive Utilities, 2022 arxiv.org/pdf/2008.13276.pdf
pbstanford.org/dieppe2015/ranking pbstanford.org/nyc8/knapsack

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.³

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.*

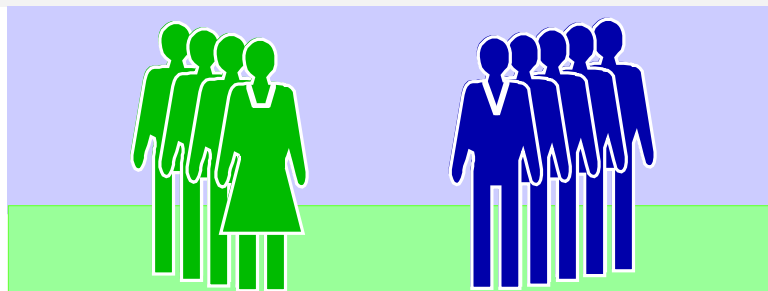


Will their votes be effective?

Eras, Tally Rules and Councils

In the 19th Century

Winner-Take-All Districts ⇒ Off-Center Councils



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

Typical Council Elected By Plurality Tallies

Some of England's former colonies still count votes by its old **plurality voting 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.⁴ 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 voters in a plurality district are given little or **no real choice**.⁵

If the voters in a few districts *are* given real choices, all power might flip from one faction of reps to another. (The **blue reps** ↓ have a majority in the picture above. ↑) Hopes and fears of sudden policy flips polarize politics. Each battle is brutal in part because it's **winner take all**.

* Each voting rule or system defines its ballot and its tally.

1. Electing a Leader, Ranked Choice Voting, @ c_irv.htm

- 1 Chamberlin, John R., Jerry L. Cohen, and Clyde H. Coombs; "Social Choice Observed: Five Presidential Elections of the American Psychological Association" *Journal of Politics*. 46 (1984): p. 479-502.
- "An Investigation into the Relative Manipulability of Four Voting Systems", *Behavioral Science*; 30:4 (Jan. 1985) pages 195-203.
- Merrill, Samuel III. *Making Multi-candidate Elections More Democratic*. (Princeton, NJ: Princeton University Press, 1988)
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- 3 *Ranked Choice Voting Civility Project* fairvote.org/rcv_civility_project
- Reilly, Ben. *Democracy in Divided Societies* (Cambridge U. Press, 2001) [nytimes.com/2021/02/25/opinion/elections-politics-extremists.html](https://www.nytimes.com/2021/02/25/opinion/elections-politics-extremists.html)
- 4 Wright, Stephen G. "Voter Turnout in Runoff Elections", *The Journal of Politics*, Vol. 51, No. 2 (May, 1989), pages 385-396 http://www.fairvote.org/ranked_choice_voting_outperforms_runoffs_in_upholding_majority_rule
- 5 Korean election, web.archive.org/web/20010113205900/http://nimbus.ocis.temple.edu/~jhurewit/history.html [wikipedia.org/wiki/Roh_Tae-woo](https://en.wikipedia.org/wiki/Roh_Tae-woo)
- 6 *Papua New Guinea: Electoral Incentives for Inter-Ethnic Accommodation* http://aceproject.org/ace-en/topics/es/annex/esy/esy_pg
- 7 https://www.fairvote.org/rcv_in_campus_elections https://www.fairvote.org/where_is_ranked_choice_voting_used
- 8 representwomen.org/representation_and_rcv_a_long_term_solution

2. Electing Representatives, Fair Rep @ d_intro.htm

- 1 Statistics on pages 60-61 compare the stable democracies. More at https://accuratedemocracy.com/d_stats.htm
 - 2 Huber, John D. and G. Bingham Powell, Jr., "Congruence Between Citizens and Policymakers in Two Visions of Liberal Democracy," *World Politics* v46 #3 (April 1994), pages 291-326.
 - 3 "Illinois Assembly on Political Representation and Alternative Electoral Systems", (IGPA University of Illinois, Spring 2001) <http://www.fairvote.org/media/pep/execsum.pdf>
- History of cumulative voting, 1870-1970: Three is better than one* <http://www.lib.niu.edu/1982/iisr04.html>
- <http://archive.fairvote.org/index.php?page=39&articlemode=showspecifi&showarticle=1325>

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 (@) has pages on each voting rule.
They add links, videos and free software: @ z_tools.htm.

FairVote.org has model ballots and bylaws, editorials, research reports, voter-education stories, videos and more.

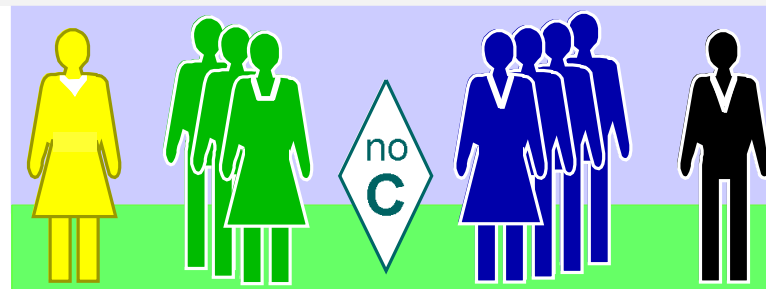
Ranked Choice Voting Resource Center www.rcvresources.org

A. Voting Primer, Tragedies, Eras and Progress

- + AAAS. *Our Common Purpose, American Democracy for the 21st Century*.
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- + Braun, Andrés and Cabrera, Alejandro. *Nosotros, la gente*. (Córdoba, Argentina: El Emporio Ediciones, 2021) *Argentina Tiene Solución*.
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hbs.edu/competitiveness/research/Pages/research-details.aspx?rid=84
- 1 Amy, Douglas J. *Proportional Representation: The Case for a Better Election System*. NC on page 30, <http://archive.fairvote.org/?page=1606>
- 2 Durbin, Kathy. *Tree Huggers: Victory, Defeat and Renewal in the Northwest Ancient Forest Campaign* (Seattle, The Mountaineers, 1996)
- 3 Hoag, Clarence and George Hallett. *Proportional Representation*, (New York City, The Macmillan Company, 1926)
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- Rein Taagepera, and Mathew Soberg Shugart. *Seats and Votes: the Effects and Determinants of Electoral Systems*. New Haven: Yale U Press, 1989.
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- 6 Lijphart, Arend. *Electoral Systems and Party Systems: A Study of Twenty-Seven Democracies* (Oxford: Oxford University Press, 1994)
- 7 Statistics on page 60-61 compare nineteen stable democracies.

In the 20th Century

Fair-Rep Elections ⇒ One-Sided Majorities



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

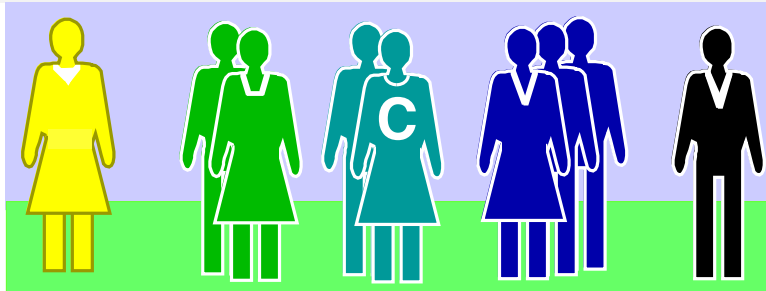
Typical Council Elected By Fair Representation

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.⁶ 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**.

In the 21st Century

Ensemble Councils ⇒ Balanced Majorities



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

Council Elected by Central and Fair-Rep 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. $\bigcirc + \bullet = \text{target}$ That's the target.*

Later pages will show how we can elect a rep with wide support and views near the center of the voters.⁷ 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**.

Country	Seats	Women %	Health Turnout	Math	Poverty%	Murder
Fair Rep	page 16	37%	75%	15	503	13% 12
<u>Sweden</u>	14	44	86	23	502	8 10
Finland	13	42	67	31	548	4 15
Spain	6.7	41	69	7	480	20 6
Norway	8.7	40	76	11	490	5 5
Belgium	8.4	39	89	21	520	13 16
Denmark	15	38	88	34	513	4 10
Netherlands	150	37	80	17	528	10 5
Austria	19	28	82	9	505	8 7
Switzerland	7.8	28	49	20	530	10 6
Costa Rica	21, 4	19	81	36	407	- 112
Uruguay	30, 2	13	90	65	409	- 111
Mixed	page 17	36%	71%	26	505	9% 11
<u>Germany</u>	19, 1	39, 13	72	25	514	16 11
<u>New Zealand</u>	50, 1	45, 15	77	41	500	15 9
PRCV, RCV	p.38,14	34%	89%	29	517	14% 10
Australia	6, 1	38, 25	93	32	520	15 10
Ireland	4	15	70	19	501	10 10
Runoff	page 12	27%	60%	1	496	11% 12
France	1	27	60	1	496	11 12
Plurality	page 6	25%	66%	34	486	19% 42
Canada	1	26	68	30	527	15 17
United Kingdom	1	29	66	18	495	10 12
United States, 2022	1	24, 25	60, 47	37	474	21 50

AccurateDemocracy.com/d_stats.htm will add
Corruption at transparency.org; Freedom at freedomhouse.org;
Happiness, Leisure, Social trust, and Peace.

U.S. turnout rises >15% in presidential years. 4.22.24

Better Voting, Better Living

This data suggests, to elect a good government that enacts superb health, education, tax⁷ 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?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 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

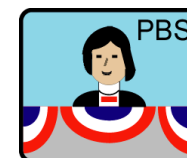
Poverty % of children below half of median income; OECD

Murder Rate per million; 7th UN Survey of Crime Trends

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



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.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.

1. Electing a Leader

Nine Voters

Let's think about this election: Nine voters want to elect a leader. The figures in this picture mark the positions chosen by these 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.



High taxes buying
great gov. services

Low taxes buying
poor gov. services

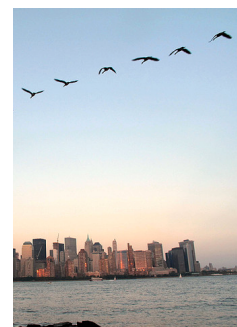
These colors aid readers less able to see colors.

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**.⁶ 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** of a society. Now more progressive taxes⁷ can help political equality.



Move to a more democratic place or group.

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?⁸

CEOs may need to be assertive, but not authoritarian. The latter corrupts commerce and wrecks human rights.⁹

Q: How can voting rules reduce the abuse of power?

A: *RCV rivals act nicer p.14. Swing reps moderate p.54. Fair Rep p.51, FSV p.24, & reforms on p.58 spread power. But a winner-takes-all tally starts a bad pattern.*

Voting Reforms Aid Related Reforms

1 **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.

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 Share 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.¹ Such nameless gifts or **FSV** can cut corrupt paybacks.

Big sponsors aim gifts to buy the few swing districts.²

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 Hansen³*

1 **2** **Good schools**, taxes and voting may go together.⁴ 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**⁵ and their referendums can get more choices and control by using **Condorcet Tallies**. The laws on voting rules, reps’ pay, sponsors, 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**?

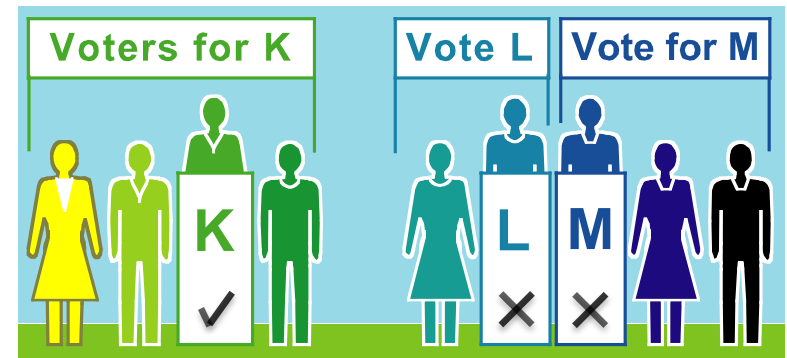
Who gets the second-largest number of votes, **K**, **L** or **M**?

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.



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?

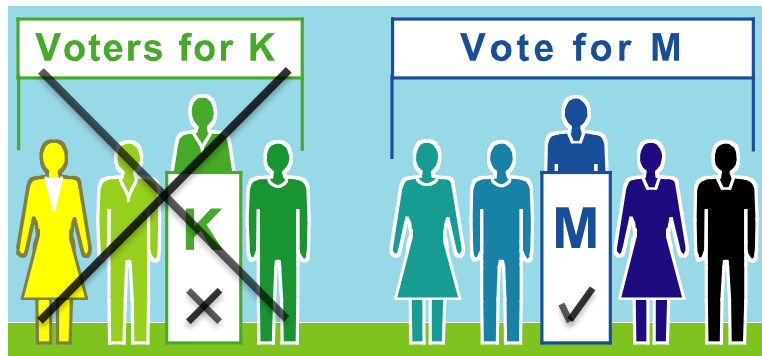
Wasted votes fail to turn a loser into a winner.

Effective votes succeed; a voting tally with more is more fair thus accurate, responsive and strong.

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

In effect, runoffs 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.



Four wasted votes. Candidate **M wins** a runoff.

Answers: No, each voter has one vote in each tally.
Yes, five. Yes. Yes, a majority mandate.

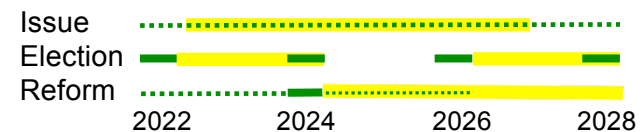
* Back Matter

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 can cost less, yet RCV reforms can improve voting and results for many years.



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

Stronger Votes ∴ Mandates ∴ Policies

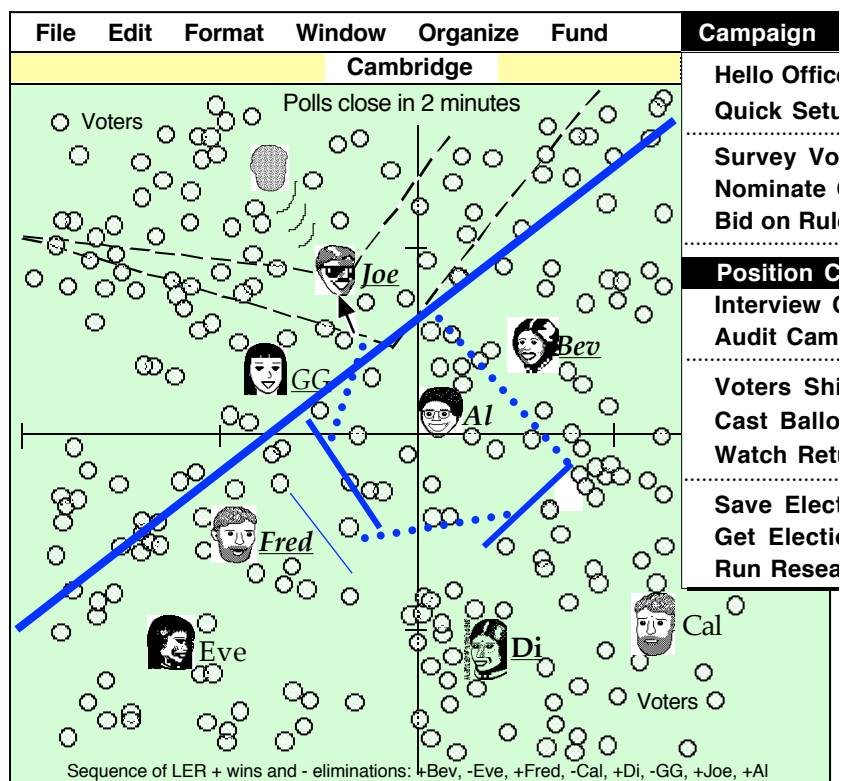
RCV expands the base of power, the numbers of effective votes and voters supporting:

		Pages
1	a CEO or a Chair from a plurality to a majority	14, 31
2	a Council from a plurality to over three quarters	21
3	the Budget from a few power blocs to all voters	24
4	a Policy from a one-sided to an overall majority	30

Votes for real choices tally up real democratic power. It needs big mandates to govern new nondemocratic powers in big money, media, marketing and more. Mandates aid actions to achieve popular goals. They build up a democracy and its leaders.

4. Watch Condorcet Find the Center

This map puts a line halfway between Al and a rival. Voters ○ on Al's side of each line are closer to Al, so they rank Al over the rival. The long line has more voters on Al's side than on Joe's. **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



In contrast, **PRCV** requires the most *intense support*, first-rank votes, to avoid early elimination. See page 48 ● **RCV1** 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.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 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.”

The goal of **Ranked Choice 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 Ranked Choice Voting, RCV

- **Backups give you more power and freedom** to express opinions with less risk of wasting your vote.
- **No hurting your first choice** by ranking a backup which 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.
- **Civility and consensus² rise³** as some candidates ask the fans of rivals to, "Rank me as your backup." ↗
- **A majority winner** from one election, so no winners with weak mandates and **no costly runoff** election.
- **High voter turnout** also creates **a strong mandate**. The turnout for an election runoff often goes down.⁴

*Pages 33 and 45 show ballots.

Well Centered and Balanced

An **Ensemble** council combines the breadth and balance of **Fair Representation** with the centering of **Condorcet**.

File	Edit	Window	Organize	Fund	Campaign
Washington D.C.					Survey Voters...
					Nominate Candi
					Bid on Rules...
					Position Candi
					Interview Candi
					Audit Campaign
					Voters Shift...
					Cast Ballots
					Watch Returns..
					Save Election...
					Get Election...
					Run Research...

A council's **swing voter** on an issue such as budgets, or regulations, can strongly influence those decisions.

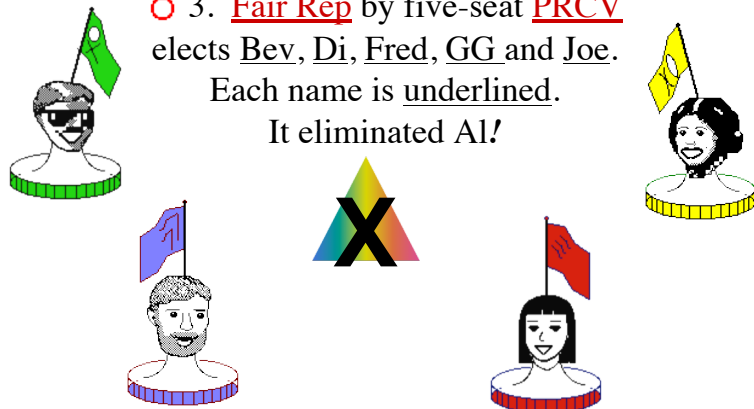
PRCV works to elect a **balanced council** with moderates and often a centrist. But it does not **push** any rep to please a **central majority** of voters. **Condorcet** does. ➤

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.⁵

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.⁶

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.⁷ It often helps women achieve parity in politics.⁸

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

2. Electing Representatives

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:

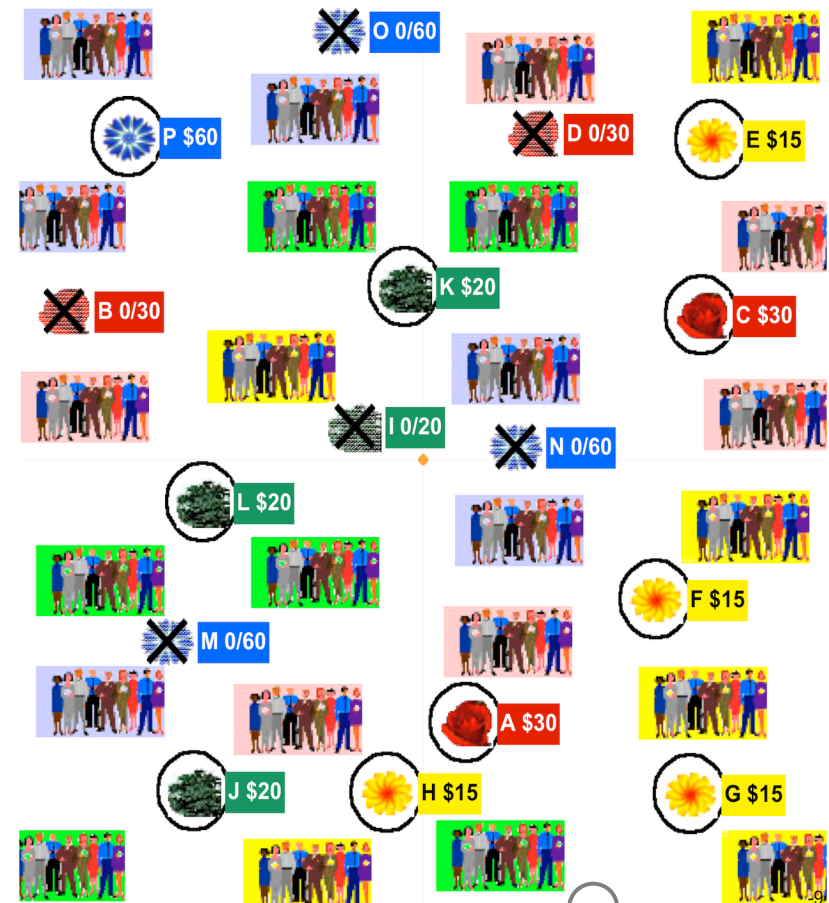
- We elect more than one rep from an electoral district.
- You vote for more than one; you vote for a list. You pick a group's list, or you list your favorites.
- The more votes a list gets, the more reps it elects.

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 or PR.

Campus Map



Any big group may **focus** or **spread** their spending.

Loring Allocation Rule uses a Condorcet Tally to fund a few 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. Then the Fair Share tally funds items with narrower, more intense appeals. Elections, too, may tally Condorcet then fair-share winners.

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. 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



✓ **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.⁴

Why Full Rep Elects More Women

New Zealand and Germany elect half of their MPs in Single-Member Districts and half from Fair Rep lists. This is probably the best way to elect a parliament.⁵ The SMDs elect few women; but in the same election, the Fair Rep 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.

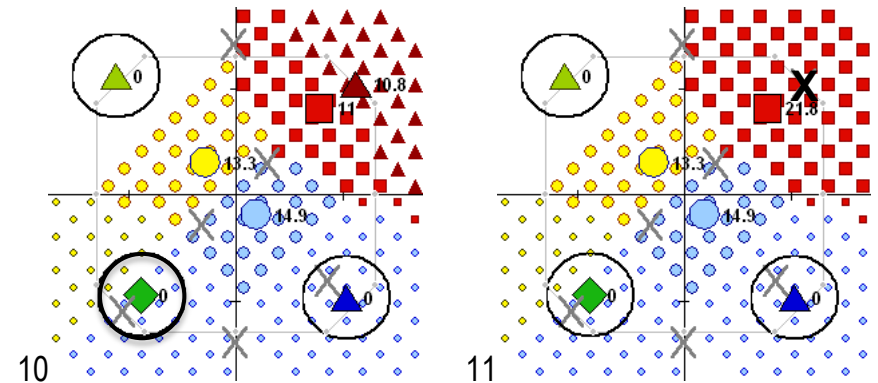
Fair Rep leads a party to nominate a **balanced team** of candidates to attract voters. This promotes women.⁶ A team can have class, ethnic, and cultural diversity. And that gives us diverse reps to approach for help.

*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 its own side, so it likely loses. But Fair Rep gives every big party its share of seats.

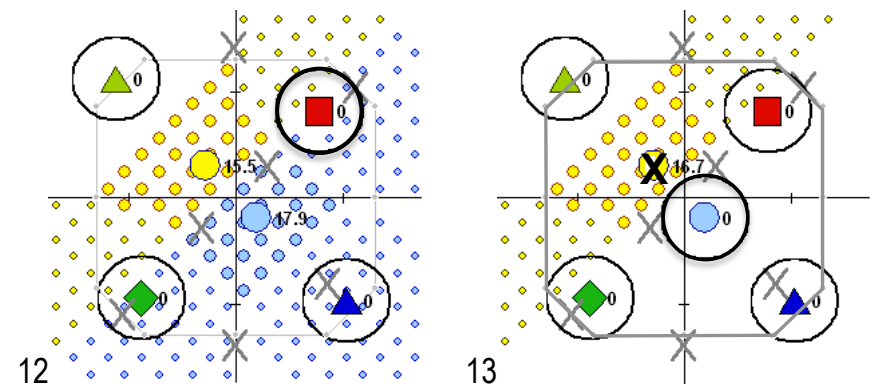
This credible threat made an old party decide job experience was not as important as **gender balance**. So it dropped some experienced men to raise women higher on the party's list. And they won.⁷ Now they are incumbents with experience, power and allies.

A Diverse and Balanced Council



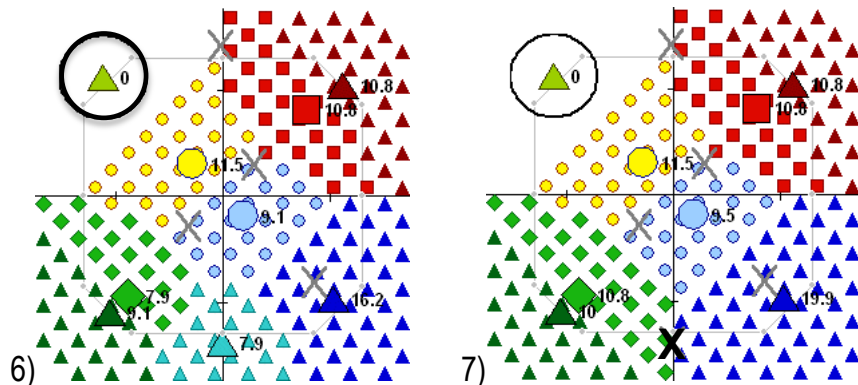
This pattern of voters makes their choices easy to see. SimElection™ also created uniform, random, custom and normal bell-curve patterns for games and research. To learn about life, play in lifelike normal patterns.³

In 13, the box with half the ballots holds all but one rep. Does PRCV 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.

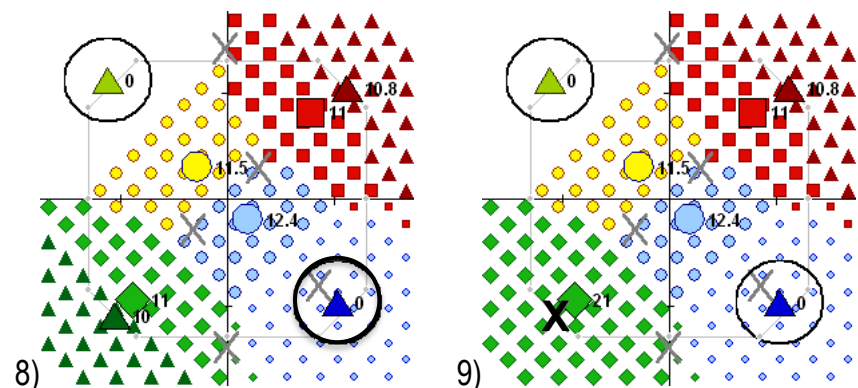
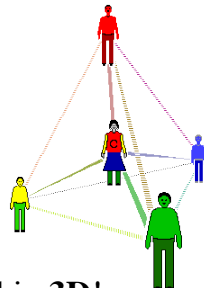
Votes Transfer, Elect Reps



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.”² ↔ ↕ ↔



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**.²

~~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**.

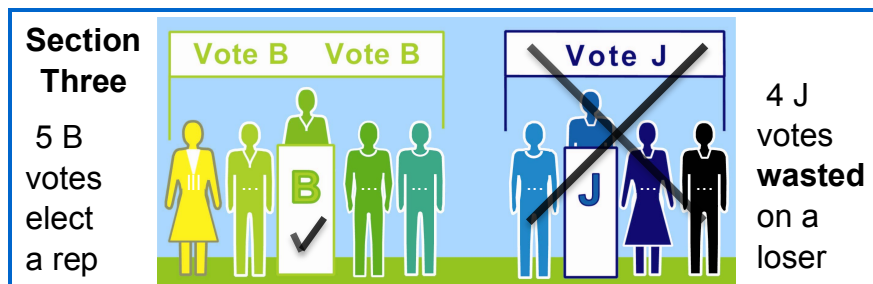
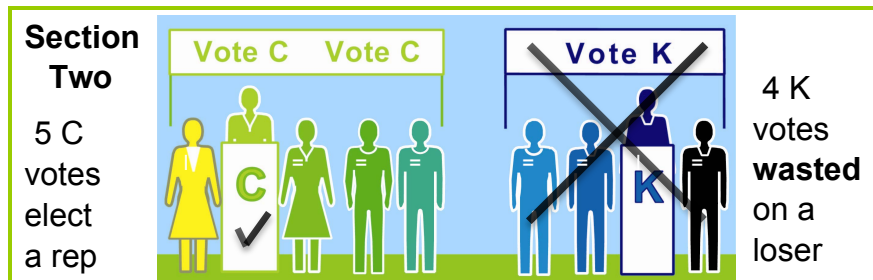
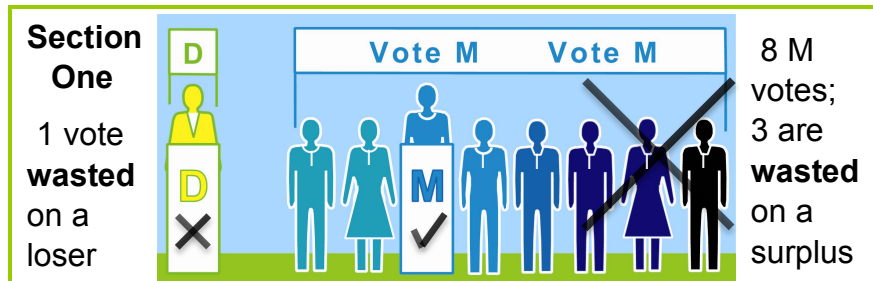
Councils with fewer women tend to do less for health care, childcare, education and other social needs.⁸ Then poor health and education weaken workers and children.

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.

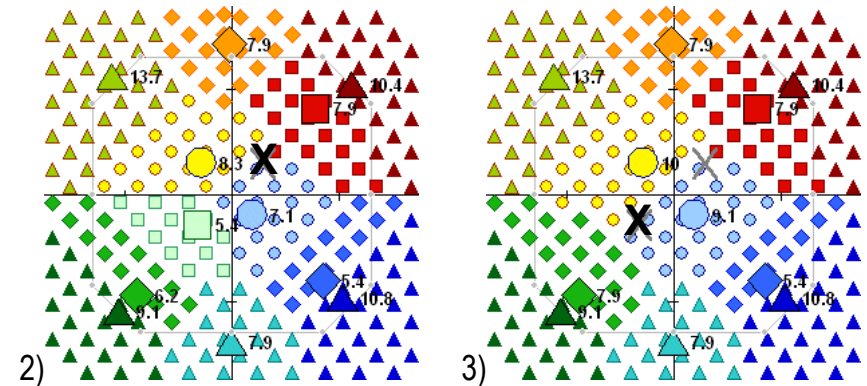
Three Single-Winner Elections

A class of 27 wants to elect a 3-member committee. Someone says, "Elect a rep from each seminar section. To win here, you need to get the ballots of just 5 voters."



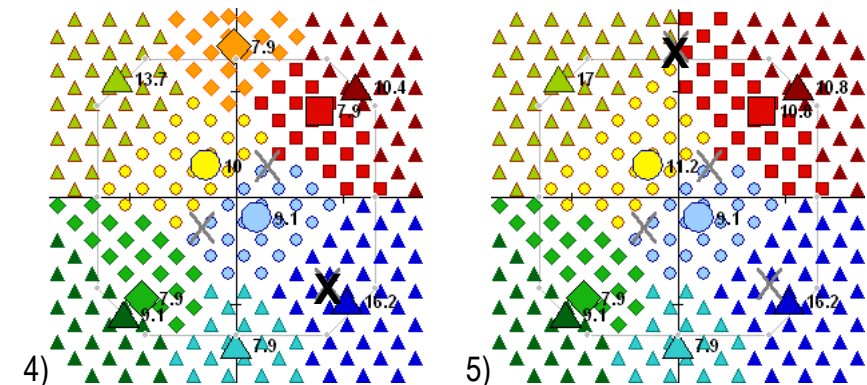
- An 11-voter minority gets 2 reps; that's majority power. If spread out, 3 or 4 in each section, they'd get no rep. It can **waste** many votes so it's erratic and easy to rig.

The Weakest Lose, One at a Time



In map 2, the first loser gets an **X**. Her ballots change color and shape when each counts for its new top rank, a close rival. So the nearby fields of color grow. ● ■ ● (Game maps may portray places or political positions.*)

In 1, a gray line circles half the ballots. The candidates outside it lead their close rivals on the first ballot count. But in 2 and 3, as weak candidates lose, most of their ballots count for centrists or **moderates** inside that line.

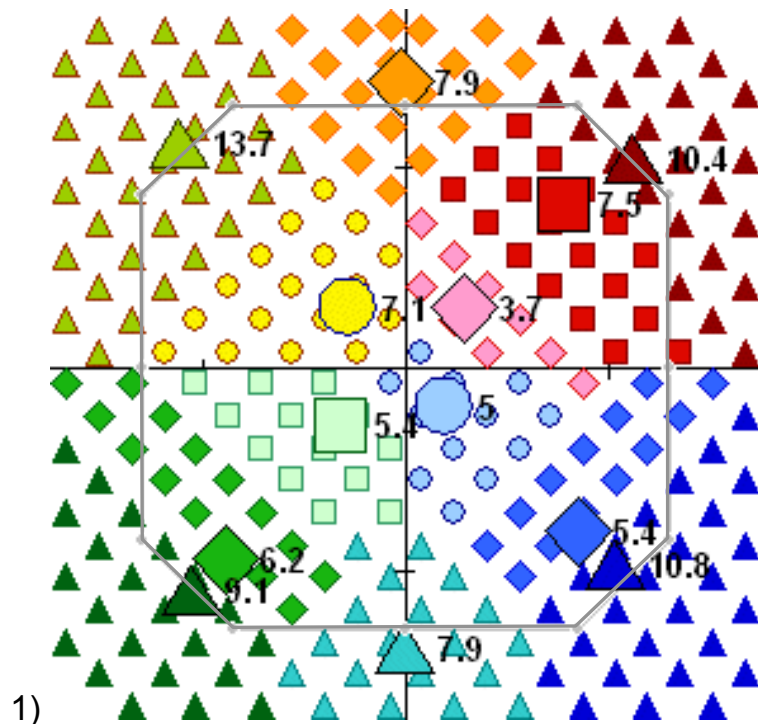


* Pages 10 and 13 introduced political dimensions.

C. SimElection Games

2. Watch Fair Rep Balancing a Council

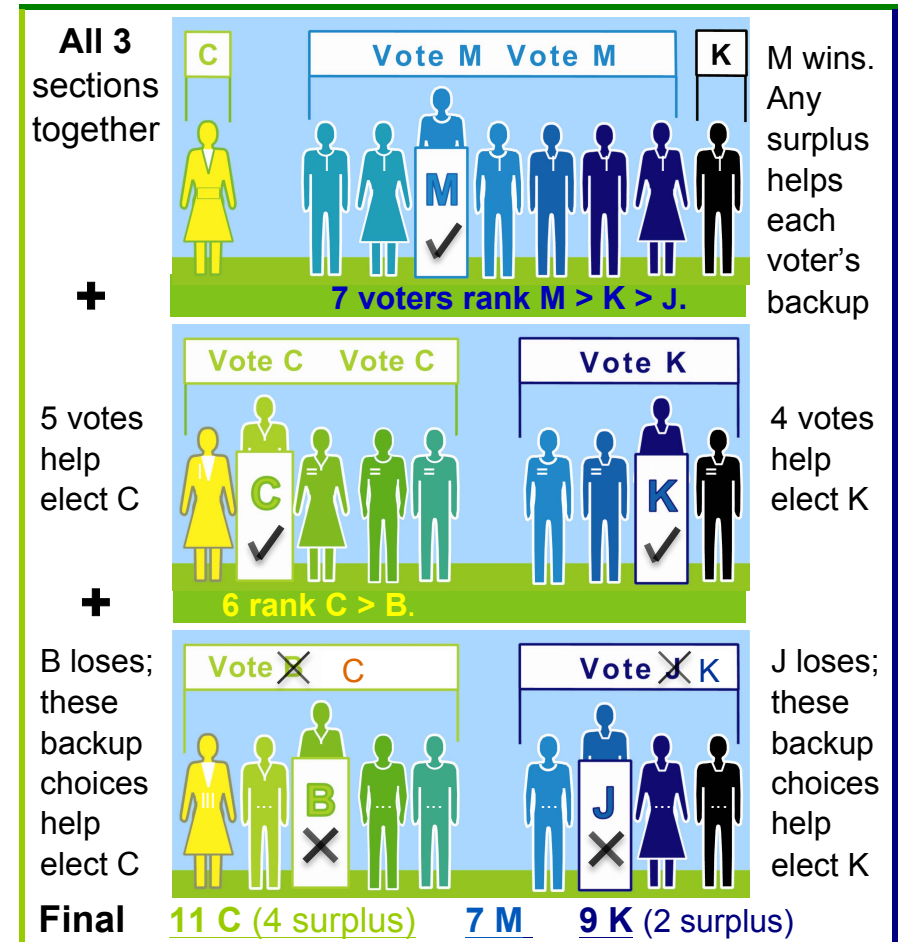
These maps show **PRCV ballots electing five reps**. A little shape is a voter's ballot; a big one is a candidate. Each little ballot has the **color** and shape of its current top-ranked choice, the closest remaining candidate.¹



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% **pink diamond** will be the first to lose.

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

3. Allocating Budgets

Fair Shares to Buy Shared Goods

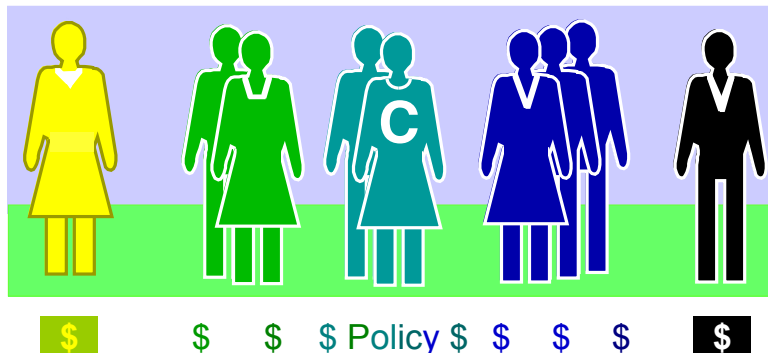
Electing reps is the most obvious use of voting rules. Rules to pick projects or a policy are also important. These group decisions occur more often than elections. They even occur in many groups with no elections.

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.

Workshop Finale 🎵 Notes

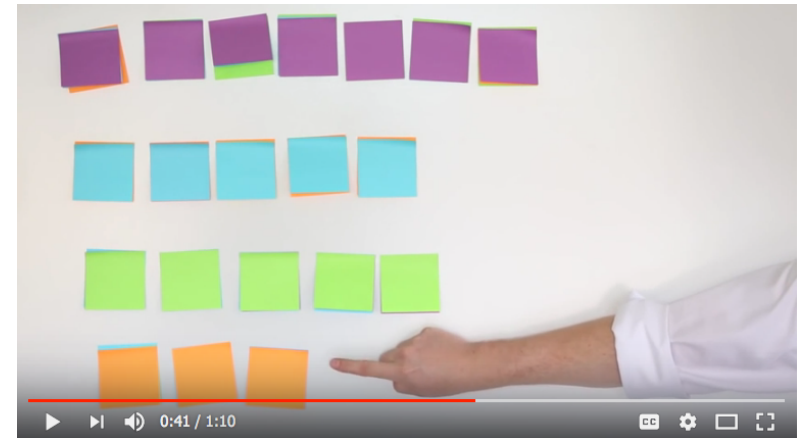
It's easy to give this workshop in a class or a club.⁶ In an hour, 20 voters can review plurality, try **RCV** then **PRCV** for colors, as shown below, or **FSV** for treats.⁷

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.

Here's a fun **music video** flip2020.wordpress.com

Some groups offer **apps to tally your votes**. Here's a list AccurateDemocracy.com/z_tools.htm



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

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.

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.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 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.⁴

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

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, as in RCV.

Your ballot pays one share of the cost for each of its 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.
 $\text{cost} / \text{base} = 1 \text{ share}$ e.g. $\$100 / 25 \text{ 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 each voter to give his top ranks to the items that give him **the most joy per dollar**.

Also point 1 on page 16, 1 and 3 on page 14.

Rank Choice Ballots

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 a **risk-limiting audit** to find frauds and errors.³

☒ **Yes-or-no ballots** badly oversimplify most issues. They often highlight just 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.⁴

Our Menu #1

Fill only one "O" on each line.

lbs. Treats	Best Ranks Worst					
	1 st	2 nd	3 rd	4 th	5 th	6 th
3 Almonds, Toasted	O	O	O	O	O	O
7 Apples, Honey Crisp	O	O	O	O	O	🍏
5 Apricots, Dried	O	O	O	O	O	O
6 Oranges, Navel	O	O	O	O	O	O
6 Peaches, White	O	O	O	O	O	O
6 Tangerines	O	O	O	O	O	O

Which 1 wins by plurality? Hints: 5 sweets versus 1 nut, and the first name on a ballot gets a 2% to 9% boost.⁵

Which treat wins by RCV or by Condorcet?

We can vote for a party playlist, menu, drinks and more.

Caution: ballots with many contests might use up the mental energy voters need to vote in each contest.

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?

44 Usually: Rope. Center. Yes. Yes. No. Balanced.

Fair Shares and Majorities

If a majority controls all the money, the last item they buy is a low priority; so it adds little to their **happiness**. 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.



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.

Setting 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. $\text{cost} / \text{base} = 1 \text{ share} = 1 \text{ vote}$
You only pay up to a level you voted for and can afford.

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 prove, "This cost is a high priority within my budget."

My club with 100 members set our **base** number at 25 votes.⁵ 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?

Answers: *None. None. Not much.*

3. Fair Shares Buy Shared Goods

For our tabletop tally of **Fair Share Voting, FSV**:

- ✚ You get one share; here that's three 50¢ voting **cards**.
 - ✚ We decided an item needs modest support from six of us to prove it is 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 has several **columns** to fill. A column here holds \$3, so a \$6 item needs two full columns.
- ⇒ Rule B lets you vote a 50¢ card, a 25¢ card half as tall, and a taller 75¢ card to boost your top choice. Four eager voters can fill a column. $4 \times 75¢ = \$3$.



- ✚ When an item wins, the treasurer hides its cards.
 - ✚ **Drop** the least popular item, the one with the lowest fraction of its columns filled.
 - ✚ **Move** your cards from a loser to your backup choice.
 - ✚ **Repeat** until we fill up all the items still in the game.
- Only a few items can win, but all voters can win!**

⇒ An app could animate our cards popping into 60¢ columns. It pops a 17¢ card into column 1 of each voter's favorite. Then 16¢ pops into each voter's next column, etc. to a round of 3¢. Then it drops the weakest 1 and the items left restart at \$0.00. A ballot's 15 cards still total \$1.50 but average just 10¢.²

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%.*

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.⁶
- Each big group controls only its share of the money.
This reduces its means and motives 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.



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!

4. Enacting a Policy

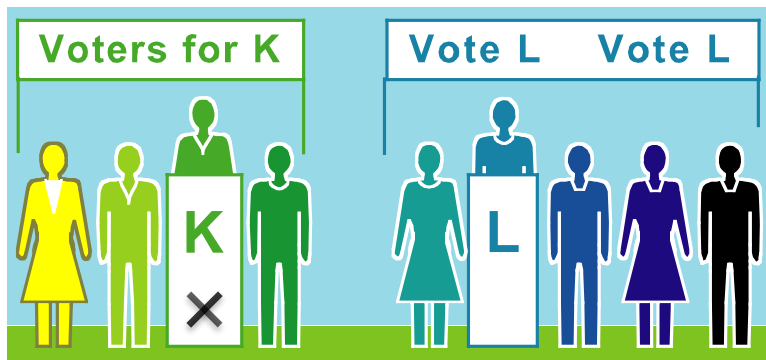
Condorcet Test Number Two

The runoff on page 12 was a one-against-one contest between the policy positions of **M** and **K**. Five voters ranked **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.
L's position wins by five votes to four: $5 > 4$

Each person votes once with a ranked choice ballot. Pages 33 and 45 show two common, simple ballots. A workshop page demonstrates a Condorcet Tally table. And a simulation map illustrates Condorcet voters with two issue dimensions.

*People often struggle to find a group's **center** of opinion*

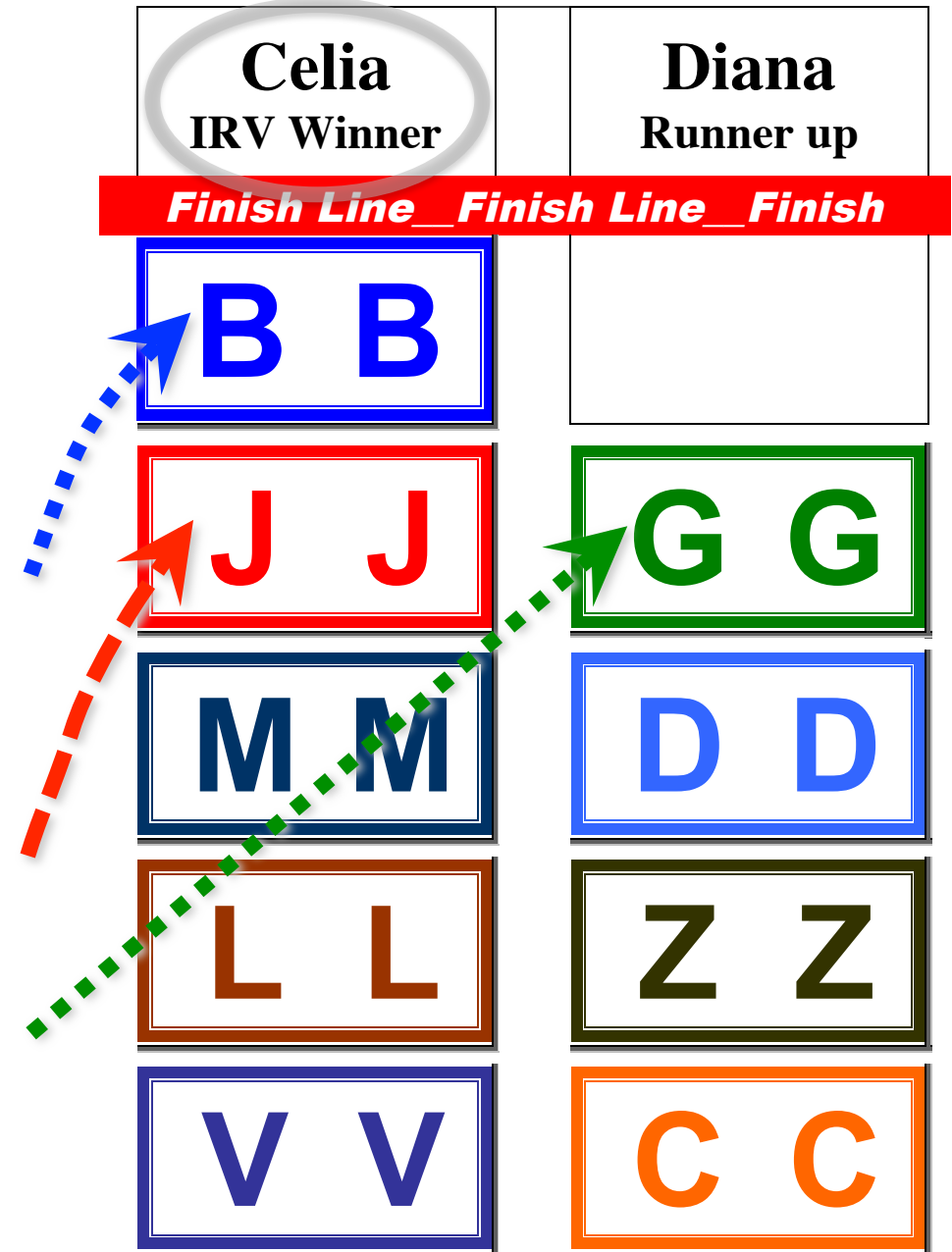


K is nearest four voters. **L** is nearest five voters.

How many votes were wasted on a surplus or a loser?

M, L & V rank Celia #1.

D, Z & C rank Diana #1.



This winner had no surplus.

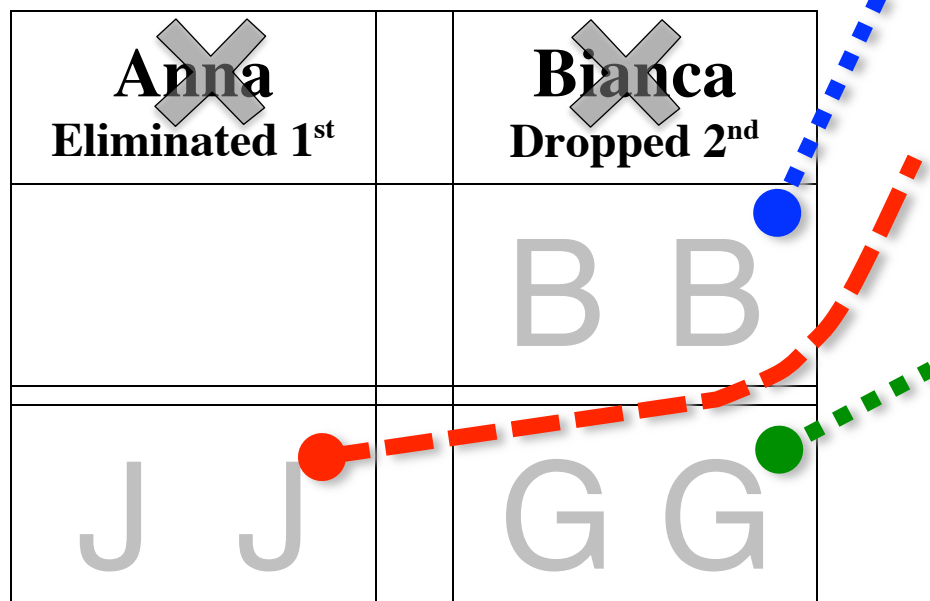
The last loser held 4 votes.

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 JJ** moved his card.
Then Bianca lost, so **BB** and **GG** moved their cards.
They were free to choose different backups.¹



40 JJ ranks Anna 1, Celia 2.

GG ranks Bianca 1, Diana 2.

Condorcet Test Number Three

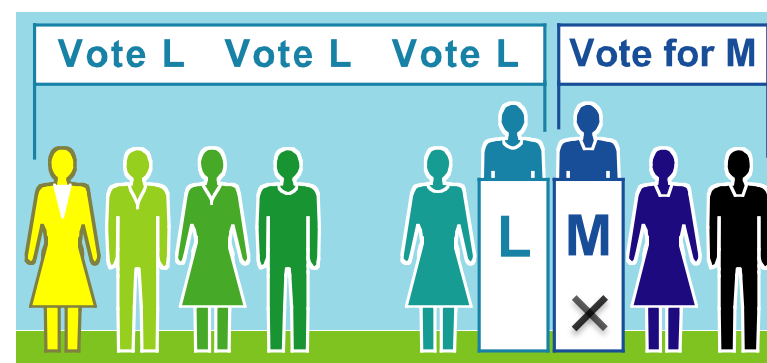
Candidate **L** wins her last test by six to three. $6 > 3$
She has won majorities against each of her rivals.
So she is the “**Condorcet winner**.” $L > M$. $L > K$.

“...such a mandate is no doubt a vital ingredient
in the subsequent career of the winner.”¹

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 17.
or senators to make an upper house.
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)?



L has six votes.

M has three.

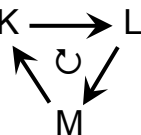
Answers: L. No. No. Discuss this.

The goal in a **Condorcet Tally** is this:
**Majority victories,
 over every single rival.**

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

A good **analogy** is a round-robin tournament.
 A player has one contest with each rival, one at a time.
 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.
 (But in a rare “voting cycle,” majorities rank $K > L$,
 $L > M$, and $M > K$. RCV can break the tie.²)



Why Use a Condorcet Tally (CT)

- ✳ **Choice ballots:** Rank the alternatives on one ballot so **Simplify** the old rules of order and **speed up** voting so **Reduce agenda effects**, from simple errors and **gridlock**, to free-rider and wrecking amendments.*
- ✳ **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 one of the majority's favorites wins.
- ✳ **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.

B. Workshop Games

Get your hands on **4** great voting rules.
 See how fair share tallies organize voters.
 Vote fast on **projects**, **reps**, or **policies**.



A tally board has

- ✳ **A card** for each voter,
- ✳ **A column** for each option,
- ✳ **A finish line** for the favorites.

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.⁴



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.

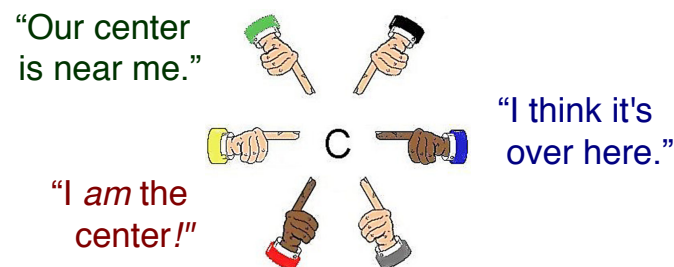
Some groups offer **apps to tally your votes**.

https://AccurateDemocracy.com/z_tools.htm

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.^{2,3} 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

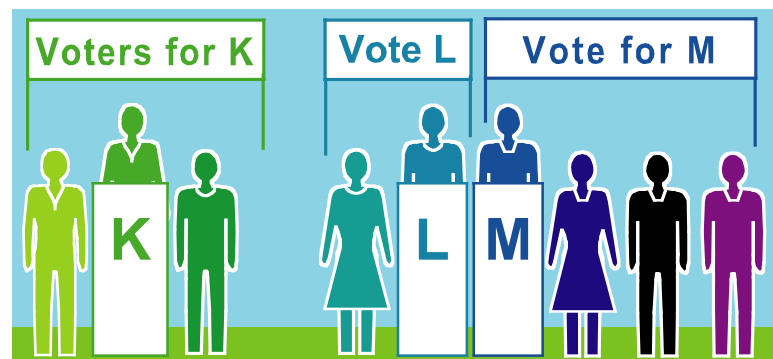
CT can elect a **chairperson** or a **few reps** to be the **swing voters** in an **Ensemble Council**, as pictured on pages 8 and 54. To win, a candidate needs to earn wide support. This gives her strong incentives to help the council balance its process and policies.

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

Resist Rigged Votes

In the **plurality election** on page 11 candidate **M** lost. Let's say her party **gerrymanders** the borders of her election district. It adds a voter, pictured here in **purple**, who likes the party and cuts out some who don't like it. In this **safe-seat** district, **bluish** voters can elect **M** or an even less central person who may **polarize** politics.⁴

But this gerrymander didn't change the **CT** winner, **L**. So policies stay stable and make big swerves less often.



3 rank $K > L > M$. 2 rank $L > M > K$. 4 rank $M > L > K$.

To steal a one-seat district that uses CT or RCV, sponsors must **mislead** a majority, not just a plurality. Help to "**spoilers**" within a rival group fails to split it.

Gerrymanders always increase **wasted votes**.⁵

Proportional RCV avoids both, as shown on page 21.

Foul **manipulations** of plurality rules are not rare. And point voting incites *extreme* high and low votes, as I worry, "Can my vote for a low choice defeat my fave?" But a chance to rig real **RCV** or **Condorcet/RCV** is rare, risky and hard. So there's less danger of rigged votes.²

Complementing Consensus

Groups that seek consensus on basic agreements may vote on other issues: They may vote on a minor **detail** like a paint color or on a list 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 nor 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 needs to 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 convincing us 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.³ 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.

Consensus and Voting

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.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, 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.

A Less Rigged Agenda Now!

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.⁶

Issue A, RCV Ballot A

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

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

Summary and Index of Benefits

Ranked Choice Voting Has Proven To

Pages

- 1, 2, 3, 4. Make voting easy** and more effective. **14, 57**
 Give you power to rank a backup choice; so **33, 45**
 Reduce your risk of wasting your vote; so **12, 16**
 Vote worry free for your true first choice..... **14**
Boost mandates as more voters count...... **11-21, 57**
- 1, 2. Reduce attack ads** that scare, anger and polarize..... **14**
Weaken gerrymanders and spoilers..... **14, 21, 32**
- 2. Give fair shares** of reps to the rival groups; so **16**
 Give diverse candidates real chances to win; so **18**
 Give voters real choices and effective votes; so **17**
Make voter turnout stronger. **61**
- 2. Elect women** about twice as often as plurality; so **18**
 Accurate majorities win—also due to more: choices, **17**
 turnout, effective votes and equal votes per rep; so **19**
Make policies match public opinion better. **19, 60**

Even then, old decision tools push policy pendulums. 4

✧ ✨ An RCV Toolbox can do more ✨ ♥

- 4. Elect a few central reps**, the key votes pulling..... **30-31, 56**
 reps from many factions **to moderate policies.**..... **8, 54**
- 3. Give Fair Share Voting** for projects, savings, etc. **24**
 Reveal a rep's **spending; cut corruption.** **27, 59**
- 3, 4. Reduce agenda effects** and scams. **27, 30, 33, 36**
Streamline group decision making...... **27, 33, 36**

✧ Social Effects

These Are Tools Between People

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 may 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 tally 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.¹ Voting is an exemplary tool between people.