Voting Methods

Analysis from the Perspective of the Elected Officials who Administer Elections



	Subject	Ranked Choice Voting	Approval Voting
	Ballot Look and Feel		
ence	Voter Exhaustion		
perie	Gaming the System		
r Ex	Transparency		
Voter Experience	Voter Turnout		
	Impact on Minorities		
	Logistical & Security Issues		
ses	Processing Time		
Election Processes	Adjudication & Spoiled ballots		
רון Pro	Tabulation of Results		
ctior	Release of Results		
Ele	Auditability		
	Plurality		
Costs	Voter Education		
0	Primary Election		

Comparison between RCV and Approval Voting



	Subject	Ranked Choice Voting	Approval Voting
	Ballot Look and Feel		
Experience	Voter Exhaustion		
	Gaming the System		
	Transparency		
Voter	Voter Turnout		
	Impact on Minorities		

Comparison between RCV and Approval Voting



Voter Experience & Confidence Ballot Look and Feel





Ranked Choice Voting	Approval Voting
Doubles (or more) the ballot length – some races RCV, some not	Same length as traditional format. One additional line of instruction
New ballot look (grid format)	Same format as traditional ballot



Current / Approval Voting (1 card front and back -- 1 ½ pages)

	Official E	Ballot for	▔							
		unty, Utah								
Tueso	day, Nove	ember 8, 2016								
		Weber County								
INSTRUCTIONS TO VOTERS:		-								
 Yo vote, fit in the over the next to your choice. Use before the with debring for rect. Do not up. 	ne penal.	rises, or wrongly mark this ballot, contact the County Clerks Offi	-							
 If not marked properly your belot may not be down Poll Worker for a new belot. 	ted Typuteer, de	rises, or wrongly mark this belief, contact the County Clerk's Offi	oe or a							
 If you cannot mark your choice completely, you my 	ey eak for help.		-							
VOTE LIKE THIS: DO NOT V	OTE LIKE TH	SHOPH SHOPH SHOPH SHOPH	-							
Voting this Straight Party Race is optional. Y for candidates of various political parties in	U.S. HOUSE OF REPRESENTATIVES CONGRESSIONAL DISTRICT 1									
		(Vote for one)								
STRAIGHT PARTY										
O INDEPENDENT AMERICAN PARTY	(AP)	O CRAIG BOWDEN	(140)							
		OCHADWICK H. FAIRBANKS III	YOUNG							
○ DEMOCRATIC PARTY	(DEM)	OPETER C. CLEMENS	(DEM)							
l		* CANDIDATE NOT APPLIATED WITH A STATE REQUETER POLITICAL PARTY	ED .							
○ REPUBLICAN PARTY	(1007)	GOVERNOR/LT. GOVERNOR	— -							
		(Vote for one)	-							
CONSTITUTION PARTY	(COM)	GARY R. HERBERT SPENCER J. COX	(887)							
○ LIBERTARIAN PARTY	(5.89)	SUPERDELL SCHANZE GREGORY C. DUERDEN	(849)							
			-							
FEDERAL RACES		BARRY EVAN SHORT	(1.00)							
U. S. PRESIDENT VICE PRESIDENT			CEV							
(Vote for one)		MIKE WEINHOLTZ KIM BOWMAN	(min)							
O"ROCKY" ROQUE DE LA FUENTE	TURK	O WRITE-N:								
MICHAEL STEINBERG	- Parent		┰							
JULISTEIN AJANU BARAKA	TUNO)	ATTORNEY GENERAL (Vote for one)								
OSBORNE HART	70940	O MICHAEL W. ISBELL	(849)							
OSBORNE HART		O JON V. HARPER								
GARY JOHNSON	(5.89)	◯ SEAN D. REYES	(887)							
BILL WILD		W. ANDREW MCCULLOUGH	(18)							
ROCKY GIORDANI FARLEY ANDERSON	(AP)	STATE AUDITOR	─-							
		(Vote for one)								
ODONALD J. TRUMP MICHAEL R. PENCE	(KEP)	O JOHN DOUGALL	(REP)							
ODARRELL L CASTLE	(COM	O JARED GREEN OMIKE MITCHELL	(MV)							
SCOTT N. BRADLEY	(partition)									
CHILLARY RODHAM CLINTON	(DEW)	STATE TREASURER (Vote for one)								
TIMOTHY MICHAEL KAINE		○ RICHARD PROCTOR	(000)							
○ MONICA MOOREHEAD	TUNK	ONEL A. HANSEN	(DEM)							
LAMONT LILLY		O DAVID DAMSCHEN	(887)							
O EVAN MOMULLIN NATHAN JOHNSON	TUNKS	STATE SENATOR	— -							
		STATE SENATE DISTRICT 20 (Vote for one)	-							
OWRITE-N:										
		O GREGO BUXTON	(Mary)							
*CANDIGATE NOT APPLIATED WITH A STATE OF POLITICAL PARTY	EGRIENE	OALAN G. YORGASON	(Critical)							
STATE RACES		STATE HOUSE OF REPRESENTATIVES DISTRICT 29								
U. S. SENATE		(Vote for one)								
(Vote for one)		CLEE B. PERRY	(887)							
○ MISTY K SNOW	(DEM)	O ANGELA B. URREA	(DEM)							
OBILL BARRON	1(0,000)	COUNTY RACES	_							
STONEY FONUA	(AP)	WEBER COOK I COMMISSION								
OMKELEE	(NEP)	SEAT C (Vote for one)	-							
*CANDIGATE NOT APPLIATED WITH A STATE IS POLITICAL PARTY	HOLITERED									
l		□ JIM HARVEY	Service 3							

JUDICIAL RETENTION	CONSTITUTIONAL
Shall ERNEST W. JONES be retained in the office of Judge of the District Court of the Second Judgist District?	AMENDMENT C
OYES	Shall the Utah Constitution be amended to allow a property tax exemption for tangible personal property that is leased by the state or by a county, city, town, achool
■ O _{NO}	is leased by the state or by a county, city, town, school district, or other political subdivision of the state?
Shall GLEN R. DAWSON be retained in the office of	○ FOR
Judge of the District Court of the Second Judicial District?	○ AGAINST
OYES	
NO Shall MICHAEL G ALLPHIN be retained in the office of	
Judge of the District Court of the Second Judicial District?	_
- OYES	_
O №0	_
Shall JAMES L. BEESLEY be retained in the office of Justice Court Judge for the Plain City Justice court?	_
OYES	
■ O№	_
Shall PATRICK E. LAMBERT be retained in the office of	i <u>-</u>
Justice Court Judge for the Farr West Justice court?	_
- OYES	_
NO Shall PATRICK E. LAMBERT be retained in the office of	1 =
Justice Court Judge for the North Ogden Justice court?	
OYES .	-
■ ○ №	_
Shall PATRICK E. LAMBERT be retained in the office of Justice Court Judge for the Pleasant View Justice court?	_
OYES	
■ ON0	_
Shall PATRICK E. LAMBERT be retained in the office of	1 -
Justice Court Judge for the Uintshift-untaville Justice court?	_
OYES	
■ O _{NO}	
Shall PATRICK E. LAMBERT be retained in the office of	i <u>-</u>
Justice Court Judge for the Washington Terrace/Marriott- State-ville Justice court?	_
OYES	
■ 0№	_
Shall REUBEN J. RENSTROM be retained in the office of	_
Justice Court Judge for the South Ogden Justice court?	_
- Oves	_
MEASURES SUBMITTED TO VOTERS	
CONSTITUTIONAL	
AMENDMENT A	_
Shall the Utah Constitution be amended to make a	_
technical wording change in the cath of office that elected and appointed officers are required to take?	
○ FOR	=
○ AGAINST	_
CONSTITUTIONAL	-
AMENDMENT B	_
Shall State School Fund provisions of the Utah Constitution be amended to:	
 modify the description of what can be distributed from 	
the State School Fund from "Interest and dividends" to "earnings";	-
 limit annual distributions from the State School Fund to 4% of the Fund; and 	-
 modify the standard governing how the state is 	_
required to invest money in the Fund. ———————————————————————————————————	
OAGAINST	
	' -

Ranked Choice Voting (2 cards front and back -- 4 pages)

 -	<u></u>												I							╛										<u> </u>		
	Of Web	ficia er C				1									11					▮			STATE	RACES								
	Tuesday Clerk/Aud	y, No	oven	nbei	r 8, 2	2016								STA	TE RAC	ES				▮∎			TE AUDITOR			Choice		Choice		1		JUDICI
	NSTRUCTIONS TO VOTERS: To vote, fill in the oval ext to your cho Use ballpoint pen with dark in (not red). D	ice.			ei c	Journ	Ly							S. SENATE ote for one)		2nd Choice	3rd Choice	4th Choice			JARED GREEN	(V	ote for one)	(IAP)	0	O Sud C	+ 7) 		retaine	MICHAEL G ALLPH ned in the office of Ju sial District?	
C	If not marked properly your ballot may not contact the County Clerk's Office or a Poll V	be cou Vorker	unted. for a	. If yo	ballot.		ace, o	r wron	ngly m	ark this	s ballot		BILL BARRON	*(UNA)	0	0	0	0			JOHN DOUGALL			(REP)	0	0	+	5			ANDREA W. LOCK	
	If you cannot mark your choice completely VOTE LIKE THIS: CORRECT OTHERST AND THE STREET	, you r O NOT											STONEY FONUA	(IAP)	0	0	0	0		▮₌	MIKE MITCHELL			(DEM)	0	0	+	0			ce Court?	Justic Court
r	Voting for this Straight Party Race is optional.			for c	andida	ates of v	variou	s politi	ical			_ _	MIKE LEE	(REP)	0	0	0	0				STAT	E TREASURER			oice		80		retaine	JAMES L. BEESLE ned in the office of Ju	
r	STRAI			Υ									MISTY K SNOW	(DEM)	0	0	0	0		▮∎			ote for one)			2nd Ch		3d Cha			ce Court?	
r	INDEPENDENT AMERICAN PARTY		(IA	P)				C	>					OF REPRESENTATIVES		Choice	Joice	agice		▮∎	DAVID DAMSCHEN	ı		(REP)	0	0		0		retaine	PATRICK E. LAMB ned in the office of Ju se Court?	
r	DEMOCRATIC PARTY		(DE	M)					>					ESSIONAL DISTRICT 1 ote for one)		2md Cd	340	\$		▮∎	RICHARD PROCTO	R		(CON)	0	0	<	0		-	PATRICK E. LAMB	EDT ha
Γ	REPUBLICAN PARTY		(RE	P)					>				CHADWICK H. FAIRBANK	S III *(UNA)	0	0	0	0		▮∎	NEIL A. HANSEN			(DEM)	0	0	(0		retaine	ned in the office of Ju se Court?	
	CONSTITUTION PARTY		(CO	N)				<	>				CRAIG BOWDEN	(LIB)	0	0	0	0		▮∎	STATE HO		PRESENTATIVE	S DISTRICT	10	Chaice		Shalo		Shall	PATRICK E. LAMB	BERT be
	LIBERTARIAN PARTY		(LIB)				(>			_ •	ROB BISHOP	(REP)	0	0	0	0		▮■		(V	ote for one)			2nd (34			ned in the office of Ju ce Court?	ustice Court Ju
	FE	DER	AL F	RAC	ES							ŀ	PETER CLEMENS	(DEM)	0	0	0	0		▮■	DERRYCK GORDO	N		(LIB)	0	0	()		Shall	PATRICK E. LAMB	BERT be
Γ	U.S. PRESIDENT VICE PRESIDENT		hoice	hoice	hoice	hoice	hoice	hoice	hoice	hoice	hoice	▮		DR/LT. GOVERNOR ote for one)		Choice	Choice	Choice	Choice	▮■	DIXON M. PITCHER	t		(REP)	0	0	(0			h/Huntsville Justice (
L	(Vote for one)		2nd Cho	3rd C	410	8 0	etho	7HC	SHO SHO	£ 5	##			ote for one)		2nd Cho	34	ۇ	욻	┦∎	JESUS (JESSIE) GA	ARCIA		(DEM)	0	0		>	_•		PATRICK E. LAMB	
	ROCKY" ROQUE DE LA FUENTE *(UNA)	0	0	0	0	0	0	0	0	0			BRIAN E KAMERATH BARRY EVAN SHORT	(LIB)	0	0	0	0	0	▮▮		WERE	COUNTY CO	NTY RAC						Terrac	ace/Marriott-Slaterville	le Justice Cou
	JILL STEIN *(UNA)	0	0	0	0	0	0	0	0	0	0	>	GARY R. SCHANZE GREGORY C. DUERDEN	(IAP)	0	0	0	0	0	▋▋			(Vote for				_	-		be reta	REUBEN J. RENST	
A	ALYSON KENNEDY DSBORNE HART (*UNA)	0	0	0	0	0	0	0	0	0	0	>	GARY R. HERBERT SPENCER J. COX	(REP)	0	0	0	0	0		JIM HARVEY				(RI	EP)	0			Ogden	en Justice Court?	Neudre et
G	GARY JOHNSON (LIB)	0	0	0	0	0	0	0	0	0	0 0	>	MIKE WEINHOLTZ KIM BOWMAN	(DEM)	0	0	0	0	0	╢╸			LOCAL S	CHOOL	BOARD				١.		STITUTIONAL AME	
R	ROCKY GIORDANI FARLEY ANDERSON (IAP)	0	0	0	0	0	0	0	0	0	> c		WRITE-IN:		0	0	0	0	0	╢╸		OGDEN	CITY SCHOOL (Vote for		TRICT 5			2nd Choic		wordin	the Utah Constitution ing change in the oat ers are required to tak	th of office tha
	OONALD J. TRUMP MICHAEL R. PENCE (REP)	0	0	0	0	0	0	0	0	0	0	>		RNEY GENERAL		Choice	hoice	hoice			SUE ANN BURTON						0	0	┪.	CONS Shall	STITUTIONAL AME State School Fundin	NDMENT B
	DARRELL L. CASTLE SCOTT N. BRADLEY (CON)	0	0	0	0	0	0	0	0	0	0	>	(V	ote for one)		2nd C	3rd C	4		▮∎	NANCY BLAIR						0	0		- mo	nded to: lodify the description School Fund from "i	
н	HILLARY RODHAM CLINTON FINOTHY MICHAEL KAINE (DEM)	0	0	0	0	0	0	0	0	0			W. ANDREW MCCULLOUG	H (LIB)	0	0	0	0		▮∎			JUDICIA	L RETE	NOITN					 limithe Fu 	mit annual distribution und; and	ns from the St
M	MONICA MOOREHEAD	0	0	0	0	0	0	0	0	0 0	0 0		MICHAEL W. ISBELL	(IAP)	0	0	0	0			Shall ERNEST					e of	YES	0			odify the standard go t money in the Fund.	
H	EVAN MONITELLY			_)						SEAN D. REYES	(REP)	0	0	0	0			the Distr	rict Court	of the Second	Judicial D	istrict?		NO	0		•		
N	NATHAN JOHNSON (UNA)		0	_	0	0	0	0	0			4	JON V. HARPER	(DEM)	0	0	0	0		▮∎	Shall GLEN R. D				of Judge o	f the	YES	0		Shall t	STITUTIONAL AME the Utah Constitution	n be amende
	WRITE-IN:	0	0	0		0	0	0	0	0			•								District Court of t						NO	0	_ •	state o	nption for tangible per or by a county, city, ivision of the state?	
	<u> </u>																							• •		1 1			_			

_			
	<u> </u>		
	JUDICIAL RETENTION		
	Shall MICHAEL G ALLPHIN be retained in the office of Judge of the District Court of the Second	YES	0
	Judicial District?	NO	0
	Shall ANDREA W. LOCKWOOD be retained in the office of Justic Court Judge for the Ogden City	YES	0
	Justice Court?	NO	0
	Shall JAMES L. BEESLEY be retained in the office of Justic Court Judge for the Plain City	YES	0
	Justice Court?	NO	0
	Shall PATRICK E. LAMBERT be retained in the office of Justice Court Judge for the Farr West	YES	0
	Justice Court?	NO	0
	Shall PATRICK E. LAMBERT be retained in the office of Justice Court Judge for the North Ogden	YES	0
	Justice Court?	NO	0
	Shall PATRICK E. LAMBERT be retained in the office of Justice Court Judge for the Pleasant View	YES	0
	Justice Court?	NO	0
	Shall PATRICK E. LAMBERT be retained in the office of Justice Court Judge for the	YES	0
	Uintah/Huntsville Justice Court?	NO	0
•	Shall PATRICK E. LAMBERT be retained in the office of Justice Court Judge for the Washington	YES	0
	Terrace/Marriott-Slaterville Justice Court?	NO	0
	Shall REUBEN J. RENSTROM be retained in the office of Justice Court Judge for the South	YES	0
	Ogden Justice Court?	NO	0
	MEASURES SUBMITTED TO VOTER:	s	
	CONSTITUTIONAL AMENDMENT A Shall the Utah Constitution be amended to make a technical	FOR	0
	wording change in the oath of office that elected and appointed officers are required to take?	AGAINST	0
	CONSTITUTIONAL AMENDMENT B Shall State School Funding provisions of the Utah Constitution be amended to: - modify the description of what can be distributed from the State School Fund from "interest and dividends" to "earnings";	FOR	0
	State School Fund from Interest and dividends to earnings; I limit annual distributions from the State School Fund to 4% of the Fund; and modify the standard governing how the state is required to invest money in the Fund.	AGAINST	0
	CONSTITUTIONAL AMENDMENT C Shall the Utah Constitution be amended to allow a property tax	FOR	0
	exemption for tangible personal property that is leased by the state or by a county, city, town, school district, or other political subdivision of the state?	AGAINST	0

RCV - More than 10 Candidates



TEST BALLOT

RCV Election California Certification Tuesday, November 8, 2016



Instructions to Voters

Please rank your candidate choices from ONE to TEN by filling the Oval beside only candidate for each choice column. Fill in no more than 1 oval per candidate.

1	

			Ran	k no more th	ntial Choi nan TEN Choi e to be Elect	ices				
	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5	Rank 6	Rank 7	Rank 8	Rank 9	Rank 10
Candidate 1 Party 1 Occupation 1	0	0	Õ	0	0	0	Ō	0	0	O ¹⁹
Candidate 2 Party 2 Occupation 2	0	0	°°	0	0	0	Ō	0	0	O ¹⁹
Candidate 3 Party 3 Occupation 3	0	0,	°	0,	0	0	0	0	0	O ¹⁹
Candidate 4 Party 4 Occupation 4	0	0	°	0	0	0	0'	0	0	O ¹⁹
Candidate 5 Party 5 Occupation 5	0	0,	0,	0,	0	0	0'	0	0'	O"
Candidate 6 Party 6 Occupation 6	0	0,	0,	0,	0	0	0'	0	0'	O ¹⁹
Candidate 7 Party 7 Occupation 7	0	0,	°,	0,	0	0	0'	0	0	O ¹⁹
Candidate 8 Party 8 Occupation 8	0	0,	°	0,	0	0	0	0	0	O ¹⁹
Candidate 9 Party 9 Occupation 9	0	0,	Õ	0,	0	0	0'	0	0	O ¹⁹
Candidate 10 Party 10 Occupation 10	0	0	°	0	0	0	0	0	0	O ¹⁹
Candidate 11 Party 11 Occupation 11	0	0,	Õ	0	Ō	Ō	0'	Ō	Ö	O ¹⁹
Candidate 12 Party 12 Occupation 12	0	0,	Õ	0	Ō	Ō	0	Ō	Ö	O ¹⁰
Write-in	0	0,	Õ	0	Ō	Ō	0	Ō	Ō	O ¹⁹

			Ran	k no more th	ntial Choi nan TEN Choi es to be Elec	ices				
	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5	Rank 6	Rank 7	Rank 8	Rank 9	Rank 1
Candidate 13 Party 13 Occupation 13	0'	Ö	Ô	Ō	0	0	Ō	0	0	C
Candidate 14 Party 14 Occupation 14	0	0	Ô	0	0	0	0	0	0	C
Candidate 15 Party 15 Occupation 15	0'	0	Ô	0	0	0	Ō	0	0	C
Candidate 16 Party 16 Occupation 16	Ō	Ö	0	0	0	0	0	0	0	C
Candidate 17 Party 17 Occupation 17	0	0	Õ	Ō	0	0	Ō	0	Ō	С
Candidate 18 Party 18 Occupation 18	0	0	Õ	0	0	0	Ō	0	Ō	C
Candidate 19 Party 19 Occupation 19	0	0	Ô	0	0	0	Ō	0	0	C
Candidate 20 Party 20 Occupation 20	0	0,	Õ	0	0	0	0	0	0	С
Candidate 21 Party 21 Occupation 21	0	0'	Ô	0	0	0	O [†]	0	0	С
Candidate 22 Party 22 Occupation 22	0	0,	°	Ó	0	0	O [†]	0	Ö	C
Candidate 23 Party 23 Occupation 23	0'	0,	Õ	Ó	0	0	Ŏ	0	Ō	C
Candidate 24 Party 24 Occupation 24	0	0	Ô	0	0	0	0	0	Ō	C
Write-in	0'	0'	Ô	Ó	0	0	Ō	0	0	С
Write-in	0'	0'	0,	0,	0'	0	0	0	0'	C
Write-in	0'	01	°	Ó	0'	0	O [†]	0	0	C
Write-in	0'	01	0,	0'	0'	0'	0	0'	0'	С

Voter Experience & Confidence

Voter Exhaustion



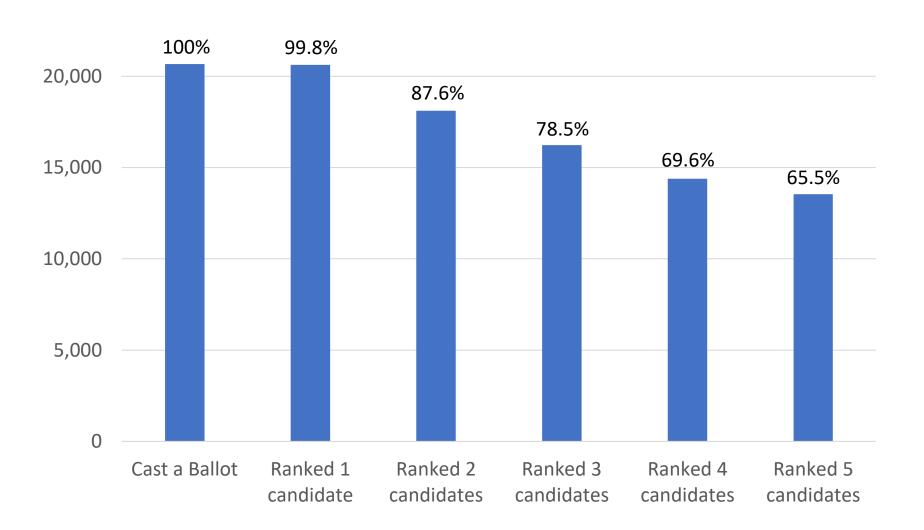


Ranked Choice Voting	Approval Voting
Exhaustion rate between 9% – 27% ¹	Near 0% exhaustion rate
¹ Burnett & Kogan, (2015) "Ballot (and voter) "exhaustion" under Instant Runoff Voting: An examination of four ranked-choice elections" Electoral Studies, <i>Vol. 15</i> pp. 41-49	

Table 3 Rate of ballot exhaustion.											
	Oakland	Pierce county	San Francisco	San Leandro							
First-Round Votes Rate of Exhaustion	119,408 11.6%	298,912 10.2%	194,046 27.1%	22,421 9.6%							



Ballot Exhaustion — Santa Fe, 2018 Percentage of voters who ranked up to five candidates



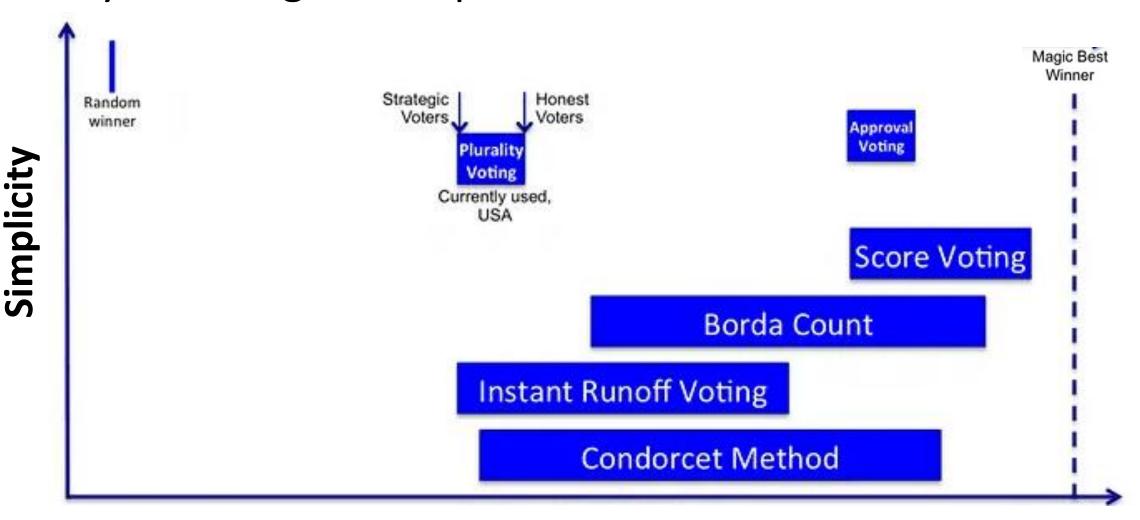


Voter Experience & Confidence Gaming the System/Vote Splitting/Spoiler Effect





Voter Satisfaction Bayesian Regret computer simulation with 2.2M trials



Group Satisfaction

Voter Experience & Confidence

Transparency





Ranked Choice Voting	Approval Voting
"The candidate with the fewest votes is eliminated, and voters who picked that candidate as 'number 1' will have their votes count for their next choice. This process continues until there's a majority winner or a candidate won with more than half of the vote."	"The candidate with the most votes wins."
For multi-winner races ("Utah Method"): If a candidate has enough votes to win in a round, then they are elected and a new round begins. Voters who picked that candidate as 'number 1' will have their votes count for their next choice. If no candidate has enough votes to win in a round, then the candidate with the fewest votes is eliminated and a new round begins. Voters who picked that candidate as 'number 1' will have their votes count for their next choice.	"The candidates with the most votes win."

Voter Confidence and Transparency Voter Turnout





Ranked Choice Voting	Approval Voting
Reduces turnout 3-5% ¹ Turnout reduction not as strong for minorities ² Increases turnout 9.6% ³ Limited impact on turnout, but increases turnout 10% over replaced primaries ⁴	Unknown
 ¹2019 San Francisco Univ. study of 200 RCV elections from 1990 to 2018 ²2012 Stanford Univ. thesis ³2020 Univ. of Technology Sydney study of Minneapolis elections ⁴2016 study Univ. of Missouri-St. Louis 	

Voter Experience & Confidence Impact on Minorities





Ranked Choice Voting	Approval Voting
Stanford 2012 study – Minority voters complete less of an RCV ballot than other voters ¹	Survey: 74% of voters of color said they are more likely to vote under approval voting ²
Opposed by: Memphis NAACP; Black, Latino, Asian Caucus of NYC	
¹ 2012 Stanford Thesis - Holtzman	² 2019 Poll by Change Research of 502 St. Louis registered voters. Margin of error 4.4%



Comparison between RCV and Approval Voting



Logistical & Security Issues Processing Time Adjudication & Spoiled ballots Tabulation of Results Release of Results Auditability Plurality

Comparison between RCV and Approval Voting



Election Processes Processing Time





Ranked Choice Voting	Approval Voting
If only one card is needed:	
Minor increase in processing (adjudication)	No change
If more than one card is needed:	
Reconciliation challenges: 1 voter = multiple cards	Reconciliation – no change: 1 voter = 1 card
Ballot extraction, handling & scanning – 15%-20% increase in cost of election	Ballot extraction and handling – no change

Adjudication & Spoiled Ballots





Ranked Choice Voting	Approval Voting
Rate of spoiled/incorrect ballots:	No more overvotes (most common cause of
Santa Fe – 4.5%	adjudication).
Payson & Vineyard – 5.0%	
Oakland – 5.7%	Drawback: system does not catch corrected
*7.4% for predominantly African	overvotes
American/Latino communities	
*1.6% for predominantly White	
communities	
Utah law prevents counting after skipped round	

Tabulation of Results





Ranked Choice Voting	Approval Voting
Single winner – negligible increase	Single winner – no change
Multi winner – requires manual manipulation for each round	Multi winner – no change

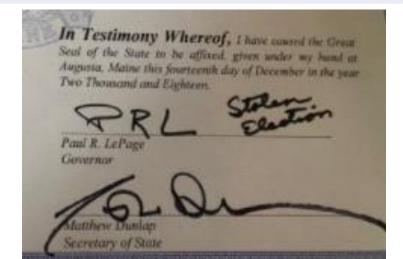


Release of Results





Ranked Choice Voting	Approval Voting
Results could vary widely with each new round of ballots. The outcome could change in the any round, invalidating previously released results (i.e., Maine, 2018).	No change from current system – All new ballot counts are additive.
Statewide results: must wait for all counties	Statewide results: same as current





Auditability





Ranked Choice Voting	Approval Voting
1 to 1 comparison (compare ballot to system-generated "cast vote record")	1 to 1 comparison (compare ballot to system tabulation of ballot)
**The elimination of candidates *the redistribution of votes *the integrity of the transfer of the "cast vote record" file (for state, 29 files X 5)	Must audit: *the aggregation of all votes (same as current system)
Best practice: Run "cast vote record" through independent system	All auditable processes are performed within the fully EAC-certified system.

Plurality





Ranked Choice Voting	Approval Voting
Generally solves plurality. Possible to have winners without majority.	Generally solves plurality. Possible to have winners without majority.
2018 San Francisco Mayor (8 candidates): Winner: 51% of final round (46% of total votes)	Fargo 2020 City Commission (7 candidates): Two winners: 55% & 53% approval (3 rd place had 49% approval)



Logistical & Security Issues Processing Time Adjudication & Spoiled ballots Tabulation of Results Release of Results Auditability Plurality

Comparison between RCV and Approval Voting



Voter Education

Primary Election



Election Cost

Voter Education





Ranked Choice Voting	Approval Voting
Significant Voter Education Required	Minimal Voter Education Required

City	Cost per Voter	Cost per Voter	City
San Francisco	\$ 1.96		
Santa Fe	\$ 1.19		
Payson/Vineyard	\$ 0.80		
		\$ 0.55	Fargo
		\$ 0.17	St. Louis
Salt Lake County (est.)	\$ 0.46	\$ 0.15	Salt Lake County (est.)

Salt Lake County Cost Estimate Estimated costs to educate voters

Category	Ranked Choice Voting	Approval Voting
Voter Education	\$283,600	\$94,533

Factors Influencing Cost

- Approval voting is more familiar to voters than RCV
- Estimate includes cost for:
 - Design
 - Digital Ads
 - Printed Collateral
 - Instructional Video



Salt Lake County Cost Estimate Estimated <u>additional</u> costs to run an election

Category	Ranked Choice Voting	Approval Voting
Labor	\$26,324	\$0
Annual Software Licensing	\$25,000	\$0
Printing	\$10,572	\$0
Two-Card Ballot	\$194,000	\$0
TOTAL	\$255,896	\$0



Election Cost

Primary Election





Ranked Choice Voting	Approval Voting
Could avoid primary election, if desired	Could avoid primary election, if desired



Salt Lake County Cost Comparison Estimated <u>savings</u> without a primary election

Category	Ranked Choice Voting	Approval Voting
Savings - No Primary Election	\$623,000	\$623,000
Cost - Voter Education	(\$283,600)	(\$94,533)
Cost - Additional Costs	(\$255,896)	(\$0)
NET SAVINGS	\$83,504	\$528,467
% SAVINGS	15%	85%



Comparison between RCV and Approval Voting



	Subject	Ranked Choice Voting	Approval Voting
ence	Ballot Look and Feel	X	
	Voter Exhaustion	X	
peri	Gaming the System		\checkmark
Voter Experience	Transparency	X	\checkmark
	Voter Turnout	?	?
	Impact on Minorities	?	?
Election Processes	Logistical & Security Issues	X	
	Processing Time	X	
	Adjudication & Spoiled ballots	X	\checkmark
	Tabulation of Results	X	
	Release of Results	X	
	Auditability	X	
	Plurality		
Costs	Voter Education	X	
	Primary Election		

Comparison between RCV and Approval Voting

