National Popular Election of the President

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The Whole-Number Proportional Method of Awarding Electoral Votes

May 1, 2021

In the whole-number proportional method for awarding electoral votes, states would enact laws dividing their electoral votes, in whole-number increments, based on each candidate's share of the state's popular vote

The whole-number proportional method would operate in a number of unexpected and undesirable ways.

(1) Although it might appear that the whole-number proportional approach would give presidential candidates a reason to campaign in all 50 states, candidates would only campaign in about half the states.

(2) In the 26 or so states where candidates would actually campaign, the battle would almost always be for just one electoral vote—thus making the whole-number proportional approach essentially a "one-state-one-vote" system with only about 26 electoral votes (out of 538) in play.

(3) Winning the one available electoral vote in the 26 or so "battleground" states would take only a few thousand popular votes in low-population states, but tens of thousands of votes in bigger states—thus making votes unequal in different parts of the country.

(4) Presidential election would frequently be thrown into the U.S. House of Representatives because minor-party candidates would frequently receive electoral votes. Four of the seven elections between 1992 and 2016 (1992, 1996, 2000, 2016) would have been thrown in the U.S. House (where each state has one vote in electing the President)—thus defeating the candidate receiving the most popular votes nationwide.

(5) Enactment of the whole number proportional approach on a state-by-state basis would penalize early adopters and quickly become a self-arresting process, because each enactment would increase the influence of the remaining winner-take-all states (and thereby make them less likely to change).

(6) If the courts accept the theory that the winner-take-all rule is unconstitutional on a statewide and congressional-district basis, the whole number proportional approach would necessarily also be unconstitutional, because some of each state's electoral votes would be allocated on a winner-take-all basis.

(7) Minor-party candidates would, in practice, be precluded from winning electoral votes in small-and medium-sized states (where each electoral vote would correspond to a substantial fraction of the state's popular vote).

(8) The whole-number proportional approach would not make every vote equal throughout the United States.

Although it might appear that the whole-number proportional approach would give presidential candidates a reason to campaign in all 50 states, candidates would only campaign in about half the states.

The fundamental principle governing presidential campaigns is that candidates campaign in a state only if they have something to gain or lose. The harsh reality of political strategy is that candidates (wisely) do not campaign in a state unless they are reasonably close to gaining or losing something.

In practice, candidates campaign only in states where they are within about ***three percentage points*** of winning or losing electoral votes. For example, in 2012, ***100%*** of the 253 general-election campaign events (and virtually all campaign expenditures) occurred in the 12 closely divided "battleground" states where Romney's support was between 45% and 51%. Romney's eventual national level of support was 48%. There were ***no*** general-election campaign events in the 38 states outside this six-point range (and virtually no advertising expenditures in those 38 states

The 12 states that received general-election campaign events in 2012 under current system

Romney %	2012 general-election campaign events (out of 253)	State	Ad spending
51%	3	North Carolina	$80,000,000
50%	40	Florida	$175,776,780
49%	73	Ohio	$148,000,000
48%	36	Virginia	$127,000,000
47%	23	Colorado	$71,000,000
47%	27	Iowa	$52,194,330
47%	13	Nevada	$55,000,000
47%	13	New Hampshire	$34,000,000
47%	5	Pennsylvania	$31,000,000
47%	18	Wisconsin	$40,000,000
46%	1	Minnesota	$0
45%	1	Michigan	$15,186,750

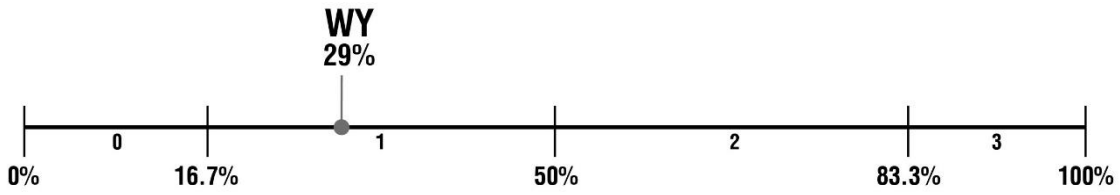
Meaningful campaigning is concentrated even more. In 2012, 98% of the campaign events (249 of 253) were concentrated in the states within ***two percentage points***; and 82% of the campaign events (208 of 253) were concentrated in the states within ***one percentage point***. See the full 2012 spreadsheet for more information.

Presidential electors cannot cast fractional votes. The average number of electoral votes per state is about 10 (538 divided by 51). Thus, in an average-sized state, one electoral vote would correspond to a 10%-share of the state's popular vote under the whole-number proportional approach. Moreover, because 33 states have a *below-average* number of electoral votes, one electoral vote would correspond to considerably more than 10% of the popular vote in 33 states (i.e., about two-thirds of the states).

In order to see how presidential candidates would campaign under the whole-number proportional approach, let's start by looking at the eight smallest states (i.e., those with 3 electoral votes). In those states, one electoral vote would correspond to a 33.33%-share of the popular vote.

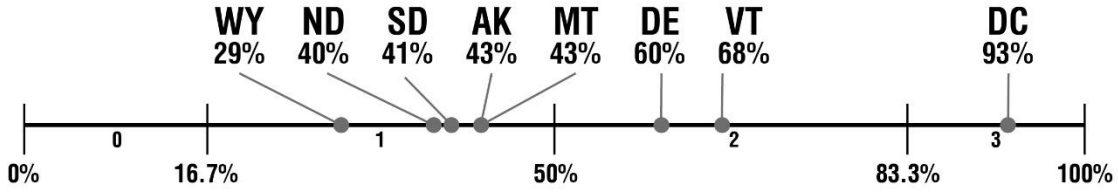
If a candidate receives between 16.7% and 50.00% of the popular vote in a state with three electoral votes, the candidate would receive one electoral vote. If a candidate receives between 50.01% and 83.3% of the popular vote, then the candidate would receive two electoral votes. If a candidate receives more than 83.3% of the popular vote, then the candidate would receive all three of the state's electoral votes. These "breakpoints" of 16.7%, 50%, and 83.3% play a critical role in determining whether a candidate will choose to campaign in a given state.

First consider whether Obama had any chance of gaining or losing anything by campaigning in Wyoming (where he had 29% support in 2012). With 29% support on Election Day, Obama would win one electoral from Wyoming. As can be seen from the figure below, 29% lies roughly halfway between the breakpoints of 16.7% and 50%. Winning a second electoral vote from Wyoming would have required Obama to perform the monumental task of increasing his support by 21 percentage points in order to reach the "breakpoint" of 50%. Moreover, Obama's one electoral vote was not in jeopardy because he could lose it only if his support collapsed by 12.3 percentage points.

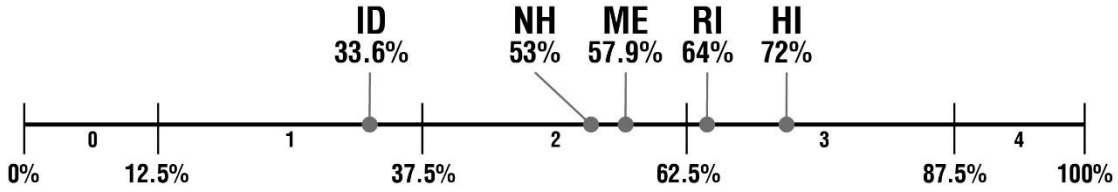


Because Obama's level of support of 29% was so distant from the "breakpoints" of 50% and 16.67%, he would have quickly concluded that he had nothing to gain and nothing to lose by campaigning in the state. Looking at Wyoming from Romney's perspective, Romney would receive two electoral votes by virtue of his 71% support in Wyoming. Winning all three electoral votes from Wyoming would have required Romney to perform the monumental task of increasing his support by 12.3% percentage points in order to reach the "breakpoint" of 83.3%. Romney's two electoral votes were not in jeopardy because he could lose one of them only if his support collapsed by 21 percentage points. Thus, neither Obama nor Romney would have gained anything by campaigning in Wyoming, and, therefore, neither would have campaigned there.

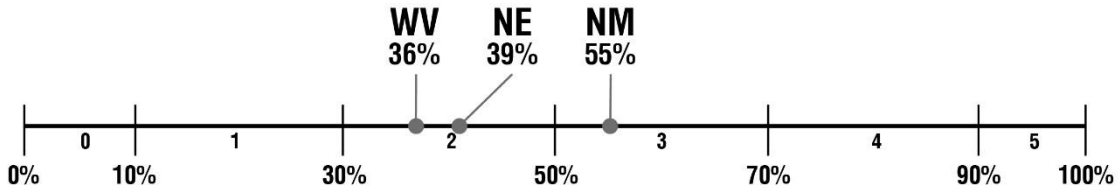
The same thing would happen in all eight states with three electoral votes (Wyoming, North Dakota, South Dakota, Alaska, Montana, Delaware, Vermont, and the District of Columbia). As can be seen from the figure below, Obama was not within three percentage points of any of the breakpoints (16.7%, 50%, and 83.3%) that would have enabled him to gain or lose an electoral vote. Thus, Obama (and hence Romney) would have ignored all eight states with three electoral votes.



In the five states with four electoral votes (Idaho, New Hampshire, Maine, Rhode Island, and Hawaii), Obama's level of support was within three percentage points of a breakpoint in only one of these five states (Rhode Island). In Rhode Island, Obama's level of support was 64%, which was very close to the breakpoint of 62.50% between winning two versus three electoral votes. Hence, Romney would have campaigned vigorously to push Obama below 62.50%, and Obama would have fought hard to stay above 62.50%. However, both candidates would have ignored four out of five of the states with four electoral votes because Obama's level of support was too distant from the breakpoints (12.5%, 37.5%, 62.5%, and 87.5%).



In none of the three states with five electoral votes (West Virginia, Nebraska, and New Mexico) was Obama's level of support within three percentage points of a breakpoint enabling him to gain or lose an electoral vote. Thus, neither Obama nor Romney would have campaigned in any of the three states with five electoral votes.



The situation is similar for states with six and seven electoral votes.

When the 25 least populous states (seven electoral votes or less) are analyzed in relation to their respective "breakpoints," only five states would have been "battleground" states under the

whole-number proportional approach in 2012—Rhode Island, Kansas, Mississippi, Utah, and Oklahoma. The 20 least populous states and the District of Columbia would have been politically irrelevant "spectators."

The 25 largest states are much more likely to get attention from presidential candidates because one electoral vote corresponds to a smaller percentage of the popular vote in those states.

When all 50 states and DC are analyzed in relation to their respective "breakpoints," **only 26 states were inside the three-percentage-point window that would have attracted the efforts of presidential candidates in 2012**.

The table below shows the 26 "battleground" states for 2012 arranged in order of the percentage change (column 1) needed to gain or lose one electoral vote under the whole-number proportional approach.

Change needed to gain or lose 1 EV	State	EV	2012 D percent	Breakpoint just below D percent	Breakpoint just above D percent
0.11%	Alabama	9	38.78%	27.78%	38.89%
0.22%	Missouri	10	45.22%	45.00%	55.00%
0.23%	Pennsylvania	20	52.73%	52.50%	57.50%
0.37%	Utah	6	25.37%	25.00%	41.67%
0.44%	Florida	29	50.44%	50.00%	53.45%
0.48%	New York	29	64.28%	63.79%	67.24%
0.83%	Georgia	16	46.04%	40.63%	46.88%
0.85%	California	55	61.87%	60.91%	62.73%
1.03%	North Carolina	15	48.97%	43.33%	50.00%
1.06%	Minnesota	10	53.94%	45.00%	55.00%
1.08%	Illinois	20	58.58%	57.50%	62.50%
1.20%	Texas	38	41.99%	40.79%	43.42%
1.26%	Tennessee	11	39.65%	31.82%	40.91%
1.26%	Ohio	18	51.51%	47.22%	52.78%
1.52%	Rhode Island	4	64.02%	62.50%	87.50%
1.54%	Wisconsin	10	53.46%	45.00%	55.00%
1.68%	Michigan	16	54.80%	53.13%	59.38%
1.68%	Maryland	10	63.32%	55.00%	65.00%
1.76%	New Jersey	14	58.95%	53.57%	60.71%
1.97%	Virginia	13	51.97%	50.00%	57.69%
2.49%	Oklahoma	7	33.23%	21.43%	35.71%
2.50%	Louisiana	8	41.25%	31.25%	43.75%
2.53%	Mississippi	6	44.20%	41.67%	58.33%
2.69%	Massachusetts	11	61.79%	59.09%	68.18%
2.75%	Colorado	9	52.75%	50.00%	61.11%
2.78%	Kansas	6	38.89%	25.00%	41.67%

The table below shows the remaining states—that is, the states would be ignored under the whole-number proportional approach.

Change needed to gain or lose 1 EV	State	EV	2012 D percent	Breakpoint just below D percent	Breakpoint just above D percent
3.46%	Washington	12	57.63%	54.17%	62.50%
3.82%	Arkansas	6	37.85%	25.00%	41.67%
3.89%	Indiana	11	44.80%	40.91%	50.00%
3.92%	Idaho	4	33.58%	12.50%	37.50%
4.48%	Arizona	11	45.39%	40.91%	50.00%
4.64%	Maine	4	57.86%	37.50%	62.50%
4.93%	Nevada	6	53.41%	41.67%	58.33%
5.29%	Kentucky	8	38.46%	31.25%	43.75%
5.30%	New Mexico	5	55.30%	50.00%	70.00%
5.31%	South Carolina	9	44.69%	38.89%	50.00%
5.37%	Iowa	6	52.96%	41.67%	58.33%
5.51%	Connecticut	7	58.77%	50.00%	64.29%
6.27%	Oregon	7	56.27%	50.00%	64.29%
6.33%	West Virginia	5	36.33%	30.00%	50.00%
7.03%	Montana	3	42.97%	16.67%	50.00%
7.32%	Alaska	3	42.68%	16.67%	50.00%
7.41%	DC	3	92.59%	83.33%	100.00%
8.87%	Nebraska	5	38.87%	30.00%	50.00%
9.20%	Hawaii	4	71.70%	62.50%	87.50%
9.22%	South Dakota	3	40.78%	16.67%	50.00%
9.45%	Delaware	3	59.45%	50.00%	83.33%
9.67%	New Hampshire	4	52.83%	37.50%	62.50%
10.11%	North Dakota	3	39.89%	16.67%	50.00%
12.17%	Wyoming	3	28.84%	16.67%	50.00%
15.09%	Vermont	3	68.25%	50.00%	83.33%

See the proportional 2012 spreadsheet for additional details.

Similar spreadsheets for 2008, 2004, and 2000 demonstrate that only about half the states would attract campaign activity under the whole-number proportional approach.

In the 26 or so states where candidates would actually campaign, the battle would almost always be for just one electoral vote—thus making the whole-number proportional approach essentially a "one-state-one-vote" system with only about 26 electoral votes (out of 538) in play.

In practice, the whole-number proportional approach would be a "one-state-one-vote" system in almost all of the 26 or so states that would get any attention from the candidates.

In particular, in 2012, the candidates were within three percentage points of a breakpoint for 26 electoral votes. The 2012 campaign would have played out with Obama having 263 electoral votes and Romney having 249 electoral votes "in the bag" (using each candidate's final level of support in each state as an indicator of the state-by-state polling data that a candidate would have used earlier in the campaign in deciding where to campaign). That is, Obama had 263 electoral votes and Romney had 249 electoral votes that were not within three percentage points of any breakpoint. After assigning the 26 electoral votes that were in play to the appropriate candidate in the 26 battleground states, Obama has 276 electoral votes to Romney's 262 (with 270 required to win).

Change needed to gain or lose 1 EV	State	D-in-the-bag	D-Final	R-in-the-bag	R-Final
0.11%	Alabama	3	3	5	6
0.22%	Missouri	4	5	5	5
0.23%	Pennsylvania	10	11	9	9
0.37%	Utah	1	2	4	4
0.44%	Florida	14	15	14	14
0.48%	New York	18	19	10	10
0.83%	Georgia	7	7	8	9
0.85%	California	34	34	20	21
1.03%	North Carolina	7	7	7	8
1.06%	Minnesota	5	5	4	5
1.08%	Illinois	11	12	8	8
1.20%	Texas	15	16	22	22
1.26%	Tennessee	4	4	6	7
1.26%	Ohio	9	9	8	9
1.52%	Rhode Island	2	3	1	1
1.54%	Wisconsin	5	5	4	5
1.68%	Michigan	8	9	7	7
1.68%	Maryland	6	6	3	4
1.76%	New Jersey	8	8	5	6
1.97%	Virginia	6	7	6	6
2.49%	Oklahoma	2	2	4	5
2.50%	Louisiana	3	3	4	5
2.53%	Mississippi	2	3	3	3
2.69%	Massachusetts	6	7	4	4
2.75%	Colorado	4	5	4	4

2.78%	Kansas	2	2	3	4
3.46%	Washington	7	7	5	5
3.82%	Arkansas	2	2	4	4
3.89%	Indiana	5	5	6	6
3.92%	Idaho	1	1	3	3
4.48%	Arizona	5	5	6	6
4.64%	Maine	2	2	2	2
4.93%	Nevada	3	3	3	3
5.29%	Kentucky	3	3	5	5
5.30%	New Mexico	3	3	2	2
5.31%	South Carolina	4	4	5	5
5.37%	Iowa	3	3	3	3
5.51%	Connecticut	4	4	3	3
6.27%	Oregon	4	4	3	3
6.33%	West Virginia	2	2	3	3
7.03%	Montana	1	1	2	2
7.32%	Alaska	1	1	2	2
7.41%	DC	3	3	0	0
8.87%	Nebraska	2	2	3	3
9.20%	Hawaii	3	3	1	1
9.22%	South Dakota	1	1	2	2
9.45%	Delaware	2	2	1	1
9.67%	New Hampshire	2	2	2	2
10.11%	North Dakota	1	1	2	2
12.17%	Wyoming	1	1	2	2
15.09%	Vermont	2	2	1	1
	Total	**263**	**276**	**249**	**262**

Note that in California (where an electoral vote corresponds to 1.82% of the popular vote) and Texas (where an electoral votes corresponds to 2.63% of the popular vote), two or even three electoral votes might conceivably be in play in some years depending on how close a candidate's level of support is to the breakpoints in those states. For simplicity, we do not show this in the table.

Winning the one available electoral vote in the 26 or so "battleground" states would take only a few thousand popular votes in low-population states, but tens of thousands of votes in bigger states—thus making votes unequal in different parts of the country.

Because the whole-number proportional approach would almost always be a battle for just one electoral vote per state, the practical effect would be to create a "one-state-one-vote" system. In a "one-state-one-vote" system, winning one electoral vote in a low-population state would be as rewarding to a candidate as winning one electoral vote in a big state. Using data for the 2012 election, shifting 0.37% of Utah's popular vote (about 3,600 votes) would, for example, be as rewarding as shifting 0.44% of Florida's popular vote (37,000 votes).

The table below shows the number of popular vote needed to shift one electoral vote using data from the 2012 election.

Change needed to gain or lose 1 EV	State	Popular votes needed to shift one electoral vote
0.11%	Alabama	2,157
0.22%	Missouri	5,990
0.23%	Pennsylvania	13,152
0.37%	Utah	3,710
0.44%	Florida	36,812
0.48%	New York	33,591
0.83%	Georgia	32,039
0.85%	California	108,467
1.03%	North Carolina	46,002
1.06%	Minnesota	30,349
1.08%	Illinois	55,543
1.20%	Texas	94,743
1.26%	Tennessee	30,534
1.26%	Ohio	69,366
1.52%	Rhode Island	6,626
1.54%	Wisconsin	46,588
1.68%	Michigan	78,412
1.68%	Maryland	44,469
1.76%	New Jersey	63,459
1.97%	Virginia	74,649
2.49%	Oklahoma	33,193
2.50%	Louisiana	48,973
2.53%	Mississippi	32,243
2.69%	Massachusetts	83,797
2.75%	Colorado	68,974
2.78%	Kansas	31,507

This “one-state-one-vote” aspect of the whole-number proportional approach is even more egregious than the possibility that a President can be selected by the U.S. House of Representatives on a “one-state-one-vote” basis, because only the 26 of the 50 states would have any influence whole-number proportional approach.

By the way, it should be noted that the concept of breakpoints also applies to the current state-by-state winner-take-all method of awarding electoral votes. For example, in a two-candidate race conducted on the basis of the winner-take-all rule, there is only one relevant breakpoint, namely 50%. A candidate getting less than 50% of the popular vote in a state receives no electoral votes, whereas a candidate getting more than 50% (the breakpoint) receives all of the state’s electoral votes. As to the 25 smallest states, support for Obama and Romney in 2012 was between 47% and 53 in only three of the 25 smallest states (New Hampshire, Iowa, and Nevada).

Presidential election would frequently be thrown into the U.S. House of Representatives because minor-party candidates would frequently receive electoral votes. Four of the seven elections between 1992 and 2016 (1992, 1996, 2000, 2016) would have been thrown in the U.S. House (where each state has one vote in electing the President)—thus defeating the candidate receiving the most popular votes nationwide.

Four of the seven presidential elections between 1992 and 2016 (1992, 1996, 2000, and 2016) would have been thrown into the U.S. House of Representatives (with each state having one vote) under the whole-number proportional approach because minor-party candidates received a significant number of popular votes in those elections.

In 2000, Al Gore would have received 262 electoral votes under the whole-number proportional approach (as shown in the table below), and George W. Bush would have received 263 electoral votes (even though he received fewer votes nationwide than Gore).

However, no candidate would have received the required 270 electoral votes because Green Party candidate Ralph Nader received 2,883,105 popular votes nationwide (2.76% of the national popular vote). Under the whole-number proportional approach, Nader would have received 13 electoral votes, including two electoral votes in California and one electoral vote in each of 11 other states (Colorado, Florida, Illinois, Massachusetts, Michigan, New Jersey, New York, Ohio, Oregon, Texas, and Wisconsin).

2000 election under the whole-number proportional approach

State	EV	Gore	Bush	Nader	Gore-EV	Bush-EV	Nader-EV
Alabama	9	695,602	944,409	18,349	4	5	
Alaska	3	79,004	167,398	28,747	1	2	
Arizona	8	685,341	781,652	45,645	4	4	
Arkansas	6	422,768	472,940	13,421	3	3	
California	54	5,861,203	4,567,429	418,707	29	23	2
Colorado	8	738,227	883,745	91,434	3	4	1
Connecticut	8	816,015	561,094	64,452	5	3	
Delaware	3	180,068	137,288	8,307	2	1	
D.C.	3	171,923	18,073	10,576	3	0	
Florida	25	2,912,253	2,912,790	97,488	12	12	1
Georgia	13	1,116,230	1,419,720	13,432	6	7	
Hawaii	4	205,286	137,845	21,623	2	2	
Idaho	4	138,637	336,937	12,292	1	3	
Illinois	22	2,589,026	2,019,421	103,759	12	9	1
Indiana	12	901,980	1,245,836	18,531	5	7	
Iowa	7	638,517	634,373	29,374	4	3	
Kansas	6	399,276	622,332	36,086	2	4	
Kentucky	8	638,898	872,492	23,192	3	5	
Louisiana	9	792,344	927,871	20,473	4	5	
Maine	4	319,951	286,616	37,127	2	2	

Maryland	10	1,145,782	813,797	53,768	6	4	
Massachusetts	12	1,616,487	878,502	173,564	7	4	1
Michigan	18	2,170,418	1,953,139	84,165	9	8	1
Minnesota	10	1,168,266	1,109,659	126,696	5	5	
Mississippi	7	404,964	573,230	8,126	3	4	
Missouri	11	1,111,138	1,189,924	38,515	5	6	
Montana	3	137,126	240,178	24,437	1	2	
Nebraska	5	231,780	433,862	24,540	2	3	
Nevada	4	279,978	301,575	15,008	2	2	
New Hampshire	4	266,348	273,559	22,198	2	2	
New Jersey	15	1,788,850	1,284,173	94,554	8	6	1
New Mexico	5	286,783	286,417	21,251	3	2	
New York	33	4,107,907	2,403,374	244,060	20	12	1
North Carolina	14	1,257,692	1,631,163	0	6	8	
North Dakota	3	95,284	174,852	9,497	1	2	
Ohio	21	2,186,190	2,351,209	117,857	10	10	1
Oklahoma	8	474,276	744,337	0	3	5	
Oregon	7	720,342	713,577	77,357	3	3	1
Pennsylvania	23	2,485,967	2,281,127	103,392	12	11	
Rhode Island	4	249,508	130,555	25,052	3	1	
South Carolina	8	566,039	786,426	20,279	3	5	
South Dakota	3	118,804	190,700	0	1	2	
Tennessee	11	981,720	1,061,949	19,781	5	6	
Texas	32	2,433,746	3,799,639	137,994	12	19	1
Utah	5	203,053	515,096	35,850	1	4	
Vermont	3	149,022	119,775	20,374	2	1	
Virginia	13	1,217,290	1,437,490	59,398	6	7	
Washington	11	1,247,652	1,108,864	103,002	6	5	
West Virginia	5	295,497	336,475	10,680	2	3	
Wisconsin	11	1,242,987	1,237,279	94,070	5	5	1
Wyoming	3	60,481	147,947	4,625	1	2	
Total	**538**	**51,003,926**	**50,460,110**	**2,883,105**	**262**	**263**	**13**

Because no candidate would have received "a majority of the whole number of Electors appointed" as required by the Constitution, the election for President would have been thrown into the newly elected U.S. House of Representatives on January 6, 2001 (and the election for Vice President would have been thrown into the newly elected U.S. Senate).

In the election for President in the U.S. House (often referred to as a "contingent" election), the House is limited to choosing among the three candidates receiving the most electoral votes (Gore, Bush, and Nader in 2000). In an election for President in the House, each state has one vote—regardless of its population. The District of Columbia has no vote in a contingent election. In determining a state's vote, all the members of the state's delegation have one vote. If there is no majority in a state's delegation (e.g., the delegation is tied), the state loses its vote entirely.

Nonetheless, an absolute majority of all the states (26 of 50) is required for election regardless of how many states cannot vote. Based on the party alignment of the newly elected House on January 6, 2001, Governor George W. Bush would have been elected President by the House. In other words, the whole-number proportional approach would not have resulted in the election of the candidate who received the most popular votes nationwide.

The contingent election in the Senate is limited to choosing among the two candidates receiving the most electoral votes (Joseph Lieberman and Richard Cheney in 2000). Each Senator has one vote. The newly elected Senate was equally divided on January 6, 2001. The U.S. Constitution is not entirely clear as to whether, in event of a tie in the Senate, the outgoing Vice President (Al Gore whose term of office ran until January 20, 2001) would have been entitled to vote to break the tie in the Senate. If Gore had voted, the Democratic nominee for Vice President (Senator Joseph Lieberman) would presumably have been elected Vice President by the Senate.

Another feature of the whole-number proportional approach is minor-party candidates would, as a practical matter, be precluded from winning electoral votes in small-and medium-sized states. The reason is that the percentage of a state's vote required to win one electoral vote is a substantial fraction of the popular vote in smaller states. For example, one electoral vote corresponds to 33.33% of the state's popular vote in the states with three electoral votes. One electoral vote corresponds to 7.14% of the state's popular vote in the states with seven electoral votes (the median-sized state).

Finally, if the whole-number proportional approach were in use (with only about 26 electoral votes in play in a typical election), and if one political party reasonably expected to have the U.S. House after an upcoming presidential election (whether through popularity or gerrymandering), that party might step forward and finance ballot access for a minor party that might be able to win a few electoral votes and thereby throw the presidential election into the U.S. House.

After studying election systems around the world, the French sociologist Maurice Duverger observed the tendency of plurality-vote ("first past the post") elections to prevent a proliferation of candidates and to sustain a two-party system. Duverger observed that voters tend to shy away from parties or candidates that have no chance of winning. The effect of voting for a splinter candidacy in a "first past the post" system is usually to help a candidate whose views are diametrically opposite to the voter's own views. Plurality voting discourages the proliferation of niche parties and candidacies because it rewards the formation of broad coalitions in which various groups and interests join together so that their common candidate can win the most votes (and thereby win office). The results of Duverger's worldwide study of voting systems is often called "Duverger's law." Therefore, the use of the whole-number proportional approach would encourage niche parties and candidacies.

Enactment of the whole number proportional approach on a state-by-state basis would penalize early adopters and quickly become a self-arresting process because each enacting state would increase the influence of the remaining winner-take-all states.

There are three practical political impediments associated with getting states to enact the whole number proportional approach on a state-by-state basis.

First, the only states that would be likely "early adopters" of the whole number proportional approach would be the relatively rare states where the governor and legislature are controlled by a political party different from the party that usually wins the state in presidential elections.

Second, an "early adopter" state would be penalized because it would be dividing its electoral votes during the period when almost every other state was continuing to use the winner-take-all method of awarding its electoral votes. This was a key argument leading to the defeat of the whole-number proportional approach in a statewide vote on an initiative petition in Colorado in 2004. (Note that this objection would not apply if the courts were to declare the winner-take-all method unconstitutional).

Third, if the whole number proportional approach advanced beyond the early-adopter stage, another impediment would emerge. Each additional state adopting the whole number proportional approach would increase the political clout of all the remaining winner-take-all states—thereby making adoption increasingly less attractive to the remaining states. If, every state except Florida (with 29 electoral votes) adopted the whole number proportional approach, Florida would have an overwhelming incentive to retain its existing winner-take-all law. With only 27 electoral votes at stake in the 26 or so battleground states under the whole number proportional approach, Florida's 29 electoral votes would thus single-handedly control the national outcome. Thus, the process of adopting the whole-number proportional approach on a state-by-state basis would be self-arresting.

Note that the whole-number proportional approach could be adopted in the form of a federal constitutional amendment. In that case, the above three factors involving sequential adoption by the states would not apply. However, once we start talking about constitutional amendments, Senator Cannon's 1969 ***fractional*** proportional approach would be a far better amendment than the ***whole-number*** proportional approach.

Cannon's proposed fractional proportional approach would have eliminated the position of (human) presidential elector, allowed fractional electoral votes, and divided each state's electoral votes carried out to ***three decimal places***. In the nation's biggest state (California), 0.001 of an electoral vote would correspond to about 230 popular votes. Thus, unlike the whole-number proportional approach, the fractional proportional approach would succeed in making every voter, in every state, politically relevant. In other words, the fractional proportional approach would eliminate the major defect of both the current state-by-state winner-take-all approach and the whole-number proportional approach—namely that presidential candidates have no reason to solicit votes in a substantial number of states.

However, the fractional proportional approach would not make every vote equal throughout the United States, and it would not guarantee victory to the winner of the nationwide popular vote. If the fractional proportional approach had been used in 2000, it would have resulted in the election of George W. Bush, despite Al Gore's 537,000-vote lead in the national popular vote (as shown in tables 3.1 and 3.2 of the book *Every Vote Equal: A State-Based Plan for Electing the President by*

National Popular Vote). Moreover, the fractional proportional approach would have resulted in the U.S. House of Representatives choosing the President on a one-state-one-vote basis in four of the last seven elections (1992, 1996, 2000, 2016).

If the courts accept the theory that the winner-take-all rule is unconstitutional on a statewide and congressional-district basis, the whole number proportional approach would necessarily also be unconstitutional, because some of each state's electoral votes would be allocated on a winner-take-all basis.

Litigation is currently pending that asks courts to declare that the winner-take-all rule is unconstitutional (www.equalcitizens.us/equal-votes). The plaintiff's briefs argue that the winner-take-all rules is unconstitutional when used on either a statewide or congressional-district basis. If awarding a single electoral vote on a winner-take-all basis is unconstitutional at the congressional-district level, the whole number proportional approach would necessarily also be unconstitutional because some of each state's electoral votes would be awarded on a winner-take-all basis.

In the whole number proportional approach, the number of popular votes that a presidential candidate receives in a state would be divided by the total number of popular votes cast in that state to obtain that candidate's percentage share of the state's popular vote. In the first step of the process, each candidate's percentage share of the state's popular vote is then multiplied by the state's number of electoral votes, and the result is *rounded off to the nearest whole number*. This almost always leaves one or more of the state's electoral votes unallocated. In the second step of the process, any remaining electoral vote(s) would be allocated to the candidate(s) with the largest remaining fraction. This allocation of the final electoral vote (or votes) operates in a winner-take-all fashion, because it treats voters who supported the candidate not receiving the final electoral vote (or votes) as if they had voted for the candidate with the largest remaining fraction.

Thus, even if plaintiffs in the pending litigation get a favorable ruling, the whole number proportional approach cannot serve as a remedy, because it has the same flaw as the winner-take-all rule used on a statewide or congressional-district basis.

Minor-party candidates would, in practice, be precluded from winning electoral votes in small-and medium-sized states (where each electoral vote would correspond to a substantial fraction of the state's popular vote).

In a state with only three electoral votes, one electoral vote would correspond to a 33.33%-share of the state's popular vote. Minor-party candidates for President almost never win this share of a state's popular vote.

Twenty-five states have seven or fewer electoral votes. Thus, in a *median*-sized state (i.e., a state with seven electoral votes), one electoral vote corresponds to a 14.29%-share of the state's popular vote. Again, minor-party candidates for President almost never win this share of a state's popular vote.

The average number of electoral votes per state is about 10 (538 divided by 51). Thus, in an average-sized state, one electoral vote would correspond to a 10%-share of the state's popular vote under the whole-number proportional approach. Again, minor-party candidates for President almost never win this share of a state's popular vote.

As the tables above for the 2000 and 2016 elections, the only states where a minor-party candidate can win an electoral votes are the big states.

The whole-number proportional approach would not make every vote equal throughout the United States.

Every vote would not be equal throughout the United States under the whole-number proportional approach for the following five reasons:

- Candidates would only campaign in about 26 states.
- Winning the an electoral vote in these 26 states would take only a few thousand popular votes in low-population states, but tens of thousands of votes in bigger states.
- Presidential election would frequently be thrown into the U.S. House of Representatives (where each state has one vote in electing the President), and the candidate receiving the most popular votes nationwide would frequently lose there.
- Some of each state's electoral votes would be allocated on a winner-take-all basis.
- Minor-party candidates would, in practice, be precluded from winning electoral votes in small-and medium-sized states (where each electoral vote would correspond to a substantial fraction of the state's popular vote).

Spreadsheets

http://nationalpopularvote.com/sites/default/files/prez-2000-proportional.xlsx

http://nationalpopularvote.com/sites/default/files/prez-2004-proportional.xlsx

http://nationalpopularvote.com/sites/default/files/prez-2008-proportional.xlsx

http://nationalpopularvote.com/sites/default/files/prez-2012-proportional.xlsx

http://nationalpopularvote.com/sites/default/files/2012-campaign-events-and-results-chart.pdf