

Fuzzy Math: Wrong Way Reforms for Allocating Electoral Votes (Problems with the Whole Number Proportional and Congressional District Systems)

By Claire Daviss and Rob Richie

January 2015

SUMMARY

This paper analyzes two of the three major options available to state leaders interested in changing the statewide winner-take-all rules for allocating Electoral College votes: the whole number proportional system and congressional district system. We project the impact of these allocation systems if used nationally in several previous elections. We evaluate the systems on the basis of three criteria for strong democratic electoral systems: majority rule, competitiveness of elections, and equality of votes. We also assess the partisan incentives each system creates.

Our analysis reveals that neither of the proposed electoral vote allocation systems sufficiently promotes majority rule, nationwide competitiveness, and voter equality. If done nationally, the congressional district system creates a severe partisan tilt for the Republican Party. In 2012, for example, it would have converted Mitt Romney's loss by nearly five million popular votes into an electoral vote win. The whole number proportional system expands the number of states with at least one elector in play, but fails to make elections competitive nationwide and sharply increases the odds of contingent elections.

States have a responsibility under the U.S. Constitution to choose a method of allocating electoral votes in the public interest, but for states considering alternatives, both congressional district allocation and whole number proportional allocation fall far short of the National Popular Vote plan, the third major reform option which is under consideration in a number of states.

Report Outline

1. Introduction: Electoral Vote Allocation Options and Criteria to Evaluate Them
2. Congressional District Electoral Vote Allocation System, Majority Rule and Competition
3. Whole Number Proportional Allocation System, Majority Rule and Competition
4. Voter Inequality in Congressional District and WNP Systems
5. Increased Partisan Calculations if Implemented State-by-State
6. Conclusion
7. Acknowledgment
8. Appendix

1. **Introduction:** Electoral Vote Allocation Options and Criteria to Evaluate Them

The U.S. Constitution establishes the office of the presidential elector and allots each state a number of electors equal to its total number of seats in Congress – one for each U.S. House member and one for each U.S. Senator. It also gives states plenary power in determining the manner in which to choose their electors and distribute their electoral votes among presidential candidates.

Throughout American history states have adopted a variety of methods to distribute electoral votes among presidential candidates. The winner-take-all, unit rule system, in which the presidential candidate winning the plurality of votes in a state takes all its electoral votes, eventually became the norm, primarily driven by state partisans wanting to maximize the number of electoral votes given to nominees of their party.

This report examines two major alternatives to the unit rule system that states have considered in recent years. They are:

1. The **congressional district system**, in which a candidate wins one Electoral College vote for each U.S. House district won and two Electoral College votes, corresponding to Senate seats, for winning a plurality statewide. This method is used in Maine and Nebraska, while the rest of country follows the statewide winner-take-all approach.
2. The **whole number proportional system**, in which all of a state’s Electoral College votes are divided proportionally among candidates, rounded off to the nearest whole number, according to the percentage of statewide votes received by each presidential candidate.¹

To compare electoral systems for the office of the president, we use the lens of four criteria, all of which are important principles to U.S. democratic governmental traditions. Those criteria are:

1. **Equality of voting power:** The “one person, one vote” principle is a strong one in American politics elections. Indeed, every election for every federal and state office has established an equal vote for citizens voting in that election. Voter equality is valuable for a number of reasons. The founders of the United States used ethical and religious arguments to justify voter equality. Madison wrote that “establishing political equality among all” was essential for preventing political corruption, especially in

¹ Whole number proportional is the only way that states can adopt a proportional allocation rule without a change in the Constitution. Our paper does not address methods of proportional allocation that would rely on fractional electoral votes because such a change would require a constitutional amendment.

the form of parties gaining excessive power.² When an individual or group of individuals gains undue power, they have greater ability to wield government influence in their favor rather than in the favor of the citizenry.

An additional reason for voter equality is that it is simply prudent policy. In the abstract, most citizens, absent knowledge of how much voting power they will receive, would rationally support voter equality for all citizens.³

Furthermore, a representative for a certain level of elected office is charged with representing each of his or her constituents equally. For this reason, voters should have equal voting power in electing their representative. For a nationwide vote, that implies voters should have equal voting power nationwide.

- 2. Majority rule:** Representatives in every local, state and national executive election in the United States strive to fulfill the fundamental principle of majority rule. That principle is that a candidate who earns the votes of more than half of voters should be elected.

Majority rule is deeply embedded within the political philosophies that led to the founding and development of the United States. Jean-Jacques Rousseau, Thomas Jefferson, Abraham Lincoln, and John Madison all voiced their defense for majority rule, arguing that democratic electoral systems ought to reflect the will of the majority, even as governmental structures should prevent tyranny of the majority.⁴

The reasons for majority rule are numerous. The famous contemporary political philosopher Robert Dahl argued that “no other rule appears to be consistent with the assumption that all citizens are entitled to be treated as political equals.”⁵ To respect the democratic principle of “one person, one vote,” an electoral system must adopt a majority rule.⁶ Allowing elections to be determined by a minority of the voting populous gives undue weight to those individuals’ votes.

A full review of the arguments in defense of majority rule is beyond the scope of this report.⁷ Nonetheless, sufficient argumentation exists to accept as a premise that U.S. governmental structures ought to elect representatives using this principle.

- 3. Competition for votes:** Competitive elections are elections that are expected to be close. A strong electoral system will foster competitiveness in all elections and avoid sources of error that dilute the competitiveness of elections.

² James Madison, “Parties,” from *The National Gazette*, Jan. 23, 1792, published in *The Writings of James Madison: 1790-1802*, ed. Gaillard Hunt, G.P. Putnam’s Sons, 1906, p. 86.

³ George C. Edwards, *Why the Electoral College Is Bad for America*, Yale University Press, 2011, p. 38-39.

⁴ Robert Dahl, *A Preface to Democratic Theory, Expanded Edition* (Google eBook), University of Chicago Press, 2013, p. 35.

⁵ Robert Alan Dahl, *On Political Equality*, Yale University Press, 2006, p. 15.

⁶ Jon Elster, Professor of Political Science and Philosophy at the University of Chicago, wrote, “Democracy I shall understand as simple majority rule, based on the principle of ‘One person one vote’” (p. 1). Jon Elster, “Introduction,” in *Constitutionalism and Democracy*, ed. Jon Elster and Rune Slagstad, Cambridge University Press, 1993, pp. 1-18.

⁷ For a review of the primary arguments in defense of majority rule, see Mathias Risse, “Arguing for Majority Rule,” *The Journal of Political Philosophy*, 2004, Vol. 12, No. 1, pp. 43-45. For more historical information on the link between democracy and majority rule in philosophical debates, consult Tom Christiano, “Democracy,” *Stanford Encyclopedia of Philosophy*, (Fall 2008 Edition), Edward N. Zalta (ed.), Online at: <http://plato.stanford.edu/archives/fall2008/entries/democracy/>.

In competitive elections, voters have an incentive to vote, thus strengthening society's emphasis on civic responsibilities. Competitive elections also pressure candidates to pay closer attention to voters' concerns, because disregarding their concerns could lead to a candidate's loss. Competitive elections are essential for allowing voters to hold their elected leaders accountable.

- 4. Partisan consequences:** The nation ought to adopt electoral systems on the basis that they produce fair and democratic outcomes, not on the basis of whether they benefit a single party. Proposals to change rules for allocation of electoral votes that transparently benefit one party over another raise troubling questions about how reform will be pursued and how voters will evaluate the systems, either when enacted nationally or in states.

In this paper, we evaluate two alternative systems for allocating electoral votes based on these criteria. We conduct simulations of elections under the rules of each system using real election results from presidential elections in recent decades. We find that both the congressional district and the whole number proportional systems fail to meet our criteria. Neither option sufficiently promotes voter equality, majority rule, and nationwide competitiveness. Both approaches lend themselves to partisan manipulation. States choosing a method of allocating electoral votes ought to avoid adopting the two systems discussed and instead consider the National Popular Vote plan, which upholds each of the four criteria better than statewide winner-take-all systems, the congressional district system and the whole number proportional plan.

Admittedly, it is difficult to assess the impact of the alternative electoral systems on election outcomes in the abstract. Given that electoral systems influence campaign strategy, we cannot know for certain how candidates would have campaigned under different electoral systems and by extension how their campaigns would have changed election outcomes. Although evaluating electoral systems in the abstract is imperfect, it remains one of the best tools we have for imagining the potential effects of the system on future elections. Our simulations present a clearer picture of the nature of elections under alternative presidential electoral systems.

Simulations are even more useful when used to assess close elections. Almost all electoral systems would produce the same winner in a landslide election. However, close elections illustrate differences between various systems. Therefore, we look at close elections to evaluate the desirability of the alternative systems for allocating electoral votes. We use the vote won by each candidate in each state in these elections to determine the allocation of electoral votes under the various systems.⁸

2. Congressional District System of Allocating Electoral Votes: Impact on Majority Rule and Competitiveness

Under the congressional district system of allocating electoral votes, each U.S. House district in a state would elect one presidential elector, and the candidate that wins the statewide popular vote would take the state's two U.S. Senate electors.⁹ Maine and Nebraska currently use this system.

⁸ We make fewer assumptions by using real election results than we would if we *also* attempted to predict how the systems would have influenced campaign strategy. This method is preferable to predicting both campaign strategies *and* election results given those campaign strategies.

⁹ Although awarding the two Senate electors to the statewide popular vote winner is the standard proposal, some states have proposed variations. For example, December 2012 legislation in Virginia

We find that the congressional district approach does not uphold majority rule, substantively increase the competitiveness of presidential elections, nor establish equality of voting power. In fact, the congressional district system is likely to perpetuate the problems of the current winner-take-all, unit rule system used by most states and create new incentives for partisan manipulation. This section describes the congressional district system and, using simulated examples, its potential risks.

Simulating Elections under the Congressional District System

We analyzed five close elections within the past fifty years to evaluate the desirability of the congressional district system. Tables 1 through 4 show the results of the presidential elections of 1972, 1976, 2000, and 2012. These results include the actual votes won by the candidates as well as the simulated distribution of Electoral College votes under the congressional district system.

In 1972 (Table 1), Richard Nixon won a landslide victory over George McGovern. Nixon’s popular vote lead was 23.2 percent, which translated into an Electoral College lead of 93.5 percent under unit rule system. Under the congressional district system, Nixon’s Electoral College lead would have been 77.7 percent – smaller than with the unit rule allocation, but still considerably inflated compared to the popular vote lead of 23.1 percent.

Table 1. The 1972 Presidential Election under Unit Rule and Congressional District Systems

Candidate	Nixon	McGovern
Popular Vote	47,168,710	29,173,222
% Total	60.67%	37.52%
% Lead over 2nd Place Candidate	23.15%	-
Electoral College (EC) Votes under Unit Rule System	520*	17
% Total	96.65%	3.16%
% Lead over 2nd Place Candidate	93.49%	-
EC Votes under Congressional District System	478	60
House-Senate-DC	380-98	55-2-3
% Total under Congressional District System	88.85%	11.15%
% Lead over 2nd Place Candidate	77.70%	-

Source for popular and unit rule election results: U.S. Election Atlas. Online: uselectionatlas.org/RESULTS/
 Source for election results by congressional district: *The Almanac of American Politics*, 1976 ed.
 *1972: In Virginia, one Nixon elector cast his vote for John Hospers (President) and Theodora Nathan (Vice-President).

In the election of 1976 (Table 2), Jimmy Carter led Gerald Ford by 2.1 percent in the popular vote, and 10.4 percent in electoral votes under unit rule system. Under the congressional district

would have awarded the two statewide electors to the winner of the most congressional districts. These variations can drastically affect the outcomes of how states allocate their electoral votes. The proposed Virginia 2012 rule would have converted Barack Obama’s 13-0 electoral vote win votes to a 4-9 electoral vote defeat to Mitt Romney.

system, Carter’s Electoral College majority would have been reduced to only 0.4 percent. Ford would have fallen just two votes short of making the election contingent -- and indeed Ford would have won if it were not for the three electoral votes that had recently been granted to the District of Columbia in the 23rd amendment to the Constitution.

Table 2. The 1976 Presidential Election under Unit Rule and Congressional District System

Candidate	Carter	Ford
Popular Vote	40,831,881	39,148,634
% Total	50.08%	48.01%
% Lead over 2nd Place Candidate	2.07%	-
Electoral College (EC) Votes under Unit Rule System	297	240**
% Total	55.2%	44.6%
% Lead over 2nd Place Candidate	10.4%	-
EC Votes under Congressional District System	270	268
House-Senate-DC	221-46-3	214-54
% Total under Congressional District System	50.2%	49.8%
% Lead over 2nd Place Candidate	0.4%	-

Source for election results: U.S. Election Atlas. Online: uselectionatlas.org/RESULTS/

**1976: In Washington State, one Ford elector cast his vote for Ronald Reagan (President) and Bob Dole (Vice-President).

In 2000 (Table 3), George W. Bush lost the popular vote to Al Gore by 0.5 percent, but led in the Electoral College by 0.9 percent under the unit rule system. With the congressional district system, Bush’s share would have exceeded Gore’s by 8.8 percent. In this case, the congressional district system would have allowed a candidate to win the presidency, despite not having won the most votes in the election, and by an *even wider* gap than the unit rule system.

Table 3. The 2000 Presidential Election under Unit Rule and Congressional District Systems

Candidate	Bush	Gore
Popular Vote	50,462,412	51,009,810
% Total	47.87%	48.38%
% Lead over 2nd Place Candidate	-	0.51%
Electoral College (EC) Votes under Unit Rule System	271	266***
% Total	50.37%	49.44%
% Lead over 2nd Place Candidate	0.93%	-
EC Votes under Congressional District System	288	250
House-Senate-DC	228-60	207-40-3
% Total under Congressional District System	55.3%	46.5%

Candidate	Bush	Gore
% Lead over 2nd Place Candidate (Cong. Dist. System)	8.8%	-

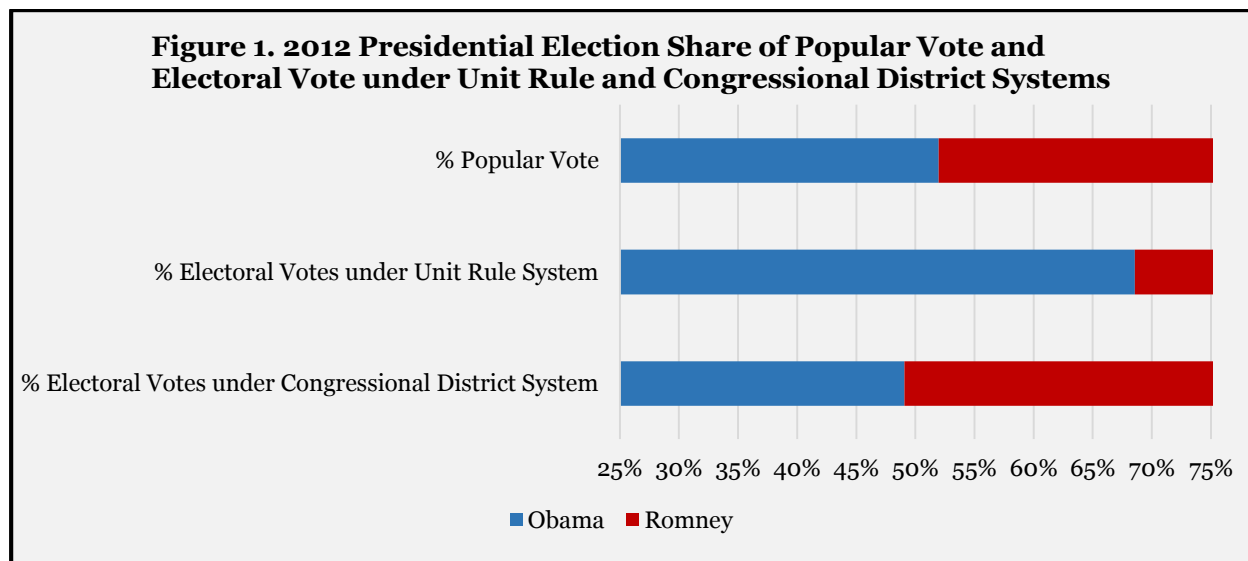
Source for election results: U.S. Election Atlas. Online: uselectionatlas.org/RESULTS/
 ***2000: One Gore elector abstained from voting in Washington, D.C.

In 2012 (Table 4), Barack Obama defeated Mitt Romney in the popular vote by 3.9 percent and in the Electoral College vote by 23.4 percent. With the congressional district system, the result of the election would have been reversed: Romney would have defeated Obama by 1.9 percent of the electoral votes. Assuming a universal swing within states and congressional districts as the national popular vote margin changes, Obama would not have defeated Romney until winning the national popular by 51.7 percent. (See also Figure 1.)

Table 4. The 2012 Presidential Election under Unit Rule and Congressional District Systems

Candidate	Obama	Romney
Popular Vote	65,918,507	60,934,407
% Total	51.01%	47.15%
% Lead over 2nd Place Candidate	3.86%	-
Electoral College (EC) Votes under Unit Rule System	332	206
% Total	61.71%	38.29%
% Lead over 2nd Place Candidate	23.42%	-
EC Votes under Congressional District System	264	274
House-Senate-DC	209-54-3	226-48
% Total under Congressional District System	49.07%	50.93%
% Lead over 2nd Place Candidate	-	1.86%

Source for popular and unit rule election results: U.S. Election Atlas. Online: uselectionatlas.org/RESULTS/
 Source for election results by congressional district: Nir, *Daily Kos*, 2012 (full citation in bibliography).



The congressional district system can have immense influence on the outcomes of presidential elections, even reversing the outcomes and producing a different winner. It might have produced very different electoral vote results in presidential elections in the past and possibly reversed the outcome of the 2012 election, which Barack Obama won by nearly five million popular votes nationwide. In the next section, we assess whether the system is consistent with the criteria of a strong electoral system.

The Congressional District System and Majority Rule

The congressional district system does not meet the criterion of upholding majority rule. Instead it displays the same sort of distortion from which the current unit rule system suffers, inflating Electoral College victory margins and allowing candidates trailing in the popular vote to defeat a candidate who has earned more than half of the popular vote.

The inability of the congressional district system to accurately reflect majority rule in the cases analyzed here is not mere coincidence. It is susceptible to three sources of error that lead to outcomes deviating from the national popular vote. These include (1) differences in district-wide concentration of partisan support, and (2) the continued use of the unit rule to allocate Senatorial electoral votes.

Differences in District-Wide Concentration of Partisan Support

The first source of error that causes the congressional district system to deviate from the national popular vote is that congressional districts today and for the foreseeable future are skewed overall in favor of Republicans. This trend is due primarily results from the fact that the Democratic vote is relatively concentrated in those geographic areas where Democrats are in the majority, while Republican support is more evenly spread across Republican strongholds.¹⁰

The skew partially explains why Bush carried 228 of the 435 congressional districts in 2000, whereas Gore carried only 207 districts, despite the fact that Gore received 543,816 more popular votes than Bush. In other words, the bias in congressional districts distinctly favors Republican candidates in nationally competitive elections.

The Republican geographic bias in congressional districts has become more pronounced in every election since 2000, as Democrats have become increasingly concentrated within Democratic-stronghold districts. The 2011 redistricting cycle further exacerbated the trend. As a result, in the 2012 House elections, open seat outcomes suggested the underlying national preference for Democrats was 52 percent to 48 percent. Overall Democratic candidates won more votes than Republican candidates, but Republicans won 54 percent of the seats.¹¹ In the 2014 elections

¹⁰ FairVote. "Partisan Bias in the U.S. House: The Republican Advantage from Demographics, Partisanship, Incumbency and Gerrymandering." *Monopoly Politics 2014 and the Fair Voting Solution*. 7 Nov. 2013.

¹¹ FairVote "[Partisan Bias](#)," 2013. Ibid 10.

Republicans won 51.4 percent of votes in House races,¹² and had an underlying preference among voters of 52 percent to 48 percent, yet they won 57 percent of the seats.¹³

The 2012 House results mirrored the 2012 presidential results by district. In the 2012 presidential election, Obama won 210 congressional districts and Romney won 226 congressional districts, despite the fact that Obama won the national popular vote by 3.86 percent, a lead of nearly five million votes nationwide.

Only significant gerrymandering in favor of Democrats could overturn this systemic bias – hardly a desirable outcome. In fact, the use of congressional districts for allocating electors would make incentives for gerrymandering on both sides even stronger than they currently are, as a political faction could gain an unfair advantage in two separate branches of government from a single act of gerrymandering.

In short, the concentration of partisan support varies by district, as Democratic support tends to be more concentrated while Republican support tends to be more evenly dispersed. Republicans are thus able to win more congressional districts with fewer total votes. By extension, a candidate could win the presidential election without receiving the most votes. The congressional district system would be biased in favor of Republicans, a systemic source of error that ought to be avoided.

Statewide Unit Rule for Senate Electoral Votes

The second source of error with the congressional district system is that it retains the existing statewide unit rule system to determine many electoral votes. The electoral votes determined by the unit rule system include those corresponding to U.S. Senate seats, D.C.'s three electoral votes, and the electoral votes in those states with only one House Representative. In all, 110 of 538 electoral votes would be decided on the same basis as the current system.

Because it resembles the current unit rule system, it is susceptible to the same set of problems. In 2000, for example, George W. Bush carried ten more states than Al Gore despite Gore's win in the popular vote. Under the congressional district system, this ten state lead would have translated into 20 additional "Senate seat" electoral votes. The 20 electoral votes would have failed to represent the large proportions in these states that voted for Gore.

The Congressional District System and Competitiveness of Elections

Under the congressional district system, competitiveness is measured in terms the number of swing districts, or districts with a close final outcome. Recent elections demonstrate that the congressional district system would have a negative effect on competitiveness (Table 5). In 2000, for example, the national popular vote was very close, but elections were only close in a select number of districts. According to 2000 vote returns, an estimated 9.9 percent of the U.S. population lived in swing congressional districts (within 4 percent), compared to 21.4 percent of the U.S. population living in swing states (within 4 percent). Similarly in 2012, a mere 8.7 percent of the population lived in swing congressional districts (within 4 percent), compared to the 15.5

¹² David Wasserman, Loren Fulton, and Ashton Barry, "2014 National House Popular Vote Tracker," *Cook Political Report*.

¹³ Rob Richie, "Republicans Got Only 52 Percent of the Vote in House Races: How Did They End Up With 57 Percent of the Seats?" *The Nation*, 7 Nov. 2014.

percent that lived in swing states (within 4 percent). In short, the congressional district would cut in half the percent of the U.S. population participating in competitive elections.

Table 5. Percentage of the Population Living in Competitive Congressional Districts versus Competitive States

2000		
Vote Margin	Congressional District ¹⁴	State
<4%	9.9%	21.4%
<3%	7.4%	12.7%
<2%	6.0%	10.9%
2012		
Vote Margin	Congressional District	State
<4%	8.7%	15.5%
<3%	6.4%	12.9%
<2%	5.1%	6.1%

Additionally, the number of competitive congressional districts appears to be shrinking (Table 6). Between 2000 and 2012, the number of congressional districts in which the presidential vote was within 4 percent decreased, as did the number of congressional districts within 3 percent and 2 percent.

Table 6. The Number of Competitive Congressional Districts in 2000 and 2012

Vote Margin between Two-Party Presidential Candidates	Number of Congressional Districts in 2000 (out of 435)	Number of Congressional Districts in 2012 (out of 435)
< 2%	29 (6.7%)	22 (5.1%)
< 3%	47 (10.8%)	28 (6.4%)
< 4%	55 (12.6%)	38 (8.7%)

Only the most aggressive gerrymandering – and ignoring other criteria like compactness and the Voting Rights Act – could make a significant number of congressional districts competitive.

¹⁴ The population of competitive congressional districts was taken by multiplying the number of competitive districts by the average population of a congressional district in 2000 and 2012, respectively.

However, if votes in presidential elections were allocated based on congressional districts, the incentive for politically motivated gerrymandering to create even safer districts in states would only grow.

The congressional district system therefore does not sufficiently promote nationwide competitiveness. Instead it pressures candidates to focus on a select few districts and encourages states to use gerrymandering to create safe districts during presidential elections.

Summary of Impact of Congressional District System on Majority Rule and Competition

The proposal to allocate electoral votes by congressional district typically arises from frustrations with the current, winner-take-all, unit rule system, especially in that it leaves two-thirds of states as consistent spectators to the presidential election and can leave voters in the minority in their state feeling that their votes do not count. The congressional district system succeeds in giving states the opportunity to divide their electoral votes among multiple candidates. Its specific method of doing so, however, comes with significant risks. The congressional district system is susceptible to multiple sources of error, which make it more likely that a presidential candidate will win without receiving majority support from the voting citizenry.

Moreover, the congressional district system fails to make elections competitive nationally or in states. Instead it creates incentives for candidates to focus on the small and decreasing percentage of congressional districts that are competitive, and it increases the pressure on states to engage in partisan gerrymandering to create safe districts during presidential elections.

The congressional district system therefore not only fails to overcome the downfalls of the statewide, winner-take-all, unit rule system; it also jeopardizes the fairness and competitiveness of presidential elections.

3. Whole Number Proportional System: Impact on Majority Rule and Competitiveness

The whole number proportional (WNP) system divides a state's electoral votes among presidential candidates based on each candidate's share of the statewide popular vote. The electoral votes for each candidate are rounded off to the nearest whole numbers to preserve the indivisibility of a single electoral vote.¹⁵

Because candidates can only win a whole-number of electoral votes, candidates can win a range of percentage shares of the statewide popular vote and win the same number of electoral votes. For example, if a state has three electoral votes, a 60 percent popular vote share would proportionally equal 1.80 electoral votes, and a 75 percent share would proportionally equal 2.25 electoral votes. Both round off to two electoral votes. As long as a candidate's popular vote share lies within a certain range, he or she wins exactly two electoral votes. (See Figure 2 in Appendix, Section 8, for a more detailed explanation.)

¹⁵ The rounding-off rule is necessary to maintain the office of the presidential elector established under the federal constitution.

Simulating the Effect of the WNP System

To assess whether the whole number proportional system better meets the criteria than the current unit rule system, we simulate the election results using real election data from previous elections.¹⁶ Specifically we consider the three closest popular vote elections held since the 19th century because close elections are more likely to reveal differences between electoral systems:

1. In the 1960 election, John Kennedy defeated Richard Nixon by a margin of 112,827 votes nationwide, or a percentage difference of 0.17 percent of the total votes cast.
2. In the 1968 election, Nixon defeated Hubert Humphrey by a national popular vote margin of 511,944 votes, or 0.7 percent.
3. In the 2000 elections, George W. Bush won the electoral vote majority while trailing Al Gore in the popular vote by 543,816 or 0.52 percent.

The following tables display the results of these presidential elections under the unit rule system and the hypothetical results under the WNP system.

In the 1960 election (Table 7), Kennedy had a 0.16 percent lead over Nixon in the national popular vote. Under the unit rule system, this translated into a 15.64 percent lead in the Electoral College. Using the WNP system, Kennedy would have led by 1.68 percent of the total votes in the Electoral College.

Table 7. 1960 Presidential Election under Unit Rule and Whole Number Proportional

Candidate	Kennedy	Nixon	Others*
Pop. Vote	34,220,984	34,108,157	503,341
% Total	49.72%	49.55%	0.73%
% Lead over 2nd Place Candidate	0.16%	-	-
EC Votes under Unit Rule System			
EC Votes	303	219	15
% Total	56.42%	40.78%	2.79%
% Lead over 2nd Place Candidate	15.64%	-	-
EC Votes under Whole Number Proportional System			
EC Votes	270	261	6
% Total under Whole Number Proportional	50.28%	48.60%	1.12%
% Lead over 2nd Place Candidate	1.68%	-	-

Source for election results: U.S. Election Atlas. Online: uselectionatlas.org/RESULTS

*Other candidates and write-ins, collectively. George Wallace received the bulk of these votes.

In the 1968 election (Table 8), Nixon won by a margin of 0.70 percent of popular votes, but led Humphrey by a 20.45 percent vote share in the Electoral College, with George Wallace trailing in third with 46 electoral votes. Under the WNP system, Nixon's Electoral College lead would have been 1.86 percent. However, Nixon would have failed to secure the necessary Electoral College

¹⁶ See an explanation of this methodology and its merits at the beginning of Section 2: "Congressional District System Allocation of Electoral Votes."

votes to win the presidential election, resulting in a contingent election to be determined by Congress.

Table 8. 1968 Presidential Election under Unit Rule and Whole Number Proportional

Candidate	Nixon	Humphrey	Wallace
Popular Vote	31,783,783	31,271,839	10,144,376
% Total	43.42%	42.72%	13.53%
% Lead over 2nd Place Candidate	0.70%	-	-
Electoral College (EC) Votes under Unit Rule System	301	191	46
% Total	55.95%	35.50%	8.55%
% Lead over 2nd Place Candidate	20.45%	-	-
EC Votes under Whole Number Proportional System	235	225	78
% Total under Whole Number Proportional	43.68%	41.82%	14.50%
% Lead over 2nd Place Candidate	1.86%	-	-

Source for election results: U.S. Election Atlas. Online: uselectionatlas.org/RESULTS

In the 2000 election (Table 9), Bush lagged behind Gore by 0.51 percent in the popular vote, but had a lead of 0.93 percent in the Electoral College. Under the WNP system, Bush would have received one more electoral vote than Gore, winning 263 and 262 respectively. Nonetheless, both candidates would have fallen short of the number of electoral votes necessary to win the presidency, resulting in another contingent election to be determined by Congress.

Table 9. 2000 Presidential Election under Unit Rule and Whole Number Proportional

Candidate	Bush	Gore	Nader
Popular Vote	50,462,412	51,009,810	2,883,443
% Total	47.87%	48.38%	2.74%
% Lead over 2nd Place Candidate	-	0.51%	-
Electoral College (EC) Votes under Unit Rule System	271	266**	0
% Total	50.37%	49.44%	0
% Lead over 2nd Place Candidate	0.93%	-	-
EC Votes under Whole Number Proportional System	263	262	13
% Total under Whole Number Proportional	48.88%	48.7%	2.42%
% Lead over 2nd Place Candidate	0.19%	0.0%	-

Source for election results: U.S. Election Atlas. Online: uselectionatlas.org/RESULTS/

** In D.C., one Gore elector abstained from voting.

The WNP System and Majority Rule

Although the Whole Number Proportional system achieves a closer approximation to the popular vote share in the respective share of electoral votes for each candidate, the WNP system does not ensure that an election's outcome will always be in keeping with majority rule, as the candidate that wins the most votes nationwide still may fail to win the presidency. The WNP system continues to distort presidential elections.¹⁷

Furthermore, as the simulations demonstrate, the WNP system used nationwide would have increased the likelihood of contingent elections if a significant third candidate participates. Contingent elections occur when no single candidate wins a majority of the Electoral College, or 270 electoral votes. In contingent elections, the House of Representatives determines the election of the president, with each state delegation casting a single vote for one of the top three candidates.¹⁸ Contingent elections run counter to the principle of majority rule, as the only nationwide representative of all citizens is chosen by Congress, rather than by the citizens themselves.

States might be able to decrease the risk of contingent elections by awarding Electoral College votes to only the top two candidates of each state. In 2000, this rule would have eliminated Nader's electoral votes and Gore would have ended up with 270 and Bush with 268 votes, thus barely avoiding a contingent outcome. If applied to 1968, however, this would have had little impact on the result, as Wallace was in the top two in several southern states, and thus would have continued to pull electoral votes from the top two candidates nationwide. Thus, contingent elections would still be possible.

In short, the WNP system increases the likelihood of contingent elections, taking the final decision on who is elected president out of the hands of the majority of citizens.

The WNP System and Competitiveness

Competitiveness of a presidential election derives from the likelihood for each candidate to win electoral votes and thus come closer to winning the presidency. Under the unit rule, the competitiveness of a state can be measured in terms of its underlying partisanship: the closer the partisan divide is to 50-50 between the major parties, the more likely it is that presidential elections in the state will be competitive.¹⁹

Under the whole number proportional system, the definition and measure of competitiveness would change. The competitiveness of a state would depend on the difference between the actual percentage vote share of a candidate and the nearest breakpoint (calculated as shown in Figure 2 found in Section 8. Appendix). Under the WNP system, only states where the actual vote

¹⁷ For additional simulations of elections in more recent elections, see Section 8. Appendix.

¹⁸ *History, Art & Archives, U.S. House of Representatives*, "Electoral College Fast Facts," Online at: <http://history.house.gov/Institution/Electoral-College/Electoral-College/>.

¹⁹ Underlying partisanship can be measured by comparing the results of presidential elections in a state with the results of those same elections nationally. We measure state partisanship on a scale of 0-100 percent from the perspective of the Democratic Party, meaning that, in a nationally even year, a state in which no votes are cast for the Democratic candidate would have a partisanship of 0 percent, and a state where all votes are cast for the Democratic candidate would have a partisanship of 100 percent. States with a partisanship of 47.5-52.5 percent are considered competitive under the unit rule. The farther a state falls outside this range, the lower its competitiveness.

percentage for a candidate lies within 2.5 percentage points of a *breakpoint for an electoral vote* are assumed to be definitively competitive.

Table 10. Battleground States under Unit Rule & WNP System

	1960		1968		2000	
	Unit Rule	WNP	Unit Rule	WNP	Unit Rule	WNP
1	Arkansas	Alaska	Alaska	California	Florida	California
2	California	Arkansas	Arizona	Colorado	Iowa	Colorado
3	Delaware	California	California	Delaware	Maine	Florida
4	Florida	Connecticut	Delaware	Florida	Michigan	Georgia
5	Hawaii	Delaware	Georgia	Illinois	Minnesota	Illinois
6	Illinois	Georgia	Illinois	Kansas	Missouri	Iowa
7	Michigan	Hawaii	Maryland	Kentucky	Nevada	Kentucky
8	Minnesota	Illinois	Missouri	Maryland	New Hampshire	Michigan
9	Montana	Iowa	New Jersey	Michigan	New Mexico	Missouri
10	Montana	Kentucky	Ohio	Minnesota	Ohio	New Jersey
11	Nevada	Massachusetts	Pennsylvania	Mississippi	Oregon	New Mexico
12	New Jersey	Michigan	Texas	Missouri	Pennsylvania	New York
13	New Mexico	Minnesota	Washington	Nevada	Tennessee	Ohio
14	New York	Missouri	Wisconsin	New Jersey	Washington	Oregon
15	North Carolina	Nevada		New York	Wisconsin	South Carolina
16	Pennsylvania	New York		Ohio		Tennessee
17	South Carolina	North Carolina		Pennsylvania		Texas
18	Texas	Ohio		Texas		Utah
19	Washington	Pennsylvania		Utah		Wisconsin
20	Wisconsin	Texas		Virginia		
21		Virginia		West Virginia		
22		Washington		Wisconsin		
23		Wisconsin				

New battlegrounds would develop where one of the parties' vote shares is near a breakpoint for winning or losing an electoral vote, as shown in Table 10. It can be a challenge for candidates to increase their vote share in a state beyond a few percentage points, so in battleground states under the WNP system, a candidate might only be able to win one, and only one, more electoral vote. In all the other states, the percentage jump in popular vote share required in order to increase a candidate's tally by a single electoral vote will be so large as to effectively place these states beyond the reach of that candidate, making them non-competitive.

Although the number of battleground states would slightly expand under the WNP system, the overall effect would be similar to the effect under the current unit rule system. Specifically, the WNP system perpetuates the dichotomy between competitive and non-competitive states. The WNP system would replace the unit rule "winner-take-all" scenario with a "winner-take-one-more" scenario, in which campaign strategies would revolve around winning a single extra electoral vote here and there from a small group of battleground states. As Table 8 demonstrates, even during some of the closest elections in the past century, a minority of states would have been battleground states under the WNP system.

Furthermore, candidates may cede campaign activity in the biggest states on this list of potentially competitive states, as the financial cost of shifting 2.5 percent of the vote in a state like California would be much more than the cost of gaining 2.5 percent in a smaller state that is close to a breakpoint. The big winners, then, would be relatively small population states that happen to be near a breakpoint to win one more electoral vote. For example, in 2000, the smallest battleground states would have been New Mexico and Utah with five electoral votes, Iowa and Oregon with

seven, and Kentucky and South Carolina. It is feasible to imagine that campaigns would assess the relative costs and of increasing the chances of earning a single electoral vote in the various states. Big population states that theoretically could swing one more electoral vote still may end up being relatively ignored by the candidates.

In short, the WNP system may increase the number of states that are competitive, but it fails to make presidential elections competitive nationwide. Like the unit rule system, the WNP system creates incentives for candidates to give certain voters preference and attention based on the states in which they reside.

Summary of Impact of Whole Number Proportional System on Majority Rule and Competition

Like the congressional district allocation system, the whole number proportional system has been proposed in response to frustrations with the current winner-take-all, unit rule system. The unit rule system allows one party to win all of the states' electoral votes with a simple plurality of votes, fails to represent sizable minorities within those states, and leads to most states consistently being ignored in presidential elections. In contrast, the whole number proportional system divides up the electoral votes of a state by the percentage that each candidate wins among the statewide popular vote.

However, the whole number proportional system perpetuates several of the problems within the unit rule system.

- It fails to accurately uphold national majority rule in electing a nationwide representative president, as each states' popular votes are filtered through the calculation for the WNP allocation of electoral votes.
- The whole number proportional system increases risks of negative outcomes that are unlikely under the unit rule system. In particular, WNP increases the chances of contingent elections, allowing Congress, not the American public, to determine the outcome of presidential elections.
- WNP continues to motivate campaign strategists to target "battleground states," creating voter inequality as candidates give more attention to voters living in those states over voters in the rest of the nation. Although the number of battleground states increases slightly, they still represent a minority of states, and the very existence of battleground states remains problematic.

The whole number proportional system therefore comes with immense risk, in some cases worse than the current unit rule system.

4. Voter Inequality in the Congressional District and Whole Number Proportional Systems

Both the congressional district and proportional allocation systems maintain three distinct electoral inequalities that are part of the current system.²⁰ Those inequalities include (a) inequalities resulting from the fact that each state has two statewide (Senatorial) presidential electors, giving states more power regardless of relative population; (b) inequalities stemming from the decennial apportionment of the membership of the House of Representatives among the states; and (c) inequalities caused by differences in voter turnout, resulting from the level of civic participation in the state or district, and from the state's rate of population growth during a decade.

First, all states possess electoral votes equal to their respective number of U.S. House Representatives and U.S. Senators. As a result, a vote cast in a large state has less weight than a vote cast in a small state, because both states are awarded two (Senatorial) presidential electors regardless of their populations. This can result in immense distortions in the value of votes living in some states over others. For example, in the 2012 presidential election, Wyoming had two statewide presidential electors (with a 2010 population of 563,626), whereas California had two statewide presidential electors (with a 2010 population of 37,253,956).²¹

The inequalities resulting from the two Senatorial presidential electors in each state are a problem under the current unit rule system, and the inequalities would persist under the whole number proportional and congressional district systems. Both of the alternative systems allow states to continue to divide their allocated electoral votes, which are not based on population alone. As a result, the whole number proportional and congressional district systems perpetuate the inequalities among voters, depending on the size of the state in which they live.

Second, the unit rule generates inequalities because the number of U.S. House Representatives in a single state does not correlate well with population. Every state receives at least one U.S. House Representative, and states may receive more U.S. House Representatives based on their populations. Several states have populations so low that they only have one U.S. House Representative, and within this group, their populations may vary significantly. For example, the U.S. Census in July 2014 estimated Wyoming had a population of 584,153, and Montana had a population of 1,023,579.²² However, both states have only one U.S. House seat. Each elector in those states therefore represents a significantly different number of people.

Inequities increase over the course of a decade. The 2020 presidential election will take place based on apportionment of congressional districts and electoral votes that took place an entire decade earlier, resulting in some fast-growing states like Arizona, Florida and Texas not earning their fair share of electoral votes.

Third, among states with equal numbers of electoral votes, a vote cast in a state with a lower voter turnout has a greater weight than a vote cast in a state where more votes are cast. Voter turnout may be high in a particular state because of a high level of civic participation (e.g. Oregon and Idaho) or because the state is fast growing during the course of a decade (e.g. Nevada in the past decade). These distortions based on turnout are particularly pronounced across congressional districts, especially those operating with lopsided majorities in favor of one party.

²⁰ FairVote. "Presidential Election Inequality: The Electoral College in the 21st Century." Ed. Christopher Pearson, Rob Richie, Adam Johnson, and Jeff Rezmovic. N.d.

²¹ U.S. Census Bureau. "State and County QuickFacts." Online: <http://quickfacts.census.gov/qfd/index.html>.

²² U.S. Census Bureau, Ibid 21.

Given that voter turnout is likely affected by the competitiveness of elections, and that neither the congressional district system nor the whole number proportional system succeeds in bolstering competitiveness, the two alternative systems will likely perpetuate the problem of inequalities resulting from differences in voter turnout by state.

In short, both congressional district and whole number proportional systems fail to ensure that every vote has equal weight, regardless of the state or district in which the voters reside.

5. Incentives for Partisan Manipulation

Our analysis has shown that there are direct partisan consequences of converting our Electoral College allocation system nationally to a congressional district system or whole number proportional system. Given the partisan balance of today's congressional districts, Republicans would win reasonably close presidential elections if electoral votes were allocated by congressional district. Given their tight control over the U.S. House of Representatives, Republicans also would be advantaged in contingent elections, which are more likely under the whole number proportional system.

Advocates of either the whole number proportional allocation system or congressional district allocation system might respond to these criticisms by suggesting that they need not be done nationally in all states, but done state-by-state. Such state-by-state reforms, however, are even worse, as they inevitably will lead to partisan calculations, particularly when advanced in states that are safe for one party or the other under the current unit rule system.

Some Republican strategists have urged states that lean Democratic in presidential elections, but have Republican governors and Republican-controlled state legislatures, to adopt a congressional district or whole number proportional system to distribute electoral votes.²³ For example, Republicans in control of Pennsylvania proposed legislation to go to a congressional district system in 2011 and a proportional system in 2013, respectively.²⁴ Michigan has considered a congressional district system in the past and debated legislation proposing a proportional system in 2014. In these states, the congressional district system may well result in a Republican candidate earning a majority of the state's electoral votes even when losing the statewide popular vote.²⁵

Additionally, ballot measures have been proposed in a number of states. In August 2007, for example, leading California Republicans initiated an effort for a June 2008 ballot measure to establish the congressional district system – one that would almost certainly result in a bigger bloc of electoral votes going to a Republican candidate than the total number of votes at stake in Ohio.²⁶ After a storm of criticism, they withdrew the effort.

Democrats have debated similar proposals in states in which they could gain electoral votes. In 2007, the North Carolina State Senate passed a proposal to allocate electoral votes by

²³ Reid Wilson, "On the Trail: The GOP's Electoral College Scheme," *National Journal*, 17 Dec. 2012.

²⁴Romy Varghese, "Pennsylvania Step May Help Republicans Win Electoral Vote," *Bloomberg*, 3 Dec. 2012. Thomas Fitzgerald, "Enthusiasm lacking for reworking Electoral College apportionment," *Philly.com: The Inquirer*. 9 Feb. 2013.

²⁵ Andrea Levien, Devin McCarthy, and Rob Richie, "Pennsylvania's Proportional Electoral Vote Allocation Proposal: A Nationwide Analysis," *FairVote Research Report*, July 2013.

²⁶ Hendrik Hertzberg, "Votescam: California's 'Presidential Election Reform Act,'" *The New Yorker*, 6 Aug. 2007.

congressional district.²⁷ Support for the proposal in North Carolina waned, however, after national Democratic party leaders discouraged it, warning of the precedent it would set for other states considering similar legislation.²⁸

Even when pursued without partisan intentions, a mix of states using different approaches will distort national outcomes based on the partisan leanings of those states. It would also further exaggerate distortions among states in campaigning. At its most extreme, consider a scenario in which every state used whole number proportional system to allocate electoral votes except California which maintained the winner-take-all unit rule. California's statewide vote would have extremely outsized influence in deciding the presidency.

6. Conclusion: A Truly Fair Alternative to the Status Quo

This analysis demonstrates fundamental problems with the congressional district and whole number proportional systems of allocating Electoral College votes. Some suggest these approaches as alternatives for reforming the winner-take-all unit rule system that has distorted candidate attention and upset the principle of majority rule. However, neither approach resolves the problems of the winner-take-all unit rule system; they merely lead to a different manifestation of the same basic weaknesses and add new complications.

What we need is a presidential election that creates more competition across the nation, makes all areas and all voters equally relevant, and ensures that the winning candidate truly represents the national popular preference.

For reformers in the states, there is no real choice: the only defensible approach is the National Popular Vote plan, a state-based reform plan that has been debated in all 50 states and adopted in states and jurisdictions collectively holding 165 electoral votes (as of the publication of this report in January 2015).²⁹ Under the National Popular Vote plan, states enter into an interstate agreement to award their Electoral College votes to the candidate who wins the most popular votes cast in all 50 states and the District of Columbia. The agreement will come into effect for the next presidential election as soon as enough states join it to make up 270 or more electoral votes, the number of electoral votes necessary to win the presidency.

The National Popular Vote method will make presidential elections direct and national without a Constitutional amendment, since it preserves the office of the presidential elector. It is constitutional because states have the power under the Constitution to decide how to award their electoral votes. Both major parties have repeatedly shown their capacity to earn majorities in the popular vote and indeed have each won the same number of popular vote outcomes in the past 12 elections, past 16 elections and past 30 elections.

Instead of 51 concurrent elections as happens under the unit rule, whole number proportional, or congressional district approaches, electing the president in a single, direct, national election will satisfy all the criteria of a good electoral system. It will ensure majority rule, make elections

²⁷ General Assembly of North Carolina, Session 2007. Senate bill 353, Short Title: Presidential Electors by District. Sponsors: Senators Berger of Franklin, Cowell, and Kinnaird. 27 Feb. 2007.

²⁸ Jennifer Steinhauer, "States Try to Alter How Presidents Are Elected," *The New York Times*, 11 Aug. 2007.

²⁹ Hendrik Hertzberg, "National Popular Vote: New York State Climbs Aboard." *The New Yorker*, 16 Apr. 2014.

nationally competitive, reduce opportunities for partisan machinations, preclude contingent outcomes, and ensure that every vote counts equally.

7. Acknowledgments

The original edition of this report was authored by Rob Richie, Monideepa Talukdar and Ryan O'Donnell in 2007, with help from Stephanie Collier. In 2011, Neal Suidan provided additional research for an updated edition. In addition, Rob Richie made use of analysis from *Every Vote Equal*, a book he co-authored with John Koza and several others in 2006.

8. Appendix

Contents:

- Addendum to Section 3: Simulating the Effect of the Whole Number Proportional System in 2008 and 2012
 - Table 11. The 2008 Presidential Election under Unit Rule and WNP
 - Table 12. The 2012 Presidential Election under Unit Rule and WNP
- Figure 2. Whole Number Proportional Formula, and Graphs of the Breakpoints, According to the Number of Total Electoral Votes
- Table 13. Swing Districts under Congressional District System
- Table 14. Electoral Vote Allocation by Congressional District System
- Table 15. Electoral Vote Allocation by Whole Number Proportional System

Addendum to Section 3: Simulating the Effect of the Whole Number Proportional System in 2008 and 2012

In addition to investigating the closest elections of the past century, we studied the most recent elections and produced hypothetical results of the WNP system. The most recent presidential elections allow us to better estimate what would happen if the WNP system was adopted nationwide today.

In the 2008 election (Table 11), Obama won the popular vote with a lead of 7.26 percent and won the most electoral votes in the existing rules by a lead of 35.69 percent. Under the WNP system, his lead in electoral votes would have decreased to 7.81 percent, which would have been greater than his lead in national popular votes.

Table 11. The 2008 Presidential Election under Unit Rule and WNP

Candidate	Obama	McCain	Other
Popular Vote	69,499,498	59,950,323	2,023,954
% Total	52.86%	45.60%	1.54%
% Lead over 2nd Place Candidate	7.26%	-	-
Electoral College (EC) Votes under Unit Rule System	365	173	0
% Total	67.84%	32.26%	0
% Lead over 2nd Place Candidate	35.69%	-	-
EC Votes under Whole Number Proportional System	290	248	0
% Total under Whole Number Proportional	53.90%	46.10%	0.0%
% Lead over 2nd Place Candidate	7.81%	-	-

Source for election results: U.S. Election Atlas. Online: uselectionatlas.org/RESULTS/

** In D.C., one Gore elector abstained from voting.

In the 2012 election (Table 12), Obama won the most electoral votes in the current rules by 23.42 percent and won the popular vote by 3.86 percent. Under the WNP system, his electoral

vote lead would have been 2.97 percent, less than his lead in his national popular vote share. Two California votes would have gone to the Libertarian candidate, Gary Johnson, who won 1.10 percent in California and a total of 0.99 percent of the nationwide vote.

Table 12. The 2012 Presidential Election under Unit Rule and WNP

Candidate	Obama	Romney	Other
Popular Vote	65,918,507	60,934,407	2,382,644
% Total	51.01%	47.15%	1.84%
% Lead over 2nd Place Candidate	3.86%	-	-
Electoral College (EC) Votes under Unit Rule System			
Electoral College (EC) Votes under Unit Rule System	332	206	0
% Total	61.71%	38.29%	0
% Lead over 2nd Place Candidate	23.42%	-	-
EC Votes under Whole Number Proportional System			
EC Votes under Whole Number Proportional System	276	260	2
% Total under Whole Number Proportional	51.30%	48.33%	0.37%
% Lead over 2nd Place Candidate	2.97%	-	-

Source for election results: U.S. Election Atlas. Online: uselectionatlas.org/RESULTS/

The most recent presidential elections demonstrate flaws in the WNP system. First, the WNP system risks accusations of partisan bias. Because the simulated results for 2012 reveal that Obama would have won a smaller share of electoral votes than his actual nationwide popular vote, many may perceive the system as biased against Democratic candidates. It is unclear whether there is a systematic bias against Democratic candidates based on the electoral rules, but the concern, nonetheless, may still arise.

Second, many states still would not have been battleground states. In 2012, the vote percentages in 22 states were not within five percentage points of changing allocation of an electoral vote. It is likely that they would not have received attention. Additionally, the vote percentages in 34 states were not within three percentage points of changing allocation an electoral vote, and some of them likely would have been ignored.

Figure 2. Whole Number Proportional Formulas

Breakpoint: Within the range of popular vote percentages that correspond to a given number of electoral votes, the breakpoint is the upper limit. In other words, the breakpoint (T) is the point at which a candidate can win an additional electoral vote. It depends on the number of electoral vote(s) corresponding to the breakpoint (x) and the total number of electoral votes (n).

$$T = (x + 0.5) / n$$

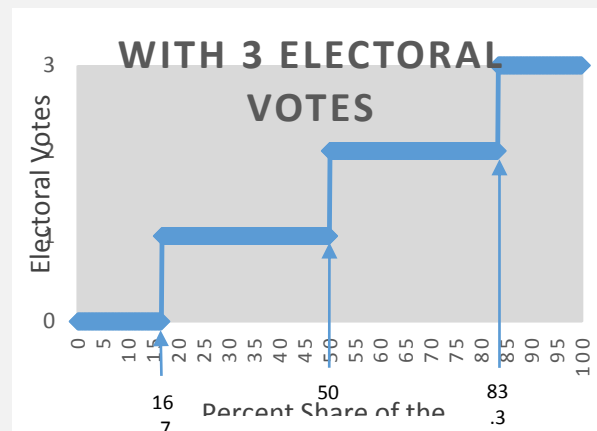
For example, for a state with a total of three electoral votes, the breakpoint between one and two electoral votes is:

$$T = (1 + 0.5) / 3 = 0.5, \text{ or } 50.0\%.$$

The breakpoint between two and three electoral votes is:

$$T = (2 + 0.5) / 3 = 0.833, \text{ or } 83.3\%.$$

Therefore, if a candidate's vote share is more than 50.0 percent, but less than or equal to 83.3 percent, he or she will win two electoral votes. If, on the other hand, a candidate wins more than 83.3 percent he or she will win all three electoral votes.



For additional graphs, see Appendix (Section 8).

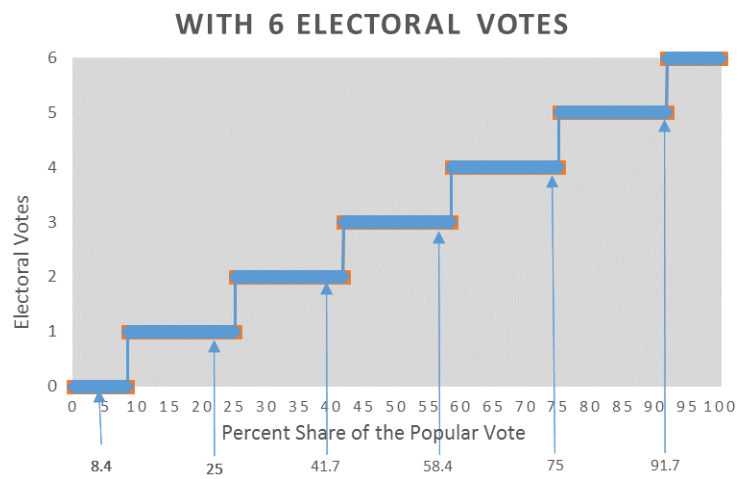
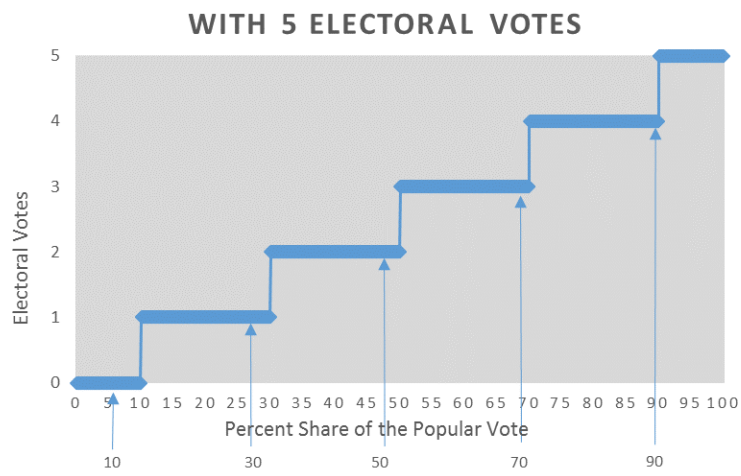
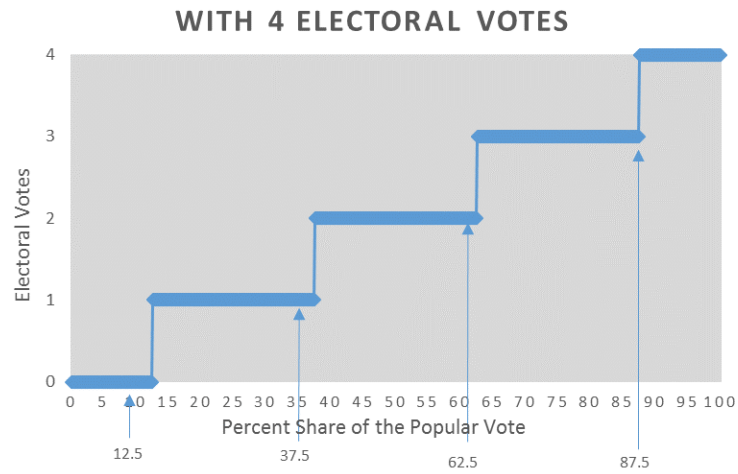
Electoral Vote Count: The number of electoral votes a candidate wins (E) is dependent on the number of electoral votes possible (n) and the percent of the votes the candidate wins (x).

$$E = (n/100) * x$$

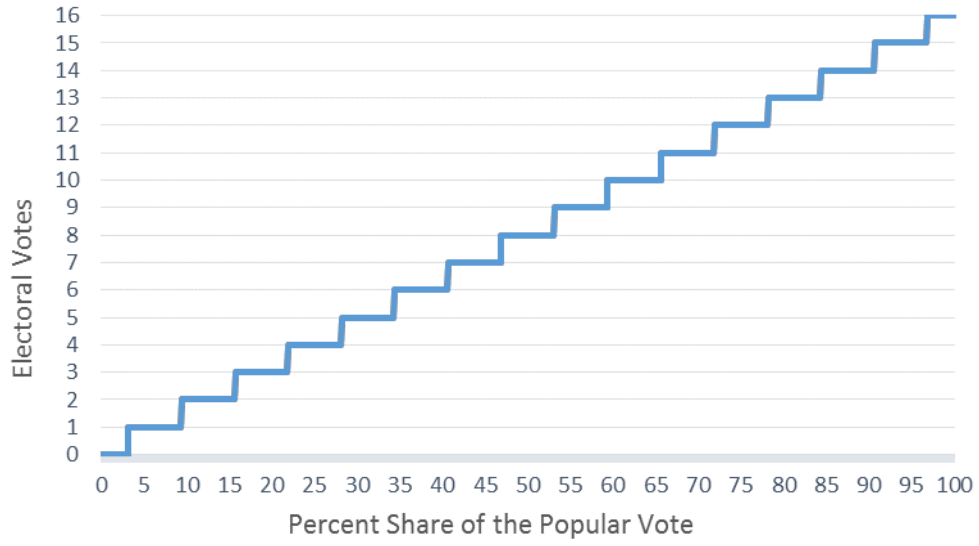
For example, in a state that has three electoral votes, a candidate that wins 50.0 percent of the vote share would win two electoral votes.

$$E = (3/100) * 50.0 = 1.5, \text{ or } 2 \text{ electoral votes (rounded)}$$

This formula holds, provided the total number of electoral votes awarded to candidates does not exceed the total number of electoral votes in the state.



WITH 16 ELECTORAL VOTES (Michigan)



WITH 20 ELECTORAL VOTES (Pennsylvania)

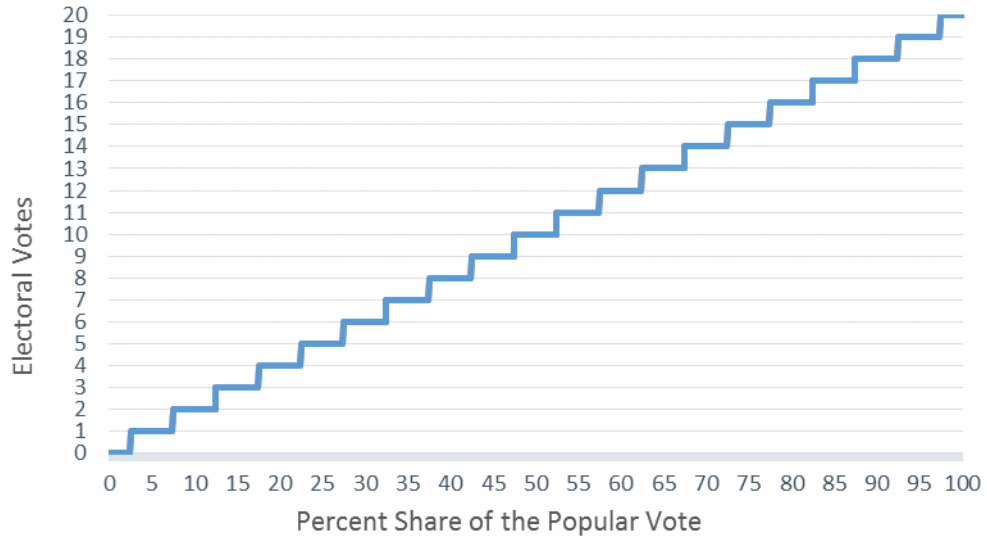


Table 13. Swing Districts under Congressional District System

2000			2004			2012		
District	Bush Vote (%)*	Gore Vote (%)*	District	Bush Vote (%)*	Kerry Vote (%)*	District	Obama Vote (%)*	Romney Vote (%)*
Arizona-8	50	46	Arkansas-1	52	47	Arizona-1	48	50
Arkansas-1	48	50	Arkansas-2	51	48	Arizona-2	48	50
Arkansas-2	49	48	Arizona-4	51	48	California-10	51	47
Arkansas-4	48	49	California-18	50	49	California-25	48	50
California-45	51	47	California-20	49	51	California-39	47	51
Colorado-7	49	50	California-47	50	49	Florida-13	50	49
Florida-10	49	51	Colorado-7	48	51	Florida-25	49	51
Florida-22	48	52	Connecticut-5	49	49	Illinois-12	50	48
Georgia-2	51	49	Florida-10	51	49	Illinois-13	49	49
Georgia-3	52	47	Florida-22	48	52	Michigan-6	49	50
Georgia-11	51	47	Illinois-12	48	52	Michigan-7	48	51
Illinois-10	47	51	Illinois-17	48	51	Michigan-8	48	51
Illinois-11	50	48	Iowa-3	50	50	Minnesota-1	50	48
Iowa-2	48	49	Iowa-4	51	48	Minnesota-2	49	49
Iowa-4	49	48	Kentucky-3	49	51	Minnesota-3	50	49
Kentucky-3	48	50	Michigan-9	51	49	New Hamp.-1	50	49
Maine-2	46	47	Minnesota-1	51	47	Nevada-3	50	49
Michigan-8	51	47	Minnesota-3	51	48	New Jersey-5	48	51
Michigan-9	51	47	Nevada-3	50	49	New York-1	50	49
Michigan-11	51	47	New Hamp.-1	51	48	New York-3	51	48
Minnesota-1	49	45	New Jersey-2	50	49	New York-2	49	49
Minnesota-3	50	46	New Jersey-3	51	49	New York-3	48	50
Nevada-3	48	49	New Mexico-1	48	51	Ohio-10	48	50
New Hamp.-1	49	46	New York-1	49	49	Pennsylvania-6	48	51
New Hamp.-2	47	48	New York-3	52	47	Pennsylvania-7	49	50
New Jersey-4	46	50	New York-23	51	47	Pennsylvania-8	49	49
New Jersey-7	49	48	New York-25	48	50	Pennsylvania-15	48	51
New Mexico-1	47	48	Ohio-1	51	50	Texas-23	48	51
New York-19	49	47	Ohio-6	51	49	Virginia-2	50	49
New York-23	49	47	Ohio-12	51	49	Virginia-4	49	50
New York-24	48	47	Ohio-15	50	50	Virginia-10	49	50
North Carolina-7	52	48	Oregon-4	49	50	Washington-3	48	50
North Carolina-13	50	49	Oregon-5	50	49	Washington-8	50	48
Ohio-6	49	47	Pennsylvania-6	48	52	Wisconsin-7	48	51
Oregon-4	49	44	Pennsylvania-8	48	51	Wisconsin-8	48	51
Oregon-5	48	47	Pennsylvania-12	49	51			
Pennsylvania-3	45	41	Pennsylvania-15	50	50			
Pennsylvania-6	49	49	Tennessee-5	48	52			
Pennsylvania-7	47	51	Virginia-11	50	49			
Pennsylvania-15	48	49	Washington-2	47	51			
Tennessee-4	50	49	Washington-3	50	48			
Tennessee-6	49	49	Washington-8	48	51			
Tennessee-8	48	51	Wisconsin-3	48	51			
Texas-15	50	50	Wisconsin-7	49	50			
Texas-27	50	50						
Texas-28	49	51						
Washington-2	46	48						
Washington-3	48	46						
Washington-8	47	49						
West Virginia-3	47	51						
Wisconsin-3	46	49						
Wisconsin-7	47	48						

Source: *America's Choice in 2004: Votes by Congressional District*. Online: www.polidata.org

Table 14. Electoral Vote Allocation by Congressional District System

State	1972		1976		2000		2012	
	Nixon	McGovern	Ford	Carter	Bush	Gore	Obama	Romney
Alabama	9	0	2	7	8	1	1	6
Alaska	3	0	3	0	3	0	0	1
Arizona	6	0	4	2	8	2	3	6
Arkansas	6	0	0	6	4	2	0	4
California	36	9	24	21	19	36	41	12
Colorado	7	0	6	1	6	3	4	3
Connecticut	8	0	6	2	0	7	5	0
Delaware	3	0	0	3	0	3	1	0
D.C.	0	3	0	3	0	3	1	0
Florida	17	0	7	10	19	8	11	16
Georgia	12	0	0	12	11	4	4	10
Hawaii	4	0	1	3	0	4	2	0
Idaho	4	0	4	0	4	0	0	2
Illinois	21	5	18	8	8	13	12	6
Indiana	13	0	10	3	9	2	2	7
Iowa	8	0	7	1	1	6	3	1
Kansas	7	0	5	2	6	0	0	4
Kentucky	9	0	2	5	7	1	1	5
Louisiana	10	0	3	7	8	1	1	5
Maine	4	0	4	0	0	4	2	0
Maryland	9	1	3	7	2	8	7	1
Massachusetts	2	12	0	14	0	12	9	0
Michigan	19	2	16	5	10	7	5	9
Minnesota	7	3	1	9	4	6	6	2
Mississippi	7	0	3	4	5	1	1	3
Missouri	11	1	5	7	7	3	2	6
Montana	3	1	4	0	3	0	0	1
Nebraska	5	0	5	0	5	0	0	3
Nevada	3	0	3	0	3	2	3	1
New Hampshire	4	0	4	0	3	1	2	0
New Jersey	16	1	11	6	3	12	8	4
New Mexico	4	0	4	0	1	4	2	1
New York	33	12	24	17	6	25	24	3
North Carolina	13	0	0	13	12	3	3	10
North Dakota	3	0	3	0	3	0	0	1
Ohio	22	3	14	11	15	5	4	12
Oklahoma	8	1	5	3	7	0	0	5
Oregon	5	1	4	2	3	5	4	1
Pennsylvania	23	4	11	16	9	12	5	13
Rhode Island	4	0	0	4	0	4	2	0
South Carolina	8	0	0	8	7	1	1	6

South Dakota	3	0	3	1	3	0	0	1
State	1972		1976		2000		2012	
	Nixon	McGovern	Ford	Carter	Bush	Gore	Obama	Romney
Tennessee	10	0	2	8	8	3	2	7
Texas	24	2	7	19	23	11	11	25
Utah	4	0	4	0	5	0	0	4
Vermont	3	0	3	0	0	3	1	0
Virginia	12	0	8	4	11	2	4	7
Washington*	9	0	6	3	2	8	7	3
West Virginia	6	0	0	6	3	1	0	3
Wisconsin	11	0	4	7	4	6	3	5
Wyoming	3	0	3	0	3	0	0	1
Total	Nixon	McGovern	Ford	Carter	Bush	Gore	Obama	Romney
	478	60	268	270	288	250	264	274
Total (Unit Rule)	520	17	240**	297	271	266***	332	206

**1976: In Washington State, one Ford elector cast his vote for Ronald Reagan (President) and Robert Dole (Vice-President).

***2000: In D.C., one Gore elector abstained from voting.

Source: Vote returns taken from *Dave Leip's Atlas of U.S. Presidential Elections Online*: www.uselectionatlas.org

Table 15. Electoral Vote Allocation by Whole Number Proportional System (WNP)

State	1960				1968				2000				
	Total	Kennedy	Nixon	Other	Total	Nixon	Humphrey	Wallace	Total	Gore	Bush	Nader	Other
Alabama	11	6	5	0	10	1	2	7	9	4	5	0	0
Alaska	3	1	2	0	3	1	1	1	3	1	2	0	0
Arizona	4	2	2	0	5	3	2	0	8	4	4	0	0
Arkansas	8	4	3	1	6	2	2	2	6	3	3	0	0
California	32	16	16	0	40	19	18	3	54	29	22	2	1
Colorado	6	3	3	0	6	3	3	0	8	3	4	1	0
Connecticut	8	4	4	0	8	4	4	0	8	5	3	0	0
DC	NA	NA	NA	NA	3	1	1	1	3	2	1	0	0
Delaware	3	2	1	0	3	1	2	0	3	3	0	0	0
Florida	10	5	5	0	14	6	4	4	25	12	12	1	0
Georgia	12	8	4	0	12	4	3	5	13	6	7	0	0
Hawaii	3	2	1	0	4	2	2	0	4	2	2	0	0
Idaho	4	2	2	0	4	2	1	1	4	1	3	0	0
Illinois	27	14	13	0	26	12	12	2	22	12	9	1	0
Indiana	13	6	7	0	13	7	5	1	12	5	7	0	0
Iowa	10	4	6	0	9	5	4	0	7	4	3	0	0
Kansas	8	3	5	0	7	4	2	1	6	2	4	0	0
Kentucky	10	5	5	0	9	4	3	2	8	3	5	0	0
Louisiana	10	5	3	2	10	2	3	5	9	4	5	0	0
Maine	5	2	3	0	4	2	2	0	4	2	2	0	0
Maryland	9	5	4	0	10	4	4	2	10	6	4	0	0
Massachusetts	16	10	6	0	14	5	9	0	12	7	4	1	0
Michigan	20	10	10	0	21	9	10	2	18	9	8	1	0
Minnesota	11	6	5	0	10	4	5	1	10	5	5	0	0
Mississippi	8	3	2	3	7	1	2	4	7	3	4	0	0
Missouri	13	7	6	0	12	6	5	1	11	5	6	0	0
Montana	4	2	2	0	4	2	2	0	3	1	2	0	0
Nebraska	6	2	4	0	5	3	2	0	5	2	3	0	0
Nevada	3	2	1	0	3	2	1	0	4	2	2	0	0
New Hampshire	4	2	2	0	4	2	2	0	4	2	2	0	0
New Jersey	16	8	8	0	17	8	7	2	15	8	6	1	0

New Mexico	4	2	2	0	4	2	2	0	5	3	2	0	0
State	1960				1968				2000				
	Total	Kennedy	Nixon	Other	Total	Nixon	Humphrey	Wallace	Total	Gore	Busch	Nader	Other
New York	45	24	21	0	43	19	22	2	33	20	12	1	0
North Carolina	14	7	7	0	13	5	4	4	14	6	8	0	0
North Dakota	4	2	2	0	4	2	2	0	3	1	2	0	0
Ohio	25	12	13	0	26	12	11	3	21	10	10	1	0
Oklahoma	8	3	5	0	8	4	2	2	8	3	5	0	0
Oregon	6	3	3	0	6	3	3	0	7	3	3	1	0
Pennsylvania	32	16	16	0	29	13	14	2	23	12	11	0	0
Rhode Island	4	3	1	0	4	1	3	0	4	3	1	0	0
South Carolina	8	4	4	0	8	3	2	3	8	3	5	0	0
South Dakota	4	2	2	0	4	2	2	0	3	1	2	0	0
Tennessee	11	5	6	0	11	4	3	4	11	5	6	0	0
Texas	24	12	12	0	25	10	10	5	32	12	19	1	0
Utah	4	2	2	0	4	2	2	0	5	1	4	0	0
Vermont	3	1	2	0	3	2	1	0	3	2	1	0	0
Virginia	12	6	6	0	12	5	4	3	13	6	7	0	0
Washington	9	4	5	0	9	4	4	1	11	6	5	0	0
West Virginia	8	4	4	0	7	3	3	1	5	2	3	0	0
Wisconsin	12	6	6	0	12	6	5	1	11	5	5	1	0
Wyoming	3	1	2	0	3	2	1	0	3	1	2	0	0
Total	537	Kennedy	Nixon	Other	538	Nixon	Humphrey	Wallace	538	Gore	Busch	Nader	Other
		270	261	6		235	225	78		262	262	13	1
Total (Unit Rule)	537	303	219	15	538	301	191	46	538	266*	271	0	0

*In D.C. one Gore elector abstained from voting.

Source: Vote returns taken from *Dave Leip's Atlas of U.S. Presidential Elections*. Online: www.uselectionatlas.org

Bibliography

- Barone, Michael, Grant Ujifusa, and Douglas Matthews. *The Almanac of American Politics*, 1974. Boston: Gambit, 1973.
- Barone, Michael, Grant Ujifusa, and Douglas Matthews. *The Almanac of American Politics*, 1976. Boston: Gambit, 1975.
- Christiano, Tom. "Democracy." Stanford Encyclopedia of Philosophy, (Fall 2008 Edition), Ed. Edward N. Zalta. Online: <http://plato.stanford.edu/archives/fall2008/entries/democracy/>. Accessed: 23 Dec. 2014.
- Dahl, Robert A. *On Political Equality* (Google eBook). New Haven: Yale University Press, 2006. Online at: http://books.google.com/books/about/On_Political_Equality.html?id=mh8TLpzCoewC. Accessed: 23 Dec. 2014.
- Dahl, Robert A. *A Preface to Democratic Theory, Expanded Edition* (Google eBook). Chicago: University of Chicago Press, 2013, p. 35. Online: http://books.google.com/books?id=5qIYgWpeV8kC&source=gbs_navlinks_s. Accessed: 23 Dec. 2014.
- Dave Leip's Atlas of U.S. Presidential Elections. Online: <http://www.uselectionatlas.org>. Accessed: 25 Sept. 2014.
- Edwards, George C. *Why the Electoral College Is Bad for America*. New Haven, CT: Yale University Press, 2011.
- Elster, Jon. "Introduction." In *Constitutionalism and Democracy*. Ed. Jon Elster and Rune Slagstad. Cambridge University Press, 1993, pp. 1-18. Online: http://books.google.com/books?id=WeedJnRFvVcC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false. Accessed: 23 Dec. 2014.
- Fadem, Barry, Mark Grueskin, John R. Koza, Michael S. Mandell, Robert Richie, and Joseph F. Zimmerman. *Every Vote Equal: A State Based Plan for Electing the President by National Popular Vote*. Los Altos, CA: National Popular Vote Press, 2011, 3rd edition.
- FairVote. "Partisan Bias in the U.S. House: The Republican Advantage from Demographics, Partisanship, Incumbency and Gerrymandering." *Monopoly Politics 2014 and the Fair Voting Solution*. 7 Nov. 2013. Online: <http://www.fairvote.org/research-and-analysis/congressional-elections/monopoly-politics-2014-and-the-fair-voting-solution/>. Accessed: 24 Oct. 2014.
- FairVote. "Presidential Election Inequality: The Electoral College in the 21st Century." Ed. Christopher Pearson, Rob Richie, Adam Johnson, and Jeff Rezmovic. Online: <http://www.fairvote.org/assets/presidentialinequality.pdf>. Accessed: 24. Oct. 2014.
- Fitzgerald, Thomas. "Enthusiasm lacking for reworking Electoral College apportionment." *Philly.com: The Inquirer*. 9 Feb. 2013. Online at: <http://articles.philly.com/2013-02->

[09/news/36995348_1_electoral-votes-popular-vote-votes-by-congressional-district](http://www.washingtonpost.com/archive/local/local-news/2014/12/23/news/36995348_1_electoral-votes-popular-vote-votes-by-congressional-district/). Accessed: 23 Dec. 2014.

General Assembly of North Carolina, Session 2007. Senate bill 353, Short Title: Presidential Electors by District. Sponsors: Senators Berger of Franklin, Cowell, and Kinnaird. 27 Feb. 2007. Online: <http://www.ncleg.net/sessions/2007/bills/senate/pdf/s353v1.pdf>. Accessed: 12 Jan. 2015.

Hertzberg, Hendrik. "Votescam: California's 'Presidential Election Reform Act.'" *The New Yorker*. 6 Aug. 2007. Online: <http://www.newyorker.com/magazine/2007/08/06/votescam>. Accessed: 24. Oct. 2014.

Hertzberg, Hendrik. "National Popular Vote: New York State Climbs Aboard." *The New Yorker*. 16 Apr. 2014. Online: <http://www.newyorker.com/news/daily-comment/national-popular-vote-new-york-state-climbs-aboard>. Accessed: 24 Oct. 2014.

Levien, Andrea, Devin McCarthy, and Rob Richie. "Pennsylvania's Proportional Electoral Vote Allocation Proposal: A Nationwide Analysis." *FairVote Research* Report. July 2013. Online: <http://www.fairvote.org/research-reports/pennsylvania-s-proportional-electoral-vote-allocation-proposal-a-nationwide-analysis/>. Accessed: 24 Oct. 2014.

Madison, James. "Parties," from *The National Gazette*, Jan. 23, 1792, published in *The Writings of James Madison: 1790-1802*, Ed. Gaillard Hunt. G.P. Putnam's Sons, 1906, p. 86.

Nir, David. "Daily Kos Elections' Presidential Results by Congressional District for the 2012 and 2008 Elections." *Daily Kos*. 19 Nov. 2012. Online: <http://www.dailykos.com/story/2012/11/19/1163009/-Daily-Kos-Elections-presidential-results-by-congressional-district-for-the-2012-2008-elections#>. Accessed 13 Jan. 2015.

Office of the Clerk: U.S. House of Representatives. Online: http://clerk.house.gov/member_info/electionInfo/index.html. Accessed: 20 July 2007.

Polidata. *America's Choice in 2004: Votes by Congressional District*. www.polidata.org.

Richie, Rob. "Republicans Got Only 52 Percent of the Vote in House Races: How Did They End Up With 57 Percent of the Seats?" *The Nation*. 7 Nov. 2014. Online: <http://www.thenation.com/article/188801/republicans-only-got-52-percent-vote-house-races#>. Accessed: January 12, 2015.

Risse, Mathias. "Arguing for Majority Rule." *The Journal of Political Philosophy*, 2004, Vol. 12, No. 1, pp. 41-64. Online: <http://www.hks.harvard.edu/fs/mrisse/Papers/Papers%20-%20Philosophy/ArguingforMajorityRule.pdf>. Accessed: 12 Jan. 2015.

Stanley, H. W., & Niemi, R. G. (2006). *Split presidential and House election outcomes in congressional districts, 1900-2004*. In *Vital statistics on American politics 2005-2006*. Washington: CQ Press. Retrieved August 3, 2007, from CQ Electronic Library, CQ Voting and Elections Collection. Document ID: vsap05-271-18666-1004228. Online: <http://library.cqpress.com/elections/vsap05-271-18666-1004228>. Accessed: 12 Jan. 2015.

Steinhauer, Jennifer. "States Try to Alter How Presidents Are Elected." *The New York Times*. 11 Aug. 2007. Online: <http://www.nytimes.com/2007/08/11/us/politics/11vote.html>. Accessed: 12 Jan. 2015.

U.S. Census Bureau. "State and County QuickFacts." Online: <http://quickfacts.census.gov/qfd/index.html>. Accessed: 24 Oct. 2014.

Wasserman, David, Loren Fulton, and Ashton Barry. "2014 National House Popular Vote Tracker." *Cook Political Report*.

Weigl, David. "Choose Your Own Voters: The GOP is Already Plotting How to Marginalize Urban Voters in the Next Election." *Slate, Politics*. 11 Dec. 2012. Online: http://www.slate.com/articles/news_and_politics/politics/2012/12/how_the_republican_party_is_planning_to_marginalize_urban_voters_in_the.html. Accessed: 24 Oct. 2014.

Wilson, Reid. "On the Trail: The GOP's Electoral College Scheme." *National Journal*. 17 Dec. 2012. Online: <http://www.nationaljournal.com/columns/on-the-trail/the-gop-s-electoral-college-scheme-20121217>. Accessed: 24 Oct. 2014.

Varghese, Romy. "Pennsylvania Step May Help Republicans Win Electoral Vote." *Bloomberg*. 3 Dec. 2012. Online: <http://www.bloomberg.com/news/2012-12-03/pennsylvania-proposal-may-help-republicans-win-electoral-votes.html>. Accessed: 24 Oct. 2014.



FairVote
6930 Carroll Avenue
Suite 610
Takoma Park, MD 20912

FairVote is a non-partisan electoral reform organization seeking fair elections with meaningful choices. Our vision of “the way democracy will be” includes an equally protected right to vote, instant runoff voting for executive elections and proportional voting for legislative elections.

FairVote’s **Policy Perspective** series provides elected officials, reform advocates and the media with analysis of elections and electoral reform issues at every level of government.

FairVote | www.fairvote.org | 301-270-4616