OVERCOMING GERRYMANDERING: ANALYZING PAST APPROACHES AND LOOKING TO AUTOMATION TO OVERCOME BIAS AND COGNITIVE LIMITATIONS IN FLORIDA

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I. INTRODUCTION

One of the most defining aspects of American democracy is the notion that the will of the people is fairly characterized by those who are elected to represent them.[1] As Alexander Hamilton once remarked during the ratification of the United States Constitution, "the true principle of a republic is, that the people should choose whom they please to govern them."[2] This ideology was subsequently incorporated into portions of the Constitution concerning congressional redistricting, the process of redrawing the district boundaries from which members of the United States House of Representatives are elected.[3] Under Article I, Section II, the United States population must be recorded every ten years, and based upon this census, seats in the House of Representatives are to be reapportioned with each state retaining at least one seat.[4] However, redistricting doesn't just occur in states that have gained or

1. *Let the Voters Choose: Solving the Problem of Partisan Gerrymandering*, COMMITTEE FOR ECON. DEV. OF THE CONF. BOARD 2 (2018), https://www.ced.org/pdf/TCB-CED-Solving-the-Problem-of-Partisan-Gerrymandering.pdf [hereinafter *Committee for Economic Development*].

2. L. Paige Whitaker, CONGRESSIONAL REDISTRICTING: LEGAL AND CONSTITUTIONAL RIGHTS, CONG. RESEARCH SERV., R 44199 1 (2015).

3. *Id.*

4. U.S. CONST. art. I, § 2, cl. 3 ("The actual Enumeration shall be made within three Years after the first Meeting of the Congress of the United States, and within every subsequent Term of ten Years, in such Manner as they shall by Law direct."); U.S. CONST. amend. XIV, § 2, cl. 1 ("Representatives shall be apportioned among the several States according to their respective numbers. . . ."); U.S. CONST. art. I, § 2, cl. 3 ("The number of Representatives shall not exceed one for every thirty Thousand, but each State shall have at least one Representative. . . ."); *see also* Whitaker, *supra* note 2.

lost a seat in the House of Representatives. As this Article will later discuss, the Supreme Court interpreted Article I to require the districts in each state have roughly equal populations.[5] Thus, most states redraw their district boundaries following each new census to account for shifts in population throughout the state.[6]

However, in recent years, a process that was intended to ensure equal representation among shifting populations has instead resulted in a battle among those in power to reduce competition in elections and further the aims of their respective political party by manipulating the district lines.[7] A report by the Center for American Progress found that during the 2012, 2014, and 2016 elections, an average of fifty-nine seats in the House of Representatives shifted as a result of unfairly drawn district lines.[8] In other words, distorted district lines caused fifty-nine politicians, who would not have otherwise been chosen based on "statewide voter support for their party," to be elected every other November during this period.[9] Additionally, a 2012 analysis by the Brennan Center for Justice reports that in the seventeen states where Republicans redrew district maps for the 2010 redistricting cycle, their candidates won about fifty-three percent of the vote but retained seventy-two percent of the seats.[10] Similarly, in the six states where Democrats drew the lines, their candidates won about fifty-six percent of the vote but retained seventy-one percent of the seats.[11] For the remaining twenty-seven states, redistricting power was shared between the parties; there was only one congressional district in the state; or the lines were drawn by an appointed commission or court.[12]

The process that yields such skewed outcomes is known as gerrymandering.[13] However, the "harm of gerrymandering is . . . more

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5. *See infra* note 36.

6. Whitaker, *supra* note 2; *see also* Aaron Blake, *Redistricting, Explained*, WASH. POST (June 1, 2011), https://www.washingtonpost.com/politics/redistrictingexplained/2011/05/27/AGWsFNGH_story.html.

7. Alex Tausanovitch, *The Impact of Partisan Gerrymandering*, CENTER FOR AM. PROGRESS (Oct. 1, 2019, 9:01 AM), https://www.americanprogress.org/issues/democracy/news/2019/10/01/475166/impact-partisan-gerrymandering/.

8. *Id.*

9. *Id.*

10. Emily Bazelon, *The New Front in the Gerrymandering Wars: Democracy vs. Math*, N.Y. TIMES MAG. (Aug. 29, 2017), https://www.nytimes.com/2017/08/29/magazine/the-new-front-in-the-gerrymandering-wars-democracy-vs-math.html.

11. *Id.*

12. *Id.*

13. *See Gerrymandering*, MERRIAM-WEBSTER DICTIONARY, https://www.merriam-webster.com/dictionary/gerrymandering (last visited Mar. 17, 2021) (defining gerrymandering as "the practice of dividing or arranging a territorial unit into election districts in a way that gives one political party an unfair advantage in elections").

than seat shares that are out of whack with vote shares. It is the ideological skewing of representation—and, with it, the policies that shape people's lives."[14] This harm reached Florida following the 2010 census when the Florida Supreme Court determined that district lines used during the 2014 election cycle were distorted for political gain and ordered eight districts to be redrawn within months of the 2016 election.[15] In 2021, the United States Census Bureau will release data from the 2020 Census for reapportionment.[16] After this release, Florida is expected to gain two additional seats in the House of Representatives, which will be incorporated into the new maps drawn for the current decade.[17] For many, a repeat of the 2010 theatrics is a looming concern as the 2022 redistricting process nears.[18]

Although political gerrymandering has existed throughout most of United States history and many experts have sought to prevent it, recent technological advancements have increased the accuracy and frequency through which it has been employed.[19] In looking to solve this problem, some states have attempted to limit conflict by appointing independent commissions to perform their redistricting,[20] while others have tasked the courts with this duty.[21] Additional proposed solutions place strict

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14. Nicholas O. Stephanopoulos, *The Causes and Consequences of Gerrymandering*, 59 Wm. & Mary L. Rev. 2115, 2120 (2018).

15. *See infra* pt. III.

16. Yurhi Redensky, Michael Li & Annie Lo, *How Changes to the 2020 Census Timeline Will Impact Redistricting*, Brennan Center for Just. 1 (2020), https://www.brennancenter.org/ sites/default/files/2020-05/2020_04_RedistrictingMemo.pdf. The census data was expected to be released in March 2021. *Id.* However, due to delays concerning the coronavirus pandemic, the United States Department of Commerce and United States Census Bureau announced on April 13, 2020, that relinquishment of the data is likely to be delayed until July 2021. *Id.*

17. Langston Taylor, *If Florida Gains Congressional Seats, Where Would They Go?*, Tampa Bay Times (Apr. 4, 2019), https://www.tampabay.com/florida/2019/04/04/if-florida-gains-census -seats-where-would-they-go/.

18. David Smiley, *Eric Holder Brings Redistricting Fight to Florida*, Miami Herald (Dec. 5, 2019, 11:06 AM), https://www.miamiherald.com/article238032544.html.

19. Bazelon, *supra* note 10. Florida is just one example of a state in which partisan antics disrupted the redistricting process following the 2010 Census. Professor Simon Jackman of Stanford University conducted a study analyzing districting plans in forty-one states from 1972–2014 and found that redistricting following the 2010 Census was "systematically more gerrymandered" than in previous decades. Simon Jackman, Assessing the Current Wisconsin State Legislative Districting Plan 44 (2015), https://campaignlegal.org/sites/default/files/Jackman-WHITFORD%20V.%20NICHOL-Report_0.pdf. Other examples of states which gained redistricting advantages as a result of partisan imbalances following the 2010 Census include Wisconsin and Pennsylvania, both controlled by Republicans, and Massachusetts and Maryland, both controlled by Democrats. *Committee for Economic Development*, *supra* note 1, at 6–7.

20. Four states currently use independent commissions to determine congressional districts. These commissions are generally comprised of persons who are "neither elected officials nor current lawmakers," though they may be elected by the state legislature. *Committee for Economic Development*, *supra* note 1, at 3.

21. Bazelon, *supra* note 10.

guidelines on how redistricting should be conducted, such as requiring contiguity,[22] or maximizing compactness,[23] competitiveness,[24] or proportionality.[25] Others, however, note that when recent technological developments are considered, redistricting may be most successful when left devoid of human manipulation; they advocate instead for automated redistricting through the use of computer algorithms.[26]

This Article will argue that Florida should adopt the use of computer algorithms in its redistricting process. Part II will discuss the origins of gerrymandering, the methods through which it is achieved, and the actions taken by the Supreme Court and legislature to limit its effect. Part III will discuss the role gerrymandering played in the redistricting process in Florida following the 2010 census and how similar results might be prevented under a new management system.

Part IV will address the different solutions states have implemented to combat gerrymandering, including those which have received strong support, highlighting both the benefits and drawbacks of each. This section will distinguish between three categories of solutions: (1) those which focus on who should draw the lines (legislatures, independent commissions, advisory commissions, or computer modeling programs); (2) those that advocate for an overarching philosophy behind the line-drawing (communities of interest, competitiveness, compactness, electoral outcomes, or contiguity); and (3) those that attempt to redefine the redistricting process as a whole (true proportional representation).

From there, Part V will further analyze the impact of implementing an automated redistricting program maximizing compactness in Florida and its ability to produce more universally accepted districts while freeing up litigation in the state court system. As part of this analysis, Part V will compare this solution to those discussed in Part IV and

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22. To be considered contiguous, all parts of the district must be connected to each other. Justin Levitt, *A Citizen's Guide to Redistricting*, BRENNAN CENTER FOR JUST. 50 (2010), https://www.brennancenter.org/sites/default/files/legacy/CGR%20Reprint%20Single%20Page.pdf.

23. Districts which have a uniform shape and keep constituents closely grouped are generally considered compact. *Id.* at 51*.*

24. Arizona and Washington are the only two states whose redistricting criteria includes drawing districts which will be competitive in general elections (having an approximately even number of Republican and Democrat voters). David Wasserman, *Hating Gerrymandering Is Easy. Fixing It Is Harder*, FIVE THIRTY EIGHT (Jan. 25, 2018), https://fivethirtyeight.com/features/hating -gerrymandering-is-easy-fixing-it-is-harder/.

25. Proportionality is aimed at minimizing the "efficiency gap," a metric which detects the "extent of partisan gerrymandering by measuring how many votes each party 'wastes' in wins and losses." *Id.* This goal of this method is to allocate a state's seats to Republicans and Democrats in proportion to that party's political makeup in the state. *Id.*

26*. See generally* Olivia Guest, Frank J. Kanayet & Bradley C. Love, *Gerrymandering and Computational Redistricting*, 2 J. COMPUTATIONAL SOC. SC. 119, 121 (2019).

examine other possible specializations such a program could seek to maximize (competitiveness, electoral outcomes, contiguity). Part VI will evaluate the hurdles in implementing such a program, the probability of its enactment in Florida, and the role advisory commissions could play in its management.

II. HISTORY OF GERRYMANDERING

Gerrymandering refers to the process of intentionally distorting district boundaries for the benefit of one group or party.[27] The term stems back to 1812, when Massachusetts Governor Eldridge Gerry signed a new redistricting plan carefully crafted to benefit his political party.[28] The plan forewent traditional means of discerning districts by county boundaries and instead was contrived by using outlandish shapes for political gain.[29] This left one notable district resembling a salamander, mockingly referred to as a "Gerry-mander" by Gerry's political opponents.[30] Thus, gerrymandering, as it is commonly known today, was born.

Political gerrymandering is primarily accomplished through two strategies: packing and cracking.[31] Packing refers to concentrating those most likely to vote for the opposition into as few districts as possible, thus rendering their vote inconsequential in the larger number of remaining districts.[32] Cracking, on the other hand, assigns those likely to vote for the opposition to as many districts as possible, thus diluting their vote and preventing them from gaining a majority.[33]

Both the courts and the legislature have sought to place limitations on the effectiveness of such strategies.[34] For instance, in *Wesberry v. Sanders*, the Supreme Court construed Article I, Section II of the United States Constitution as articulating "one person, one vote," meaning one person's vote should hold the same value as another's, or at least as close as is practically attainable.[35] The Supreme Court has also found that

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27. Wasserman, *supra* note 24.

28. Erick Trickey, *Where Did the Term "Gerrymander" Come From?*, SMITHSONIAN MAGAZINE (July 20, 2017), https://www.smithsonianmag.com/history/where-did-term-gerrymander-come -180964118/.

29. *Id.*

30. *Id.*

31. Guest, Kanayet & Love, *supra* note 26, at 120.

32. *Id.*

33. *Id.*

34. Jordan Lewis, Note, *Fair Districts Florida: A Meaningful Redistricting Reform?*, 5 MIAMI RACE & SOC. JUST. L. REV. 189, 195–200 (2015).

35. Wesberry v. Sanders, 367 U.S. 1, 7–8 (1964) ("We hold that, construed in its historical context, the command of Art. I, § 2, that Representatives be chosen 'by the People of the several

states' legislative districts must be substantially equal in population.[36] Additionally, the Voting Rights Act prohibits the dilution of minority voting strength under reapportionment plans.[37] Most recently, in *Rucho v. Common Cause*, the Supreme Court held that partisan gerrymandering claims were a nonjusticiable issue for the federal courts, leaving the interpretation of the permissible level of partisan influence to Congress and the states.[38] In holding that there are no "judicially manageable standards" for evaluating when partisan gerrymandering becomes unconstitutional, the Court essentially opened the door to allow state legislatures to conduct redistricting in any manner deemed appropriate by the state, should the state seek to regulate the process at all.[39]

III. BACKGROUND IN FLORIDA

Florida is one of the few jurisdictions in the United States that has a constitutional amendment prohibiting partisan influence in redistricting.[40] In 2010, citizens' groups gathered enough signatures to put the Fair Districts Amendments on the ballot, which ultimately passed with approximately sixty-three percent of the vote.[41] The Amendments were subsequently codified in Article III of the Florida Constitution, with Section 20 regulating congressional districting and Section 21 regulating legislative districting.[42] The two nearly identical provisions prohibited the intentional drawing of district lines to favor or disfavor a political party or incumbent while advocating for minority representation, contiguity, and compactness.[43]

In spite of these enactments, redistricting following the 2010 Census was ripe with litigation.[44] In 2012, a consolidated case was

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States' means that as nearly as is practicable **one** man's vote in a congressional election is to be worth as much as another's.") (emphasis added).

36. Reynolds v. Sims, 377 U.S. 533, 577 (1964) ("By holding that as a federal constitutional requisite both houses of a state legislature must be apportioned on a population basis, we mean that the Equal Protection Clause requires that a State make an honest and good faith effort to construct districts . . . as nearly of equal population as is practicable.").

37. Bazelon, *supra* note 10.

38. Rucho v. Common Cause, 139 S. Ct. 2484, 2506–07 (2019) ("We conclude that partisan gerrymandering claims present political questions beyond the reach of the federal courts. Federal judges have no license to reallocate political power between the two major political parties, with no plausible grant of authority in the Constitution, and no legal standards to limit and direct their decisions.").

39. *Id.* at 2491.

40. Lewis, *supra* note 34, at 202.

41. *Id.* at 200.

42. Fla. Const. art. III, § 20; Fla. Const. art. III, § 21.

43. *Id.*

44. *See* Lewis, *supra* note 34, at 205–17.

brought in Leon County by multiple parties challenging the constitutionality of the proposed redistricting plan.[45] In July 2014, Judge Terry Lewis ultimately found that two districts (five and ten) were drawn with an intent to favor a political party or incumbent and thus violated the congressional districting provisions of the Florida Constitution, making the map unconstitutional.[46] In August 2014, Judge Lewis approved a revised version of the map which Plaintiffs claimed had made only superficial changes.[47] Additionally, the court held that due to the close proximity of the map's approval to the 2014 elections, which presented many administrative and logistical challenges, the 2012 map would be used for the 2014 election cycle.[48] The matter was appealed to the Florida Supreme Court, which found the lower court erred in approving the remedial map and required at least eight districts be redrawn.[49]

During this time, the Florida Supreme Court revealed that several maps had been created by consultants but submitted under the names of ordinary citizens to avoid raising suspicions that partisan consultants had created the maps.[50] Other discovered communications revealed clear partisan intent.[51] Following the Court's decision, it relinquished the case to the trial court with directions that a new map be drawn by the legislature within a hundred days so as not to impede the 2016 election.[52] The legislature was unable to adopt a new redistricting map, and Judge Lewis ultimately approved a map drawn by a coalition led by the League of Women Voters, Common Cause of Florida, and several Democrat-leaning individuals, which was upheld by the Supreme Court in December 2015.[53]

Despite a constitutional mandate to the contrary, partisan influence in redistricting continues to persist in Florida and throughout much of

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45. Romo v. Detzner, No. 2012-CA-000412, 2014 WL 3797315, at *1 (Fla. Cir. Ct. July 10, 2014).

46. *Id.* at *3, *40.

47. *See* Order Approving Remedial Plan at *2, *Romo v. Detzner*, No. 2012-CA-000412, 2014 WL 4261829 (Fla. Cir. Ct. Aug. 22, 2014).

48. *Id.* at *4.

49. League of Women Voters of Fla. v. Detzner, 172 So. 3d 363, 370–72 (Fla. 2015).

50. *See* Brandon Larrabee, *Redistricting Process Under Scrutiny*, HERALD-TRIBUNE (Nov. 26, 2014), http://politics.heraldtribune.com/2014/11/26/redistricting-process-scrutiny/.

51. *See* Peter Schorsch, *The Trove of Redistricting Documents the Florida GOP Sought to Keep Secret*, FLAPOL (Nov. 23, 2014), https://floridapolitics.com/archives/1899-read-here-the-trove-of-redistricting-documents-the-florida-gop-fought-to-keep-secret; *see also* Paula Dockery, *Fair District Amendments Make Impact*, THE LEDGER (June 18, 2014), https://www.theledger.com/news/20140618/fair-district-amendments-make-impact.

52. *League of Women Voters of Fla.*, 172 So. 3d at 371–72.

53. *Redistricting in Florida*, BALLOTPEDIA, https://ballotpedia.org/Redistricting_in_Florida (last visited Apr. 9, 2021).

the United States.[54] As expressed by one panel of judges examining a Florida congressional districting plan in 2002, "raw exercise of majority legislative power does not seem to be the best way of conducting a critical task like redistricting, but it does seem to be an unfortunate fact of political life around the country."[55] While Florida's constitutional amendments provide guidelines through which the judiciary may evaluate gerrymandering claims, history indicates the enactment is unlikely to supersede the partisan nature of redistricting, thus inundating courts in litigation surrounding the topic. With this is mind, Part IV of this Article will evaluate the different solutions other states have implemented to combat political gerrymandering, as well as other commonly proposed ideas.

IV. PROPOSED SOLUTIONS

A. Who Should Draw the Lines?

In combatting political gerrymandering, the most common solutions involve redirecting who is responsible for drawing the maps. Before discussing modern proposals, however, this section will first analyze the current issues with redistricting under the traditional approach of utilizing state legislatures.

1. Legislatures

Under traditional redistricting schemes, state legislatures are responsible for redrawing district lines as directed by Article I, Section IV of the Constitution.[56] Currently, state legislatures draw congressional district lines in thirty-three of the forty-three states where redistricting is required.[57] In all but five of these states, maps are approved through a majority vote subject to the veto of the governor.[58] However, as many critics note, when state legislators are responsible for drawing district lines they are incentivized "to manipulate district lines to improve their

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54. FLA. CONST. art. III, § 20; FLA. CONST. art. III, § 21.

55. Martinez v. Bush, 234 F. Supp. 2d 1275, 1297 (S.D. Fla. 2002).

56. *See* U.S. CONST art. I, § 4, cl. 1 ("The Times, Places and Manner of holding Elections for Senators and Representatives, shall be prescribed in each State by the Legislature thereof. . . .").

57. *State-by-state Redistricting Procedures*, BALLOTPEDIA, https://ballotpedia.org/State-by -state_redistricting_procedures (last visited Apr. 12, 2021). Congressional redistricting is currently only required in forty-three states because seven of the fifty states only have one congressional district. *Id.*

58. *Committee for Economic Development*, *supra* note 1, at 3. Connecticut, Florida, Maryland, Mississippi, and North Carolina do not require the governor's approval. *Id.*

own election prospects and influence election outcomes."[59] This generally takes place in two forms—partisan gerrymandering and bipartisan gerrymandering.[60] When one political party controls the legislature, it is empowered to design districts intended to favor its party, a practice termed partisan gerrymandering.[61] Conversely, even if neither party has a majority in the legislature, parties may still work together to create uncompetitive districts to protect incumbents, a form of influence known as bipartisan gerrymandering.[62] Unfortunately, both forms of gerrymandering "reverse[ ] the normal course of politics by allowing legislators to select their voters, rather than [allowing] the voters [to select] their representatives."[63]

2. Independent Commissions

In looking to minimize the effect of both forms of gerrymandering, some states have introduced the use of commissions in the redistricting process.[64] These commissions may act in an advisory capacity, assisting the state legislature in drawing the maps, or independently, completely replacing the role of the state legislature in this process.[65] The constitutionality of allowing an independent commission to control the redistricting process was challenged in *Arizona State Legislature v. Arizona Indep. Redistricting Comm'n*.[66] There, the Arizona Legislature claimed that a recent state constitutional amendment, Proposition 106, violated the Elections Clause of the United States Constitution because it transferred congressional redistricting authority to the newly created Arizona Independent Redistricting Commission.[67] The Supreme Court ultimately held that independent commissions were constitutional,[68] noting that the principle "political power flows from the people" is a fundamental premise of the Elections Clause.[69] As such, the people are empowered both to govern the lawmaking processes of the state (as

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59. *Id.*
60*. Id.* at 3–4.
61*. Id.* at 4.
62*. Id.* at 3–4.
63*. Id.* at 6.
64*. Id.* at 10.
65*. Id.* at 3.
66. 576 U.S. 787 (2015).
67*. Id.* at 791–92; *see also* U.S. CONST. art. 1, § 4, cl. 1 ("The Times, Places and Manner of holding Elections for Senators and Representatives, shall be prescribed in each State by the Legislature thereof; but the Congress may at any time by Law make or alter such Regulations. . . ."); ARIZ. CONST. art. IV, pt. 2, § 1, ¶¶ 3–23 (formally adopting the provisions of Proposition 106).
68. *Arizona State Legislature*, 576 U.S. at 793.
69*. Id.* at 824.

occurred with the people's adoption of Proposition 106) and to seek the amendment of state regulations through federal legislation in Congress.[70]

Currently, eight states use independent commissions to determine their congressional districts.[71] Current lawmakers and elected officials are generally not eligible to become members of these commissions, though they may elect members.[72] Those in favor of adopting independent commissions to govern the redistricting process argue that removing the state legislatures' control allows for the creation of maps that are not influenced by electoral outcomes or the advancement of a specific political party.[73] Proponents of this solution often advocate for commissions with a variety of safeguards including: (1) appointment through a system which includes a variety of appointing authorities; (2) a body make-up which includes an equal number of members from each political party as well as independent members; (3) the exclusion of elected officials and political candidates; (4) the prohibition of commission members seeking office for a designated period after their resignation/dismissal from the commission; and (5) sole authority over the approval of maps drawn based on neutral criteria through a public, transparent process.[74]

Critics, however, note that transferring power from state legislatures to independent commissions does little to remove the political influences associated with redistricting.[75] Instead, it simply reallocates these interests to individuals who are unable to be voted out of their positions by citizens.[76] Even former commissioners themselves have found the experience to be "hyperpartisan" and "inherently political."[77]

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70. *Id.*

71. *Redistricting Commissions: Congressional Plans*, NAT'L CONF. OF STATE LEGISLATURES (Apr. 18, 2019), https://www.ncsl.org/research/redistricting/redistricting-commissions-congressional -plans.aspx. Independent commissions control congressional redistricting in Arizona, California, Colorado, Hawaii, Idaho, Michigan, New Jersey, and Washington. *Id.* Additionally, Montana allows for the use of independent commissions but currently only has one congressional district. *Id.*

72. *Committee for Economic Development*, *supra* note 1, at 3.

73. Peter Miller, *Why Independent Redistricting Commissions Should Draw Electoral District Maps*, SCHOLAR STRATEGY NETWORKS (May 21, 2018), https://scholars.org/contribution/why-independent-redistricting-commissions-should-draw-electoral-district-maps.

74. *Committee for Economic Development*, *supra* note 1, at 10.

75. David Doerr, *Opinion: Independent Commissions Won't Fix Gerrymandering*, THE DETROIT NEWS (Nov. 28, 2018, 10:00 PM EST), https://www.detroitnews.com/story/opinion/2018/11/28/ independent-commissions-wont-solve-gerrymandering/2127115002/.

76. *Id.*

77. Matt Vasilogambros, *The Tumultuous Life of an Independent Redistricting Commissioner*, PEW (Nov. 26, 2019), https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/ 2019/11/26/the-tumultuous-life-of-an-independent-redistricting-commissioner.

The scrutiny surrounding the work of Arizona's independent redistricting commission following the 2010 Census is a prime example of partisan antics within independent commissions. In 2011, an independent commission composed of two Republican commissioners, two Democratic commissioners, and one "independent" chairwoman were appointed to complete the redistricting process for this decade.[78] Disputes erupted almost immediately. Following the first public meeting, members of the public berated Chairwoman Colleen Coyle Mathis for appointing a mapping consultant with ties to Barrack Obama's presidential campaign, and many prominent officials accused her of having Democratic-leaning biases.[79] Throughout the process, a total of six lawsuits were filed by both members of the public and the state legislature, alleging a variety of concerns regarding everything from how the maps were drawn to the constitutionality of the commission as a whole.[80] At one point, Mathis was even impeached by the legislature after being accused of "substantial neglect of duty" and "gross misconduct in office" but was later reinstated by the Arizona Supreme Court.[81] The final state legislative and congressional maps were approved in a three to two vote, with Mathis and the two Democratic commissioners voting in favor of adoption.[82] The constitutionality of both maps was appealed all the way to the Supreme Court, and the Court ultimately granted approval of both maps.[83]

These events demonstrate that despite their alluring title, "independent commissions" often do little to lessen the hyperpartisan nature of redistricting, and in some situations, may create additional administrative hurdles. In Arizona, the legislature's sharp criticism and eventual impeachment of Mathis put the state in a "leaderless limbo" and left experts "almost certain" the courts would have to step in and draw the lines—the precise outcome independent commissions seek to avoid.[84] This is particularly concerning as, given the Court's ruling in

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78. *Id.*

79. *Id.*

80. Justin Sayers, *Redistricting Arizona: Will Increasingly Politically Diverse State Remain a GOP Stronghold?*, TUCSON.COM (Jan. 4, 2020), https://tucson.com/news/state-and-regional/redistricting-arizona-will-increasingly-politically-diverse-state-remain-a-gop-stronghold/article_f01d6ffe-2bf0-5987-ad57-918bfc11799a.html.

81. Id.

82. Vasilogambros, *supra* note 77.

83*. See* Harris v. Indep. Redistricting Comm'n, 136 S. Ct. 1301 (2016); Arizona State Legislature v. Arizona Indep. Redistricting Comm'n, 576 U.S. 787 (2015).

84. Marc Lacey, *Arizona Senate, at Governor's Urging, Ousts Chief of Redistricting Panel*, N.Y. TIMES (Nov. 2, 2011), https://www.nytimes.com/2011/11/03/us/arizona-republicans-oust-colleen-mathis-head-of-redistricting-panel.html.

Rucho, if such a series of events were to arise following the 2020 Census, the federal courts would be unable to resolve gerrymandering claims, instead leaving states to sort out their own partisan battles.[85]

Additionally, studies have shown that even politically neutral commissions may disadvantage certain voters due to the "cognitive limitations of those drawing the maps."[86] When faced with a logistical problem in redistricting, researchers note that human mapmakers face a substantial disadvantage in constructing a solution when compared to the ability of computer programming software to quickly filter through a myriad of options uninhibited.[87] Thus, even the most neutral of commissions may still fail to provide voters with an optimal redistricting plan.

3. Advisory Commissions

Advisory commissions operate as a compromise between having state legislators or independent commissions retain sole control of redistricting. In the states that have adopted this compromise, the legislature does not draw the maps but instead allocates this duty to members of an "advisory commission," which may be comprised of both legislators and non-legislators.[88] Once the map is completed, the legislature must approve it, generally through an up-or-down vote.[89] Currently, six states use advisory commissions in the congressional redistricting process.[90] Of these, Iowa takes what may be considered the most unique approach. Under its system, the Legislative Service Agency (LSA), comprised of nonpartisan legislative staff, drafts a proposed district map without the use of any political data, including "the

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85. *See generally* Rucho v. Common Cause, 139 S. Ct. 2484 (2019) (holding that partisan gerrymandering claims raise political questions outside the scope of the federal courts).

86. Guest, Kanayet & Love, *supra* note 26, at 128.

87. Micah Altman & Michael McDonald, *The Promise and Perils of Computers in Redistricting*, 5 DUKE J. CONST. L. & PUB. POL'Y 69, 106 (2010) ("By virtue of their ability to quickly sort through large amounts of data, computers permit the exploration of a greater number of alternative configurations of districts within the short period of time between the census and the next election."); Guest, Kanayet & Love, *supra* note 26, at 126 (noting that automated districting of Arizona produced a solution preventing Tucson from being cracked into three districts that man-made maps has not exhibited).

88. *Committee for Economic Development*, *supra* note 1, at 3. An up-or-down vote "is roughly synonymous with a recorded yea-or-nay vote, a roll-call vote and – also in informal usage – a clean vote." William Safire, *Up-or-Down*, N.Y. TIMES MAG. (Aug. 14, 2005), https://www.nytimes.com/2005/08/14/magazine/upordown.html.

89. *Committee for Economic Development*, *supra* note 1, at 3. Iowa, Maine, New York, Rhode Island, Utah, and Virginia all utilize some form of an advisory commission. *Redistricting Commissions: Congressional Plans*, *supra* note 71.

90. *Id.*

addresses of incumbents, the political affiliations of registered voters, previous election results and demographic information not required by the federal constitution."[91] The map is then sent to the legislature where it must be approved by an up-or-down vote or amended by the LSA within thirty-five days.[92] Three maps must be presented to the Iowa Legislature through this process before the legislature may begin drafting its own map—a result that has not occurred since this process was adopted in 1980.[93]

In general, the use of advisory commissions as opposed to independent commissions allows for individuals who were directly elected by the people (state legislators) to retain some control, while also creating a pathway to introduce less-partisan maps. However, most states that employ advisory commissions do not restrict the use of political data during the drafting process to the degree Iowa has mandated, and state legislatures may still adopt maps of their own making.[94] Additionally, the same cognitive limitations prevalent in maps drawn by independent commissions still exist.[95] Thus, though on its face a compromise, advisory commissions do little to prevent political gerrymandering and may even contribute to it!

B. How Should the Lines Be Drawn?

Instead of removing redistricting authority from state legislatures, some states have sought to place stricter guidelines on the representational criteria governing the formation of districts as a means of combatting political gerrymandering. From this viewpoint, the question then becomes: if district maps are not designed to maximize partisan agendas, what should they be designed to maximize, and will this prevent gerrymandering? The sections below evaluate popular redistricting criteria and their effects.

1. Contiguity

A district is said to be contiguous if "all parts of the district are connected to each other."[96] Currently, thirty-three states require

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91. *The "Iowa Model" For Redistricting*, NAT'L CONF. OF STATE LEGISLATURES (Mar. 25, 2021), https://www.ncsl.org/research/redistricting/the-iowa-model-for-redistricting.aspx.

92. *Id.*

93. *Committee for Economic Development*, *supra* note 1, at 3.

94. *See Redistricting Commissions: Congressional Plans*, *supra* note 71.

95. *See supra* notes 86–87 and accompanying text.

96. LEVITT, *supra* note 22, at 50.

contiguity as part of their redistricting criteria.[97] Proponents of contiguity argue that districts are designed to represent a geographic community and thus no part of a district should be separated from the rest.[98] Additionally, districts which lack contiguity can force local candidates to travel increased distances when campaigning in order to reach all areas of the district.[99] Critics, however, note that contiguous districts can separate communities of interest (those of a certain race, political affiliation, etc.) that could otherwise be grouped together by forming a district from separated pieces of the state.[100]

2. Compactness

Compactness refers to the overall shape of the district.[101] Though there are more than thirty mathematical formulas for measuring whether a district is deemed to be "compact," compact districts generally display a more uniform shape than their unrestricted counterparts, with constituents all living relatively close together.[102] Eighteen states currently have a requirement that some form of compactness be present in the redistricting process, though definitions of "compact" vary.[103] Critics of this approach argue that emphasizing compactness can lead to fewer majority-minority districts,[104] as such populations may not live in neatly defined areas.[105] However, maps maximizing compactness across all districts in the United States have been shown to increase the competitiveness of certain districts, decrease the total length of district boundary lines by twenty-seven percent, and reduce the number of counties split apart by district lines from 621 to 380.[106] These results present both political and administrative benefits. From a political standpoint, the competitiveness of districts is one method through which

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97. *See Redistricting Criteria*, Nat'l Conf. of State Legislatures (Apr. 23, 2019), https://www.ncsl.org/research/redistricting/redistricting-criteria.aspx.

98. Levitt, *supra* note 22, at 50.

99. *Id.*

100. *Id.*

101. *Id.* at 51.

102. *Id.*

103. Wasserman, *supra* note 24.

104. "A majority-minority district is one in which a racial or language minority group comprises a voting majority." L. Paige Whitaker, Congressional Redistricting and the Voting Rights Act: A Legal Overview, Cong. Research Serv., R 42482 2 (2015).

105. Wasserman, *supra* note 24.

106. *Id.*

gerrymandering, or a lack thereof, may be identified.[107] Meanwhile, fewer splits along county lines preserves efficiency within the administration of the election process.[108]

3. Communities of Interest

"Communities of interest" is a vague term, which generally refers to groups who live in close proximity and share a similar race, religion, or culture.[109] State laws promoting communities of interest in redistricting define a variety of criteria differently, including socioeconomic status, race, geography, historical interests, culture, traditional neighborhoods, occupations, and lifestyles as forming "communities of interest."[110] Those in favor of keeping communities of interest together argue that like-minded voters should be grouped together to elect a representative who shares their mutual values.[111] Critics, however, note the term "communities of interest" is inherently vague, resulting in subjective interpretations of the term and its geographic boundaries.[112] As expressed by one researcher:

> if you're a politician in search of a figleaf justification for putting voters from disparate corners of the state into the same congressional district, you can always find one. Communities of interest are a great ideal, but in practice they're so fuzzy that they open the door to all manner of redistricting shenanigans. . . .[113]

4. Competitiveness

As the goal of both partisan and bipartisan gerrymanders is to create "safe"[114] districts, some argue that requiring competitive districts

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107. Bruce E. Cain et al., *A Reasonable Bias Approach to Gerrymandering: Using Automated Plan Generation to Evaluate Redistricting Proposals*, 59 WM. & MARY L. REV. 1521, 1540 (2018) ("Scholars have offered a number of suggestions, including seats-votes bias, responsiveness, competitiveness, proportionality, and more recently, the efficiency gap.").

108*. See* Wasserman, *supra* note 24.

109. Harry A. Levin & Sorelle A. Friedler, *Automated Congressional Redistricting*, 24 J. EXP. ALGORITHMICS 1, 2 (2019).

110. *Id.*

111. *Id.*

112. *Id.*

113. Christopher Ingraham, *This Is Actually What America Would Look Like Without Gerrymandering*, WASH. POST (Jan. 13, 2016, 12:49 PM EST), https://www.washingtonpost.com/news/wonk/wp/2016/01/13/this-is-actually-what-america-would-look-like-without-gerrymandering/.

114. A district is considered "safe" when its political makeup falls in favor of the preferred candidate to a degree such that the district may be considered immune from shifting political trends. LEVITT, *supra* note 22, at 62.

is key to disrupting this aim.[115] A district is said to be competitive when it contains a roughly equal number of voters from each party such that in general elections the results are likely to be fifty-five to forty-five percent or closer.[116] Currently, Arizona and Washington are the only two states whose redistricting criteria includes drawing districts that will be competitive in general elections.[117] Critics of this approach often note that determining acceptable outcomes under this approach is ambiguous as election results may vary for a variety of reasons unrelated to the districting process.[118] Additionally, due to the natural makeup of certain areas, creating competitive districts can lead to pro-competitive gerrymandering.[119] Studies have also shown that maximizing competitiveness often decreases the compactness of districts and can lead to the creation of districts that are hypersensitive to political shifts in the country.[120]

5. Proportionality

Proportionality is aimed at minimizing the "efficiency gap," a metric that detects the "extent of partisan gerrymandering by measuring how many votes each party 'wastes' in wins and losses."[121] In states that call for proportionality in redistricting,[122] the goal is to allocate the state's seats to Republicans and Democrats in proportion to that party's political makeup in the state. For example, "if a state has five districts and Republicans won an average of 60 percent of its major-party votes in the last two presidential elections, three districts would be drawn with a Republican lean and two would be drawn with a Democratic lean."[123] However, proportionality has the propensity to treat political preferences and turnout tendencies as "fixed" across election cycles when this often is not the case.[124] Critics of this approach note that voters are not "partisan apparatchiks."[125] Additionally, the natural political

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115. *Id.*

116. *Id.*

117. Wasserman, *supra* note 24.

118. Levin & Friedler, *supra* note 109. One example is the commonly observed strong concentrations of Democrat-leaning voters in urban areas and Republican-leaning voters in rural areas. *Id.*

119. Wasserman, *supra* note 24.

120. *Id.*

121. *Id.*

122. Currently, Ohio will be the only state which formally requires proportionality in redistricting, beginning in 2021. *Redistricting Criteria*, *supra* note 97.

123. Wasserman, *supra* note 24.

124. Guest, Kanayet & Love, *supra* note 26, at 129.

125. *Id.*

geography in some states rules out a proportionality option.[126] Finally, maps that maximize proportionality have also been shown to create partisan gerrymandering.[127]

6. True Proportional Representation

When evaluating the current redistricting criteria used in many states, some critics argue that the most effective means of eliminating political gerrymandering is to redefine redistricting as a whole through true proportional representation. Though no state in the United States has adopted a proportional representation system, the concept is used in many countries throughout the world.[128] This system is premised on two basic characteristics: (1) the use of multi-member districts, and (2) the division of seats into multi-member districts proportional to the votes received by the various political parties.[129]

The most common form of proportional representation is the party list system.[130] Under this system, each party creates a list of candidates proportional to the number of district seats available, which is then placed on a ballot.[131] The public then votes on which list they would prefer, and seats are allocated based on what proportion of the votes each party receives.[132] For example, if Democrats receive sixty percent of the vote in a ten-member district, they will receive six seats.[133]

There are two types of list systems used to determine which of the winning party's candidates will receive the seats.[134] Under the "closed list" system, "won" seats are allocated to candidates based on their predetermined order in the list, and voters cannot indicate a preference between members of their party.[135] Conversely, under the "open list" system, after voting for a party, voters may rank candidates listed within

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126. Wasserman, *supra* note 24 (noting that under this approach, Democrats' share of statewide votes in West Virginia would entitle them to one of the state's three seats though there are not enough Democrat-leaning precincts in West Virginia to form a district with a Democrat majority).

127*. Id.* (finding that achieving proportionality in California would require a pro-Republican gerrymander while in Pennsylvania it would require a pro-Democrat gerrymander).

128. As of 2012, twenty-one of the world's thirty-five major democracies use a proportional representation system. *See Electoral Systems Around the World*, FAIRVOTE, https://www.fairvote.org/research_electoralsystems_world (last visited Apr. 7, 2021).

129. *How Proportional Representation Elections Work*, FAIRVOTE, https://www.fairvote.org/how_proportional_representation_elections_work (last visited Apr. 7, 2021).

130. *Id.*

131. *Id.*

132. *Id.*

133. *See id.*

134. *Id.*

135*. Id.* Using the example given above, under this system, the first six Democratic candidates listed on the ballot would receive the six district seats.

their party, and the "won" seats are allocated to the highest ranked candidates.[136]

While proponents of this approach cite its objectivity, critics often note that there is an inherent tension in proportional representation as "it can lead to fragmentation and instability" if the system is too proportional.[137] Conversely, "[i]f the system is made less proportional . . . it starts resembling a winner-take-all system, and by doing so defeats the very purpose of proportional representation."[138] Additionally, though perhaps an idealistic form of representation, the Supreme Court has expressed that the "one person, one vote requirement" does not necessitate that a political party's representation in the legislature equate to total support for that party throughout the state.[139]

V. FLORIDA & COMPUTATIONAL REDISTRICTING

A. Benefits of Computer Modeling Programs

Having discussed the cognitive limitations and biases observed under current methods of redistricting, this section will now turn to the topic of automated redistricting through the use of computer algorithms. Allowing computer algorithms to determine how district lines are drawn provides two distinct benefits—it produces configurations that may not have otherwise been considered,[140] and most importantly, it "elevate[s] the legislative redistricting debate from a battle over line drawing to a discussion of representational goals."[141] This solution essentially requires only that a determination be made as to what the overall goal of the maps should be, for example, that districts should be as evenly shaped as possible.[142] Beyond this point, the program takes over, eliminating the constant tinkering and revisions for partisan

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136. *Id.* Using the example given above, under this system, the six highest rated Democratic candidates would receive the six "won" district seats.

137. Pietro Speroni di Fenizio & Daniele A. Gewurz, *The Space of All Proportional Voting Systems and the Most Majoritarian Among Them*, 52 SOC. CHOICE & WELFARE 663, 665 (2018) (citing Florin Fesnic's definition of proportional representation in KENNETH F. WARREN, ENCYCLOPEDIA OF U.S. CAMPAIGNS, ELECTIONS, AND ELECTORAL BEHAVIOR 677–79 (2008)).

138. *Id.*

139. *See* Rucho v. Common Cause, 139 S. Ct. 2484, 2501 (2019) ("It hardly follows from the principle that each person must have an equal say in the election of representatives that a person is entitled to have his political party achieve representation in some way commensurate to its share of statewide support.").

140. Guest, Kanayet & Love, *supra* note 26, at 121.

141. Michelle H. Browdy, *Computer Models and Post-*Bandemer *Redistricting*, 99 YALE L.J. 1379, 1381 (1990).

142. Guest, Kanayet & Love, *supra* note 26, at 121.

maximization often observed under the current system.[143] Such a design is currently used in many states in Mexico.[144]

B. Research

In 2018, researchers Olivia Guest, Frank Kanayet, and Bradley Love developed a clustering computer algorithm to redistrict the United States' 435 congressional districts with a goal of maximizing compactness.[145] For purposes of the study, maximizing compactness was defined as the minimization of the "average mean distance between people within the same district."[146] Additionally, in accordance with federal law, the algorithm included an additional restraint to create districts of roughly the same population.[147] The population of each census block was estimated based on results from the 2015 American Community Survey (ACS).[148]

When compared to the actual districting plans, the clustering algorithm created improved maps for every state and increased compactness by an average of twenty percent in each state.[149] For example, in Iowa, a state that uses an independent commission for redistricting, the automated solution produced a less segmented map compared to the actual version.[150] Notable improvements were also observed in North Carolina, a state where maps are drawn through a traditional partisan process.[151] Finally, despite Utah's requirement that districts be "reasonably compact, the densely populated northern conurbation of Provo, Salt Lake City, and West Valley City [was found to be] cracked [under the current plan], diluting the urban vote."[152]

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143. *Id.*

144. *Id.*

145. *Id.*

146. *Id.*

147. *Id.*

148*. Id.* at 122. ("[W]e estimated the population of each census block in 2015 by calculating its population share of its block group in 2010 and, assuming these proportions had not changed, updated the block populations based on the 2015 ACS.") The United States Census Bureau conducts the United States' decennial census and records populations in census blocks, the smallest available geographic unit. *Id.* at 121. However, each year the Bureau also conducts the ACS which records populations at one level above the block level, known as a block group. *Id.* at 122. Thus, by using the 2015 ACS block group populations to estimate what the census block populations would be in 2015, the researchers were able to configure equally populous districts based on this approximated "2015 Census."

149. Improvement was defined as the "ratio of pairwise distances within districts between our solution and the actual districts." *Id.* at 124; *see* Appendix, Figure 1. Actual and automated redistricting plans for any address in the United States can be viewed here: http://redistrict.science.

150. Guest, Kanayet & Love, *supra* note 26, at 125; *see* Appendix, Figure 2.

151. Guest, Kanayet & Love, *supra* note 26, at 125; *see* Appendix, Figure 2.

152. Guest, Kanayet & Love, *supra* note 26, at 125; *see* Appendix, Figure 3.

In general, the researchers found that the "cognitive demands of drawing districts for larger states may tax human capacities."[153] Additionally, it was noted that population size may be a cause for "accidental gerrymandering" as states with fewer districts were shown to be easier to draw properly.[154] Following the study, over ninety percent of survey respondents indicated that they preferred the automated redistricting map for their state over the actual districting map.[155]

When comparing the results of automated redistricting to those produced by traditional methods of map drawing through state legislatures or commissions, the cognitive benefits of the former often offer innovative solutions not frequently employed under traditional methods. However, the algorithm used in this study is not the only one capable of completing more efficient redistricting. Other studies have shown similar successes using differing algorithms.[156] The biggest benefit to employing such a solution is the ability to minimize the involvement of political actors once the criteria for the algorithm have been determined. As one researcher expressed, "[a] computer can't decide the criteria for creating a district, but it can create districts based on these criteria better than any human could do [as] [u]ltimately, this is an algorithmic data problem."[157]

Returning to the analysis presented in Part III, the implementation of an automated redistricting program in Florida would first require the identification of the governing criteria to be used in the algorithm. Compactness would appear to be an optimal choice due to its neutral nature and tendency to preserve county lines, create shorter districts,

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153.   Guest, Kanayet & Love, *supra* note 26, at 124.

154*.   Id.* at 125.

155*.   Id.* at 126–28.

156*.   See* Benjamin Fifield et al., *Automated Redistricting Simulation Using Markov Chain Monte Carlo*, 29 J. COMPUTATIONAL & GRAPHICAL STAT. 715 (2020) (detailing a new proposed algorithm based on the Markov chain Monte Carlo which incorporates equal population requirements and contiguity at the same time); Levin & Friedler, *supra* note 109, at 12, 21 (demonstrating the successful creation of a redistricting algorithm which prioritizes population deviations and then partitions districts based on their Modified Schwartzberg compactness score); Kevin Baas, AUTO-REDISTRICT, http://autoredistrict.org/index.php (last visited Apr. 7, 2021) (demonstrating an open source software which creates "fair and compact" districts based on a variety of geographic (equal populations, contiguity, compactness, minimal county splits) and representational criteria (competitiveness, proportionality, minimal racial and partisan gerrymandering); Brian Olson, *What Redistricting Is and What It Could Be*, BDISTRICTING, https://bdistricting.com/index.html (showcasing an open-source software program which creates district maps optimizing equal populations and compactness).

157.   Daniel Oberhaus, *Algorithms Supercharged Gerrymandering. We Should Use Them to Fix It*, VICE (Oct. 3, 2017, 3:11 PM), https://www.vice.com/en_us/article/7xkmag/gerrymandering-algorithms (quoting Sheldon Jacobson, a computer science professor at the University of Illinois).

and even promote competitiveness.[158] Additionally, an equal population parameter would need to be imposed to meet the "one person, one vote" standard.[159]

Researchers looking to develop automated redistricting algorithms have cautioned that moving too far away from these seemingly "neutral" criteria increases the difficulty of creating the ideal algorithm, thus heightening the chances of ulterior motives making their way into the code.[160] Thus, while aims such as proportionality and competitiveness have positive attributes, these goals can often be difficult to translate into a precise algorithm.[161] However, these same barriers do not exist when limiting an algorithm to compactness, contiguity, and equal populations.[162]

Looking to Florida specifically, researchers Aaron Bycoffe, Ella Koeze, David Wasserman, and Julia Wolfe compared district maps created by two different algorithms that sought to maximize compactness to Florida's current congressional boundaries.[163] The first algorithm was fully automated and ignored district boundaries, while the second simulated the actions of a truly nonpartisan commission by drawing compact shapes without regard to party or race and splitting counties only when necessary to create equally populous districts.[164] When compared to the current map, both the fully automated algorithm and the assisted algorithm increased the number of competitive districts while improving the overall compactness of the districts.[165] In the fully

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158. *See* Wasserman, *supra* note 24.

159. *See* Wesberry v. Sanders, 376 U.S. 1, 7–8 (1964) (holding that the Constitution requires that "as nearly as is practicable one man's vote in a congressional election is to be worth as much as another's," so the votes of those living in more populated areas do not carry less weight than those in more sparsely populated areas because of vote dilution).

160. Altman & McDonald, *supra* note 87, at 75. Hardships accrue when the algorithm is expected to continually "optimize" as additional criteria are incorporated. *Id.* at 82. "[T]he objective function to optimize becomes more complex when additional federal and state criteria are introduced. In this situation with multiple local optima there is no simple way to ensure that a local optimum, obtained by rearranging census blocks into districts, is indeed the global optimum." *Id.*

161. *Id.* at 91 ("The second reason automated redistricting is difficult is that in practice there is a large gap between identifying representational values and creating criteria reflecting those values that can be optimized in a computer.").

162. *Id.* at 83 ("[A]n optimal solution would not be necessary if (1) legitimate redistricting goals were limited to contiguity, equal population, and (some idiosyncratically-defined and approximate version of) compactness. . . .") (emphasis omitted).

163. Aaron Bycoffe et al., *The Atlas of Redistricting*, FIVETHIRTYEIGHT (Jan. 25, 2018, 6:00 AM), https://projects.fivethirtyeight.com/redistricting-maps/florida/#Compact.

164. *Id.* To view the automated algorithm used in this comparison, see Olson, *supra* note 156.

165. *Id.* Under the current map five districts are considered competitive, while under the fully automated solution seven competitive districts were produced, and under the assisted algorithm nine competitive districts were generated. *Id.* The compactness scores were four, one, and two, respectively. *Id.*; *see* Appendix, Figure 4 (comparing current Florida's current congressional redistricting map to the fully automated solution).

automated solution, however, a majority-minority district was lost, while in the modified algorithm the number of majority-minority districts stayed the same.[166] Thus, an ideal algorithm would take into consideration county boundaries when maximizing compactness, both to preserve majority-minority districts in accordance with the Voting Rights Act[167] and to ease administrative hurdles during the elections process.

Critics of automated redistricting often cite two concerns: (1) the automated nature of redistricting prevents public transparency; and (2) the software program's coding may bury ulterior motives.[168] Researchers looking to prevent these issues agree that the code should be open-source with any special parameters known and widely agreed upon.[169] Ironically, if implemented properly, public transparency is one of the greatest benefits of automated redistricting.[170]

Currently, under traditional map drawing schemes, completed maps may be submitted for approval without members of the public ever knowing the data or methodology used to reach such a result.[171]

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166. Bycoffe et al., *supra* note 163. The significance of this outcome is subject to debate. Some critics argue that majority-minority districts are not essential to electing minority candidates and can instead lead to inadvertent packing of minority voters. Wasserman, *supra* note 24; *see also The Future of Majority–Minority Districts in Light of Declining Racially Polarized Voting*, 116 HARV. L. REV. 2208, 2219 (2003).

167. The Voting Rights Act prohibits redistricting plans which "discriminate on the basis of race, color, or membership in a protected language minority group." *Redistricting Information*, THE U.S. DEP'T. OF JUST., https://www.justice.gov/crt/redistricting-information (last updated Mar. 11, 2020); *see* 52 U.S.C. §§ 10101–10102. Section 2 governs the creation and protection of majority-minority districts. Whitaker, *supra* note 104, at 2. Under this provision, private citizens or the government may assert a claim of minority voter dilution under a proposed redistricting plan if it can be shown that the minority group: (1) "is sufficiently large and geographically compact to constitute a majority in a single-member district"; (2) "is politically cohesive"; and (3) is denied the group's preferred candidate due to synchronous white majority votes. Thornburg v. Gingles, 478 U.S. 30, 50–51 (1986) (describing the three-element test that must be satisfied for a claim of minority vote dilution to succeed); *see also* Bartlett v. Strickland, 556 U.S. 1, 19 (2009) (clarifying that that the first prong of the *Gingles* Test requires that the minority population constitute more than fifty-percent of the voting population in the proposed district). Parties may also establish a violation under Section 2 if it can be shown that the redistricting plan prevented plaintiffs from having "an equal opportunity to participate in the political processes and to elect candidates of their choice" based on the "totality of the circumstances" for which a separate set of criteria must be met. *Gingles*, 478 U.S. at 36–37, 44, 46.

168. Jeanne C. Fromer, *An Exercise in Line-Drawing: Deriving and Measuring Fairness in Redistricting*, 93 GEO. L.J. 1547, 1571–72 (2005).

169. Altman & McDonald, *supra* note 87, at 103–04; Guest, Kanayet & Love, *supra* note 26, at 128–29.

170. Cain et al., *supra* note 107, at 1537 ("[A]s long as the algorithm is transparent, courts, scholars, and litigants can examine and critique the soundness of the parameters used in the map generation algorithm.").

171. Rebecca Green, *Redistricting Transparency*, 59 WM. & MARY L. REV. 1787, 1790, 1796–97 (2018). Twenty-six states (including Florida) lack a constitutional or statutory provision regarding transparency in redistricting. *Id.* at 1796–97.

Even in states that encourage public transparency and commentary throughout the redistricting process, full disclosure is not practical as mapmakers are often tweaking maps by hand outside the public eye.[172] This can lead to results which mirror those observed in Florida during the 2010 redistricting cycle when experts submitted proposed redistricting maps under the names of average citizens in an attempt to lessen public scrutiny and undermine gerrymandering claims.[173] Furthermore, a lack of transparency puts courts at a disadvantage when evaluating gerrymandering claims as in many cases their determinations are made solely based on the end result of the maps with little knowledge of how this result was reached or the map drawer's intent.[174]

Maps produced through automated programming, however, circumvent the transparency problem by enabling the public to have access to the precise software that produced the finalized map. Open-source software essentially provides any individual with the knowledge and resources the ability to view the code and replicate the results of the finalized map.[175] Sourceforge is one well-known repository through which the open-source software may be distributed.[176] This program allows individuals to view the code and documents changes as they are made.[177] Beyond simply providing the code to the public, proponents of automated districting advocate for other precautionary measures.[178] Such measures include the exposure of the data used in the algorithm, its source, and any modifications made to it, as well as the production of reports analyzing the redistricting plan that would include the "documentation of data, methods, and procedures sufficient to allow a

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172. *Id.* at 1795–96, 1810 (discussing a variety of instances in which states' transparency provisions have failed to adequately demonstrate how legislators and commissioners completed the redistricting process).

173. *See* Larrabee, *supra* note 50.

174. In some states with no formal requirements for transparent redistricting, courts may rely on state open-record and meeting laws to provide a degree of insight. Green, *supra* note 171, at 1798–1800. However, seven states have exempted the legislative branch from these provisions, and forty-three state constitutions have extended some form of legislative privilege which may be asserted to prevent redistricting transparency. *Id.* at 1800–01; *see* Pick v. Nelson, 528 N.W.2d 309, 316 (Neb. 1995) (holding that legislative hearing protections shielded the redistricting process from Nebraska's notice and open hearing requirements); Edwards v. Vesilind, 790 S.E.2d 469, 481 (Va. 2016) (finding that legislative privilege shielded Virginia legislators from having to turn over redistricting documents, including communications between legislators and nonlegislators who were "functioning in a legislative capacity on behalf and at the direction" of a legislator).

175. Altman & McDonald, *supra* note 87, at 103.

176. *Id.* at 104.

177. *Id.*

178. *Id.* at 103, 105.

third party to verify the report."[179] Thus, as some researchers note, an ideal solution with respect to transparency would be to have the state maintain a website that provides access to the data and software used in the redistricting process as well as the finalized plan, which would enable members of the public to replicate the process and create their own redistricting plans.[180]

VI. IMPLEMENTATION IN FLORIDA

In order to implement this solution in Florida, a constitutional amendment would be needed to change the nature of the redistricting process. Currently, state legislators are given the authority to conduct redistricting in Florida.[181] An amendment to the Florida Constitution can be proposed through four methods: (1) a joint resolution of the Florida Legislature, (2) a citizens' initiative, (3) a proposal from the Constitutional Revision Commission, or (4) a proposal by the Taxation and Budget Reform Commission.[182] A citizens' initiative is likely to be the best course of action as it is improbable the legislature will voluntarily concede this authority. Additionally, both the Constitutional Revision Commission and the Taxation and Budget Reform Commission convene only once every twenty years with next meetings set for 2027 and 2037, respectively.[183] For a citizens' initiative to make it onto the ballot, the sponsoring committee must obtain signatures in fourteen of Florida's twenty-seven congressional districts for a total number of signatures equal to eight percent of the votes cast by Floridians in the last presidential election.[184] For initiatives following the 2020 presidential

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179. *Id.*

180*. Id.* at 104.

181. *Redistricting in Florida*, *supra* note 53.

182. FLA. CONST. art. XI, §§ 1–6; *see also* Florida Department of State, *Constitutional Amendments*, FLA. DIVISION OF ELECTIONS, https://dos.myflorida.com/elections/laws-rules/constitutional-amendments/ (last visited Apr. 9, 2021).

183*. See* FLA. CONST. art. XI, §§ 2(a), 6(a). Additionally, calls to abolish the Constitutional Revision Commission have been strongly supported in the Florida Senate while the Taxation and Budget Reform Commission would likely not have the authority to propose such an amendment. News Service of Florida, *Florida House Supports Asking Voters to Repeal Constitutional Revision Commission*, TAMPA BAY TIMES (Jan. 23, 2020), https://www.tampabay.com/florida-politics/buzz/2020/01/23/florida-house-supports-asking-voters-to-repeal-states-constitution -revision-commission/; *see* FLA. CONST. art. XI, § 6(d) (detailing the duties of the Taxation and Budget Reform Commission).

184*. 2018 Initiative Petition Handbook*, FLORIDA DIVISION OF ELECTIONS 4 (2018), https://www.dos.myflorida.com/media/697659/initiative-petition-handbook-2018-election-cycle-eng.pdf.

election, this number is 891,589.[185] Once on the ballot, the amendment must gain sixty percent approval from voters to pass.[186]

With this in mind, a practical implementation of this solution would first require the introduction of a citizens' initiative which would shift the power of redistricting from the state legislature to an automated redistricting program overseen by an advisory commission. Assuming such a proposal passed, the next step would be to appoint a commission and adopt a governing algorithm. While the initial proposal might suggest the formal requirements for the algorithm (such as that it be designed to maximize compactness while abiding by constitutional constraints[187]), the actual implementation of a specific algorithm is likely a decision best left to the experts. With this in mind, an advisory commission composed of expert coders, nonpartisan staff, and legislators would be responsible for sourcing an algorithm which would then need to be formally adopted by the state legislature. From there, the redistricting process would strive to promote full transparency with the software and data used to complete each redistricting cycle made fully accessible to the public. The commission would then be responsible for presenting the proposed map to the legislature for final approval. Finally, a provision requiring that any modifications to the algorithm in future redistricting cycles be approved by a two-thirds supermajority of the state legislature would work to prevent partisan influences from seeking to advance their aims through continual changes to the software.[188]

VII. CONCLUSION

The goal of redistricting should be to ensure fair and equal representation. However, in Florida and many states across the United States, current redistricting plans are subject to the cognitive limitations of human mapmakers and often produce districts that unfairly favor a political party, incumbent, or group of voters.[189] By contrast, automated districting maximizing compactness would amplify technological

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185. *Florida Two-thirds Supermajority Vote Requirement for Amending State Constitution Initiative (2022)*, BALLOTPEDIA, https://ballotpedia.org/Florida_Two-thirds_Supermajority
_Vote_Requirement_for_Amending_State_Constitution_Initiative_(2022) (last visited Apr. 5, 2021).

186*. See* FLA. CONST. art. XI, § 5(e).

187*. See supra* pt. II (discussing the constitutional requirements for the redistricting process).

188. A two-thirds supermajority in the Florida Legislature requires the approval of eighty members of the House and twenty-seven members of the Senate. *Florida State Legislature*, BALLOTPEDIA, https://ballotpedia.org/Florida_State_Legislature (last visited Apr. 10, 2021).

189*. See supra* pt. I, III, IV.

resources, generate a more transparent discussion regarding redistricting goals, and ultimately produce districts that provide voters with a more meaningful choice when selecting a representative rather than permitting representatives to barter voters for political gain.[190]

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190. *See supra* pt. IV.

VII. APPENDIX

Figure 1: Increase in compactness of United States congressional districts when using the automated algorithm. Districts in red states would improve the most while those in blue states would improve the least, although improvement was still shown within-district pairwise distances in all states. States which have been greyed have only one congressional district.
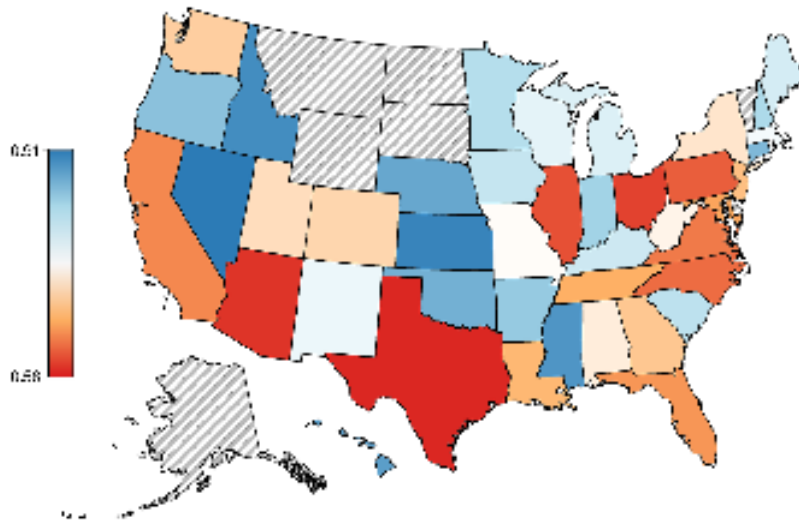

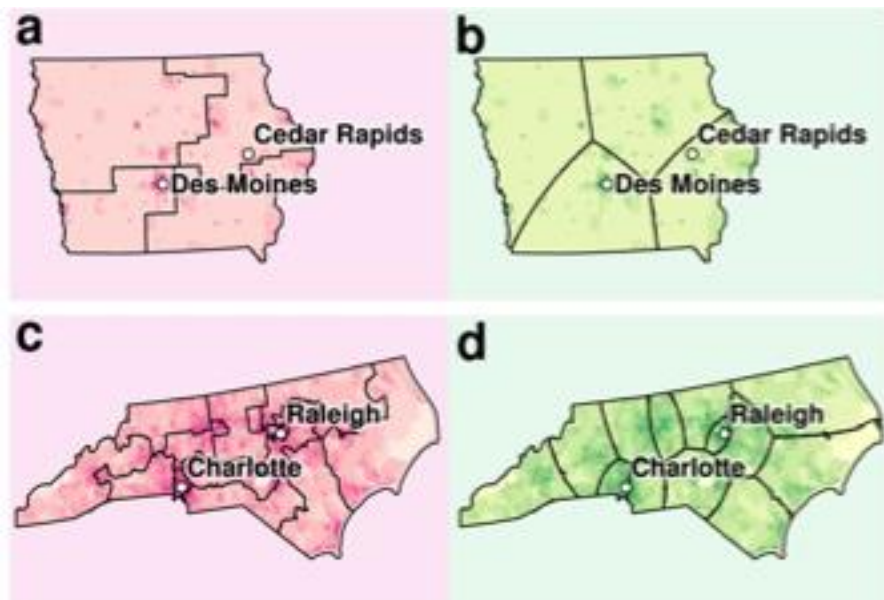**Figure 2:** Actual district maps for Iowa and North Carolina (a, c) compared with computed district maps (b, d).

Figure 3: Actual district map for Utah (a) compared with computed district map (b).
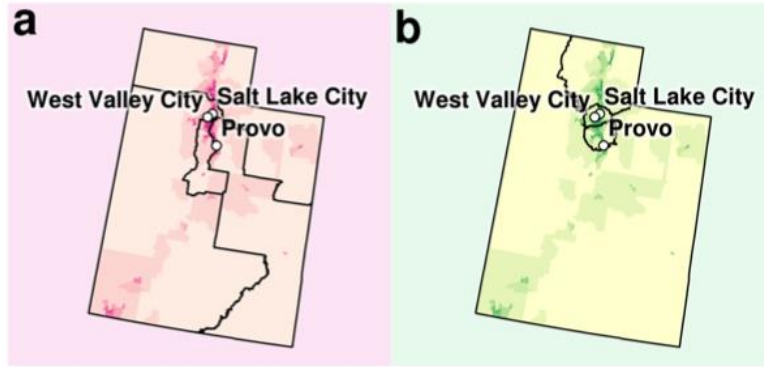

Figure 4: Florida's current congressional district map (A) compared with the automated solution maximizing compactness (B).