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A HALF-CENTURY OF VIRGINIA REDISTRICTING BATTLES: SHIFTING FROM RURAL MALAPPORTIONMENT TO VOTING RIGHTS TO PUBLIC PARTICIPATION

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ABSTRACT

Over the past fifty years, the battle lines in Virginia redistricting have shifted from within-party fighting among Democrats, primarily over malapportionment favoring rural interests over urban interests, to battles over voting rights. In this article, we provide a detailed history of redistricting in Virginia and a quantitative analysis of current adopted and proposed redistricting plans. Surprisingly, although the outcome remained partisan, the most recent round of redistricting included an unprecedented level of public engagement, catalyzed by information technology. A Virginia commission convened by the governor and the participation of students in the most recent round of Virginia's redistricting demonstrate that redistricting does not have to be left up to the "professionals." Further, our analysis suggests that state-level reform in the form of an independent commission that strictly follows a set of administrative criteria likely would modestly benefit Republicans.

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I. INTRODUCTION

In the 2012 general election, Virginia Republican candidates for the United States House of Representatives won a combined 70,736 more votes than Democratic candidates out of the 3.7 million votes cast for the major party candidates, yet won eight of the state's eleven House seats.[1] Thus is the power of gerrymandering. Legislative boundaries are periodically redrawn ostensibly to achieve federal and state constitutional and statutory goals.[2] The most important federal criterion is equalizing districts' populations following the decennial federal census,[3] which effectively means redistricting must take place every ten years.[4] Virginia is also subject to provisions of the federal Voting Rights Act designed to protect minority representation.[5] Virginia's current constitution further requires congressional and state legislative districts to be contiguous and compact.[6] These administrative goals are nominally devoid of political considerations, but such considerations are at the forefront for those who conduct redistricting. Redistricting authorities—which are often state legislatures, as is the case in Virginia—have a direct interest in how new district boundaries affect legislative majorities, individual careers, and racial representation.

Despite the high stakes that consume politicians and can have dramatic effects on electoral outcomes, the public is poorly informed about redistricting.[7] Policy advocates express concern that "redistricting authorities maintain their monopoly by imposing

1. *November 6, 2012 General Election Official Results*, VA. STATE BD. OF ELECTIONS, https://www.voterinfo.sbe.virginia.gov/election/DATA/2012/68C30477-AAF2-46DD-994E-5D3BE 8A89C9B/Official/6_s.shtml (last visited Feb. 18, 2013).

2. *See* JUSTIN LEVITT, BRENNAN CTR. FOR JUSTICE, A CITIZEN'S GUIDE TO REDISTRICTING 2 (2010), *available at* http://brennan.3cdn.net/7182a7e7624ed5265d_6im 622teh.pdf (providing a comprehensive review of state and federal redistricting processes and laws).

3. *See* Reynolds v. Sims, 377 U.S. 533, 567 (1964); Wesberry v. Sanders, 376 U.S. 1, 18 (1964).

4. *See* Justin Levitt & Michael P. McDonald, *Taking the "Re" out of Redistricting: State Constitutional Provisions on Redistricting Timing*, 95 GEO. L.J. 1247, 1261 (2007).

5. 28 C.F.R. §§ 51.4, 51 app. (2012) (listing Virginia as one of several states which must submit new redistricting plans to the Department of Justice or the United States District Court for the District of Columbia for preclearance).

6. VA. CONST. art. II, § 6.

7. Michael P. McDonald, *Legislative Redistricting*, *in* DEMOCRACY IN THE STATES: EXPERIMENTS IN ELECTION REFORM 147, 156 (Bruce Cain, Todd Donovan & Caroline Tolbert eds., 2008).

high barriers to transparency and public participation."[8] A primary way some redistricting authorities have restricted information is by limiting timely public access to the redistricting data and software required to draw districts.[9] In the absence of legal alternatives against which to benchmark a redistricting authority's plan, the public cannot assess if alternatives exist that can better achieve various goals.

With this in mind, we, the authors, embarked upon an ambitious project to leverage information technology advances to create an open-source, web-based redistricting software called DistrictBuilder.[10] Our goal was to expand the scope of public participation and enhance transparency in redistricting by providing the public with the same tools and data available to redistricting authorities, allowing members of the public to draw their own redistricting plans. In 2011, we elevated the Virginia public's engagement in redistricting to a level never seen before in American politics. Virginia was the first state in which we publicly deployed the DistrictBuilder redistricting software to support a statewide redistricting competition of college students. The competition was hosted by the Judy Ford Wason Center for Public Policy at Christopher Newport University, and was later used to support mapping by Governor McDonnell's Independent Bipartisan Advisory Redistricting Commission ("IBARC").

The IBARC's activity and the student competition resulted in public input into Virginia's redistricting process where little had existed previously. The public and the media were thereby better informed about the redistricting process and the range of potential redistricting alternatives. These efforts had a modest effect on the official redistricting process as well. Our goal here is to document these unprecedented activities and assess how the redistricting plans generated by the legislature differed from the

8. Micah Altman, Thomas E. Mann, Michael P. McDonald & Norman J. Ornstein, *Principles for Transparency and Public Participation in Redistricting*, BROOKINGS INST. (June 17, 2010), http://www.brookings.edu/research/opinions/2010/06/17-redistricting-statement. This statement was formally endorsed by Americans for Redistricting Reform, Brennan Center for Justice at New York University, Campaign Legal Center, Center for Governmental Studies, Center for Voting and Democracy, Common Cause, Demos, and the League of Women Voters of the United States. *Id.*

9. *Cf.* Micah Altman & Michael P. McDonald, *The Promise and Perils of Computers in Redistricting*, 5 DUKE J. CONST. L. & PUB. POL'Y 69, 103–05 (2010) (offering suggestions to improve transparency).

10. DISTRICTBUILDER, http://www.districtbuilder.org (last visited Feb. 18, 2013).

IBARC's adopted plans and the student-drawn plans. Placing these efforts in the context of the history of redistricting in the Commonwealth, we illuminate future possibilities for reform efforts in Virginia.

II. HISTORICAL AND LEGAL BACKGROUND

A. *The Early Experience*

Virginia's experience with gerrymandering predates the infamous 1812 Massachusetts State Senate district from which the name "gerrymandering" was coined to describe the political manipulation of district boundaries.[11] Anti-Federalist Patrick Henry, working through the legislature he helped elect, designed a districting plan for the first congressional election in 1789 with the intention of denying his political nemesis and author of the new constitution, James Madison, a seat in the new United States House of Representatives.[12] The district combined Madison's home located in Orange County with seven Anti-Federalist counties.[13] Madison was forced to campaign, something he reportedly detested doing, against his well-liked opponent, James Monroe.[14] Henry's manipulation lacked the brutal efficiency of the eponymous gerrymander, which limited Federalist candidates to 27% of the seats despite winning a majority of votes across all Senate districts,[15] and Madison won his election.[16]

Madison's vignette reveals that Virginians were familiar with redistricting at the country's founding. Even before the federal constitution was implemented, the Virginia Constitution of 1776 described how the House of Delegates districts were to be apportioned: each county was given two delegates, and named cities

11. *See generally* John Ward Dean, *The Gerrymander*, 46 NEW ENG. HIST. & GENEALOGICAL REG. 374, 374–83 (1892) (describing the history of gerrymandering). Although the original gerrymander is attributed to Massachusetts Governor Elbridge Curry, he merely signed into law a plan enacted by the state legislature. *See id.* at 381–82.

12. *See* Paul J. Weber, *Madison's Opposition to a Second Convention*, 20 POLITY 498, 513–14 (1988).

13. *Id.* at 514.

14. *Id.*

15. *See* S. E. Morison, *Elbridge Gerry, Gentleman-Democrat*, 2 NEW ENG. Q. 6, 31 (1929).

16. Weber, *supra* note 12, at 516.

and boroughs were given one delegate.[17] The General Assembly could, at its discretion, award representation to other sub-county governments, but these governmental units had to meet a minimal population threshold.[18] Single-member senate districts were drawn out of whole counties.[19] The allocation's inherent malapportionment was designed to favor eastern interests over those in the west.[20] Thomas Jefferson, an opponent of this division of political power, authored alternative—and rejected—Virginia constitutions in 1776 and 1783 that favored allocation of districts to each county "in proportion to the number of its qualified electors."[21]

The Constitution of 1776 did not describe who was responsible for assigning counties to districts or any timetable for changes to their district boundaries. These shortcomings were rectified in the Constitution of 1830, which described how the General Assembly would "re-apportion" itself once every ten years in years ending in "1."[22] A two-thirds vote of each chamber was required to enact a new districting plan.[23] The constitution also described the circumstances under which a redistricting would be required following the creation of a new county or other sub-governmental

17. VA. CONST. of 1776 ("[T]he House of Delegates, [shall] consist of two representatives to be chosen for each county, and for the district of West Augusta, annually, of such men as actually reside in and are freeholders, or duly qualified according to law, and also one Delegate or Representative to be chosen annually for the city of Williamsburg, and one for the borough of Norfolk, and a Representative for each of such other cities and boroughs as may hereafter be allowed particular representation by the legislature; but when any city or borough shall so decrease as that the number of persons having right of suffrage therein shall have been, for the space of seven years successively, less than half the number of voters in some one county in Virginia, such city or borough thenceforward shall cease to send a Delegate or Representative to the Assembly.").

18. *Id*.

19. *Id*. ("[T]he Senate, [shall] consist of twenty four members, of whom thirteen shall constitute a House to proceed on business, for whose elections the different counties shall be divided into twenty-four districts, and each county of the respective district, at the time of the election of its Delegates, shall vote for one Senator, who is actually a resident and freeholder within the district, or duly qualified according to law, and is upwards of twenty-five years of age; and the sheriffs of each county, within five days at farthest after the last county election in the district, shall meet at some convenient place, and from the place, so taken in their respective counties, return as a Senator the man who shall have the greatest number of votes in the whole district.").

20. *See* ROBERT B. MCKAY, REAPPORTIONMENT: THE LAW AND POLITICS OF EQUAL REPRESENTATION 18 (1965).

21. *Id*. at 19 (internal quotation marks omitted).

22. VA. CONST. of 1830, art. III, § 4.

23. *Id*. art. III, § 5.

unit.[24] However, House of Delegates districts were no longer to be apportioned by population.[25] Instead, House of Delegates and Senate districts were required only to respect political boundaries.[26] The "opinion of the general assembly" determined districts' population equality.[27] The Constitution of 1830 further described the drawing of United States congressional districts, requiring single-member congressional districts to respect existing political boundaries and be of relatively equal population.[28]

The Virginia Constitution of 1851 amended the redistricting process again. The new constitution included provisions for the circumstance of a divided legislature that could not agree on an apportionment plan.[29] Each chamber would forward redistricting plans for both chambers to the governor, who would call a statewide referendum on which of the two plans to adopt for each chamber.[30] In the event that the General Assembly did not forward plans to the governor, an election would be held to select one of two principles for drawing districts of each chamber, a "suffrage basis" or a "mixed basis."[31] A "suffrage basis" was defined as apportioning districts to governmental units based on their voting population, while a "mixed basis" was apportioned partially on

24. *Id.* art. III, § 4.

25. *See id.*

26. *See id.*

27. *Id.*

28. *Id.* art. III, § 6 ("The whole number of members to which the state may at any time be entitled in the house of representatives of the United States, shall be apportioned as nearly as may be amongst the several counties, cities, boroughs and towns of the state, according to their respective numbers, which shall be determined by adding to the whole number of free persons, including those bound in service for a term of years and excluding Indians not taxed, three-fifths of all other persons.").

29. VA. CONST. of 1851, art. IV, § 5.

30. *Id.* ("[I]n the event the general assembly, at the first or any subsequent period of reapportionment, shall fail to agree upon a principle of representation and to reapportion representation in accordance therewith, each house shall separately propose a scheme of representation, containing a principle or rule for the house of delegates, in connection with a principle or rule for the senate. And it shall be the duty of the general assembly, at the same session, to certify to the governor the principles or rules of representation which the respective houses may separately propose, to be applied in making reapportionments in the senate and in the house of delegates: and the governor shall, as soon thereafter as may be, by proclamation, make known the propositions of the respective houses, and require the voters of the commonwealth to assemble at such time, as he shall appoint, at their lawful places of voting, and decide by their votes between the propositions thus presented.").

31. *Id.* Voters could also chose a pure taxation basis for the draining of senate districts. *Id.*

population and partially on paid taxes.[32] The General Assembly would thereafter be obliged to draw districts according to the basis of apportionment selected by the voters.[33] The House of Delegates districts[34] and Senate districts[35] would be drawn out of counties, cities, and towns. The congressional districts were to be "formed respectively of contiguous counties, cities and towns, be compact, and include, as nearly as may be, an equal number of the population, upon which is based representation in the House of Representatives of the United States."[36] Likely, contiguity and population equality requirements were adopted to conform to norms articulated in federal statutes.[37]

During the Civil War, Union sympathizers wrote the Virginia Constitution of 1864 for the portion of the state under Union control, which was enacted statewide following the Confederacy's surrender in May 1865.[38] The constitution recognized the newly created state of West Virginia,[39] which, from the standpoint of redistricting, created dramatic changes in Virginia's territory and population. The constitution reiterated that the General Assembly was responsible for drawing House of Delegates and Senate districts, comprised of whole governmental subunits, but required districts to be apportioned explicitly on a population basis—a departure from the option of a suffrage or mixed basis found in the Constitution of 1851.[40] However, the constitution was silent on the required degree of population equality for state legislative districts. Congressional districts were to be "formed respectively of contiguous counties, cities and towns, be compact, and include, as nearly as may be, an equal number of population."[41]

32. *Id*.

33. *See id*.

34. *See id*. art. IV, § 2.

35. *Id*. art. IV, § 3 ("Each county, city and town of the respective districts, at the time of the first election of its delegate or delegates under this constitution, shall vote for one senator.").

36. *Id*. art. IV, § 14.

37. *See* Law of June 25, 1842, ch. 47, 5 Stat. 491 ("[D]istricts [shall be] composed of contiguous territory equal in number to the number of representatives to which said State may be entitled . . . .").

38. ARMISTEAD R. LONG, THE CONSTITUTION OF VIRGINIA: AN ANNOTATED EDITION 161 (1901).

39. VA. CONST. of 1864, art. IV, § 27.

40. *See id*. art. IV, § 6.

41. *Id*. art. IV, § 14.

The Virginia Constitution of 1870 was written in the aftermath of the Civil War, and with regards to redistricting, it endured until 1971. The constitution again described apportioning House of Delegates districts among counties and cities.[42] Senate districts were to be drawn out of counties, cities, and towns.[43] The apparent discrepancy lay in the fact that House of Delegates districts, for the first time, consisted of multi-member districts.[44] At adoption of the constitution, these ranged in size from one member for many localities, to eight members for a district that included Henrico County and the City of Richmond.[45] Later, Senate districts would also be multi-member.[46] Floterial, or overlapping, districts were also permitted.[47] The constitution required redistricting to occur every ten years following an enumeration, presumably that of the federal census.[48] Congressional districts were to be drawn following the national apportionment of districts to the states out of counties, cities, and towns, but had further contiguity, compactness, and equal-population requirements.[49]

The Constitution of 1870 was next fully revised in 1971, following the upheaval of the reapportionment revolution decisions by the U.S. Supreme Court in the 1960s.[50] As related by Robert Austin, in the intervening years, the legislature would typically convene a redistricting study commission in the year of a federal census to recommend how to proceed with redistricting.[51] Despite this, once the commission had reported, the leadership would

42. VA. CONST. of 1870, art. V, § 2.

43. *Id*. art. V, § 3.

44. *See id*. art. V, § 2.

45. *Id*.

46. *See* Davis v. Mann, 377 U.S. 678, 687 (1964) (citing VA. CODE ANN. § 24-14 (Repl. Vol. 1964) (dividing Virginia into thirty-six districts for the allocation of forty senatorial seats)).

47. Robert. J. Austin, *Virginia*, *in* REAPPORTIONMENT POLITICS: THE HISTORY OF REDISTRICTING IN THE 50 STATES 334, 334, 338 n.1 (Leroy Hardy et al. eds., 1981).

48. VA. CONST. of 1870, art. V, § 4.

49. *Id*. art. V, § 13 ("In the apportionment the state shall be divided into districts, corresponding in number with the representatives to which it may be entitled in the house of representatives of the congress of the United States, which shall be formed, respectively, of contiguous counties, cities and towns, be compact, and include, as nearly as may be, an equal number of population.").

50. *See infra* Section II.B.

51. Austin, *supra* note 47, at 334.

take back control, ignore the commission's recommendations, and redraw districts as they saw fit.[52]

The Supreme Court of Virginia entered the political thicket of redistricting to enforce state constitutional requirements, unlike the federal courts during the period.[53] In 1932, William Moseley Brown filed as a candidate for the House of Representatives to run in an at-large congressional district, but was denied by the secretary of the Commonwealth because Virginia had enacted a single-member congressional redistricting plan to select its nine representatives.[54] The court found that the population deviation of 152,720 persons between the largest and smallest congressional district violated the Virginia Constitution's population equality requirement.[55] The court ordered the state to hold at-large elections for all nine members, as required by federal law when no legal congressional redistricting plan is in effect, thereby granting Brown's candidacy.[56] The state subsequently enacted a single-member district plan for the 1934 congressional elections that addressed the court's concerns.[57] The willingness of the Supreme Court of Virginia to enforce state districting criteria would subsequently entice litigants to contest redistricting plans in both federal and state court.

B. *The 1960s: Reapportionment Revolution*

Following the 1960 federal census, the redistricting of Virginia loomed as a major political battle.[58] Democrats held comfortable majorities in both chambers, so the political divide was not along party lines, but by region.[59] The state faced population imbalances across districts that were a result of the rapid population growth in the urban areas during the 1950s as well as the malappor-

52. *See id.*

53. *See, e.g.*, Colegrove v. Green, 328 U.S. 549, 552 (1946) (declining to invalidate challenged Illinois redistricting laws because of the particularly political nature of the issue).

54. Brown v. Saunders, 166 S.E. 105, 105 (Va. 1932).

55. *Id.* at 111.

56. *Id.*

57. S.B. 3, 1933 Gen. Assemb., Ex. Sess. (Va. 1934); *Redistricting Bill Signed By Gov. Peery: Long Fight Ends as Holt Bill Divides Va. in 9 Districts*, WASH. POST & TIMES-HERALD, Feb. 16, 1934, at 5.

58. Austin, *supra* note 47, at 335.

59. *Id.* at 334.

tioned 1952 plans.[60] Urban areas were under-represented in the House of Delegates by eight seats and in the Senate by three seats, while urban congressional districts exceeded the ideal population by a quarter to a third.[61]

After three attempts, the General Assembly failed to convene its usual redistricting study commission.[62] Democratic Governor J. Lindsay Almond then appointed a commission,[63] whose performance would be replicated fifty years later by Governor Bob McDonnell's commission.[64] The commission was composed of an equal number of legislators and non-legislators, with one of each selected from each of the state's ten congressional districts.[65] In an address to the opening session on April 24, 1961, Governor Almond tasked his commission to "apply the principles of practical equality of representation . . . in consideration of all relevant factors" as it prepared proposals to deliver to the state legislature in 1962.[66]

Final commission plans were drafted prior to the 1961 state elections, but Governor Almond decided to withhold their release until after the election, to the dismay of the Republicans who charged that the delay was designed to hide the issue from voters.[67] Republican fears were partially justified in that the commission's recommendation provided Northern Virginia—then a Republican stronghold—with only half of the increase in representation it warranted by virtue of its population growth.[68] While Republicans were disappointed, the new plan embodied a dramatic shift in power to urban areas of twelve House seats and four Senate seats, producing a balance between urban and rural areas in the House and a urban majority in the Senate.[69] Not surpri-

60. *See Virginia Start Asked on Reapportionment*, WASH. POST & TIMES-HERALD, Feb. 13, 1960, at 20.

61. Austin, *supra* note 47, at 335.

62. *Almond to Appoint 20 to Commission for Redistricting*, WASH. POST & TIMES-HERALD, Jan. 11, 1961, at B04 [hereinafter *Almond to Appoint*].

63. *Id*.

64. *See infra* Section II.G.

65. *Almond to Appoint*, *supra* note 62.

66. *Equitable Redistrict Plan Urged*, WASH. POST & TIMES-HERALD, Apr. 25, 1961, at B12.

67. *GOP Sees Districting Plan Delay*, WASH. POST & TIMES-HERALD, Nov. 1, 1961, at B11.

68. Elsie Carper, *Redistricting Plan Is Blow to North Virginia*, WASH. POST & TIMES-HERALD, Nov. 25, 1961, at D1.

69. Helen Dewar, *Redistrict Plan Hailed by Almond*, WASH. POST & TIMES-HERALD,

singly, rural Democratic members in both chambers rejected the commission's proposals and enacted their own "token" plans that did little to rectify existing malapportionment.[70] Newly elected Democratic Governor Albertis S. Harrison, in contrast to his predecessor, deferred to the legislature, calling the plans "not unfair by any means."[71] Thus ended Virginia's first experiment with a gubernatorial redistricting commission. In hindsight, Governor Almond could take the high road of convening his commission and championing population equality because he knew that, by virtue of his expired term following the 1961 election, he would not have to enforce his commission's recommendations through what might have been a politically difficult veto of his party's legislative plans.

Immediately following the U.S. Supreme Court's 1962 *Baker v. Carr* decision,[72] four Northern Virginia members of the General Assembly filed a federal complaint alleging that unequal state legislative district populations violated the federal constitution's Equal Protection Clause.[73] The League of Women Voters of Virginia[74] and the Virginia Methodist Conference[75] also advocated against the newly enacted plans. On appeal, the U.S. Supreme Court held that "[n]either of the houses of the Virginia General Assembly . . . is apportioned sufficiently on a population basis to be constitutionally sustainable."[76] The Court also rejected the Commonwealth's argument that large military populations warranted under-representation for Norfolk, finding that the Commonwealth provided no justification for making such an adjustment.[77] The Court then deferred to the legislature, allowing legislators to correct malapportionment before the 1965 state

Nov. 26, 1961, at D18.

70. *See* Robert E. Baker, *Byrd Organization Nails Down Rural Legislative Control: Senate and House Junk Commission Redistricting Plan*, WASH. POST & TIMES-HERALD, Mar. 10, 1962, at B1.

71. *Id*.

72. 369 U.S. 186 (1962).

73. Davis v. Mann, 377 U.S. 678, 680–81 (1964). The lead plaintiff in the lawsuit was Delegate Harrison Mann of Arlington County. *See* Ralph Eisenberg, *Legislative Reapportionment and Congressional Redistricting in Virginia*, 23 WASH. & LEE L. REV. 295, 304 n.32 (1966).

74. *Women to Enter Districting Fight*, WASH. POST & TIMES-HERALD, Apr. 7, 1962, at C06.

75. *Methodists Rap "Token" Redistrict*, WASH. POST & TIMES-HERALD, June 14, 1962, at C012.

76. *Davis*, 377 U.S. at 690.

77. *Id*. at 691–92.

elections.[78] The congressional districts were similarly redrawn in 1965 in response to a Supreme Court of Virginia ruling that the congressional districts violated state and federal constitutional equal-population requirements.[79]

C. *The 1970s: Reapportionment Revolution Aftermath*

The 1969 State Commission on Constitutional Revision was tasked with addressing outdated provisions of the state constitution.[80] The commission proposed to eliminate the provision requiring respect for political subdivisions, which was seen to be at odds with the U.S. Supreme Court's new equal-population standard.[81] Voters in the 1970 general election approved, in one vote, the package of wide-sweeping changes proposed by the commission, which also included protections for the environment and education.[82] The constitutional amendments, which remain current, require that "[e]very electoral district shall be composed of contiguous and compact territory and shall be so constituted as to give, as nearly as is practicable, representation in proportion to the population of the district."[83]

Following the 1970 census, the primary redistricting issue was again how to reconcile urban population growth with rural political interests.[84] However, this time the legislature operated under the new federal mandate for population equality.[85] And, for the first time, plans created by the legislature would be subject to approval from the Department of Justice or District Court for the

78. *Id*. at 692–93.

79. Wilkins v. Davis, 139 S.E.2d 849, 855–56 (Va. 1965); *see* H.B. 1, 1965 Gen. Assemb., Ex. Sess. (Va. 1965).

80. Helen Dewar, *Proposed Virginia Constitutional Revisions Would Broaden Voting Regulations*, WASH. POST & TIMES-HERALD, Jan. 30, 1969, at F4.

81. *See id.* Justice Douglas's opinion in *Gray v. Sanders*, 372 U.S. 368 (1963), was the first use of the phrase "one person, one vote." *Id.* at 381. The Court in *Reynolds v. Sims*, 377 U.S. 533 (1964), would later expand on this notion, finding that the "overriding objective [of redistricting] must be substantial equality of population among the various districts, so that the vote of any citizen is approximately equal in weight to that of any other citizen in the State." *Id.* at 579.

82. J.Y. Smith, *Virginians Vote 2 to 1 to Change Constitution*, WASH. POST & TIMES-HERALD, Nov. 4, 1970, at A012.

83. VA. CONST. art. II, § 6.

84. *See* Helen Dewar, *Va. Senate Panel Votes Redistrict*ing, WASH. POST & TIMES-HERALD, Feb. 12, 1971, at B1.

85. *See supra* note 5.

District of Columbia, as required by section 5 of the Voting Rights Act, to ensure minority representation would not be harmed.[86] Furthermore, Democrats no longer controlled the process; the Democratic legislature faced off against Republican Governor Linwood Holton.[87]

In the state legislature, the Senate adopted a plan to create single-member districts that deviated in population within 5% of the ideal.[88] Liberal Democratic Senator Henry E. Howell from Norfolk, who had failed as a gubernatorial candidate in 1969 and was expected to run again in 1973, became the primary political causality when he was drawn out of his district.[89] In the House, the adopted plan's districts deviated from the ideal population by 9.6% and maintained multi-member districts ostensibly so that districts could better meet the self-imposed goal of following political boundaries.[90]

Two federal lawsuits emerged containing the new redistricting plans. Delegate Clive L. DuVal alleged that the multi-member House of Delegates plan robbed Northern Virginia of an additional district, and he sought to institute single-member districts.[91] Senator Howell alleged that the Senate plan shortchanged Norfolk of a district.[92] These two lawsuits were consolidated, with Howell as the lead plaintiff.[93] The litigation on the House of Delegates districts was delayed when the Department of Justice objected to the House of Delegates' plan, citing potential minority representation retrogression among some multi-member districts.[94] The court postponed the primaries and put the state legislature on notice: fix problems cited by the Department of Justice, or the court would impose its own plan.[95] Ultimately, the court found both chambers' plans in violation of equal-population stan-

86. *See* Dewar, *supra* note 84.

87. *Id.*

88. *Id.*; *see* S.B. 54, 1971 Gen. Assemb., Reg. Sess. (Va. 1971).

89. Dewar, *supra* note 84.

90. *Id.*; *see* H.B. 63, 1971 Gen. Assemb., Reg. Sess. (Va. 1971).

91. *See* Howell v. Mahan, 330 F. Supp. 1138, 1139 (E.D. Va. 1971).

92. *Id*. at 1139.

93. *Id*. at 1138.

94. *Section 5 Objections: Virginia*, U.S. DEP'T OF JUSTICE, http://www.justice.gov/crt/about/vot/sec_5/va_obj2.php (last visisted Feb. 18, 2013); *see* Brief for the Appellant at 4–5, Mahan v. Howell, 410 U.S. 315 (1973) (No. 71-373); Helen Dewar, *Va. Eyes U.S. Aid on Districting*, WASH. POST & TIMES-HERALD, May 28, 1971, at C2.

95. Brief for the Appellant, *supra* note 94, at 5.

dards and imposed its own plans.[96] The court's House of Delegates plan created single-member districts and transferred a district from Norfolk to Fairfax, while the Senate plan's only change was to impose an at-large Norfolk district in place of single-member districts.[97]

The U.S. Supreme Court initially refused to stay the court's order,[98] thereby forcing the 1971 elections to be held under the district court's plans.[99] However, the Supreme Court ultimately created new precedent by reversing the lower court's decision and reinstituting Virginia's newly enacted state legislative plans.[100] The Court found, for the first time, that reasonable population deviations—here, 16.4%—were permitted to achieve other legitimate state goals because the state's objective of preserving the integrity of political subdivision lines was not irrational.[101] However, the Court upheld the lower court's at-large Norfolk Senate district, finding against the legislature's plan to create a single-member district for the at-sea sailors stationed at Norfolk's Naval Station, many of whom were not Virginia residents.[102]

Litigation also occurred over the congressional plan crafted by a joint House and Senate committee.[103] Wright County Democratic Chairman O'Wighton Simpson was lead plaintiff in a suit alleging improper population deviations in excess of 5.2%, although the political motivation for the lawsuit was to undo an incumbent pairing between Representative Watkins Abbitt and Representative W. "Dan" Daniel.[104] After the Supreme Court of Virginia refused to take action,[105] a federal court overturned the congres-

96. *Howell*, 330 F. Supp. at 1140.

97. *Id.* at 1145–46; *High Court Asked to Stay Va. Redistricting Order*, WASH. POST & TIMES-HERALD, July 20, 1971, at C20.

98. Mahan v. Howell, 404 U.S. 1201, 1203 (1971).

99. *Virginia Denied Stay of Districting Decision*, WASH. POST & TIMES-HERALD, July 28, 1971, at A17.

100. *Mahan v. Howell*, 410 U.S. 315, 329–30 (1973).

101. *Id.* at 319, 325–26.

102. *Id.* at 331–32; Helen Dewar, *N. Virginia Loses One Assembly Seat*," WASH. POST & TIMES-HERALD, Feb. 22, 1973, at A7.

103. Simpson v. Mahan, 185 S.E.2d 47, 48 (Va. 1971) (per curiam).

104. *Id.*; Helen Dewar, *Court Weighs Apportionment Suit*, WASH. POST & TIMES-HERALD, Oct. 8, 1971, at B2.

105. *Simpson*, 185 S.E.2d at 48; Helen Dewar, *Court Rejects Challenge to Virginia Districting: Va. Rejects Districting Challenge*, WASH. POST & TIMES-HERALD, Nov. 30, 1971, at C1.

sional plan.[106] The legislature quickly moved to remedy the court's objections, which included segregating the two incumbents, even though Rep. Abbitt decided to retire.[107] The new plan, approved by the federal court, had population deviations of less than 1%.[108]

D. *The 1980s: A Voting Rights Collision*

The 1980s continued the urban and rural battles in the House of Delegates, with Northern Virginia hoping to gain three seats in the House of Delegates, partially due to continued population growth and a perceived shortchange of one seat during the previous decade.[109] The Senate, having better addressed malapportionment previously, did not face as great a political challenge with regards to population, but fell victim to voting rights issues.[110]

The Democratic-controlled General Assembly again squared off against a Republican, Governor John Dalton. Governor Dalton signed into law the legislature's plans, which were expected to favor Republicans because of population increases in Republican suburban areas, although he predicted privately that the exceedingly large population deviations would not withstand legal challenges.[111] As he predicted, the plans were met with multiple legal challenges related to population inequalities caused by imbalances among its multi-member districts apportioned to whole counties and cities.[112] The ACLU, among others, filed a separate challenge claiming vote dilution.[113]

The Department of Justice, in their review of the plans as required under section 5 of the Voting Rights Act, found vote dilution in the creation of multi-member Senate districts in Norfolk,

106. Howell v. Mahan, 330 F. Supp. 1138, 1150 (E.D. Va. 1971); *Va. Assembly Again Tries Redistricting*, WASH. POST & TIMES-HERALD, Mar. 3, 1972, at C2.

107. *Va. Assembly Again Tries Redistricting*, *supra* note 106.

108. *Va. Court Approves District Plan*, WASH. POST & TIMES-HERALD, Mar. 15, 1972, at A35.

109. Pat Bauer, *N. Va. May Get Its Political Due*, WASH. POST, Mar. 29, 1981, at C01.

110. Cosner v. Dalton, 522 F. Supp. 350, 353 n.1 (E.D. Va. 1981); Patricia E. Bauer, *Challenge to Va. Reapportionment Plan Threatens to Delay November Elections*, WASH. POST, June 25, 1981, at B07.

111. Glenn Frankel & Pat Bauer, *Remap Fiasco in Richmond: Special Session of Va. Assembly Results in Chaos*, WASH. POST, Apr. 11, 1981, at B01.

112. *Cosner*, 522 F. Supp. at 353; Bauer, *supra* note 110.

113. *Cosner*, 522 F. Supp. at 353; Bauer, *supra* note 110.

where new census data enabled single-member districts,[114] and found violations in six Tidewater House districts.[115] The General Assembly moved quickly to try to fix voting rights deficiencies identified by the Department of Justice.[116]

Legal challenges to the House of Delegates' plan remained, and the District Court for the Eastern District of Virginia ultimately ruled that the plan had constitutionally impermissible population deviations.[117] The court ordered the November 1981 elections to be held as scheduled but ordered new House of Delegates elections to be held under a constitutionally acceptable redistricting plan in November 1982.[118] The Department of Justice objected to the revised Senate plan for continued vote dilution in Norfolk, but no Senate elections were scheduled for 1981.[119]

In the 1981 lame-duck session, the General Assembly again adopted new state legislative plans that it hoped would satisfy the courts and the Department of Justice.[120] However, only the Senate plan[121] satisfied Governor Dalton, who vetoed the House plan.[122] After failing to override the veto, the House of Delegates tried again, only to face another veto.[123] A compromise was finally hammered out in January of 1982, just before the legislative session expired and a new legislature was seated.[124] The Department of Justice approved the revised Senate plan, which created a

114. Section 5 Objections: Virginia, *supra* note 94; *see* Ed Bruske, *Rebuff of Va. Redistricting Was "Routine": White House Informed After Decision Made*, WASH. POST, July 19, 1981, at B01.

115. *Section 5 Objectives: Virginia*, *supra* note 94; *see* Denis Collins, *Va. Lobbies U.S. on Remapping*, WASH. POST, Aug. 5, 1981, at B05.

116. Denis Collins & Karlyn Barker, *Assembly Approves Virginia Redistricting Despite Filibuster*, WASH. POST, Aug. 12, 1981, at B01.

117. *Cosner*, 522 F. Supp. at 358; Patricia E. Bauer, *Va. Republicans Hopeful of Gains in Legislature*, WASH. POST, Aug. 29, 1981, at B01.

118. *Cosner*, 522 F. Supp. at 364.

119. *Virginia Redistricting Plan Rejected Again by Justice*, WASH. POST, Oct. 29, 1981, at C11; *see* Tyler Whitley, *Legislators Hope Redistricting Will Be Less Agonizing This Time*, RICH. TIMES-DISPATCH, Mar. 11, 1991, at Metro 1.

120. Dennis Collins & Patricia E. Bauer, *Remap Plan Reached*, WASH. POST, Nov. 25, 1981, at B01.

121. S.B. 1, 1981 Gen. Assemb., Spec. Sess. (Va. 1981).

122. Denis Collins, *Va. Redistricting Plan Vetoed by Gov. Dalton*, WASH. POST, Dec. 1, 1981, at C01.

123. Glenn Frankel & Denis Collins, *Latest Redistricting Plan Rejected by Gov. Dalton*, WASH. POST, Dec. 31, 1981, at C01.

124. H.B. 13, 1981 Gen. Assemb., Spec. Sess. (Va. 1981); *see* Denis Collins & Celestine Bohlen, *Redistricting Unresolved In Virginia: '81 Assembly Will Meet Today on Compromise*, WASH. POST, Jan. 13, 1982, at C01.

black-plurality Norfolk district,[125] but rejected the revised House of Delegates' plan.[126] The legislature enacted a sixth redistricting plan that acceded to the Department of Justice demands while also creating single-member districts.[127] This plan was finally approved by the Department of Justice,[128] and the ACLU dropped its legal challenge.[129]

The Democratic General Assembly and Governor Dalton also battled over congressional redistricting. However, the General Assembly's plan generally preserved the status quo and thus proved less acrimonious.[130] Still, Governor Dalton vetoed the congressional plan with amendments, seeking to protect Republican Rep. Sanford Parris from the Democrats' efforts to carve Republicans from his over-populated district.[131] With so little at stake, and his legislative allies in opposition because other Republican congressional members were protected, Governor Dalton dropped his objections and approved the Democratic congressional plan with minor revisions to further balance populations.[132] The Department of Justice approved the congressional plan.[133]

E. *The 1990s: Democrats Struggle to Retain Power*

The legislature would again wrestle with population growth in the 1990s; growth had clearly shifted to the Republican suburbs while urban centers had stagnated, affecting both the House and Senate districts.[134] General Assembly Democrats were in a better position, politically, with a nominal ally in the governor's office,

125. *U.S. Approves Va. Plan To Redistrict Senate*, WASH. POST, Jan. 23, 1982, at B07.

126. Martin Weil & Patricia E. Bauer, *U.S. Turns Down 5th Va. Remap*, WASH. POST, Mar. 13, 1982, at B01; *Section 5 Objections: Virginia*, *supra* note 94.

127. Michael Isikoff, *Redistricting Plan for Va. Is Approved*, WASH. POST, Apr. 15, 1982, at B01; *see* H.B. 1, 1982 Gen. Assemb., Spec. Sess. (Va. 1982).

128. Isikoff, *supra* note 127.

129. *Cf.* Michael Isikoff, *Virginia to Pay Groups That Blocked Districting*, WASH. POST, July 3, 1982, at D03 (discussing the settlements Virginia paid to the ACLU for legal fees incurred when the organization opposed the state's plans).

130. Donald P. Baker & Pat Bauer, *Remap Plan Accord Near in Virginia: Minor Variations In Present N. Va. Districts Accepted*, WASH. POST, May 1, 1981, at B01.

131. *Dalton Seeks District Changes*, WASH. POST, May 16, 1981, at D06.

132. Patricia E. Bauer, *Va. Senate Kills Dalton Remap Plan: Democrats Portray Defeat as Setback for the Governor*, WASH. POST, June 9, 1981, at C01.

133. *See* Collins & Bohlen, *supra* note 124.

134. *See* Donald P. Baker, *Va. Suburbs May Gain Two New Senate Seats*, WASH. POST, Mar. 19, 1991, at B01.

Democrat Douglas Wilder.[135] However, they were waging a holding action that required creative pairings of Republican incumbents in order to retain control of the General Assembly in the face of the ongoing political realignment toward Republicans in Virginia and other southern states.[136] The General Assembly's plans met with opposition for failing to achieve greater racial representation for African Americans from Republicans, minority groups, and Governor Wilder.[137] Governor Wilder signed the House plan,[138] but vetoed the Senate plan.[139] The Senate passed a new plan that punished two foes of integration by creating an additional African American majority Senate district at the expense of Democratic Senator Howard Anderson and by shifting Northern Virginia Democratic Senator Joseph Gartlan's seat into the Republican-friendly Shenandoah Valley.[140] Governor Wilder signed the new Senate plan,[141] but the politics did not sit well with Northern Virginia Democrats, and Governor Wilder eventually compromised on a revised Senate plan that restored the lost representation to Northern Virginia.[142] The House of Delegates also revised their plan after civil rights groups urged the Department of Justice to reject the House of Delegates' original plan for failing to create a twelfth African American minority district.[143] Bowing to pressure, the House of Delegates passed a revised plan that met the minority groups' demands.[144] With demonstrable increases in minority representation, the Department

135. *See* Donald P. Baker & John F. Harris, *Wilder's First Year Marked by New Look, Old Moves*, WASH. POST, Jan. 6, 1991, at B01.

136. Donald P. Baker & John F. Harris, *Angered Va. Republicans to Offer Redistricting Plan*, WASH. POST, Mar. 20, 1991, at D04; John F. Harris & Donald P. Baker, *Blacks, GOP Decry Va. House Redistricting Plan*, WASH. POST, Mar. 22, 1991, at C07; John F. Harris, *New Lines Underscore Old Split: Southwest Dreads Va. Redistricting*, WASH. POST, Mar. 31, 1991, at C01.

137. Donald P. Baker, *Wilder Blasts Plan for Senate Districts*, WASH. POST, Apr. 10, 1991, at D01.

138. H.B. 3001, 1991 Gen. Assemb., Spec. Sess. I (Va. 1991).

139. John H. Harris, *Wilder Vetoes Redistricting Plan as Insufficient*, WASH. POST, Apr. 20, 1991, at C01; *see* S.B. 1501, 1991 Gen. Assemb., Spec. Sess. I (Va. 1991).

140. John F. Harris, *Credit Me, Blame Gartlan for Lost Seat, Wilder Says: N. Va. Snub Pure Politics, Governor Admits*, WASH. POST, May 2, 1991, at C01.

141. John W. Anderson, *Va. Senate Redistricting Approved: Plan Gives North 10 Seats, Up From 8*, WASH. POST, May 22, 1991, at C01.

142. *Id.*; *see* S.B. 1510, 1991 Gen. Assemb., Spec. Sess. I (Va. 1991).

143. John F. Harris, *Va. Assembly Approves New Redistricting Plan; Legislators Add 12th Majority-Black District*, WASH. POST, July 20, 1991, at B01.

144. *See* H.B. 3016, 1991 Gen. Assemb., Spec. Sess. I (Va. 1991).

of Justice approved the legislative plans.[145] Republicans sought relief from the federal courts; in the absence of Voting Rights Act or excessive population deviation violations, they claimed the House of Delegates' plan was an impermissible partisan gerrymander by virtue of excessive Republican incumbent pairings.[146] The court refused to issue a preliminary injunction staying the implementation of the plan for the upcoming elections, particularly because the affected two incumbents "were able to move and run as incumbents [and] have suffered no irreparable harm," outside of the burden of moving.[147] Despite their concerns, Republicans made significant gains in the elections held under the new plans.[148] Perhaps due to their electoral gains, they sought no further court action.

The Democrats, anticipating that their position would be weakened as soon as the new legislature was seated, convened a special session following the November elections to address federal congressional redistricting.[149] The session devolved into within-party urban-rural factionalism as Democrats debated the creation of a new seat in Northern Virginia.[150] Governor Wilder vetoed the plan with amendments, keeping intact the Northern Virginia district, while adding additional African American population to the newly fashioned Third Congressional District, a change also sought by the ACLU and NAACP.[151] The General Assembly approved Governor Wilder's amendments,[152] and the Department of Justice approved the plan.[153] Later, in 1997, a federal court found that the Third Congressional District was a racial gerrymander

145. John F. Harris, *U.S. Backs Revamped Va. Districts: 12 House Seats Represent Majority-Black Areas*, WASH. POST, July 24, 1991, at C01.

146. *Id.*; *see* Republican Party of Va. v. Wilder, 774 F. Supp. 400, 401–02 (W.D. Va. 1991).

147. *Wilder*, 774 F. Supp. at 407; John F. Harris, *Va. GOP Sues Over Democrats' Plan for Districts*, WASH. POST, June 19, 1991, at C04.

148. John F. Harris, *GOP Gains 8 Seats, Makes It a 2-Party Senate*, WASH. POST, Nov. 6, 1991, at A27.

149. John F. Harris, *Northern Va.'s Strength on the Line: Special Legislative Session Takes Up New Congressional District*, WASH. POST, Nov. 19, 1991, at E06.

150. *Id.*

151. John F. Harris, *Wilder Draws Praise in Redrawing Congressional Map: Governor's Proposals Increase Black Majority in New District, Leave N. Va. Largely Intact*, WASH. POST, Dec. 3, 1991, at D03.

152. John F. Harris, *Assembly Approves Va. Remap: 2 Republicans Put In Same District*, WASH. POST, Dec. 10, 1991, at E06.

153. *Around the Region: Justice Department Approves Va. Congressional Redistricting*, WASH. POST, Feb. 19, 1992, at D03.

that did not serve a compelling state interest.[154] In 1998, the state set about the task of redistricting, but addressed narrow deficiencies identified by the court by reuniting localities split by the district; the Department of Justice approved the changes.[155]

F. *The 2000s: Republicans in Driver's Seat*

By the time the next decade rolled around, the Republicans controlled the General Assembly and for the first time in the modern era, with an ally in Republican Governor James Gilmore III, controlled Virginia's redistricting. Litigation began even before new census population data were released, with Republicans arguing in federal court that they were not required to use statistically adjusted census data.[156] The court ruled that the lawsuit was not ripe[157]—a prescient decision, given that President Bush's Census Bureau declined to make a statistical adjustment.[158] The population gains revealed by the census were realized in suburban Republican strongholds,[159] which meant that Republicans had few difficult choices to make. The Democrats complained that the unfair state legislative plans paired their incumbents, although they had done the same to the Republicans a decade ago.[160] The Department of Justice precleared both plans.[161] The Democrats were left only with legal recourse and alleged state constitutional violations of compactness and contiguity as well as novel arguments regarding state racial provisions.[162] The state circuit court found favorably for the plaintiffs.[163] On appeal, the Supreme Court of Virginia found that the plaintiffs had standing only for

154. Moon v. Meadows, 952 F. Supp. 1141, 1150 (E.D. Va. 1997).

155. Mary Spain, *Virginia Redistricting Cases: the 1990s*, MINN. SENATE, http://www.senate.leg.state.mn.us/departments/scr/redist/redsum/vasum.htm (last visited Feb. 18, 2013); *see* S.B. 13, 1998 Gen. Assemb., Reg. Sess. (Va. 1998).

156. Virginia v. Reno, 117 F. Supp. 2d 46, 47–48 (D.D.C. 2000).

157. *Id*. at 54.

158. D'vera Cohn, *Bureau Opposes Adjusting Census; Officials Say Count May Be More Precise*, WASH. POST, Mar. 2, 2001, at A01; August Gribbin, *'Adjusting' Won't Be Done on Census; Democrats Decry Move on Redrawing*, WASH. TIMES, Mar. 2, 2001, at A1.

159. *See* Mary M. Kent et al., *First Glimpses from the 2000 U.S. Census*, 56 POPULATION BULL. 1, 28 (2001).

160. R.H. Melton, *General Assembly Completes Work On Redistricting; GOP Unable to Produce Budget Accord*, WASH. POST, Apr. 19, 2001, at B05; *see supra* Section II.E.

161. Justin Levitt, *Virginia*, ALL ABOUT REDISTRICTING, http://redistricting.lls.edu/states-VA.php (last visited Feb. 18, 2013).

162. Wilkins v. West, 571 S.E.2d 100, 104 (Va. 2002).

163. *See id*. at 105.

the districts in which they resided or those in which they could establish a particularized injury, and vacated the trial court's judgment with regard to any other challenged district.[164] For those districts which did confer standing, the court found "the validity of the legislature's reconciliation of various criteria is fairly debatable and not clearly erroneous, arbitrary, or wholly unwarranted."[165] The court also dismissed a novel claim asserting that article 1, section 11 of the Virginia Constitution prohibits racial gerrymandering because "the right to be free from any governmental discrimination upon the basis of . . . race . . . shall not be abridged."[166] The court agreed that the Virginia Constitution was congruent with the United States Constitution's Fourteenth Amendment, but following federal precedent,[167] the court ruled that race was *a* factor but not *the* predominant factor in the crafting of the districts, and thus strict scrutiny need not be applied.[168]

The Republicans' congressional plan predictably sought to protect Republican incumbents and was swiftly enacted into law.[169] The plan shifted African Americans from the Fourth Congressional District to the majority-African American Third Congressional District,[170] a decision that would become a flashpoint between the two parties a decade later.[171] The Department of Justice approved the plan, finding no retrogression of minority representation.[172] Nonetheless, the population shift was used by the Democrats as the basis for litigation in *Hall v. Virginia,* alleging vote

164. *Id.* at 107.

165. *Id.* at 108, 110–11. The court found the General Assembly considered such criteria as "population equality, incumbency, maintaining communities of interest, and avoiding retrogression . . ." *Id.* at 110.

166. *Id.* at 111–19 (alterations in original) (quoting VA. CONST. art. I, § 11).

167. *Id.* at 111 (discussing Hunt v. Cromartie, 532 U.S. 234, 241–42 (2001) (holding that an improper use of race occurs when race is not merely *a* factor in the design of the district but is *the* predominant factor)).

168. *Id.* at 118 ("We conclude that this record does not support the trial court's conclusion that being black was the predominant factor in being chosen as part of a population making up the majority-minority districts. As stated above, the use of race as a factor in designing these districts is conceded. This record shows that along with race, accommodations for population equality, incumbency, and political party voting patterns were made by the General Assembly." (internal quotation marks omitted)).

169. *Metro; In Brief*, WASH. POST, Oct. 16, 2001, at B03; *see* H.B. 18, 2001 Gen. Assemb., Reg. Sess. (Va. 2001).

170. *Metro; In Brief*, *supra* note 169.

171. *See supra* Section II.G.

172. Hall v. Virginia, 385 F.3d 421, 424 n.1 (4th Cir. 2004).

dilution through packing.[173] On appeal, a federal court ruled that the African American voters failed to state a vote dilution claim because they could not "form a majority in a single-member district," thus allowing the plan to take effect.[174]

G. *The 2010s: Politics Trumps Reform*

With the uncertainty of divided government looming for the 2010 redistricting, political leaders from both parties, including Democratic Governor Tim Kaine and Republican Lieutenant Governor Bill Bolling, endorsed redistricting reform.[175] A bill to create a bipartisan commission unanimously passed in the Senate, only to die in a subcommittee of the House Privileges and Elections Committee.[176] Gubernatorial candidate Bob McDonnell also joined the reform bandwagon, pledging in 2009 that, if elected, he would create a commission to "ensure bipartisan citizen involvement in the state legislative and congressional redistricting process."[177]

When it appeared later that Governor McDonnell would renege on his campaign promise,[178] a group of moderate Republican donors approached Quentin Kidd at Christopher Newport University and Michael McDonald at George Mason University—also one of the authors—seeking a way forward on redistricting reform. Out of these conversations, the idea for a redistricting competition among Virginia's college students was conceived.[179] The goal of the competition was to educate students and the public about redistricting alternatives by having students draw redistricting plans divorced from the political process.[180] This competition

173. *Id*. at 424–25.

174. *Id*. at 432.

175. *See* Tyler Whitley, *Nonpartisan Redistricting Plan Defeated: House Panel Republicans' Vote Draws Scorn of Kaine, Businesspeople and Activists*, RICH. TIMES-DISPATCH, Feb. 16, 2008, at A1.

176. Bob Lewis, *Subcommittee Kills Nonpartisan Redistricting*, ASSOCIATED PRESS ST. & LOC. WIRE, Feb. 17, 2009.

177. *Government Reform*, GOV. BOB MCDONNELL: OPPORTUNITY VA., http://www.bobmcdonnell.com/index.php/issues/government_reform (last visited Feb. 18, 2013).

178. *See* Jeff Schapiro, *Drawing Lines—and Blood*, RICH. TIMES-DISPATCH, Aug. 22, 2010, at B01.

179. Brian McNeill, *Va. College Students to Attempt Redistricting*, ASSOCIATED PRESS ST. & LOC. WIRE, Dec. 27, 2010.

180. *Id*.

marked the first time in American history that such a competition was held while a state's redistricting process was underway, and the first to generate a legal plan.[181]

Technology was a key enabler for the competition. In particular, the competition was made feasible by the existence of open-source software specially designed for participative redistricting. Changes in information and communication technology are creating substantial impacts across the study and practice of politics,[182] but up to this point the substantive impact of technology on redistricting had been minimal. Although geographic information systems ("GIS") software and commercial redistricting software have been used routinely by professionals since 1990, and many states, including Virginia, have made redistricting data publicly available online since 2000, these innovations have had little effect on participation or outcomes.[183] At the beginning of the most recent redistricting cycle, however, we identified the importance of creating an open-source tool to support publication in redistricting and had software development well underway by the time the competition was developed.[184] Therefore, when the competition was contemplated, software was available that students and the public could readily use.

Once the competition was organized, Governor McDonnell moved forward on his campaign promise by issuing an executive order establishing the IBARC,[185] charged with making mapping recommendations to the legislature. The eleven-member commission comprised five Democrats, five Republicans, and a chair with no party affiliation.[186] The commission was tasked with drawing

181. Micah Altman & Michael P. McDonald, *Technology for Public Participation in Redistricting*, *in* REAPPORTIONMENT AND REDISTRICTING IN THE WEST 247, 258 (Gary Moncrief ed., 2011). An Ohio reform group and the Democratic Ohio Secretary of State held a redistricting competition in 2009, using outdated 2000 census data.

182. *See* Micah Altman & Gary M. Klass, *Current Research in Voting, Elections, and Technology*, 23 SOC. SCI. COMPUTER REV. 269, 270 (2005).

183. *See generally* Micah Altman, Karin MacDonald, & Michael McDonald, *From Crayons to Computers: The Evolution of Computer Use in Redistricting*, 23 SOC. SCI. COMPUTER REV. 334, 336 (2005) (describing the use of GIS and commercial redistricting software by redistricting authorities in the past two decades).

184. Micah Altman & Michael McDonald, *The Dawn of Do-It-Yourself Redistricting? Online Software Puts Redistricting Tools in the Hands of the Public*, CAMPAIGNS & ELECTIONS, Jan. 2011, at 38, 40, 42, *available at* http://www.box.net/shared/ups8bqa46hkhe7ezckdq.

185. Exec. Order No. 31 (2011) (Jan. 10, 2011), *available at* http://www.governor.virginia.gov/PolicyOffice/ExecutiveOrders/viewEO.cfm?eo=31&pdf.

186. Press Release, Office of the Governor of Va., Governor Establishes Independent

plans that were to be contiguous, comply with the Voting Rights Act, be equal in population, preserve existing political boundaries, and preserve communities of interest.[187]

The Washington Post editorial board called the commission "toothless."[188] The commission was created by executive order on January 10, 2011, a scant two months before maps needed to be presented to the legislature; would serve only in an advisory role; and was to be funded by charitable donations.[189] The technical, legal, and organizational challenges were considerable. A knowledgeable redistricting expert might have concluded that the IBARC was designed to fail, since organizing a commission alone might take months, and even without restrictive time constraints, redistricting is a difficult task. Fortunately, the commission was able to leverage the competition infrastructure in support of its work. The governor's office asked Dr. McDonald to be an advisor to the commission, with the responsibility of drawing redistricting plans. The student competition winning criteria were modified so that they could be used to create alternative plans. As a byproduct of these developments, the IBARC became the first official government entity to adopt the DistrictBuilder software.

The commission issued a report with their recommendations which included proposed redistricting plans.[190] *The Washington Post* editorial board proved correct; Governor McDonnell disavowed his commission, saying through a spokesman that he would not use the commission's recommendations as political leverage against the legislature.[191] Both chambers ignored the IBARC's recommendations and the winning student competition plans, even though legislators officially introduced some of these plans as bills.[192] Instead, legislators in both chambers drafted

Bipartisan Redistricting Commission (Jan. 10, 2011), *available at* http://www.governor.virginia.gov/news/viewRelease.cfm?id=551.

187. Exec. Order No. 31, *supra* note 185.

188. Editorial, *Mr. McDonnell's Toothless Commission*, WASH. POST (Jan. 10, 2011), http://www.washingtonpost.com/wp-dyn/content/article/2011/01/10/AR201101 1000124.html.

189. Exec. Order No. 31, *supra* note 185; *Mr. McDonnell's Toothless Commission*, *supra* note 188.

190. INDEP. BIPARTISAN ADVISORY COMM'N ON REDISTRICTING, PUBLIC INTEREST IN REDISTRICTING: A REPORT (Apr. 1, 2011), *available at* http://redistrictingcommission.cnu.edu/Final_Redistricting_Commission_Report.pdf [hereinafter IBARC REPORT].

191. Tyler Whitley, *Virginia's Political Future/Plans for Redistricting May Be Presented Tuesday*, RICH. TIMES-DISPATCH, Mar. 27, 2011, at Metro 1.

192. Tyler Whitley, *Congressional Map Up Next*, RICH. TIMES-DISPATCH, Apr. 10, 2011,

their own plans. In the solidly Republican-controlled House of Delegates, Democrats worked with Republicans to produce a bipartisan plan, while in the marginally Democratic-controlled Senate, Democrats and Republicans introduced alternative plans that would favor their respective parties.[193] On a party line vote, the Senate adopted the Democratic alternative, and in a bipartisan logroll, the two chambers sent both plans to the governor, packaged together as House Bill 5001.[194] This maneuver prevented Governor McDonnell from selectively vetoing the Democratic Senate plan. Instead, he vetoed the entire package but cited deficiencies only in the Senate plan regarding compactness, respect for local political boundaries, equal population, and a concern that the plan was an excessive partisan gerrymander.[195] The

at Metro 1; *2010 Redistricting Plans*, VA. DIV. LEGIS. SERVS., http://redistricting.dls.virginia.gov/2010/RedistrictingPlans.aspx (last visited Feb. 18, 2013).

193. Whitley, *supra* note 192.

194. H.B. 5001, 2011 Gen. Assemb., Spec. Sess. I (Va. 2011).

195. Letter from Robert McDonnell, Governor of Va., to Va. House of Delegates (Apr. 15, 2001), *available at* http://lis.virginia.gov/cgi-bin/legp604.exe?112+amd+HB5001AG ("First, it is apparent that districts proposed in the Senate plan are not compact, as required in the Constitution of Virginia, and do not properly preserve locality lines and communities of interest. These issues were noted in the Independent Bipartisan Advisory Commission on Redistricting (Bipartisan Commission) report as the most significant concerns of the citizens of Virginia. The Constitution of Virginia requires that electoral districts be composed of compact territory. This requirement is also contained in the resolution adopted by the Senate Privileges and Elections Committee on March 25, 2011. Using the most commonly recognized tools of compactness scoring, the Reock and Polsby-Popper methods, the plan adopted by the Senate has less compact districts than the existing House or Senate districts or other plans that have been proposed. The Senate Committee resolution also requires that communities of interest be respected, including local jurisdiction lines. While the House plan keeps the number of split localities relatively static, the Senate plan significantly increases the number of times localities are split as compared to either other proposed plans or the current redistricting law (from 190 to 198 in the House plan (4% change), contrasted with an increase of 108 to 135 in the Senate plan (25% change)). A plain visual examination of the districts in the Senate plan also places into serious doubt that the compactness and communities of interest requirements have been met . . . Second, I am concerned that the Senate plan may violate the one person-one vote ideal embodied in the United States and Virginia Constitutions. The Fourteenth Amendment of the United States Constitution provides for equal protection of the laws. This has been interpreted to require that state legislative districts have as close to equal representation as practicable, taking into consideration other important and legitimate redistricting factors. Additionally, Article II, Section 6 of the Constitution of Virginia requires that districts be drawn in a manner to give, as nearly as is practicable, representation in proportion to the population of the district. The House plan has a deviation of only ± 1 percent. However, in reviewing the districts proposed in the Senate plan, they appear to deviate from the one person-one vote standard without any apparent legitimate justification. While the deviation from the ideal district is smaller than in past decennial redistricting cycles, deviations must be justified with achieving some recognized principle of redistricting such as preserving local jurisdictional lines, creating compact districts, or maintaining communities of interest . . . Lastly, I am concerned that the Senate plan is the kind of par-

foundation for his argument was the competing partisan plans introduced by Senate party leaders and not the alternative plans from his commission.[196]

The House and Senate made minor changes, repackaged their plans into House Bill 5005, and dared the governor to veto again, a move which would unravel the bipartisan legislative deal.[197] Governor McDonnell signed the revised plans into law,[198] leading some to question his nonpartisan redistricting pledge.[199] Unlike past decades, the political parties had no appetite for litigating the state legislative plans since both parties could be harmed.[200] The Department of Justice approved the legislative plans.[201]

While the General Assembly was able to reach a bipartisan compromise to redistrict the two chambers controlled by different political parties, it was unable to reach agreement on a congressional plan. The sticking point was whether to protect all incumbents, giving the Republicans an 8-3 edge among the state's eleven districts, or to restore the African American population to the Fourth Congressional District that had been shifted to the Third Congressional District during the last redistricting, yielding a Democratic-leaning Fourth Congressional District with 45% African American voting-age population and reducing the Republicans' edge to 7-4.[202] After the November 2011 elections, when Republicans gained a working majority in the Senate, the General

tisan gerrymandering that Virginians have asked that we leave in the past. . . . Certainly, the Senate can create a plan that will be supported by a bipartisan majority of Senators, especially with the Senate's overwhelming support for a bipartisan redistricting process as expressed in previous legislation.").

196. *Id*.

197. H.B. 5005, 2011 Gen. Assemb., Spec. Sess. I (Va. 2011).

198. Rosalind S. Helderman & Anita Kumar, *Redistricting Deal in Virginia*, WASH. POST, Apr. 29, 2011, at B05.

199. *See* Warren Fiske, *Governor Compromised on Redistricting Promise*, RICH. TIMES-DISPATCH, Sept. 19, 2011, at Metro 1.

200. *See* Helderman & Kumar, *supra* note 198.

201. Letter from Thomas Perez, Assistant Attorney Gen., U.S. Dep't of Just., to E. Duncan Getchell, Jr., Solicitor Gen., Va. (Jun. 17, 2011), *available at* http://redistricting.dls.virginia.gov/2010/Data/Ref/DOJSubmission2011/Preclearance_letter.pdf.

202. Mac McLean, *Discord over New Congressional Map*, DAILY PRESS, June 11, 2011, at A12; Bob Lewis, *House, Senate Return to Renew US House Remap Talks*, REALCLEARPOLITICS (June 9, 2011), http://www.realclearpolitics.com/news/ap/politics/2011/Jun/09/house__senate_return_to_renew_us_house_remap_talks.html.

Assembly passed the congressional plan that protected all incumbents including the eight Republicans.[203] The Department of Justice approved the plan.[204]

Democrats challenged the congressional plan in court, on the basis of a novel argument: The Constitution of Virginia was amended in 2004 to clarify continuity of representation of senators elected on staggered terms following redistricting.[205] A new paragraph required that the decennial reapportionment "shall be implemented for the November general election . . . that is held immediately prior to the expiration of the term being served in the year that the reapportionment law is required to be enacted."[206] Democrats argued that the 2004 constitutional revision allowed only the previous legislature to draw districts for the 2012 congressional election.[207] The argument potentially had merit; other states' courts had found similar wording in their state constitutions provided their legislatures with only one bite at the apple.[208] However, the Virginia circuit court found that while the use of "shall" in reference to governmental action spoke in "mandatory, not directory, terms," this mandate did not prohibit the legislature from enacting a plan in 2012 despite its failure to do so in 2011; the court thus allowed the congressional plan to be used in the 2012 election.[209] While the Democrats declined to appeal the court's decision, similar litigation may ensue if the government enacts another redistricting plan, perhaps of the state Senate, and the Supreme Court of Virginia may have the final word on an appeal.[210]

203. H.B. 251, 2012 Gen. Assemb., Reg. Sess. (Va. 2012).

204. Letter from Thomas Perez, Assistant Attorney Gen., U.S. Dep't of Just., to E. Duncan Getchell, Jr., Solicitor Gen., Va. (Mar. 14, 2012), *available at* http://redistricting.dls.virginia.gov/2010/Data/Ref/preclearance_letters.pdf.

205. Little v. Va. St. Bd. of Elections, No. CL11-5253 (Va. Cir. Ct. Feb. 27, 2012) (discussing VA. CONST. art. II, § 6).

206. VA. CONST. art. II, § 6.

207. *Little*, No. CL11-5253, slip op. at 6.

208. Levitt & McDonald, *supra* note 4, at 1284 (noting that courts in California and Colorado interpreted their state constitutions to allow redistricting only once following each census).

209. *Little*, No. CL11-5253, slip op. at 6, 10–12.

210. Our prediction was nearly put to the test while this manuscript was in the process of being published. In a surprise move, Senate Republicans attached an entirely new Senate redistricting plan to a House bill making technical adjustments to the House districts. The move would have been blocked by Senate Democrats, with the support from Republican Lieutenant Governor Bolling, but Democratic Senator Henry Marsh was away attending President Barack Obama's inauguration. In a further twist, when the bill re-

H. *Summary*

From the Commonwealth's inception, Virginia's redistricting has been mired in politics, as is common in other states. The political battles have pitted urban and rural regions, Democrats and Republicans, and whites and blacks, and were sometimes narrowly targeted to punish specific politicians. The state constitution historically favored respecting existing political boundaries such as counties, cities, and towns. However, for most of its history, Virginia did not apply a formula to automatically apportion representation to governmental subunits. Thus, respect for existing political boundaries was often in tension with population equality, a requirement found in the state's constitutions even prior to the landmark U.S. Supreme Court equal-population cases of the 1960s.[211] The battle lines were primarily drawn regionally, not ideologically, at the beginning, pitting east versus west, and later pitting rural versus urban areas.[212] Even after the 1960s, and after the state constitution was revised in 1970 to remove respect for political boundaries, the General Assembly would not quietly accede to population equality, as malapportionment became a tool for rural Democrats to retain power.[213] As late as the 1980s, a court invalided a House of Delegates plan for excessive popula-

turned to the House for approval of the Senate's amendment, Republican Speaker William Howell ruled the amendment out of order. We suspect that if given a future opportunity, Senate Republicans will attempt to redistrict the Senate again. *See* Olympia Meola & Jim Nolan, *Howell Rules Against Bid For New Senate Districts*, RICH. TIMES-DISPATCH, Feb. 7, 2013, at A1; Press Release, Speaker William J. Howell on Senate Amendments to House Bill 259 (Feb. 6, 2013), *available at* http://www.williamjhowell.org/125-statement-of-speaker-william-j-howell-on-senate-amendments-to-house-bill-259.

This plan was located between the adopted plan and the alternative plan proposed by Republicans during the normal redistricting process. This plan differed significantly from the adopted plan by having an additional majority-minority seat, an additional competitive seat, fewer county splits, and was somewhat more compact, but had far less partisan balance. Compared to the alternative plan put forth by Republicans, it also had one additional majority minority-district, an additional competitive seat, more county splits, was somewhat less compact, and had slightly less partisan balance. *Compare* H.B. 5005, 2011 Gen. Assemb., Reg. Sess. (Va. 2011) (adopted plan), *and Senate Plan: SB# J. Watkins*, VA. DIV. LEGIS. SERVS., http://redistricting.dls.virginia.gov/2010/RedistrictingPlans.aspx#6 (last visited Feb. 18, 2013) (Republican-proposed alternative plan), *with* H.B. 259, 2013 Gen. Assemb., Reg. Sess. (Va. 2013) (proposed plan). Although this plan is not included in the main tables and figures, its inclusion would not change any of our substantive conclusions. A scatterplot including this plan is included in this article for reference. *See infra* Figure 4.

211. *See supra* notes 36–37, 49, and accompanying text.

212. *See supra* notes 20, 68–69, and accompanying text.

213. *See supra* Section II.C.

tion deviations.[214] Furthermore, following the 1960s, the state wrestled with federal voting rights requirements, with the Department of Justice and the courts forcing the state to amend plans as late as the 1990s;[215] minority representation was even a sticking point in the negotiations over the congressional plan in the 2010s.[216]

Litigation over redistricting criteria subsided by the 2010s. While politicians may have learned to avoid using population deviations or voting rights violations to achieve political goals, it may also be that the unusual situation of a politically divided General Assembly brought the parties together in a scenario of mutually assured destruction—if either violated the legal ceasefire by attacking the others' legislative plans, both would suffer. That ceasefire was fragile, as evidenced by the Democrats' willingness to litigate the Republican congressional redistricting that passed in 2012 once Republicans gained functional unified control of the state government in 2011.[217] However, the Democrats' reliance on a novel claim in their litigation was another sign that the battles over population equality and voting rights have receded into the past.[218]

III. ASSESSING ALTERNATIVE CURRENT STATE LEGISLATIVE AND CONGRESSIONAL REDISTRICTING PLANS

Virginia's redistricting provisions have been reformed surprisingly often, seen in the changes to the redistricting process and requirements found in the 1830, 1851, 1864, 1870, and 1970 constitutions.[219] Reform recently returned as an issue in Virginia politics, although it has fallen short of meaningful implementation. The Virginia Senate unanimously passed a reform bill in 2009, only to see it die in a house sub-committee.[220] Governor McDonnell's attempt to highlight reform with his 2011 IBARC was as

214. *See supra* note 117 and accompanying text.

215. *See supra* Section II.E.

216. *See supra* note 202 and accompanying text.

217. *See supra* notes 203, 205, and accompanying text.

218. *See supra* notes 205–09 and accompanying text.

219. *See supra* Section II.

220. S.B. 926, 2009 Gen. Assemb., Reg. Sess. (Va. 2009); Tyler Whitley, *Redistricting Commission Rejected; GOP Members of House Panel Spurn Voting Measures, Too*, RICH. TIMES-DISPATCH, Feb. 18, 2009, at A8.

ineffective as Governor Almond's 1961 commission.[221] The legislature ignored both commissions' recommendation; perhaps the only substantial difference was that Governor Almond did not personally disavow his commission's recommendations—he left the task to his successor.[222]

A major innovation during the most recent Virginia redistricting, catalyzed by information, communication, and technology, was the generation of many more legal plans. In addition to the adopted plans, legal plans were created by the IBARC and through a first-of-its-kind student competition.[223] A total of fifty-six congressional, state, and House of Delegates plans were created during the recent redistricting. The legislature considered four congressional plans, nine Senate plans, and eight House of Delegates plans during the legislative process that were substantively different from one another and not simply plans that seemed to have been shuffled around from one bill to another during the legislative process.[224] The IBARC adopted three congressional, two Senate, and two House of Delegates plans.[225] Fifteen student teams comprised of 150 students submitted a total of thirteen congressional plans, nine Senate plans, and six House of Delegates plans that met the minimal legal requirements.[226] All teams submitted at least one plan, but only three teams submitted plans for all six possible entries: one for each legislative body and the congressional districts in the original student competition and IBARC criteria categories.[227]

221. *See supra* notes 63–71, 185–92, and accompanying text.

222. *See supra* notes 70–71, 191–92, and accompanying text.

223. IBARC REPORT, *supra* note 190, at 10, 22.

224. *See 2010 Redistricting Plans*, *supra* note 192.

225. IBARC REPORT, *supra* note 190, at 23–42.

226. *Id.* at 10–11. Student teams submitted a total of fifty-five plans for judging in a competition, but some of these were disqualified. *Virginia Redistricting Competition Results*, VA. REDISTRICTING COMPETITION, https://sites.google.com/a/varedistrictingcompetition.org/public/results (last visited Feb. 18, 2013). Congressional plans had to have a population deviation between the largest and smallest district not exceeding one percentage point (although we also included an additional plan with a larger deviation) and had to have at least one majority-minority congressional district. *See Procedures & Rules*, VA. REDISTRICTING COMPETITION, https://sites.google.com/a/varedistrictingcompetition.org/public/ (follow "Competition Procedures and Rules" hyperlink) (last visited Feb. 18, 2013) (additional judging criteria on file with author). Senate and House plans had to have at least a ten percentage point deviation. *Id.* The Senate plans needed at least five majority-minority districts, and House plans had to have at least eleven. *Id.*

227. *See Virginia Redistricting Competition Results*, *supra* note 226.

These plans can be evaluated by commonly used measures of individual districts and overall redistricting plans, such as administrative measures of population equality, compactness, respect for local political boundaries, and representational measures such as voting rights, partisan balance, and political competitiveness.[228] Population equality and compactness are constitutional requirements: both the federal and Virginia constitutions require the former while only the Virginia Constitution requires the latter.[229] The Virginia constitutions prior to 1970 required respect for local political boundaries, and this persists as a norm within Virginia politics as a widely recognized traditional redistricting principle favored by courts and reformers.[230] The United States Constitution—as well as a congruent provision in the Virginia Constitution—requires racial fairness.[231] Although the federal and Virginia constitutions do not require partisan balance or political competitiveness,[232] these measures are important to understand gerrymandering effects, and some state laws or constitutions regulate such political outcomes.[233] An additional relevant criterion for which we unfortunately have no reliable means to measure is respect for communities of interest, loosely defined as communities that share some common social, demographic, or economic interest. The federal and Virginia constitutions do not require respect for communities of interest, but

228. *See generally* Wilkins v. West, 571 S.E.2d 100, 109, 110 (Va. 2002) (discussing factors used in designing districts such as population equality, incumbency, avoiding retrogression, compactness, and preservation of existing districts).

229. VA. CONST. art. II, § 6; Mahan v. Howell, 410 U.S. 315, 321 (1973) (citing Reynolds v. Sims, 377 U.S. 533 (1964)).

230. *See, e.g.*, *Wilkins*, 571 S.E.2d at 113; *supra* Sections II.A–B.

231. U.S. CONST. amend. XV, § 1; VA. CONST. art. I, § 11.

232. *See* Davis v. Bandemer, 478 U.S. 109, 131 (1986) (quoting Gaffney v. Cummings, 412 U.S. 735, 752 (1973)). While *Davis* found partisan gerrymandering claims justiciable, *see id.*, a plurality of the Court questioned that conclusion in *Vieth v. Jubelirer*, 541 U.S. 267, 281 (2004), and the Court has never overturned a redistricting plan as an unconstitutional partisan gerrymander. *See, e.g.*, League of United Latin Am. Citizens v. Perry, 548 U.S. 399, 409–10 (2006).

233. Adam B. Cox, *Partisan Fairness and Redistricting Politics*, 79 N.Y.U. L. REV. 751, 783, 784 n.125 (2004); Michael P. McDonald, *Regulating Redistricting*, 40 PS: POL. SCI. & POL. 675, 675 (2007); *see also* Justin Levitt, *Where Are the Lines Drawn?*, ALL ABOUT REDISTRICTING, http://redistricting.lls.edu/where-state.php (last visited Feb. 18, 2013) (discussing the few states which do address political outcomes during redistricting).

some states' constitutions do,[234] and federal courts have allowed communities of interest to be factored into redistricting decision-making.[235]

Adhering to administrative criteria alone may not prevent gerrymandering; as Justice White noted, "this politically mindless approach may produce, whether intended or not, the most grossly gerrymandered results."[236] Any set of measures may carry a set of second-order biases, such that adherence to ostensibly neutral administrative criteria may produce a gerrymander affecting electoral outcomes of partisan balance, competition, and racial representation.[237] For example, in the 2012 election, although Republicans won more House of Representatives seats than did Democrats, the sum of the votes for Democratic candidates exceeded that for Republican candidates.[238] Some have claimed that this is primarily a result of drawing districts that adhere to administrative criteria and not a product of partisan Republican gerrymandering, as Democratic voters are believed to be inefficiently concentrated in urban areas from a redistricting standpoint.[239]

The many plans generated during the Virginia redistricting process enable a rigorous evaluation of these claims as they apply to Virginia's congressional and state legislative districts. We measure the plans on the various criteria and plot the values, thereby assessing the trade-offs among the various criteria.[240] We note that redistricting is such a complex mathematical problem

234. *See* Justin Levitt, *Where the Lines Are Drawn—State Legislative Districts*, ALL ABOUT REDISTRICTING, http://redistricting.lls.edu/where-tablestate.php (last visited Feb. 18, 2013) (listing six states with constitutional requirements to preserve communities of interest and noting that Virginia considers communities of interest in an advisory capacity); Justin Levitt, *Where the Lines Are Drawn—Congressional Districts*, ALL ABOUT REDISTRICTING, http://redistricting.lls.edu/where-tablefed.php (last visited Feb. 18, 2013) (listing two states with constitutional requirements to preserve communities of interest and noting that Virginia considers communities of interest in an advisory capacity).

235. *See, e.g.,* Chen v. Houston, 206 F.3d 502, 515 (5th Cir. 2000).

236. *Gaffney*, 412 U.S. at 753 (1973).

237. Micah Altman & Michael P. McDonald, *BARD: Better Automated Redistricting*, 42 J. STATISTICAL SOFTWARE, no. 4, June 2011, at 1, 12 (citing FRANK R. PARKER, BLACK VOTES COUNT: POLITICAL EMPOWERMENT IN MISSISSIPPI AFTER 1965 (1990)).

238. Hendrik Hertzberg, *Mandate with Destiny*, NEW YORKER, Dec. 3, 2012, at 37, 37–38.

239. *Id*. at 38; Jowei Chen & Jonathan Rodden, *Unintentional Gerrymandering: Political Geography and Electoral Bias in Legislatures*, Q.J. OF POL. SCI. (forthcoming) (manuscript at 2–3), *available at* http://www.personal.umich.edu/~jowei/florida.pdf.

240. Altman & McDonald, *supra* note 9, at 89.

that we can never know if any plan is *the* optimal plan on one criterion or all relevant criteria.[241] The observed trade-offs are thus only illustrative and not definitive—and only apply to conditions as they existed during the 2010 redistricting. However, the existence of a plan that, for example, is both compact and politically fair, can disprove such statements that Republican electoral advantage is solely a function of following administrative criteria. Furthermore, entities that generated plans during the Virginia redistricting process may have explicitly respected some or all of the criteria identified above. The legislature is formally bound only by state and federal constitutional and statutory requirements. The governor directed his commission not only to follow the administrative measures we described above, but also to consider voting rights and respect for communities of interest.[242] The organizers of the student redistricting competition awarded a category of prizes to plans that were judged to best achieve the commission's criteria,[243] and a second category that additionally balanced partisan fairness and competition criteria.[244]

We begin our analysis by defining our measures, starting with the administrative measures. Population equality refers to the United States and Virginia constitutional requirements that the districts must be nearly equal.[245] We measure the population of districts using the total population as reported by the 2010 Fed-

241. Altman & McDonald, *supra* note 237, at 13–14.

242. Exec. Order No. 31, *supra* note 185.

243. *See Virginia Redistricting Competition Results, supra* note 226. The commission judging criteria was added as a second award category when the Governor organized the IBARC so that student-plans may inform the commission's work. *Id.* The second set of criteria initially formed the only award category. *Id.*

244. *Virginia Redistricting Competition*, VA. REDISTRICTING COMPETITION, https://sites.google.com/a/varedistrictingcompetition.org/public/ (last visited Feb. 18, 2013). Winners were announced at an awards ceremony held at the State Library in Richmond, hosted by the Virginia League of Women Voters. *Virginia Redistricting Competition Concludes*, PUBLIC MAPPING PROJECT, https://sites.google.com/a/publicmapping.org/public/News/vir giniaredistrictingcompetitionconcludes (last updated Mar. 23, 2011, 5:07 PM). Prize amounts were awarded based on the difficulty of drawing the plans, which was a function of the number of districts to be drawn. First place 100-seat House of Delegates plans received $2000 and second place received $1000. First place forty-seat Senate plans received $1500 and second place received $750. First place eleven-seat congressional plans received $1000 and second place received $500. In sum, $13,500 in prize money was awarded. *Virginia Redistricting Competition*, *supra*.

245. VA. CONST. art. II, § 6; Mahan v. Howell, 410 U.S. 315, 321 (1973) (citing Reynolds v. Sims, 377 U.S. 533 (1964)).

eral Census.[246] A district's population equality is typically measured by calculating the percent deviation from the ideal-sized district, which is calculated by dividing a jurisdiction's total population by the number of districts in the legislative body. We then score a plan on an overall measure of the difference of the population deviation between the most over-populated district and the most under-populated district. For the scatter plots, we rescale this measure by subtracting it from one, so that larger numbers indicate a greater degree of population equality.

Compactness can be measured in various ways.[247] Common methods generally measure the length of the district's perimeter or the area of the district and compare to an idealized shape, such as the most compact shape, a circle.[248] The concept is that irregularly shaped districts score lower on such mathematical measures.[249] However, unless a state explicitly defines a compactness measure, the courts have generally measured compactness through visual inspection.[250] We used the ratio of a district's perimeter to a circle's perimeter with the same area as the district. This measure is commonly known as "Schwartzberg" compactness, although the algorithm was invented by Cox, and the rankings it yields are identical to other perimeter-to-area ratios, as long as they are properly normalized.[251] Each district is scored on a scale of zero to one, with one being most compact.[252] In the tables and scatter plots, plans are scored on the average compactness of all districts, such that a greater number indicates a plan with an overall greater degree of compactness.

246. *See* U.S. CENSUS BUREAU, STRENGTH IN NUMBERS: YOUR GUIDE TO 2010 REDISTRICTING DATA (July 2010), *available at* http://www.census.gov/rdo/pdf/StrengthInNumbers2010.pdf. Census redistricting data files are known as P.L. 94-171, for the public law mandating their release. *Id.* at 2.

247. *See* Richard G. Niemi et al., *Measuring Compactness and the Role of a Compactness Standard in a Test for Partisan and Racial Gerrymandering*, 52 J. OF POL. 1155, 1155–56 (1990); Micah Altman, Districting Principles and Democratic Representation 61–62 (Mar. 31, 1998) (unpublished Ph.D. thesis, California Institute of Technology), *available at* http://thesis.library.caltech.edu/1871/.

248. Niemi et al., *supra* note 247, at 1158, 1163.

249. *Id*. at 1160.

250. *See id*. at 1156.

251. *Id*. at 1161 tbl.1. For a discussion of the Cox/Schwartzberg measure, see generally Niemi et al., *supra* note 247.

252. This measure of compactness is common. *See* Niemi et al., *supra* note 247, at 1160; *see also* Altman, *supra* note 247, at 60–113 (demonstrating the equivalence of the Cox/Schwartzberg measure with other alternative measures).

"Respect for local political boundaries" is most commonly interpreted to mean that districts should not intersect fixed local political boundaries. For Virginia, we identify these as counties and independent cities, which are explicitly designated in the census data. We count the number of times these local jurisdictions are split into districts. A local jurisdiction that is entirely contained within a single district is not split, a locality split between two districts is split twice, a locality split between three districts is split thrice, and so on. We then sum the number of splits across all counties and independent cities in jurisdictions to develop a plan score. In the scatter plots, we rescale this measure by subtracting it from zero, so that a higher number indicates a plan with fewer splits.

Turning to the evaluation of representational measures, voting rights requirements are difficult to measure. Typically, jurisdictions hire experts to evaluate patterns of racially polarized voting by racial and ethnic groups to determine the percentage of the minority voting-age population necessary to elect a minority candidate of choice.[253] Patterns of racially polarized voting may vary across a state or locality, so the exact percentage of the minority voting-age population to elect a minority candidate of choice will similarly vary. Lacking the resources to do a comprehensive evaluation of racially polarized voting, we implement a simple measure that a voting rights district must have at least a 50% African American voting-age population.[254] For the tables and scatter plots, we then count the number of such so-called "minority-majority" districts across the redistricting plan.

"Political balance" and "political competition" are two measures constructed in a similar manner.[255] The first step to calculate

253. *See* Thornburg v. Gingles, 478 U.S. 30, 34–35 (1986). While this landmark case described a federal Voting Rights Action section 2 challenge, similar principles apply to measuring racially polarized voting in Voting Rights Act section 5 litigation. *See generally* GARY KING, A SOLUTION TO THE ECOLOGICAL INFERENCE PROBLEM: RECONSTRUCTING INDIVIDUAL BEHAVIOR FROM AGGREGATE DATA (1997) (reviewing statistical methods to measure racially polarized voting).

254. Under a section 2 claim, plaintiffs must show the existence of at least a 50% minority voting-age population demonstration district. Bartlett v. Strickland, 556 U.S. 1, 19–20 (2009). However, to comply with section 5 non-retrogression of minority representation, an effective minority district may have less than 50% minority voting-age population. *Id.* at 24–25.

255. The methods have been used in academic, practical, and legal arenas. For the partisan fairness measure, see DONALD E. STOKES, LEGISLATIVE REDISTRICTING BY THE NEW JERSEY PLAN 11–17 (1993); Bernard Grofman & Gary King, *The Future of Partisan Sym-*

these measures is to determine the underlying partisan strength for the Democratic and Republican parties in these districts. Since the two major political parties are in all-but-rare instances elected to office, votes for minor party candidates are removed from the underlying partisan strength measure. We measure the partisan support of districts using the two-party share of the 2008 Democratic and Republican presidential candidates' votes.[256] We shift the statewide two-party vote to roughly approximate a hypothetical fifty-fifty election.

The next step is to calculate the partisan balance and competition measures. For the partisan balance measure, each district is scored based on whether it has an underlying partisan strength measure above or below 50%. Thus, the score indicates which party is favored within a district. The number of districts leaning toward one of the two parties is summed across all districts. Since the statewide vote is shifted to simulate a hypothetical fifty-fifty election, the deviation of the number of districts that lean toward a party from 50% reveals the partisan bias of the plan. In the tables below, we report the number of districts with a Republican majority. In the scatter plots below, we rescale this measure so it represents half the number of total districts minus the number of Republican leaning districts, such that greater negative numbers indicate a greater number of Republican majority districts. We rescale the measure this way because no plan had a majority of Democratic-leaning districts, and thus a greater number indicates a greater degree of partisan balance. For the eleven congressional districts, the number of Republican leveling districts is subtracted from 5.5; for the forty Senate districts, from twenty; and for the one hundred House of Delegates districts from fifty.

Political competition starts with the same underlying partisan strength measure used to measure partisan balance. Where par-

metry as a Judicial Test for Partisan Gerrymandering after LULAC v. Perry, 6 ELECTION L.J. 2, 10 (2007); J. Morgan Kousser, *Estimating the Partisan Consequences of Redistricting Plans—Simply*, 21 LEGIS. STUD. Q. 521, 530 (1996) (citing Davis v. Bandemer, 478 U.S. 109, 132, 139 n.17 (1986)). For the political competition measure, see generally *In re* 2001 Redistricting Cases, 44 P.3d 141 (Alaska 2002).

256. The student redistricting competition used the 2009 gubernatorial election to evaluate partisan balance and competition. Precinct level election returns for the 2009 governor's election are highly correlated with other recent statewide elections (all correlation coefficients greater than 0.95), including the 2008 presidential election. Although not a component of this analysis, we are ultimately interested in comparing Virginia with other states, which requires a common metric, such as the national election for president.

tisan balance only provides a direction of party support in a district, political competition provides a measure of how closely contested a district may be in a typical election minus any candidate or campaign effects. We score a district as competitive if it has an underlying partisan strength measure plus or minus five percentage points from 50%.[257] In the tables below, we sum the number of competitive districts across all districts to calculate a plan level measure of competition. In the scatter plots, we report the same measure since a greater value indicates a greater level of competition. In the scatter plots, we report the same measure since a greater value indicates a greater level of competition.

We provide the metrics for each plan in Tables 1 through 3. We identify the entity that created the plan—the legislature, the IBARC, or the student team. We also identify if the plan was adopted or vetoed, the principal Democratic or Republican legislative alternative (if one existed), and, for the student teams, the judging criteria—the original competition criteria established by the competition organizers or a second set of judging criteria consistent with the governor's commission criteria—a plan was submitted to and if a plan won first or second place. We also display these plan statistics in a matrix of scatter plots, so that the plans may be visually compared against one another on the various criteria. In these plots, the legislative plans are identified with an upward triangle, the commission plans with a circle, and the student team plans with a downward triangle; we draw clouds around similar types of plans so that they may generally be distinguished from one another. We also identify adopted ("A"), vetoed ("V"), and Democratic ("D") or Republican ("R") alternatives to the adopted plans, if they exist. Sometimes labels unfortunately overlap when two plans are substantially similar on two criteria.

257. A ten point range is often used by political scientists to identify a competitive *election*. *See, e.g.*, David R. Mayhew, *Congressional Election: The Case of the Vanishing Marginals*, 6 POLITY 295 (1974). For a discussion of a more precise measure of what constitutes a competitive *district*, see Michael P. McDonald, *Redistricting and Competitive Districts*, *in* THE MARKETPLACE OF DEMOCRACY 222 (Michael P. McDonald & John Samples eds., 2006).

Entity		Plan Name	Pop. Dev.	Black Maj.	Avg. Compact	Splits	Rep. Lean	Comp.
Legislature	*Adopted*	2012 HB 251	0.0%	1	0.40	37	8	4
		SB 455 Intro. - J. Vogel	0.0%	1	0.40	37	8	4
	Dem.	SB 5004 - M. Locke Sub.	0.0%	1	0.41	31	7	2
		SB 5004 - M. Locke	0.0%	1	0.39	51	7	1
		Mean	0.0%	1	0.40	39.00	7.50	2.75
		Max	0.0%	1	0.41	51	8	4
		Min	0.0%	1	0.39	31	7	1
Commission		Option 1	0.0%	1	0.50	38	7	4
		Option 2	0.0%	1	0.51	41	6	2
		Option 3	0.0%	1	0.48	37	6	4
		Mean	0.0%	1	0.50	38.67	6.33	3.33
		Max	0.0%	1	0.51	41	7	4
		Min	0.0%	1	0.48	37	6	2
Students	*Comp*	Christopher Newport	0.7%	1	0.45	33	7	5
	Comm	Christopher Newport	0.1%	1	0.53	32	7	4
	Comp	ODU	0.9%	1	0.53	34	7	5
	Comp	GMU	0.9%	1	0.43	58	7	5
	Comp	JMU Team 1	0.7%	1	0.44	74	7	5
	Comp	JMU Team 2	2.8%	1	0.51	56	7	3
	Comm	Univ. of Richmond	0.2%	1	0.44	32	6	5
	Comp 1st Place	UVA Team 1	0.0%	1	0.47	63	6	3
	Comm 2nd Place	UVA Team 1	0.0%	1	0.52	46	6	3
	Comp 2nd Place	UVA Team 2	0.0%	1	0.51	47	6	3
	Comm	VCU	0.9%	1	0.47	53	7	6
	Comm	W&M Undergrad	0.7%	1	0.51	44	6	2
	Comm 1st Place	W&M Law School	0.0%	1	0.50	41	6	2
		Mean	0.6%	1	0.49	47.15	6.54	3.92
		Max	2.8%	1	0.53	74	7	6
		Min	0.0%	1	0.43	32	6	2

Table 1: Congressional Plan Statistics

Notes: Pop. Dev. = Population deviation between largest and smallest district, Black Maj. = Number of African-American Majority Districts, Avg. Compact = Average compactness of all districts, Splits = Total number of times county and independent cities split by districts, Rep. Lean = Number of Republican majority districts, Comp. = Number of competitive districts. Plans are identified as produced by the *Legislature*, *Commission*, or *Students*. Legislative plan names are derived from Division of Legislative Services Redistricting 2010 website, http://redistricting.dls.virginia.gov/2010/. Substantially duplicate plans are removed, they are ordered roughly in the steps taken during the legislative process, and are classified if they were the *Adopted* plan or the *Dem.* (Democratic) alternative. Student plans are identified if they were submitted to the *Comp* (Competition) or *Comm* (Commission) judging categories. The *1st Place* and *2nd Place* plans in each judging category are further identified. Please see text for more information.

Entity		Plan Name	Pop. Dev.	Black Maj.	Avg. Compact	Splits	Rep. Lean	Comp.
Legislature	*Adopted*	HB 5005/Ch. 1 enacted 4/29/11	4.0%	5	0.40	124	21	8
		HB 5005 Sen. Committee Sub.	4.0%	5	0.40	122	21	8
	Vetoed	HB 5001 Conf. Report	4.0%	5	0.39	135	21	6
		HB 5001 Passed Sen.	4.0%	5	0.39	136	21	6
		SB 5001 J.Howell (4/3/11)	4.0%	5	0.40	123	21	6
		SB# J. Howell (3/30/11)	4.0%	5	0.40	124	21	6
		SB# J. Howell	4.0%	5	0.40	124	21	6
	Rep.	Watkins Committee Sub.	0.9%	5	0.51	88	25	8
		SB# J. Watkins	0.9%	5	0.51	88	25	8
		Mean	3.3%	5	0.42	118.22	21.89	6.89
		Max	4.0%	5	0.51	136	25	8
		Min	0.9%	5	0.39	88	21	6
Commission		2% Deviation Option	3.8%	5	0.53	72	23	8
		3% Deviation Option	7.0%	5	0.54	59	24	8
		Mean	5.4%	5	0.54	65.50	23.50	8.00
		Max	7.0%	5	0.54	72	24	8
		Min	3.8%	5	0.53	59	23	8
Students	*Comm*	Mary Washington	9.7%	5	0.61	137	23	9
	Comm	Univ. of Richmond	7.3%	5	0.52	101	24	11
	Comp	UVA Team 1	0.1%	6	0.48	190	22	8
	Comm 2nd Place	UVA Team 1	2.3%	6	0.52	206	23	8
	Comp 1st Place	UVA Team 2	2.0%	5	0.51	163	22	10
	Comm	UVA Team 2	0.8%	5	0.44	113	23	10
	Comm 1st Place	W&M Undergrad	8.7%	5	0.57	76	22	10
	Comp 2nd Place	W&M Law School	9.7%	5	0.59	68	23	11
	Comp	W&M Law School	9.2%	5	0.59	55	22	10
		Mean	5.5%	5.22	0.54	123.22	22.67	9.67
		Max	9.7%	6	0.61	206	24	11
		Min	0.1%	5	0.44	55	22	8

Table 2: Senate Plan Statistics

Notes: Pop. Dev. = Population deviation between largest and smallest district, Black Maj. = Number of African-American Majority Districts, Avg. Compact = Average compactness of all districts, Splits = Total number of times county and independent cities split by districts, Rep. Lean = Number of Republican majority districts, Comp. = Number of competitive districts. Plans are identified as produced by the *Legislature*, *Commission*, or *Students*. Legislative plan names are derived from Division of Legislative Services Redistricting 2010 website, http://redistricting.dls.virginia.gov/2010/. Substantially duplicate plans are removed, they are ordered roughly in the steps taken during the legislative process, and are classified if they were the *Adopted* plan, *Vetoed* plan or the *Rep.* (Republican) alternative. Student plans are identified if they were submitted to the *Comp* (Competition) or *Comm* (Commission) judging categories. The *1st Place* and *2nd Place* plans in each judging category are further identified. Please see text for more information.

Entity		Plan Name	Pop. Dev.	Black Maj.	Avg. Compact	Splits	Rep. Lean	Comp.
Legislature	*Adopted*	HB 5005/Ch.1 enacted 4/29/11	2.0%	12	0.48	197	57	24
		HB 5005 - C. Jones	2.0%	12	0.48	198	57	24
		2012 HB259 - Passed House	2.0%	12	0.48	197	57	24
		2012 HB259 - Cole	2.0%	12	0.48	197	57	24
	Vetoed	HB 5001 - Conf. Report	2.0%	12	0.48	198	57	24
		HB 5001 - Passed Sen.	2.0%	12	0.48	198	57	24
		HB 5001 - Committee Sub.	2.0%	12	0.48	197	57	24
		HB 5001 - C. Jones	2.0%	12	0.49	197	57	24
		Mean	2.0%	12	0.48	197.38	57.00	24.00
		Max	2.0%	12	0.49	198	57	24
		Min	2.0%	12	0.48	197	57	24
Commission		12 Minority Districts	4.0%	12	0.59	153	55	23
		13 Minority Districts	4.0%	13	0.58	156	56	22
		Mean	4.0%	12.50	0.59	154.50	55.50	22.50
		Max	4.0%	13	0.59	156	56	23
		Min	4.0%	12	0.58	153	55	22
Students	*Comp 1st Place*	GMU	9.7%	12	0.54	168	56	24
	Comp	Longwood	9.9%	11	0.55	225	54	25
	Comm 1st Place	Univ. of Richmond	9.8%	11	0.58	176	55	22
	Comp 2nd Place	UVA Team 1	2.6%	11	0.59	272	55	31
	Comm	UVA Team 1	3.6%	11	0.59	268	55	30
	Comm 2nd Place	UVA Team 2	1.4%	12	0.55	221	54	27
		Mean	6.2%	11.33	0.57	221.67	54.83	26.50
		Max	9.9%	12	0.59	272	56	31
		Min	1.4%	11	0.54	168	54	22

Table 3: House of Delegates Plan Statistics

Notes: Pop. Dev. = Population deviation between largest and smallest district, Black Maj. = Number of African-American Majority Districts, Avg. Compact = Average compactness of all districts, Splits = Total number of times county and independent cities split by districts, Rep. Lean = Number of Republican majority districts, Comp. = Number of competitive districts. Plans are identified as produced by the *Legislature*, *Commission*, or *Students*. Legislative plan names are derived from Division of Legislative Services Redistricting 2010 website, http://redistricting.dls.virginia.gov/2010/. Substantially duplicate plans are removed, they are ordered roughly in the steps taken during the legislative process, and are classified if they were the *Adopted* plan or the *Vetoed* plan. Student plans are identified if they were submitted to the *Comp* (Competition) or *Comm* (Commission) judging categories. The *1st Place* and *2nd Place* plans in each judging category are further identified. Please see text for more information.

Figure 1. Congress

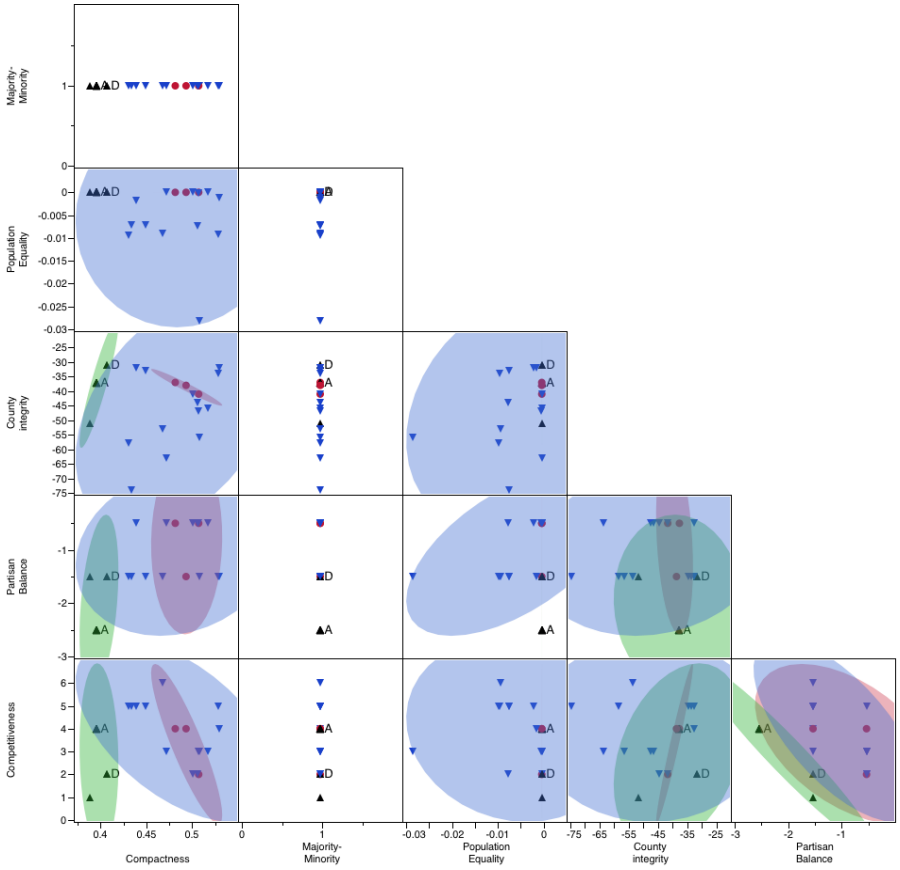


Figure 2. Senate

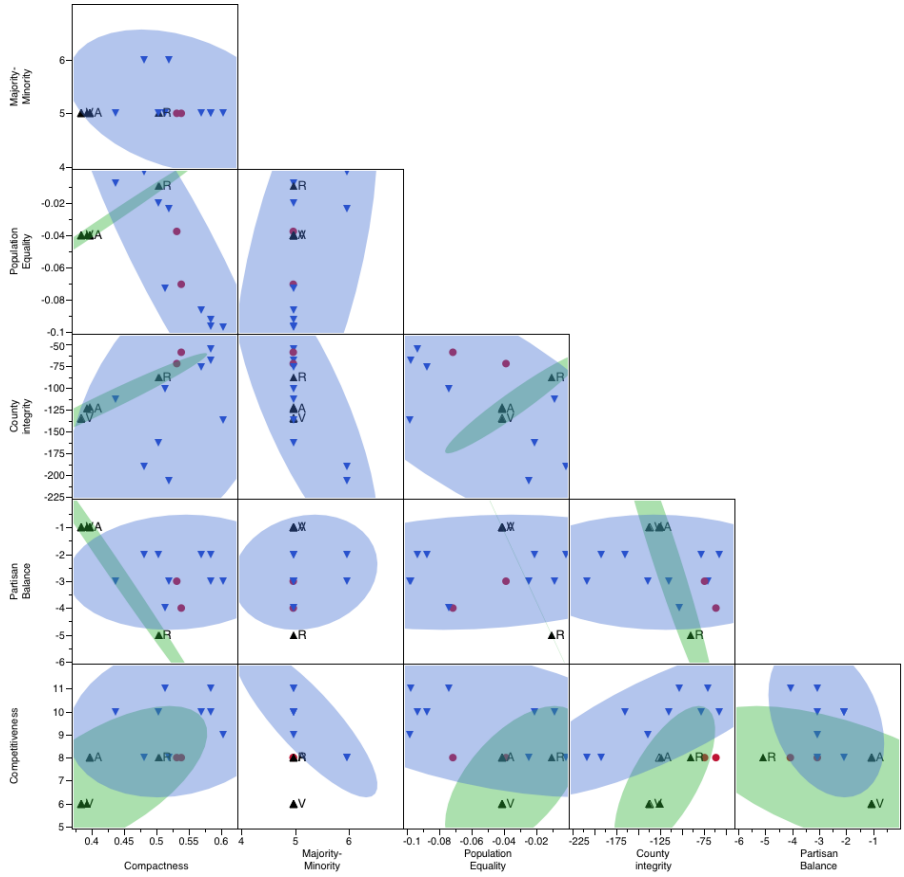


Figure 3. House of Delegates

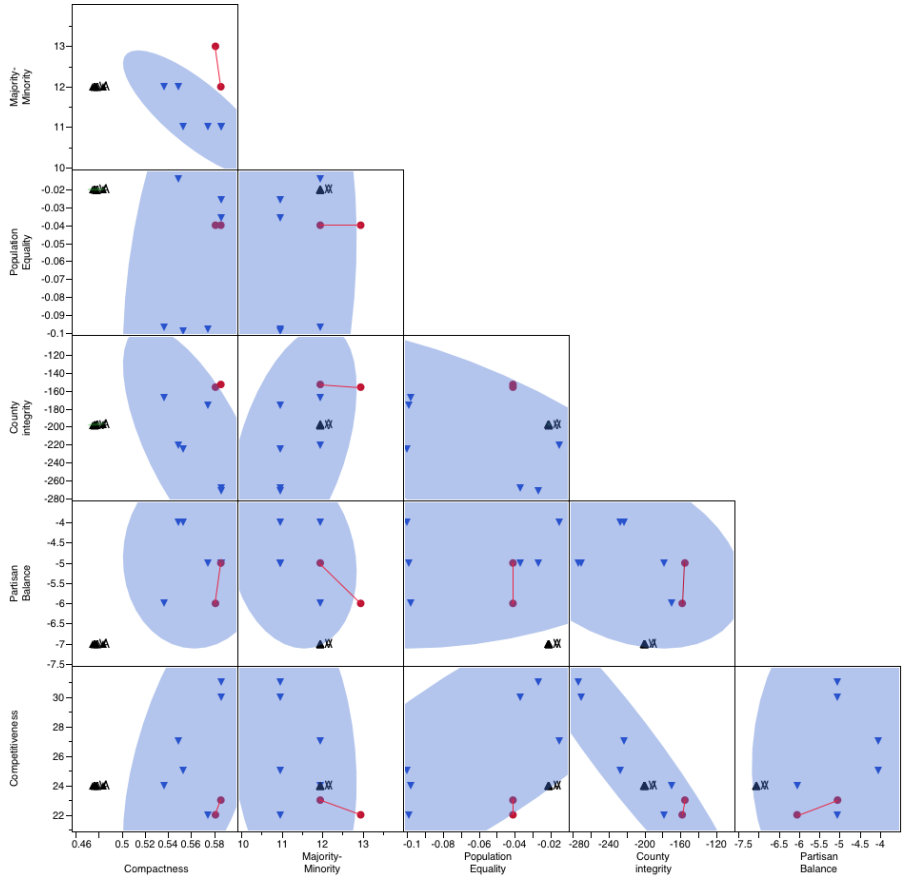
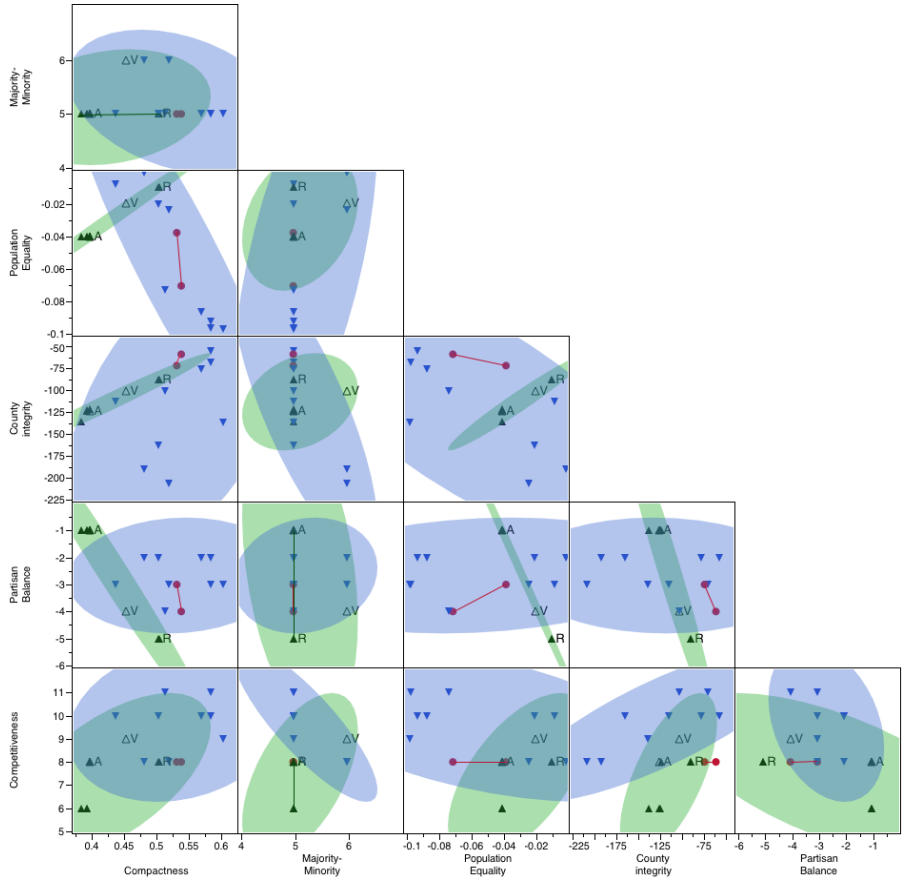


Figure 4. Revised Senate



A. *General Patterns*

The summary statistics in Tables 1 through 3 demonstrate at least three general patterns:

First, students are quite capable of creating legal districting plans. In each of the three legislative bodies, there were a substantial number of student contributions that met the legal requirements. And in two of the three bodies, the number of legal student submissions exceeded the number of plans created by either house in the General Assembly.

Second, student plans generally demonstrated a wider range of possibilities than the other entities. The range of scores across the student plans was wider for each of the criteria examined, and for

every legislative body with the exceptions of the majority-minority criterion, where student plans demonstrated a wider range in the Senate, and a smaller range than the commission in the House, and of county integrity, where student plans demonstrated a smaller range in the House.

Third, the "best" plan, as ranked by each individual criterion, was a student plan. Although no plan dominated all others in *every* criterion, the top ranking plan in each single-criterion ranking belonged to a student team.

Furthermore, the tables suggest additional general patterns:

Fourth, the student plans covered a larger set of possible tradeoffs among each criterion. With the exception of the majority-minority criterion in the congressional body, students' plans covered a greater amount of the two-dimensional space defined by the pairs of criteria. This suggests that the student teams explored more substantive possibilities than the other entities.

Fifth, student plans were generally better on pairs of criteria. For any convex weighting of criteria, there is a student plan that beats all of the other plans—with the exceptions of pairs including partisan balance in the Senate and pairs involving county integrity or majority-minority districts in the House.

Sixth, as discussed below in detail, student plans were more competitive and had more partisan balance than any of the adopted plans.

B. *Congress*

We begin our analysis with redistricting plans for Virginia's eleven congressional districts.[258] Recall that the Republican-controlled House and Democrat-controlled Senate failed to reach compromise in 2011.[259] Republicans passed their favored plan in 2012 following the functional Republican takeover of the Senate following the 2011 state elections.[260] All legislative plans had one majority-minority district, and thus likely would not retrogress

258. The discussion which follows in this section will reference Table 1, *supra*, and Figure 1, *supra*.

259. *See supra* Section II.G.

260. *See supra* note 203 and accompanying text

existing minority representation in Virginia's congressional delegation. In the legislature, two competing plans emerged: one from the Republicans, who favored a 8-3 partisan division of the state that protected all incumbents, and one by the Democrats, with a 7-4 partisan division.[261] The partisan contention involved the Fourth Congressional District, represented by Republican incumbent Randy Forbes.[262] Democrats wished to fashion this district into a roughly 45% African American district—sometimes called a "minority-influence" district—that would likely elect a Democrat, while Republicans wished to preserve the district's Republican character.[263] The legislative plans were similarly, if slightly less, electorally competitive to all other plans, particularly among the Democratic alternatives, which sacrificed electoral competition for an additional safe Democratic seat. The legislature's plans were among the most equal in population, which is expected because anything more than minimal population deviations invites legal challenges.[264] While the legislative plans tended to be less compact than those produced by the IBARC or the students, a proposal from Democratic Senator Mamie Locke was slightly more compact than the adopted plan. The legislature's plans tended to have minimal splits of local political boundaries, with Senator Locke's proposal having only thirty-one splits—the fewest among the plans analyzed. When compared to rival alternatives offered by the legislative political parties, Senator Locke's plan was more compact, split more local political boundaries, and had a more even partisan balance than the adopted plan. The adopted plan had more electoral competition, which was perhaps a necessary consequence of spreading Republicans across southern Virginia districts in order to produce more districts favoring Republicans.[265]

The IBARC adopted three plans. Option 1 strictly followed the commission's criteria, and reoriented the current majority-minority Third Congressional District stretching from Virginia Beach to Richmond along the southern border with North Caroli-

261. *See supra* note 202 and accompanying text.

262. Lewis, *supra* note 202.

263. *Id*.

264. *See generally supra* Section II (discussing various lawsuits which resulted from districts with population variances).

265. For a theoretical perspective, see Richard G. Niemi & John Deegan, Jr., *A Theory of Political Redistricting*, 72 AM. POL. SCI. REV. 1304 (1978).

na, thereby improving the compactness of that district and surrounding districts;[266] Option 2 retained the current configuration of the Third Congressional District, while otherwise respecting the mandated criteria;[267] and Option 3 followed the governor's criteria and further minimized incumbent pairing.[268] Like the legislature's plans, all commission plans had one majority-minority district and minimal population deviations. The commission's plans were uniformly more compact than the most compact legislative plan, and had a similar number of local boundary splits as the adopted plan: one with exactly the same with thirty-seven, one with thirty-eight, and one with forty-one. Two of the plans—Options 2 and 3—have a partisan split of 6-5 favoring Republicans while Option 1 has a Republican-favoring split of 7-4. Options 1 and 3 have four competitive districts and Option 2 has two.

A vivid contrast exists between the adopted plan and a plan drawn by a University of Virginia team of undergraduate students.[269] These two plans are similar in having nearly zero population deviation between the largest and smallest district and having one majority-minority district.[270] The student plan is the more compact plan, and thus consistently appears on the right of every plot in the column of compactness plots in Figure 1, while the adopted plan is the least compact and appears on the left. The plans also differ in that the adopted plan has the least partisan balance among all plans, with an 8-3 partisan split favoring Republicans,[271] while the student plan ties as the most equally balanced, with a partisan split of 6-5. The adopted plan fares better than the student plan in terms of splits of counties and independent cities, with thirty-seven splits compared to forty-six from the

266. IBARC REPORT, *supra* note 190, at 23–24.

267. *Id*. at 25.

268. *See id*. at 26.

269. This plan won second place in the Student Redistricting Competition, in the governor's commission award category. *See supra* Table 1.

270. The adopted plan has an absolute deviation of thirty-eight persons between the smallest and largest district while the student plan has an absolute deviation of twenty-three persons.

271. As described above, partisanship is the normalized 2008 presidential election votes excluding votes for minor party candidates. *See supra* note 256 and accompanying text.

student plan. The adopted plan is also more electorally competitive, with four competitive districts compared with three for the student plan.

Although there were many more student plans drawn, the thirteen student plans accepted for judging all had one minority-majority district. All but one had a population deviation of less than 1%, with several with minimal deviations near or at one person. In comparison to the legislative plans, the student plans were uniformly more compact. The student plans were on average about as compact as the commission's plans, but exhibited greater variability. Four of the student plans had fewer splits of local political boundaries than the adopted plan's thirty-seven; teams from Christopher Newport University and the University of Richmond both had thirty-two splits. The plan with the least number of local political boundary splits was the legislative plan produced by the Democrats. Similar to the legislature, the IBARC's plans generally had fewer splits than many of the student plans. The student plans were more equally balanced than the adopted plan's 8-3 Republican split, many with either a 6-5 split or a 7-4 split, similar to the IBARC's plans. A team from Virginia Commonwealth University created a plan with the most competitive districts of any plan, with six districts; this plan also had a 7-4 Republican split. While this plan was more compact than all legislative plans and all but one of the commission plans, it had a higher number of local political boundary splits, with fifty-three. Generally, the students demonstrated that it was possible to create a greater number of competitive districts. On average, the student plans generally had a number of competitive districts similar to the commission and greater than the legislature.

Notable among the student plans is one proposed by a team of students from William and Mary Law School.[272] This student plan was the first publicly released plan to demonstrate the concept of the minority-influence congressional district. The plan has one majority-minority district and minimum population deviations. The plan scores among the most compact in its category, only be-

272. This plan won first place in the first category of the student competition that included partisan fairness and electoral competition in addition to the governor's commission criteria, primarily for demonstrating how to increase minority representation. *See supra* Table 1.

hind plans from the University of Virginia and Christopher Newport University. It splits forty-one local political boundaries, only slightly more than the thirty-seven in the adopted plan. The plan also has a 6-5 Republican split, and like the legislative and IBARC plans that include the minority-influence district, it has only two electorally competitive districts. The similarity with the IBARC plan is not surprising, as the commission used the William and Mary Law School plan as a template for their work and enlisted the students to help draw the congressional plans.

The legislative, IBARC, and student congressional plans that include the minority-influence district demonstrate a potential trade-off between creating an additional influence district and competition. All of these plans were among the lowest in electoral competition but also tended to score more highly on partisan balance. The district would be located in the Tidewater region in the southeast portion of the state, stretching across rural areas along the North Carolina border from Virginia Beach to Richmond.[273] It would also be adjacent to the south of the current minority-majority district represented by Rep. Bobby Scott. By concentrating Democrats into the influence district, it creates an additional Democratic district, while making surrounding predominantly rural districts more Republican and less electorally competitive. However, there appears only a suggestion of a broader trade-off between partisan balance and competition, with the Virginia Commonwealth University plan with six competitive districts having only a 7-4 partisan split, compared to a plan drawn by a University of Richmond team that had five competitive districts and a 6-5 partisan split.

The numerous congressional plans demonstrate that the Republican legislature had a choice to create a Republican-favored congressional plan and was not mechanically following administrative criteria that resulted in a Republican-favored plan created as a byproduct of Democrats' inefficient concentration in urban areas. The second-most compact plan, one that has a majority-minority district and has minimal population deviations, also has a partisan split of 6-5 favoring the Republican Party compared to the legislature's plan that also had one majority-minority district and a minimal population deviation. The adopted plan's partisan bias was not a consequence of favoring minimal splits of local po-

273. *See* IBARC REPORT, *supra* note 190, at 25.

litical boundaries either. While the adopted plan scored highly in this regard with thirty-seven splits, plans produced by the IBARC and the students were simultaneously more compact, respected the same or more political boundary splits, and also had a 6-5 partisan split favoring Republicans. Partisan balance in the congressional plan thus was not constrained by geography.

No entity drew a plan with a 5-6 split favoring Democrats, so there may be some modest truth to the claim that urban Democrats are inefficiently concentrated within their urban communities from a redistricting standpoint. In Virginia, this would manifest itself in Northern Virginia, a Democratic stronghold located in a corner of a state: the ideal conditions for geographic constraints to disfavor Democrats. However, Virginia's single majority-minority district is overwhelmingly Democratic and the most partisan district for either political party. It may be that the Democrats are inefficiently concentrated within this district, which is largely a rural, not urban, district. Since this majority-minority district is required by the Voting Rights Act,[274] and no plans were evaluated without a majority-minority district, we cannot know for certain if geography or the Voting Rights Act disfavored the creation of a plan more favorable to Democrats. And since no pure Democratic gerrymander was drawn by any entity, it is difficult to know how constraining geography and the Voting Rights Act may be on Democratic fortunes.

C. *Senate*

Among the two chambers, the Senate redistricting was more contentious than that of the House.[275] Democratic Senator Janet Howell and Republican Senator John Watkins offered competing plans. The Democratic-controlled Senate adopted the Democratic plan on a party line vote and the Republican-controlled House agreed to a logroll whereby the two chambers' plans were packaged into one bill to prevent Republican Governor McDonnell from selectively vetoing the Senate plan.[276] He vetoed the entire

274. Bartlett v. Strickland, 556 U.S. 1, 14–15 (2009) (interpreting 42 U.S.C. § 1973 (2006)).

275. The discussion which follows in this section will reference Table 2, *supra*, and Figure 2, *supra*.

276. *See supra* notes 193–95 and accompanying text.

package but cited only concerns with the Senate plan in his veto message, particularly noting Senator Watkins's plan, not the plans proposed by his commission.[277] The two chambers revised their plans and submitted a new bill for both chambers to Governor McDonnell, which he signed into law.[278] Here, we examine how the Democratic and Republican Senate plans differed, how the Senate responded to the governor's veto, and how all of the legislative plans compared with the IBARC and student plans.

We begin our Senate analysis with the legislative plans. In the plots, we label the Democratic-favored vetoed plan "V" and the adopted plan "A". When the two plans are very similar on two dimensions, for example, population equality and partisan balance, these two letters overlap considerably. Surrounding these plans are precursors introduced during the legislative process and modified in minor ways before passage. Senator Watkins's Republican alternative is distinguished from both the vetoed and adopted Democratic plans on many dimensions, perhaps most visually apparent in the column of compactness measures, as the Republican alternative was significantly more compact than either Democratic plan, whereas the adopted plan was only modestly more compact than the vetoed plan. The Republican proposal split eighty-eight local political boundaries; Democrats were modestly responsive to Governor McDonnell's veto by reducing the number of local political boundary splits from 136 in the vetoed plan to 124 in the adopted plan. The Republican alternative had a population deviation of less than 1%, while both Democratic plans had a deviation of approximately 4%. All legislative plans were similar only in that they had five majority-minority African American districts. Not surprisingly, the competing partisan plans differed on their potential electoral effects. The Senate Democratic caucus issued a press release noting that when the vetoed plan was loaded into the DistrictBuilder software, it received the highest score for partisan balance and was eighth in terms of political competition.[279] Indeed, both Democratic plans had a 19-21 partisan split favoring the Republicans, while the Republican plan had a 25-15 split, the most pro-Republican of

277. *See supra* notes 193–95 and accompanying text.

278. *See supra* notes 197–99 and accompanying text.

279. Press Release, Va. Senate Democratic Caucus, Website Gives Senate Redistricting Plan High Marks (Apr. 20, 2011), *available at* http://www.vasenatedems.com (enter "Website gives senate redistricting" in search box and search "full site").

any plan. The Republican plan had eight competitive districts, while the Democrats' response to the veto resulted in a more competitive plan: six in the vetoed plan and eight in the adopted plan. In sum, Governor McDonnell's veto resulted in an adopted plan that was slightly more compact, had twelve fewer local political boundary splits, and had two more competitive districts than the vetoed plan.

The governor's IBARC formally adopted two Senate plans, known as the Two Percent and Three Percent Plans, names which referred to the population deviations of each district from the ideal-sized district, not the overall deviations, which would be 4% and 7%, respectively. The purpose of these plans was to illuminate a potential trade-off between population equality and respect for local political boundaries.[280] The Three Percent Plan name was a slight misnomer since it had an overall population deviation of 7%, a minimum deviation of negative 2.8%, and a maximum deviation of 4.2%.[281] The Two Percent Plan was more aptly named, with an overall population deviation of 3.8%, a minimum deviation of negative 1.8%, and a maximum deviation of 1.9%.[282] Both plans had nearly the same compactness, but as expected, the Two Percent Plan split seventy-two local political boundaries while the Three Percent Plan split only fifty-nine. Only a plan drawn by the William and Mary Law School team had fewer local political boundary splits, with fifty-five, but this plan also had a larger population deviation of 9.2%. The Two Percent Plan was slightly more evenly balanced, with a 23-17 partisan split favoring Republicans, while the Three Percent Plan had a 24-16 split. Both plans had eight competitive districts.

Compared to the legislative plans, the Two Percent Plan had a 4% overall population deviation, similar to the vetoed and adopted plans, while Senator Watkins's plan had a 1% deviation. The Three Percent Plan had a larger deviation than all legislative plans. The IBARC's plans were uniformly more compact and respected more political boundaries than all legislative plans, even Senator Watkins's proposal. Interestingly, the IBARC's plans were in between the Democratic and Republican plans in terms of partisan balance, with a 23-17 Republican split for the Two Per-

280. IBARC REPORT, *supra* note 190, at 21–22.

281. *Id.* at 34.

282. *Id.* at 31.

cent Plan and a 24-16 split for the Three Percent Plan, and had the same level of competition as the adopted plan and Republican proposal, but more than the vetoed plan.

The student teams approached Senate redistricting with more variety. Among the chief innovations were two plans drawn by a University of Virginia team—one following the commission's criteria and one following the original competition criteria—that had six majority-minority African American districts compared with five in all other plans.[283] The IBARC was intrigued by this approach but decided against recommending it because the African American populations in the existing five districts were decreased from the levels as they existed in 2001, when the Department of Justice last approved these districts.[284] Without further statistical analyses of racial voting patterns, it was impossible to know if these districts would violate section 5 of the Voting Rights Act by regressing African American ability to elect candidates of their choice. The original competition version of this plan had the least population deviation of any plan, with an overall deviation of 0.1%. It was slightly less compact than Senator Watkins's plan, but had 190 local political boundary splits, the second highest of any plan.

The student plans also exhibited more variety among the other administrative criteria. As noted above, a William and Mary Law School student team devised a Senate plan that split the fewest political boundaries (fifty-five) and was more compact than any legislative or IBARC plan. A University of Mary Washington team drew the most compact plan, which was slightly more compact than the William and Mary Law School plan, but this plan split many more political boundaries (137). Both plans had population deviations just under 10%. The student plans had less overall variance than the legislative plans on partisan balance, ranging from a 22-18 Republican advantage to a 24-16 advantage, but they also exhibited equal or greater levels of competition, ranging from eight to eleven districts.

Overall, the commission and student Senate plans suggest that an approach that emphasizes administrative criteria would result in plans that are more compact and respect more political boun-

283. This concept won second place in the commission's criteria division. *See supra* Table 2.

284. IBARC REPORT, *supra* note 190, at 20.

daries. There is a suggestion of a tradeoff between population equality and respecting local political boundaries, consistent with the commission's experimentation, with the plans that respect the most political boundaries also being those with the largest population deviations. Keeping in mind that some of the student plans explicitly attempted to achieve greater partisan balance and competition by virtue of the competition judging criteria, the non-legislative plans were more favorable to the Republicans than the eventually adopted plan and less favorable than the Republicans' legislative alternative. The non-legislative plans generally had equal or more competitive districts than the legislative plans. Thus there is support for the proposition that Democrats are inefficiently geographically distributed from a redistricting standpoint, particularly since the best Democratic gerrymander resulted only in a 21-19 split favoring Republicans. Geographic constraints are perhaps more important when drawing smaller legislative districts, since it is more difficult to connect urban Democratic cores with outlying Republican areas than when drawing large congressional districts. However, geography alone is not to blame; student and commission plans existed that were more compact than the Republican proposal, respected more political boundaries, were more evenly balanced, and had more competitive districts. We also note that no plans were drawn without consideration for the Voting Rights Act, which tends to inefficiently concentrate Democrats into majority-minority districts. Geography is perhaps a factor favoring Republicans, but if Republicans had their way, they would push partisan advantage above what geography alone might net them.

D. *House of Delegates*

The House of Delegates redistricting was the least contentious of the three legislative bodies. Here, Democrats reached a bipartisan compromise with the Republican leadership and did not offer an alternative Democratic plan into the legislative record.[285] The cluster of legislative plans around the vetoed and adopted plans represent minor modifications to plans that were considered as the House plan wound its way through the legislative process.[286]

285. *See supra* note 193 and accompanying text.

286. The discussion which follows in this section will reference Table 3, *supra*, and

The final adopted plan is slightly more compact and had one fewer local political boundary split (197) than the vetoed plan (198). In all other respects, the vetoed and adopted plans are essentially identical: they both have twelve majority-minority African American districts, an overall population deviation just slightly less than 2%, a Republican-favoring partisan split of 57-43, and twenty-four competitive districts.

The IBARC and student plans suggest that the Democrats could have introduced a more favorable plan, even if it likely would have been rejected by the Republican controlled House. The commission adopted two plans that varied primarily by the number of majority-minority districts. Although Virginia adopted a plan in 2001 with twelve such districts,[287] the commission demonstrated it was possible to create a thirteenth majority-minority African American district and put forward two options: one with twelve and one with thirteen majority-minority districts. The Thirteen District Plan was the only plan with a thirteenth minority-majority district. These plans had the same overall population deviation of slightly less than 4%. Both plans were highly compact, scoring among the most compact of any plans, and significantly more compact than the adopted legislative plan. These plans varied otherwise, with the Twelve District Plan being slightly more compact and having fewer splits (153) than the Thirteen District Plan (156). The Twelve District Plan had a partisan split of 55-45, while the Thirteen District Plan had a split of 56-44; the former had twenty-three competitive districts while the latter had twenty-two. Compared to the adopted legislative plan, the two IBARC options were more compact, split fewer political boundaries, were more evenly balanced, had higher population deviations, and had either one or two fewer competitive districts, depending on the plan.

The student plans are perhaps less instructive of the legal redistricting alternatives. The one hundred House of Delegates districts were the most demanding to draw, and thus fewer student teams successfully produced plans. Furthermore, the organizers only required students to draw at least eleven majority-minority African American districts. The 2010 census revealed that the number of House of Delegates majority-minority districts had de-

Figure 3, *supra*.

287. IBARC REPORT, *supra* note 190, at 35.

creased from twelve to eleven as population had shifted during the decade, though the twelfth district still had an African American population percentage in the mid-forties.[288] Furthermore, these twelve districts were under-populated compared to the ideal-sized district, presenting a further challenge to maintaining the eleven majority-minority districts or restoring their number to twelve.[289] With these uncertainties, the organizers decided to encourage students to explore options to enhance minority representation, but only required plans to have eleven majority-minority districts.

Undergraduate teams from George Mason University and the University of Virginia created plans with twelve majority-minority districts.[290] The University of Virginia team's plan was notable in that it had an overall population deviation of 1.4%, the least of any plan. Compared to the adopted and commission plans it was more evenly balanced with a 54-46 partisan split, and had more competitive districts (twenty-seven). It was more compact than the legislative plans, but less compact than the IBARC plans. The plan also had a higher number of political boundary splits (221) than either the legislative or IBARC plans. The George Mason University team's plan had a large population deviation of 9.7%, the highest among any plan that had at least twelve majority-minority districts. The plan was slightly less compact than the University of Virginia team's plan but had fewer splits of local political boundaries (168). The 168 splits were more than the commission's plans but less than the adopted plan. The plan was less evenly balanced than the University of Virginia team's plan, with a 56-44 partisan split, and had fewer competitive districts (twenty-four). Compared to the adopted plan, this plan was more evenly balanced and had the same number of competitive districts; depending on the commission plan, this plan either had the same or less partisan balance and had one or two more competitive districts.

288. *Id.*

289. *See id.* (highlighting the proposed majority-minority districts for the House redistricting plan); *H.B. 5005; New House Districts*, VA. DIV. LEGIS. SERVS. (Apr. 28, 2011), *available at* http://redistricting.dls.virginia.gov/2010/RedistrictingPlans.aspx#28 (click "PDF") (demonstrating that all twelve majority-minority districts had populations below the ideal-sized district).

290. The George Mason University team's plan won first place in the original competition criteria division, while the University of Virginia team's plan won second place in the commission criteria division. *See supra* Table 3.

The remaining student plans had only eleven majority-minority districts. They also all had greater population deviations than the adopted plan. However, they illustrate that it was possible to draw compact plans with greater partisan balance and competition than the adopted plan. One of these plans also had fewer splits of local political boundaries than the adopted plan.

In summary with regards to the House of Representatives plans, the student and particularly the IBARC plans demonstrate, in contrast to the adopted plan, that plans could be developed that were more compact, respect more political boundaries, have more minority representation, are more equally balanced, and have more competitive districts (though the commission plans had slighter fewer competitive districts than the adopted plan). While many of the student and IBARC plans had greater population deviations than the adopted plan, a student plan demonstrated that a lower population deviation was possible, although perhaps sacrificing more local boundaries to splits.

The least politically balanced plan was the plan adopted by the legislature. From an analytical standpoint, it is unfortunate that neither a maximal Democratic nor Republican gerrymander was introduced in the legislature, and thus we do not know what these plans might have looked like. While a more neutral approach offered by the commission was more politically balanced, we again note that none of the plans had a majority of districts favoring Democrats. While this suggests that geographic distribution of Democrats works against their interests, geography alone does not explain the result, as the commission's plans were more balanced than the legislature's adopted plan. We reiterate that no plans were drawn without consideration for the Voting Rights Act. Perhaps the fact that no plan had a majority of Democratic-leaning districts explains why Democrats and Republicans were willing to work together on a plan. Republicans were safe in their majority and did not need to expand it, while Democrats knew that even the best plan they could engineer still would likely leave them short of a majority. Instead of introducing a Democratic gerrymander, Democrats were satisfied with introducing the University of Richmond student plan as a bill,[291] a plan that

291. *See 2010 Redistricting Plans*, *supra* note 192.

was more balanced with a 55-45 split but had only eleven majority-minority African American districts and a large population deviation of 9.8%.

IV. CONCLUSION

The redistricting process in Virginia, like in many other states, has been embroiled in political and racial battles over the decades. In the past fifty years, the battle lines have shifted from within-party fighting among Democrats primarily over malapportionment favoring rural interests over urban interests, to battles over voting rights. As the Commonwealth drifted in a Republican direction, Democrats shifted their sights to aim at Republicans. At first this was a defensive holding action, but recently Virginia has drifted back in a Democratic direction to be a presidential battleground state,[292] with Democrats briefly regaining a Senate majority only to have it slip to a tie in the 2011 elections.[293] With the potent power of redistricting at their disposal, we would not be surprised if Republicans attempt to replace the Democratic gerrymander of the Senate with a more favorable plan, as the adopted Democratic plan provides Democrats an opportunity to reclaim the chamber in future elections. If such an action occurs, we would also not be surprised if litigation followed.

If Republicans re-redistrict the Virginia Senate, political pressure will likely mount for reform. Redistricting has been reformed surprisingly often in the history of the Commonwealth through constitutional revision. Furthermore, two governors' commissions have been convened to highlight reform—one in 1961 and another in 2011. The plans put forth by these commissions suffered similar fates and were ignored by the legislature. Governor McDonnell might have demanded through a veto that the legislature draw plans to better satisfy the current constitutional requirements of population equality and compactness. Our analysis suggests that plans more compact than those Governor McDonnell signed into law would have benefited his party in the Senate but would have hurt his party in the House of Delegates. Perhaps for

292. Chuck Raasch, *Virginia Solidifies Its Role as a New Swing State*, USA TODAY, Nov. 7, 2012, at 9A.

293. *See* Michael Sluss, *Democrat Sues to Stop Republicans' Senate Takeover*, ROANOKE TIMES, Dec. 6, 2011, at A11.

this reason, Governor McDonnell focused instead on Republican Senator Watkins's plan while eschewing his commission's proposed plans as a baseline for improvement to the Senate's plans. Our analysis also shows that Senate Democrats only made modest changes to their plan in response to the governor's veto, which he accepted, suggesting that Governor McDonnell had no real appetite for redistricting reform despite his campaign pledges.

The General Assembly is the only viable pathway for Virginia constitutional revision, and that pathway appears unlikely. A reform bill that recently unanimously passed the Senate died an ignominious death in a House sub-committee. Another governor facing a similar situation of a divided state legislature during the recent redistricting used his veto power to extract reform concessions from his legislature. In exchange for New York Governor Andrew Cuomo's signature to the state legislative plans, the New York legislature passed a bill establishing a bipartisan redistricting commission and setting in motion a revision to the state constitution.[294] While several prominent Virginia politicians have called for redistricting reform, the best chance for future reform likely rests with a steadfast governor.

Our analysis suggests that reform in the form of an independent commission that strictly follows a set of administrative criteria likely would modestly benefit Republicans. None of the plans examined here for any legislative body—be it Congress or either state legislative chamber—had a majority of Democratic-leaning districts. We suspect that this modest partisan bias emerges as a consequence of how Democrats are inefficiently concentrated in urban areas from a redistricting standpoint, and that this bias is more prevalent in the smallest House of Delegates districts. While congressional and Senate plans exist with only one district worth of imbalance favoring Republicans, the most balanced House of Delegates plan still had fifty-four Republican-leaning districts.[295] However, because all plans examined here included majority-minority districts, we cannot rule out the possibility that the Voting Rights Act might function in a manner to inefficiently concentrate Democrats into majority-minority districts.

294. Thomas Kaplan, *An Update on New York Redistricting*, N.Y. TIMES, Mar. 16, 2012, at A23; *see* S.B. 6698, 234th Assemb., Reg. Sess., (N.Y. 2012).

295. For a similar conclusion regarding congressional and state legislative districts in five Midwestern states, see MICHAEL P. MCDONALD, MIDWEST MAPPING PROJECT, *available at* http://elections.gmu.edu/Midwest_Mapping_Project.pdf.

While an independent commission would likely produce a plan that modestly benefited Republicans, our analysis suggests that the plans it generated would not benefit Republicans as greatly as the optimal Republican gerrymander. The existence of commission and student plans that are more compact than Republican plans and more politically balanced dispels the assertion that Republican redistricting advantage is solely, or even predominantly, a function of where Democratic voters tend to live. We suspect then that if Republicans redraw the Senate districts, future Virginia reform in the New York mold would most likely arise with a Democratic governor, as a Republican governor would be unlikely to harm his legislative allies through a veto threat.

We suggest authors of future reform proposals consider how various criteria are traded off against one another. There is likely a tension, particularly among state legislative districts, among greater population equality, compactness, and respect for local political boundaries. If respect for local political boundaries is subsumed beneath the other two criteria, a much greater number of these boundaries will likely be crossed by districts. Furthermore, the student plans suggest that, in comparison to the legislative plans, administrative criteria may be balanced against political outcomes of partisan balance and competition without significant detriment to the administrative criteria. If reformers wish to minimize potential electoral effects of blindly following administrative criteria, political goals should be explicitly included among the criteria, not subsumed beneath them.

We hope that any future redistricting reform discussion will include a role for the public in the line-drawing process. The commission and participation of students in the current round of Virginia's redistricting demonstrates that redistricting does not have to be left up to the "professionals." Enabled by appropriate technology, students were able to create legal redistricting plans that demonstrated a much wider range of possibilities; generally were better than the legislature's plans, as measured by formal redistricting criteria; and were much more competitive and balanced than any of the plans actually adopted. Also significant are the ways the non-legislative plans demonstrated to potentially enhance minority representation. When many eyes look at a problem, it may be that someone will discover a solution that no one

has thought of before. This is particularly true with redistricting, an extremely complex mathematical problem. Harnessing the mind power of the crowd will promote a more robust discussion of options than any one entity can devise on its own.