COMMON CAUSE, *et al.*, PLAINTIFFS, v. ROBERT A. RUCHO, in his official capacity as Chairman of the North Carolina Senate Redistricting Committee for the 2016 Extra Session and Co-Chairman of the Joint Select Committee on Congressional Redistricting, *et al.*, DEFENDANTS.	CIVIL ACTION NO. 1:16-CV-1026-WO-JEP THREE-JUDGE COURT
LEAGUE OF WOMEN VOTERS OF NORTH CAROLINA, *et al.,* PLAINTIFFS, v. ROBERT A. RUCHO, in his official capacity as Chairman of the North Carolina Senate Redistricting Committee for the 2016 Extra Session and Co-Chairman of the 2016 Joint Select Committee on Congressional Redistricting, *et al.,* DEFENDANTS.	CIVIL ACTION NO. 1:16-CV-1164-WO-JEP THREE JUDGE PANEL

LEAGUE OF WOMEN VOTERS OF NORTH CAROLINA PLAINTIFFS' FINAL PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW

In accordance with Civil L.R. 40.1(c) the League of Women Voters of North Carolina plaintiffs, through their undersigned counsel, submit the following final proposed findings of fact and conclusions of law.

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PROPOSED FINDINGS OF FACT

I.   PARTIES OF INTEREST

(a)   Plaintiffs Are Democrats Across North Carolina

1. The individual plaintiffs are qualified, registered voters in the State of North Carolina, who reside in various counties and congressional districts. Exs. 4046, 4048-49, 4051, 4053-4060, 4062; Collins Dep. (Dkt. 99-5) 14:22-15:10; Evans Dep. (Dkt. 99-7) 8:19-9:1; Feldman Dep. (Dkt. 99-20) 7:18-7:21, 16:1-16:23; Fox Dep. (Dkt. 99-4) 8:17-8:25, 9:24-10:2; Love Dep. (Dkt. 99-1) 7:8-7:16; Palmer Dep. (Dkt. 99-13) 10:5-10:13, 11:15-11:17; Phelps Dep. (Dkt. 99-9) 7:11-7:15, 18:9-18:13; Quinn Dep. (Dkt. 99-22) 16:12-19:10; Sarver Dep. (Dkt. 99-23) 7:15-8:6; Sumpter Dep. (Dkt. 99-26) 11:1-11:11, 12:6-12:8; and Williams Dep. (Dkt. 99-6) 6:18-6:21, 34:23-34:25.

2. Plaintiffs are all supporters of the Democratic Party and of Democratic candidates and policies, and they almost always vote for Democratic candidates in North Carolina elections. Exs. 4046, 4048-49, 4051, 4053-60, 4062; Collins Dep. (Dkt. 99-5) 29:5-29:14; Evans Dep. (Dkt. 99-7) 12:24-13:11; Feldman Dep. (Dkt. 99-20) 11:14-11:24, 13:1-13:4; Fox Dep. (Dkt. 99-4) 35:18-35:20; Love Dep. (Dkt. 99-1) 18:19-18:21; Palmer Dep. (Dkt. 99-13) 10:5-10:13; Phelps Dep. (Dkt. 99-9) 12:15-13:24; Quinn Dep. (Dkt. 99-22) 24:13-25:12; Sarver Dep. (Dkt. 99-23) 48:25-53:12; Sumpter Dep. (Dkt. 99-26) 16:21-17:4, 25:11-25:15; Williams Dep. (Dkt. 99-6) 8:25-10:16.

3. Plaintiff League of Women Voters of North Carolina ("LWVNC"), an organizational plaintiff, is a nonpartisan community-based organization that works to

ensure a fair, open, and transparent democratic process that allows all voters to be fairly represented. The mission of LWVNC is to promote political responsibility through informed and active participation in government and to act on selected governmental issues. Currently, LWVNC has 17 local leagues and over 1,400 members, each of whom, upon information and belief, is a registered voter in North Carolina. Individual league members invest substantial time and effort in voter training and civic engagement activities, including voter registration and get-out-the-vote (GOTV) efforts. Klenz Dep. (Dkt. 99-28) 35:25-37:25, 43:8-43:16, 44:15-45:18, 47:2-47:23, and 93:14-95:5.

4. Plaintiff LWVNC has individual members who are registered Democrats living in each of North Carolina's thirteen congressional districts as established by the 2016 Contingent Congressional Plan ("2016 Plan") enacted by the General Assembly. Each of those registered Democrats support and vote for Democratic candidates and have an interest in furthering policies at the national level that are consistent with the Democratic Party Platform. Ex. 4080.

5. Plaintiff Carol Faulkner-Fox is a U.S. citizen and resident and registered voter in Congressional District 1 in Durham, Durham County, North Carolina. Ex. 4062.

6. Plaintiff Aaron Sarver is a U.S. citizen and resident and registered voter in Congressional District 11 in Asheville, Buncombe County, North Carolina. Ex. 4046.

7. Plaintiff Maria Palmer is a U.S. citizen and resident and registered voter in Congressional District 4 in Chapel Hill, Orange County, North Carolina. Ex. 4049.

8. Plaintiff Gunther Peck is a U.S. citizen and resident and registered voter in Congressional District 1 in Durham, Durham County, North Carolina. Ex. 4051.

9. Plaintiff John Quinn III is a U.S. citizen and resident and registered voter in Congressional District 10 in Asheville, Buncombe County, North Carolina. Ex. 4053.

10. Plaintiff Willis Williams is a U.S. citizen and resident and registered voter in Congressional District 1 in Jamesville, Martin County, North Carolina. Ex. 4054.

11. Plaintiff Elliot Feldman is a U.S. citizen and resident and registered voter in Congressional District 9 in Charlotte, Mecklenburg County, North Carolina. Ex. 4055.

12. Plaintiff Annette Love is a U.S. citizen and resident and registered voter in Congressional District 1 in Durham, Durham County, North Carolina. Ex. 4056.

13. Plaintiff Ersla Phelps is a U.S. citizen and resident and registered voter in Congressional District 2 in Wilson, Wilson County, North Carolina. Ex. 4057.

14. Plaintiff Janie Smith Sumpter is a U.S. citizen and resident and registered voter in Congressional District 12 in Charlotte, Mecklenburg County, North Carolina. Ex. 4058.

15. Plaintiff Elizabeth Torres-Evans is a U.S. citizen and resident and registered voter in Congressional District 1 in Franklinton, Granville County, North Carolina. Ex. 4059.

16. Plaintiff William Collins is a U.S. citizen and resident and registered voter in Congressional District 1 in Plymouth, Washington County, North Carolina. Ex. 4060.

17. The individual plaintiffs are harmed by the 2016 Plan, which targets them because of their political affiliation and beliefs and skews North Carolina's congressional delegation in a Republican direction. Their votes are thereby diluted and their electoral

influence is reduced. Evans Dep. (Dkt. 99-7) 21:5-25:3; Feldman Dep. (Dkt. 99-20) 27:8-27:22; Fox Dep. (Dkt. 99-4) 22:3-26:7, 29:21-30:7, 30:22-31:23, 36:5-36:8, 54:4-54:24; Love Dep. (Dkt. 99-1) 12:10-12:18; Palmer Dep. (Dkt. 99-13) 27:4-29:21, 31:6-34:17, 47:14-48:8; Peck Dep. (Dkt. 99-3) 6:17-42:22, 51:8-54:11; Quinn Dep. (Dkt. 99-22) 37:16-38:5, 62:8-63:8; Sarver Dep. (Dkt. 99-23) 24:6-27:23, 29:12-31:3, 41:16-42:20; Sumpter Dep. (Dkt. 99-26) 39:17-40:2; Williams Dep. (Dkt. 99-6) 26:13-26:16.

18. Democratic members of organizational plaintiff LWVNC are harmed by the 2016 Plan, which targets them because of their political affiliation and beliefs and skews North Carolina's congressional delegation in a Republican direction. Their votes are thereby diluted and their electoral influence is reduced. Klenz Dep. (Dkt. 99-28) 62:21-63:12.

19. Plaintiff LWVNC is harmed by the 2016 Plan as an organization that engages voters in voter registration and GOTV, and that wants districts that are more reflective of the voting population in the state. Klenz Dep. (Dkt. 99-28) 30:22-32:9, 33:7-33:20, 35:25-37:25, 44:15-45:18, 47:2-47:23, 48:21-49:7.

b) Defendants

20. Defendant Sen. Robert A. Rucho ("Sen. Rucho") is being sued in his official capacity as Chairman of the North Carolina Senate Redistricting Committee for the 2016 Extra Session and Co-Chairman of the 2016 Joint Select Committee on Congressional Redistricting. Pls. Am. Complt. (Dkt. 41) ¶31; Defs. Answer (Dkt. 49) ¶31; Rucho Dep. (Dkt. 108-5) 26:19-26:23.

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21. Defendant Rep. David A. Lewis ("Rep. Lewis") is being sued in his official capacity as Chairman of the North Carolina House of Representatives Redistricting Committee for the 2016 Extra Session and Co-Chairman of the 2016 Joint Select Committee on Congressional Redistricting. Pls. Am. Complt. (Dkt. 41) ¶32; Defs. Answer (Dkt. 49) ¶32; Lewis Dep. (Dkt. 108-3) 12:22-13:3.

22. Defendant Timothy K. Moore is being sued in his official capacity as Speaker of the North Carolina House of Representatives. Pls. Am. Complt. (Dkt. 41) ¶33; Defs. Answer (Dkt. 49) ¶33.

23. Defendant Philip E. Berger is being sued in his official capacity as President Pro Tempore of the North Carolina Senate. Pls. Am. Complt. (Dkt. 41) ¶34; Defs. Answer (Dkt. 49) ¶34.

24. Defendant A. Grant Whitney, Jr. is being sued in his official capacity as Chairman of the North Carolina State Board of Elections. Pls. Am. Complt. (Dkt. 41) ¶35; Defs. Answer (Dkt. 49) ¶35.

25. Defendant North Carolina State Board of Elections is the agency responsible for the administration of election laws of the State of North Carolina and charged with the duty of "general supervision over the primaries and elections in the State," including elections of the thirteen members of the U.S. House of Representatives from North Carolina. N.C. Gen. Stat § 162-22(a); Pls. Am. Complt. (Dkt. 41) ¶36; Defs. Answer (Dkt. 49) ¶36.

26. Defendant State of North Carolina is a sovereign state in the United States. Pls. Am. Complt. (Dkt. 41) ¶37; Defs. Answer (Dkt. 49) ¶37.

II. DISCRIMINATORY INTENT

(a) 2011 Plan

27. In 2011, the North Carolina General Assembly was under unified Republican control. Ex. 1029.

28. Under the 2011 Congressional Plan, "Rucho-Lewis Congress 3 ("2011 Plan")," Democrats won 51 percent of the statewide vote in 2012, but Republican candidates won nine of thirteen congressional seats. Exs. 1020, 1028, 2001.

29. Under the 2011 Plan, Republican candidates received a narrow majority of 54 percent of the vote in 2014, but won ten of thirteen congressional seats. Exs. 1019, 1027, 2001.

30. The Co-Chairs of the 2011 Joint Committee on Redistricting, Rep. Lewis and Sen. Rucho, wrote in a letter dated July 1, 2011 that "we have not been ignorant of the partisan impacts of the districts we have created." Ex. 4034.

31. Dr. Thomas Hofeller was retained by the North Carolina General Assembly Redistricting Committees to assist in redistricting the North Carolina Congressional, State House, and State Senate Districts. Ex. 2032; Lewis Dep. (Dkt. 108-3) 21:19-22:7.

32. Dr. Hofeller, the "principal architect" of the 2011 Plan, *Harris v. McCrory*, 159 F. Supp. 3d 600, 607 (M.D.N.C. 2016), declared in his expert report in *Harris* that

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"[p]olitics was the primary policy determinant in the drafting of the . . . Plan." Ex. 2035 at ¶29; Hofeller Dep. (Dkt. 108-1) 18:1-18:21, 116:5-116:10.

33. Dr. Hofeller added that "[t]he General Assembly's overarching goal in 2011 was to create as many safe [or] competitive districts for Republican incumbents or potential candidates as possible." Ex. 2035 at ¶68.

34. He also admitted that "[t]he Republicans' primary goal was to create as many districts as possible in which GOP candidates would be able to successfully compete for office." Ex. 2036 at ¶9.

35. Dr. Hofeller and Rep. Lewis applied the results of past elections to newly drawn districts for the 2011 plan before the maps were enacted by the General Assembly. Lewis Dep. (Dkt. 108-3) 29:17-29:20.

36. While representing the State of North Carolina in oral argument before the U.S. Supreme Court in *McCrory v. Harris*, 15-1262, Paul Clement stated that in drawing the 2011 Plan, "the whole time [Dr. Hofeller] drew the maps, he had political data up there. Precisely because race and politics are highly correlated, he drew the map to draw the Democrats in and the Republicans out." Ex. 2043 at ¶120.

37. From April 2011 to March 2012, Dr. Hofeller was retained by the State Government Leadership Foundation ("SGLF") "as a consultant to state legislatures and statewide elected officials in all aspects of their work on the 2011-2012 redistricting process." Exs. 2013, 2016 at ¶8.

38. As part of his role as a consultant to the SGLF, Dr. Hofeller's duties included "develop[ing] strategic and tactical plans for Legislatures and statewide elected officials to develop and defend redistricting plans for legislative and congressional districts" and "analysis of the effects of the [redistricting] process on future elections." Exs. 2013, 2016 at ¶7.

39. Dr. Hofeller was also part of a "redistricting team" that the Republican State Leadership Committee ("RSLC") offered as part of the Redistricting Majority Project ("REDMAP"), to assist state legislative chambers with "actual redistricting plan drafting and analysis." Exs. 2015 at ¶13, 2033.

40. The rationale for REDMAP "was straightforward: Controlling the redistricting process in these states would have the greatest impact on determining how both state legislative and congressional district boundaries would be drawn. Drawing new district lines in states with the most redistricting activity presented the opportunity to solidify conservative policymaking at the state level and maintain a Republican stronghold in the U.S. House of Representatives for the next decade." Exs. 2015 at ¶10, 2026.

41. Part of the REDMAP strategy for North Carolina was to "strengthen Republican redistricting power by flipping [the] chambers from Democrat to Republican control" and to "Neutralize Dem Advantage." Exs. 2020, 2021.

42. While he was redistricting coordinator for the Republican National Committee ("RNC"), Dr. Hofeller authored a PowerPoint presentation titled "What I've Learned about Redistricting the Hard Way! January 24, 2011," which he says is "generally" the

advice he gives to state legislatures when he is retained for redistricting. Hofeller Dep. (Dkt. 108-1) 70:3-25; Ex. 2030.

43. Dr. Hofeller also authored a document titled "The Looming Redistricting Storm: How Will the Republican Party Fare?" while he was at the RNC. Hofeller Dep. (Dkt. 108-1) 29:9-18; Ex. 2014.

44. In "The Looming Redistricting Storm," Dr. Hofeller states, "Why are these state level contests so important to the GOP? It is because it is in the states where the results of the 2010 census will be used to redraw the boundaries of congressional districts which will be used in 2012, 2014, 2016, 2018 and 2020 elections. The outcome of this battle will determine the electoral playing field for the next decade." The document continues, "If the GOP wins big at the state and legislative level, it can be more assured of retaking and keeping control of the U.S. House. These critical election contests in 2010 are 'the hidden national elections of 2010 and beyond' and will determine GOP success in the 2012 elections following redistricting." Ex. 2014.

(b)   2016 Plan

45. In February 2016, the North Carolina General Assembly was under unified Republican control. Ex. 1019.

46. On February 5, 2016, a federal three-judge panel issued a decision in *Harris v. McCrory*, No. 1:13-cv-949, 2016 WL 482052 (M.D.N.C. Feb. 5, 2016), declaring that Districts 1 and 12 of the 2011 Plan were unconstitutional racial gerrymanders and

requiring the General Assembly to draw a new Congressional plan. *Harris v. McCrory*,

No. 1:13-cv-949, 2016 WL 482052 (M.D.N.C. Feb. 5, 2016); Exs. 2006, 2043 at ¶27;

Exhibit 4061: Timeline of 2016 Map Drawing Process
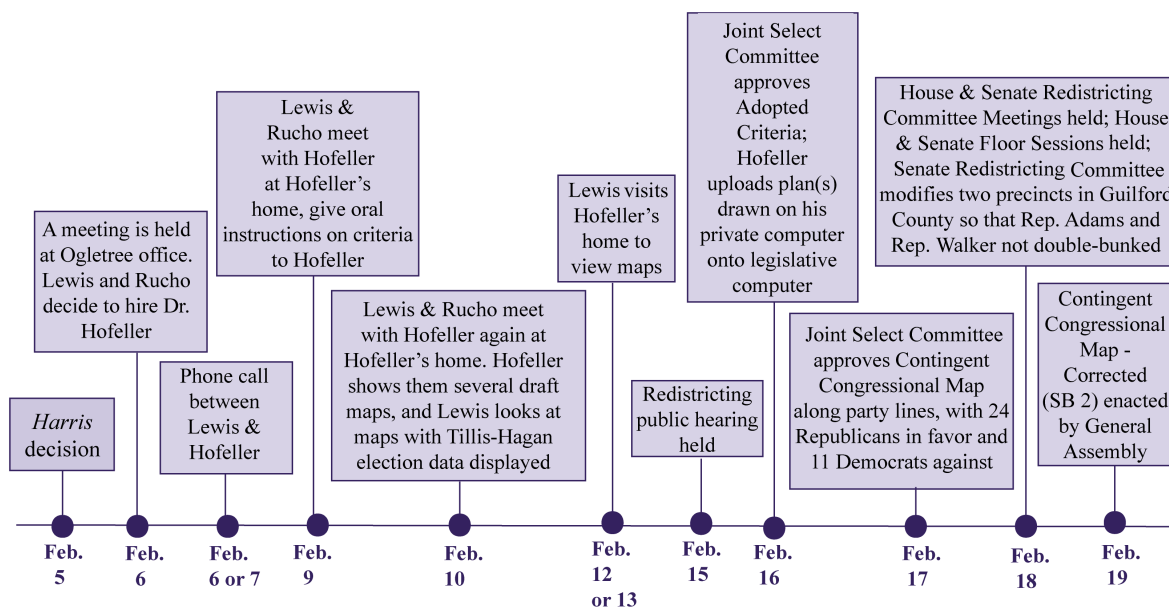
Ex. 4061.

47. Following the *Harris* decision, on February 6, 2016, a meeting to discuss redistricting was held at the Ogletree Deakins law office. Rep. Lewis, Brent Woodcox, and Ogletree counsel were present at the meeting, and Sen. Rucho was present via phone. Exs. 2006, 4061; Lewis Dep. (Dkt. 108-3) 42:25-43:13; Rucho Dep. (Dkt. 108-5) 27:22-28:16.

48. Rep. Lewis made the decision to hire Dr. Hofeller as a consultant to assist in drawing the 2016 Plan on February 6, 2016. Lewis Dep. (Dkt. 108-3) 44:2-44:4; Ex. 4061.

49. On February 6 or 7, 2016, Rep. Lewis had a phone conversation with Dr. Hofeller to discuss drawing the 2016 Plan in response to the *Harris* decision. Lewis Dep. (Dkt. 108-3) 44:12-44:24; Ex. 4061.

50. On February 9, 2016, Rep. Lewis and Sen. Rucho met with Dr. Hofeller at Dr. Hofeller's private home to discuss drawing the 2016 Plan. Rep. Lewis and Sen. Rucho gave Dr. Hofeller oral instructions on the criteria to follow when drawing the 2016 Plan. Exs. 2006, 2043 at ¶¶32, 38, Ex. 4061; Lewis Dep. (Dkt. 108-3) 48:19-49:7; Rucho Dep. (Dkt. 108-5) 170:13-170:17.

51. On February 10, 2016, Rep. Lewis and Sen. Rucho met with Dr. Hofeller again at Dr. Hofeller's private home. Sen. Rucho was at Dr. Hofeller's home in the morning, before Dr. Hofeller had a medical appointment, and Lewis was there in the afternoon after Dr. Hofeller's appointment. Exs. 2006, 2043 at ¶32, 4061; Rucho Dep. (Dkt. 108-5) 31:16-31:18, 37:7-37:8.

52. At the separate meetings he had with each legislator on February 10th, Dr. Hofeller showed Rep. Lewis and Sen. Rucho draft maps with past election results displayed on the screen. Lewis Dep. (Dkt. 108-3) 59:22-60:13, 63:5-64:17; Rucho Dep. (Dkt. 108-5) 37:9-38:11.

53. At the February 10th meeting with Dr. Hofeller, Rep. Lewis requested that election results from the Tillis-Hagan 2014 race be displayed on the screen so that he could view the performance of individual districts and evaluate maps. Rep. Lewis stated "nearly every time I looked at the maps it was the political data from the Tillis-Hagan race in '14 . . . on the screen most of the time." Lewis Dep. (Dkt. 108-3) 63:9-64:17.

54. At the February 10th meeting, Rep. Lewis also observed Dr. Hofeller "using another combination of political races" to evaluate maps. Lewis Dep. (Dkt. 108-3) 63:22-64:17.

55. On February 11th, a redistricting "process" meeting was held to set deadlines for the following week. Lewis Dep. (Dkt. 108-3) 68:18-68:25; Ex. 2006.

56. On February 12th or 13th, Rep. Lewis again visited Dr. Hofeller's home to view maps and "different scenarios." Lewis Dep. (Dkt. 108-3) 73:7-74:24; Exs. 2043 at ¶32, 4061.

57. The maps that Rep. Lewis reviewed at the meeting on the 12th or 13th were near final versions of the 2016 Plan that Rep. Lewis intended to submit to the General Assembly. Lewis Dep. (Dkt. 108-3) 77:7-77:20.

58. The map that Dr. Hofeller drew and Rep. Lewis submitted to the General Assembly was ultimately adopted as the 2016 Plan with only a minor change to fix an incumbent pairing issue. Lewis Dep. (Dkt. 108-3) 77:21-24; Exs. 1009 at 53:2-54:14, 2043 at ¶40.

59. On February 12th, Rep. Lewis and Sen. Rucho were again appointed Co-Chairs of the 2016 Joint Select Committee on Congressional Redistricting ("Joint Committee"). The Committee consisted of 38 members, including Rep. Lewis and Sen. Rucho. Exs. 2009; 2043 at ¶27; Lewis Dep. (Dkt. 108-3) 12:22-13:3.

60. On February 15, 2016, Rep. Lewis and Sen. Rucho convened a public hearing on redistricting. Exs. 1004, 2006, 4061; Lewis Dep. (Dkt. 108-3) 81:11-81:17.

61. Dr. Hofeller was not present at the public hearing, nor did Rep. Lewis or Sen. Rucho convey to him any of the opinions that the attendees offered. Rucho Dep. (Dkt. 108-5) at 55:4-57:7, 66:21-67:20; Lewis Dep. (Dkt. 108-3) 81:11-81:22.

62. At the time of the public hearing on the 15th, Rep. Lewis had not told the other members of the Joint Committee that Dr. Hofeller was already drawing the 2016 Plan for Rep. Lewis and Sen. Rucho. Lewis Dep. (Dkt. 108-3) 81:23-82:7.

63. On February 16, 2016, the Joint Committee met for the first time. Exs. 1005, 2006, 4061.

64. At this meeting, the Adopted Criteria, developed by Rep. Lewis and Sen. Rucho but previously unknown to the other members of the Joint Committee, were introduced and voted on one by one. Ex. 1005 at 12:8-14:1, 18:9-24:18, 24:19-47:5, 47:6-69:23, 69:24-78:7, 78:8-94:17, 94:18-98:20.

65. Dr. Hofeller received oral instructions from Rep. Lewis and Sen. Rucho consistent with the Adopted Criteria before the criteria were presented to and adopted by the Joint

Committee. Ex. 2043 at ¶38; Lewis Dep. (Dkt. 108-3) 162:24-163:7; Hofeller Dep. (Dkt. 108-1) 20:7-23, 178:14-20.

66. The text of the "Incumbency" criterion of the Adopted Criteria passed by the Joint Committee on February 16 stated:

<u>Incumbency</u>

Candidates for Congress are not required by law to reside in a district they seek to represent. However, reasonable efforts shall be made to ensure that incumbent members of Congress are not paired with another incumbent in one of the new districts constructed in the 2016 Contingent Congressional Plan.

Ex. 1007.

67. The text of the "Political Data" criterion of the Adopted Criteria passed by the Joint Committee on February 16 stated:

<u>Political data</u>

The only data other than population data to be used to construct congressional districts shall be election results in statewide contests since January 1, 2008, not including the last two presidential contests. Data identifying the race of individuals or voters shall not be used in the construction or consideration of districts in the 2016 Contingent Congressional Plan. Voting districts ("VTDs")

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should be split only when necessary to comply with the zero deviation population

requirements set forth above in order to ensure the integrity of political data.

Ex. 1007.

68. The text of the "Partisan Advantage" criterion of the Adopted Criteria passed by

the Joint Committee on February 16, 2016 stated:

<u>Partisan Advantage</u>

The partisan makeup of the congressional delegation under the enacted plan is 10

Republicans and 3 Democrats. The Committee shall make reasonable efforts to

construct districts in the 2016 Contingent Congressional Plan to maintain the

current partisan makeup of North Carolina's congressional delegation.

Ex. 1007.

69. The "Political data" and "Partisan Advantage" criteria were passed by the Joint

Committee on party-line votes. Ex. 1005 at 43:21-47:5, 66:13-69:23.

70. The terms or concepts "core retention," "big county (population of 100,000 or

greater) splits," and "small county (population less than 100,000) splits" are not

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mentioned in the Adopted Criteria. Nor were they discussed by the Joint Committee. Ex. 1007; Tr. I at 226:17-227:7, 254:4-9; Tr. IV at 84:6-12.

71. The only amendment to the Adopted Criteria that passed was "Amendment to Political Data Criteria #3," submitted by Rep. Stam, which aimed to clarify that political data, including "statewide contests since *January 1*, 2008 not including the last two presidential contests" could be used to "construct congressional districts" (the two words the amendment added to the existing "political data" criterion are in italics). Ex. 1006 at 21.

72. None of the amendments proposed at the February 16th Joint Committee meeting establishing the Adopted Criteria, whether ultimately passed or voted down, discussed the terms or concepts of "core retention," "big county (population of 100,000 or greater) splits," or "small county (population less than 100,000) splits." Exs. 1005-06.

73. At the February 16th Joint Committee meeting, Rep. Lewis "acknowledge[d] freely" that a map crafted according to the Adopted Criteria "would be a political gerrymander." Ex. 1005 at 48:4-48:6.

74. Rep. Lewis further "propose[d] that to the extent possible, the map drawers create a map which is perhaps likely to elect 10 Republicans and 3 Democrats." Ex. 1005 at 48:1-48:4.

75. Rep. Lewis continued, "I propose that we draw the maps to give a partisan advantage to 10 Republicans and 3 Democrats because I do not believe it's possible to draw a map with 11 Republicans and 2 Democrats." Ex. 1005 at 50:7-50:10.

76. A goal of the 2016 Plan was to achieve a 10-3 Republican advantage. Hofeller Dep. (Dkt. 108-1) 125:7-125:9, 175:19-175:24, 188:19-189:2, 189:20-189:22.

77. At the February 16th Joint Committee meeting, Rep. Lewis "ma[d]e clear that we to the extent are going to use political data in drawing this map, it is to gain partisan advantage." Ex. 1005 at 53:24-54:4.

78. Democratic members of the Joint Committee did not learn that they would be given money to engage a map drawer until the end of the Joint Committee meeting on February 16th, less than 24 hours before the 2016 Plan would be introduced to the Joint Committee. Exs. 1005 at 130:1-139:25, 1008 at 45:7-45:11; Rucho Dep. (Dkt. 108-5) 214:25-215:25.

79. After a motion was passed at the Joint Committee meeting to hire a consultant to draw new map(s), an engagement letter was sent to Dr. Hofeller to "produce a contingent Congressional Map or Maps using the attached…Adopted Criteria." The engagement letter was dated February 16, 2016, and Dr. Hofeller signed the letter the same day. Ex. 2009.

80. On February 16th at 3:09 PM, Rep. Lewis sent an email to Dan Frey, Dennis McCarty, legislative staff and counsel for Speaker Moore and Sen. Rucho, and the Police Chief, stating the following:

Per authorization from the Select Committee, Sen. Rucho and I have agreed to

hire Dr. Thomas Hofeller as our consultant to draw the 2016 Contingent

Congressional Map per the criteria adopted by the Committee today…Please

establish a secure, lockable workplace with access to a computer and

Maptitude…ONLY the data and criteria approved by the Committee should

be loaded on the computer and made accessible to the consultant…Please

restrict the access to the room in which Dr. Hofeller will work is accessible

only by Dr. Hofeller, Sen. Bob Rucho, Brent Woodcox, whomever on your

staff is necessary to comply with this request and me. The General Assembly

Police should be informed of this request.

Ex. 2008.

81. On February 16th, Dr. Hofeller loaded map(s) drawn on his private computer onto a legislative computer. Lewis Dep. (Dkt. 108-3) 138:6-8; Exs. 1009 at 45:7-45:11, 1014 at 21:11-21:24, 4061.

82. On February 17, 2016, the Joint Committee was reconvened to consider the 2016 Plan, which Dr. Hofeller had finished designing before the Committee had even met for the first time on the 16th. Hofeller Dep. (Dkt. 108-1) 177:9-14; Lewis Dep. (Dkt. 108-3) 105:15-106:12, 162:24-163:7; Exs. 1014 at 22:2-22:8, 2006.

83. At the Joint Committee meeting on the 17th, data was distributed to the Committee members showing how the 2016 Plan's districts performed in twenty prior statewide elections. Exs. 1008 at 17:4-30:24, 1017, 2039.

84. At the February 17th Joint Committee meeting, Rep. Lewis reiterated that "this map will produce an opportunity to elect ten Republican members of Congress." Ex. 1008 at 12:3-5.

85. On February 17th, the 2016 Plan drawn by Dr. Hofeller was adopted by the Committee on another party-line vote. Exs. 1003, 1008 at 67:16-72:8, 2043 at ¶¶3, 35, 4061.

86. The plan adopted by the Joint Committee on February 17th was drawn at Dr. Hofeller's private home and on Dr. Hofeller's personal computer loaded with Maptitude software. Ex. 2043 at ¶¶43, 44.

87. Dr. Hofeller did not attend any meetings of the Joint Committee. Ex. 2043 at ¶36.

88. On February 18th, House and Senate Redistricting Committee meetings were held, along with House and Senate Floor sessions. Exs. 1009, 1011, 1013, 1015, 2006, 4061.

89. At the February 18th Senate Redistricting Committee meeting, a minor edit was made to the 2016 Plan adopted the previous day by the Joint Committee. Two whole and one partial precinct between District 6 and District 13 were modified so that Rep. Adams and Rep. Walker were no longer double-bunked. Exs. 1009 at 53:2-54:14, 1014 at 22:21-23:10, 2043 at ¶40, 4061; Lewis Dep. (Dkt. 108-3) 138:6-139:2.

90. On February 19th, House and Senate Redistricting Committee meetings were held along with House and Senate Floor sessions. Exs. 1010, 1012, 1014, 1016, 2006, 4061.

91. At the House Redistricting Committee meeting on the 19th, Rep. Lewis stated that "we largely kept the [Twelfth] district as a strongly Democratic district…" Ex. 1014 at 36:1-36:3.

92. At the House Redistricting Committee meeting on the 19th, the following exchange between Rep. Stevens and Rep. Lewis took place:

REP. STEVENS: And did you take into account, in drawing each of these districts, the political data?

REP. LEWIS: Yes, ma'am.

REP. STEVENS: And in doing these districts, did you take into account partisan advantage?

REP. LEWIS: Yes, ma'am.

Ex. 1014 at 36:25-37:6.

93. At the House Floor session held on February 19th, Rep. Lewis stated that the 2016 Plan could be seen as an "evil sinister gerrymander." Ex. 1016 at 29:19-29:21.

94. At the House Floor session held on February 19th, Rep. Lewis stated "Political data did play a part in drawing the map. We did seek partisan advantage in drawing the map." Ex. 1016 at 29:11-29:13.

95. At the House Floor session held on February 19, Rep. Lewis said "we believe that election results, election outcomes are much better predictors of how the people vote than partisan registration is." Ex. 1016 at 30:23-31:3.

96. At the House Floor session on February 19th, the following exchange took place between Rep. Martin and Rep. Lewis:

REP. MARTIN: Rep. Lewis, would it be accurate to say that the mapmakers considered every one of the races that's listed in the charts that were presented at committee several times?

REP. LEWIS: Yes, sir.

Ex. 1016 at 37:3-7.

97. Sen. Rucho agrees with Rep. Lewis that the 2016 Plan "would be a political gerrymander." Rucho Dep. (Dkt. 108-5) 118:20-119:10.

98. The 2016 Plan ("Contingent Congressional Map – Corrected") or Senate Bill 2, was introduced to the General Assembly on February 19. Exs. 1001, 1002, 1012 at 5:3-5:11, 1016 at 3:6-3:11.

99. The 2016 Plan was passed by the General Assembly on the 19th, with every Democrat opposing the Plan and every Republican (but one) supporting it. Exs. 1001, 1002, 1012 at 11:8-21, 1016 at 81:6-16, 2043 at ¶¶1, 2, 25, 4061.

100. There was no discussion of the terms or concepts "core retention," "big county (population of 100,000 or more) splits," or "small county (population of less than 100,000) splits" as criteria for drawing the 2016 Plan at any of the legislative hearings held by the Joint Committee, the House, the Senate, or the General Assembly. Exs. 1004-16.

101. The 2016 Plan, as enacted by the General Assembly, splits two counties with a population of 100,000 or less (Bladen and Wilson Counties), and 11 counties with 100,000 population or greater (Buncombe, Cumberland, Guilford, Johnston, Mecklenburg, Pitt, Wake, Catawba, Durham, Iredell, and Rowan Counties). Exs. 1001, 5001 at ¶31, 5116 at ¶9; North Carolina General Assembly "Redistricting Archives:" Changes in U.S. House Seats per County, 1990 to 2010 (listing County population numbers from 2010 Census), available at:

http://www.ncleg.net/GIS/Download/Maps_Reports/Decennial_ReCalc/2010/SeatsPerCounty/1990_to_2010_Seats_per_County_Cong.pdf

102. There is no written or electronic documentation of any discussions between Dr. Hofeller and either Sen. Rucho or Rep. Lewis regarding the plan adopted by the Joint Committee on February 17th or the 2016 Plan which was enacted on February 19th. Ex.

2043 at ¶4l; Hofeller Dep. (Dkt. 108-1) 20:7-20:23; Lewis Dep. (Dkt. 108-3) 21:25-
22:10.

103.   "Maptitude Data Extractions from 2016 Plans.pdf" is a true and correct
copy of data that Dr. Hofeller pulled from the Maptitude software on his computer, and
then included as an attachment to an email sent to plaintiffs' counsel by attorney Thomas
Farr on February 24, 2017. Ex. 2005.

104.   On January 11, 2017, Rep. Lewis stated, "I think partisanship is an inherent
part of who we are. And I think it will always have some role in the decisions that we
make and that includes redistricting. It should not be a predominant factor, but it will be
always a factor. Whether you acknowledge it or not it'll always be a factor and to not
acknowledge that is either naïve or dishonest." Ex. 2042.

(c)   Racial or Ethnic Data Was Not Considered by Rep. Lewis, Sen. Rucho, or Dr. Hofeller When Drawing the 2016 Plan

105.   The criteria adopted by the Joint Committee stated explicitly that "[d]ata
identifying the race of individuals or voters shall not be used in the construction or
consideration of districts in the 2016 Contingent Congressional Plan. " Ex. 1007.

106.   Dr. Hofeller did not use any racial data in drawing the 2016 Plan adopted
by the Joint Committee. Ex. 2043 at ¶45; Hofeller Dep. (Dkt. 108-1) 145:9-12, 146:4-
146:8, 183:22-184:8; Rucho Dep. (Dkt. 108-5) 38:16-38:19, 43:19-44:21, 94:13-94:17;
Lewis Dep. (Dkt. 108-3) 118:3-118:16.

107.   Dr. Hofeller thought generally that District 1 would not be retrogressive
because it was drawn in the same area in 2016 as 2011, but he did not look at whether

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any of the other districts were in compliance with the Voting Rights Act, "because there were no other Voting Rights districts in the state before in the previous benchmark plan." Hofeller Dep. (Dkt. 108-1) 185:2-18, 246:9-247:3.

108.   Rep. Lewis and Sen. Rucho stated that their understanding was that the trial court in *Harris* held that there was insufficient racial polarization in voting in North Carolina, meaning that the Voting Rights Act did not require the creation of any minority opportunity districts. Lewis Dep. (Dkt. 108-3) 38:15-38:19, 51:15-51:19, 86:2-86:4; Lewis Dep. II (Dkt. 108-4) 179:13-179:19, 242:9-243:7; Rucho Dep. (Dkt. 108-5) 31:3-31:8.

109.   Rep. Lewis stated to the Joint Committee that "the *Harris* opinion found that there was not racially polarized voting in the state, and therefore, the race of the voters should not be considered." Ex. 1006 at 27:11-17.

110.   At the House Floor session on February 19th, the following exchange took place between Rep. Michaux and Rep. Lewis:

REP. MICHAUX: And, David, honestly, this will be my last question to you. In drawing the maps, was anything made or said or asked to what extent we must preserve the existing minority percentages in order to maintain the minority's present ability to elect its candidate of choice?

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REP. LEWIS: Representative, thank you for the question. It is my understanding of the Harris decision that they did not find the tests were met that racially polarized voting existed and, as such, we did not consider race in any way when we drew these districts.

Ex. 1016 at 62:9-20.

(d)   Dr. Hofeller Drew the 2016 Plan for Partisan Advantage

111.   Dr. Hofeller, Rep. Lewis, and Sen. Rucho used election results to analyze the electoral performance of the newly formed districts. Hofeller Dep. (Dkt. 108-1) 14:18-15:3; Lewis Dep. (Dkt. 108-3) 25:1-25:17; Rucho Dep. (Dkt. 108-4) 97:3-97:6.

112.   In Dr. Hofeller's opinion, past election results are the best predictor of how a particular geographic area is likely to vote in a future election. Hofeller Dep. (Dkt. 108-1) 14:25-15:4.

113.   In Hofeller's opinion, there is no more reliable indicator of future election results than how a particular geographic area voted in past elections. Hofeller Dep. (Dkt. 108-1) 15:15-15:19.

114.   In Dr. Hofeller's opinion, the most important information if you were trying to give a party a partisan advantage over another in the redistricting process would be past election results. Hofeller Dep. (Dkt. 108-1) 16:8-16:12.

115.   Election results are a better predictor of voting behavior than voter

registration data. Lewis Dep. (Dkt. 108-3) 116:12-117:3; Rucho Dep. (Dkt. 108-5) 205:4-

205:9, 232:19-233:2.

116.   Because election results and voting pattern data are better indicators of the

partisan performance of a district, voter registration data was not used in drawing the

2016 Plan. Ex. 1009 at 25:7.

117.   Dr. Hofeller drew the 2016 Plan using election data at the block level that

was reaggregated back up to VTDs and other units of census geography like block

groups, tracts, counties, and places. Hofeller Dep. (Dkt. 108-1) 100:20-101:6.

118.   In addition to the election results from twenty statewide races, Dr. Hofeller

also used his own seven-race formula (hereinafter "the Hofeller formula") to evaluate the

partisan characteristics of the congressional districts he drew, including election data

from the 2008 Governor, 2008 U.S. Senate, 2008 Commissioner of Insurance, 2010 U.S.

Senate, 2012 Governor, 2012 Commissioner of Labor, and 2014 U.S. Senate races. Exs.

1017, 2002, 2039, 2043 at ¶¶18, 47, 49, 50; Hofeller Dep. (Dkt. 108-1) 224:20-225:10;

Hofeller Dep. II (Dkt. 108-2) 262:21-262:24.

119.   In the Hofeller formula, the races Dr. Hofeller used were averaged "to get a

pretty good cross section of what the past vote had been." Hofeller Dep. (Dkt. 108-1)

212:16-213:9.

120.   In the Hofeller formula, the sum of the Republican votes was in the numerator and the sum of Republican plus Democratic votes was in the denominator. Hofeller Dep. II (Dkt. 108-2) 262:21-262:24.

121.   The purpose that the Hofeller formula was designed to achieve was to give Dr. Hofeller an indication of the two-party partisan characteristics of VTDs. Hofeller Dep. II (Dkt. 108-2) 267:3-267:6.

122.   The underlying political nature of precincts will not change no matter which race(s) you use to analyze them because they tend to carry the same characteristics through a string of elections. Hofeller Dep. (Dkt. 108-1) 149:5-149:18; Hofeller Dep. II (Dkt. 108-2) 274:9-274:16.

123.   While drawing the 2016 Plan, Dr. Hofeller displayed the Hofeller formula using approximately eight intervals centered on 50, and one way he might have showed the breaks was "50 to 55, 55 to 60, 65 to 100. And…50 to 45, 45 to 40, 40 to 35, 35 to 30, 30 to 25 and 25 and below." Hofeller Dep. II (Dkt. 108-2) 267:18-24, 269:25-270:6; Exs. 4066-77.

124.   While drawing the 2016 Plan, Dr. Hofeller assigned counties to congressional districts based on their performances in previous elections. Hofeller Dep. (Dkt. 108-1) at 214:9-216:7.

125.   In drawing the 2016 Plan, Dr. Hofeller concentrated strong Democratic counties in just three districts (1, 4, and 12), while more evenly dispersing strong

Republican counties across the map's remaining ten districts. Hofeller Dep. (Dkt. 108-1)

127:14-128:3;

Exhibit 4007: Maptitude Screenshot, North Carolina
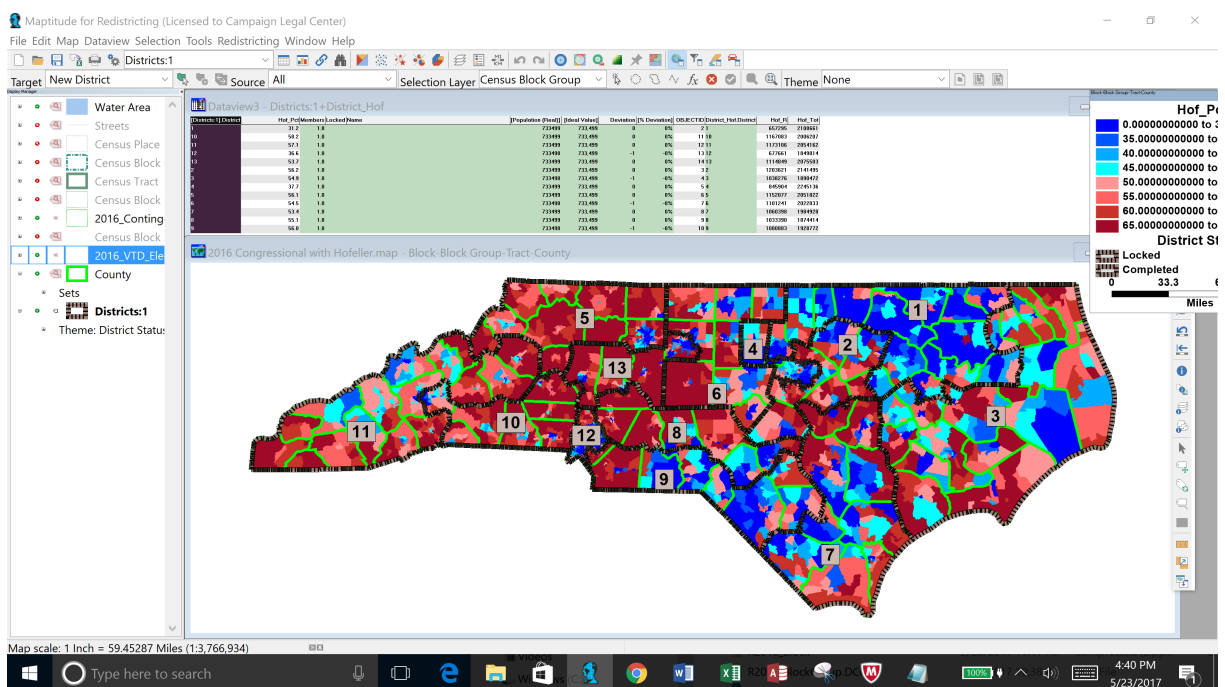

Ex. 4007.

126.　　　Where he split counties, Dr. Hofeller did so for the sake of partisan

advantage. Hofeller Dep. (Dkt. 108-1) 203:1-5; Hofeller Dep. II (Dkt. 108-2) 267:7-

267:17; Lewis Dep. (Dkt. 108-3) 142:4-142:15, 158:13-159:2; Rucho Dep. (Dkt. 108-5)

107:20-108:4, 109:3-109:5.

127. In the 2016 Plan, the heavily Democratic city of Asheville, in Buncombe County, was divided between Districts 10 and 11. Ex. 1001;
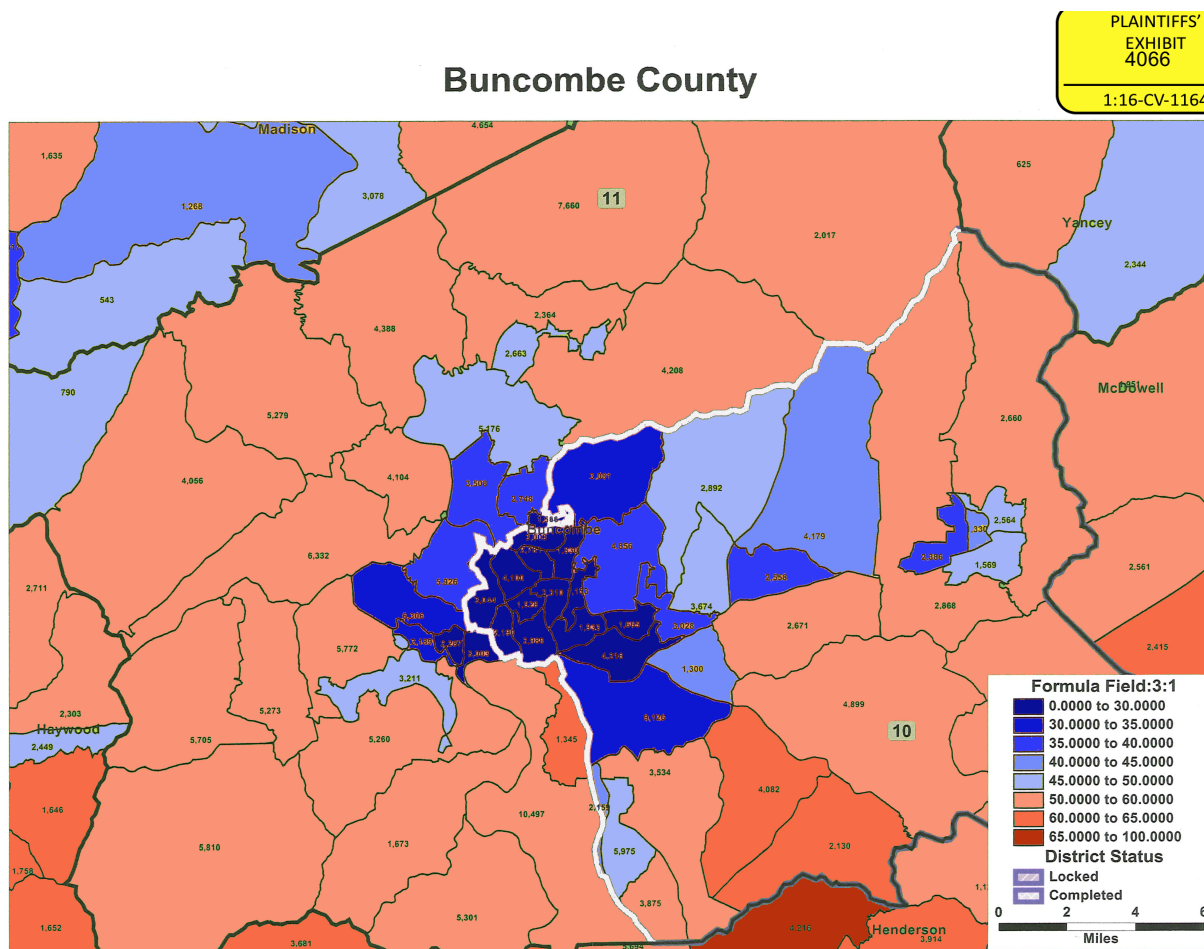
Ex. 4066.

128. In the 2016 Plan, in Greensboro, Guilford County, a Democratic cluster large enough to anchor a congressional district was split down the middle, and each half of the city was submerged in a safely Republican District (Districts 6 and 13). Ex. 1001; Lewis Dep. (Dkt. 108-3) 156:19-157:1;
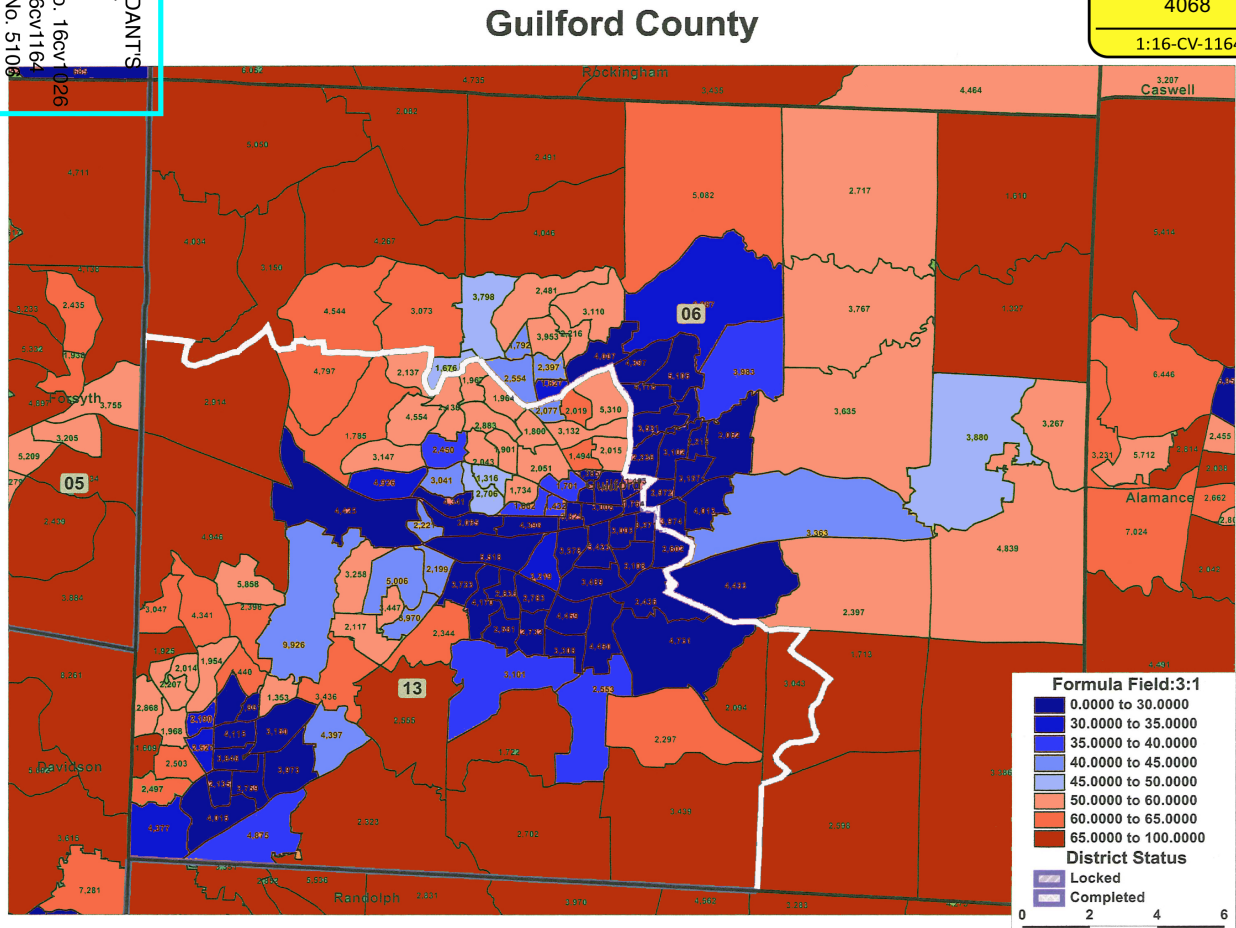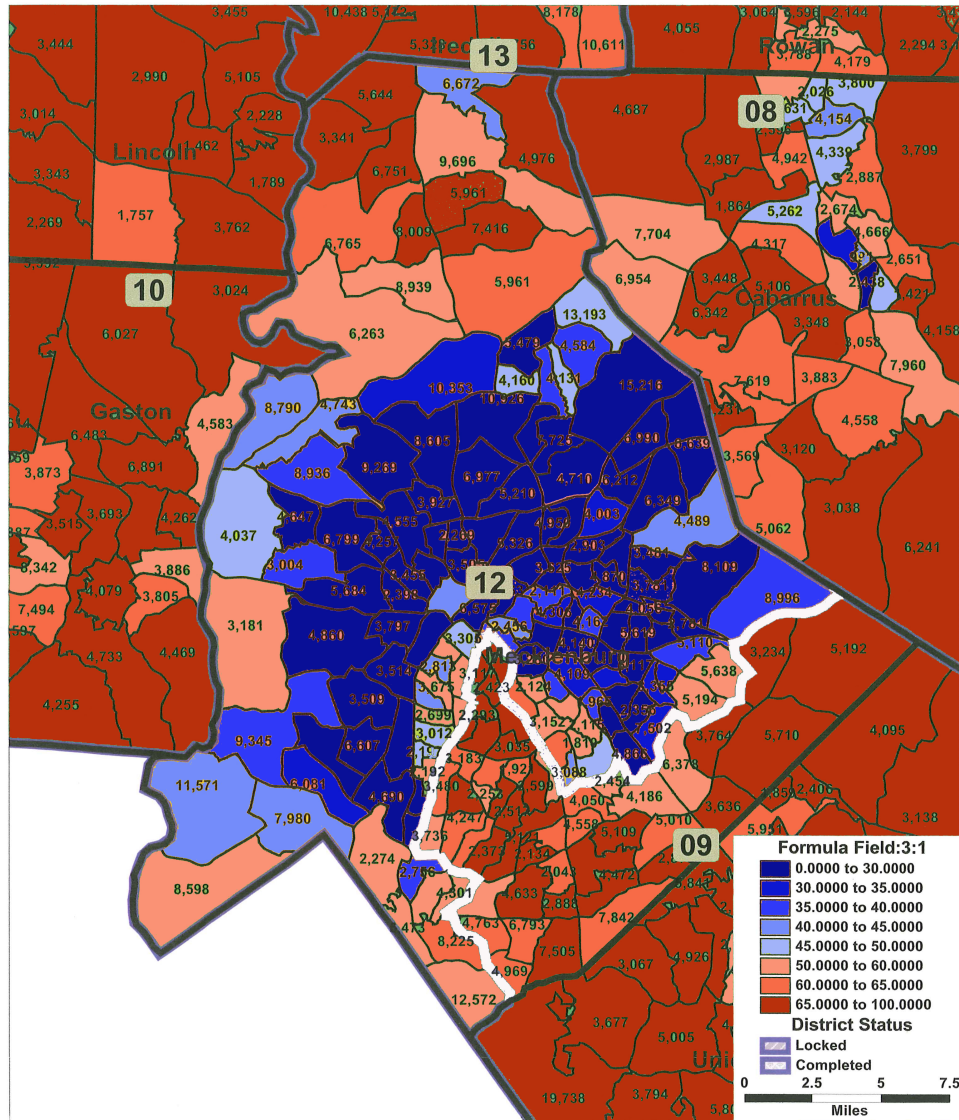
Ex. 4068.

129.   In the 2016 Plan, almost every Democratic precinct in Mecklenburg County

was crammed into District 12, meaning that a Democratic cluster that could yield two

Democratic leaning congressional districts was instead circumscribed in one highly

uncompetitive district. Lewis Dep. (Dkt. 108-3) 50:20-51:1; Tr. IV at 99:1-8;

Ex. 4070.

130.   In the 2016 Plan, almost every Democratic precinct in Wake County was crammed into District 4, also yielding a highly uncompetitive district.

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Durham and Wake Counties
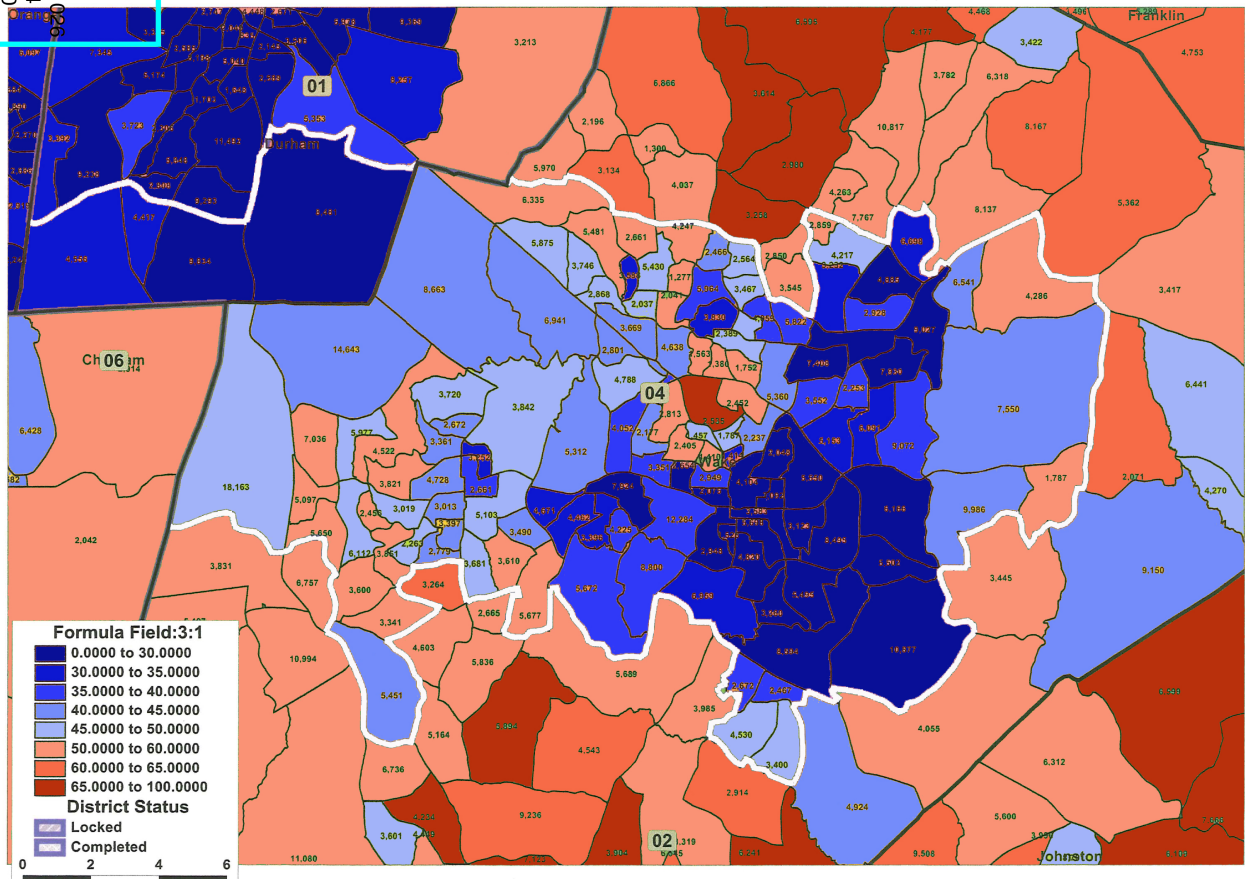
Ex. 4072.

131.   In the 2016 Plan, the Democratic portion of Cumberland County was split

between Districts 8 and 9. Ex. 1001;
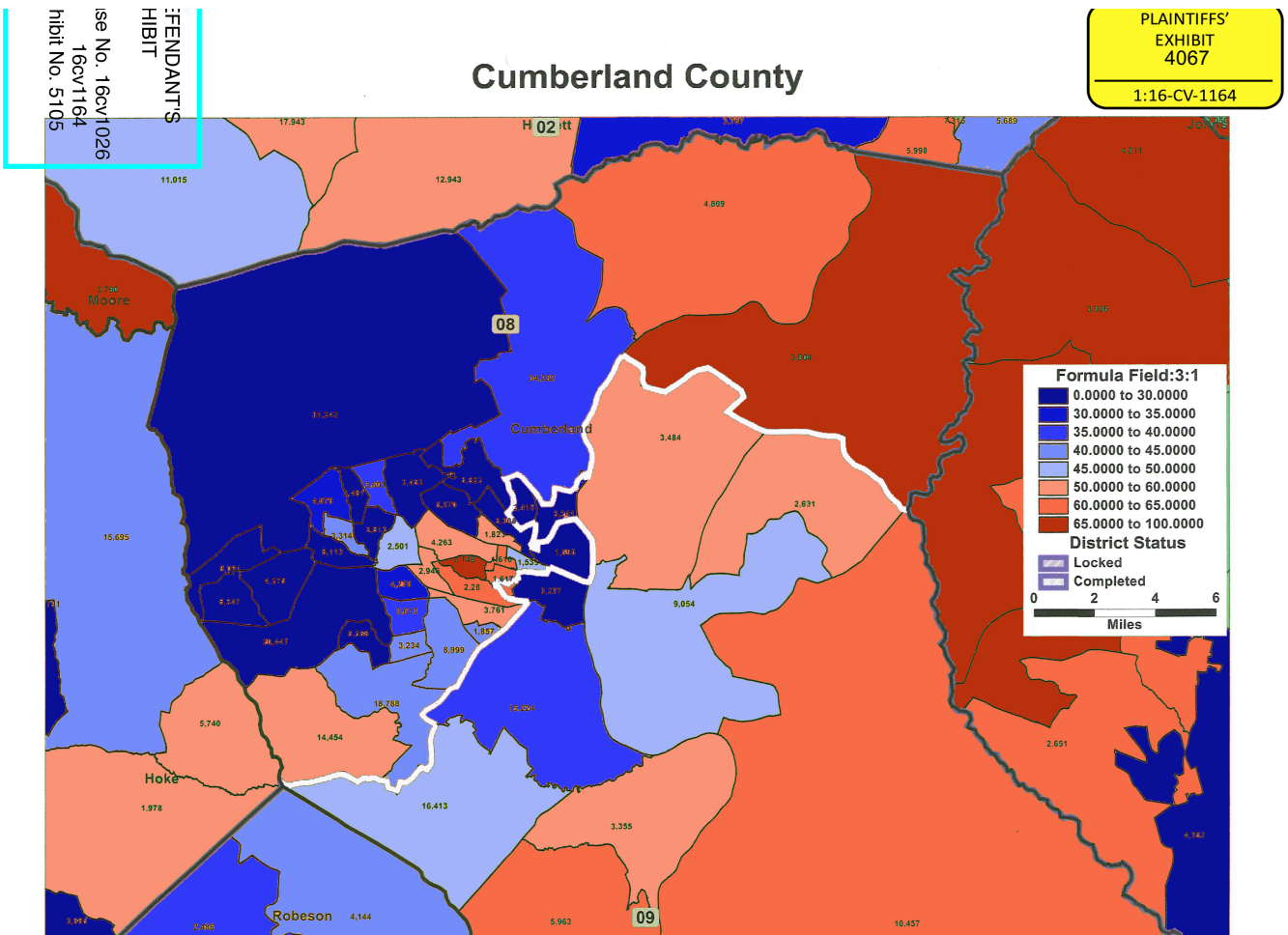
Ex. 4067.

132.   In the 2016 Plan, the Democratic center of Johnston County was split down

the middle between Districts 2 and 7. Ex. 1001;

Johnston County
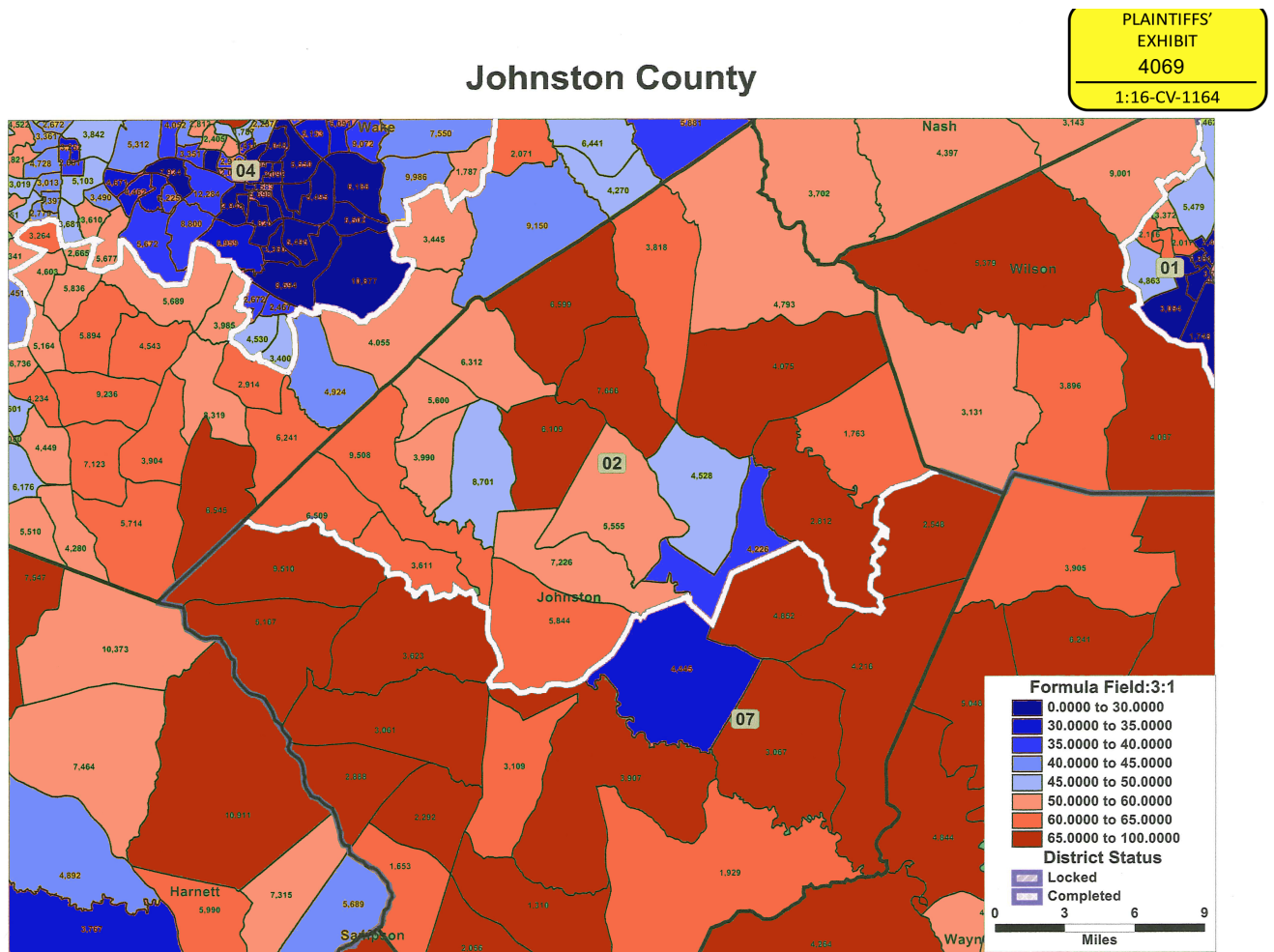
Ex. 4069.

133.   In the 2016 Plan, Democratic precincts in Pitt County were packed into

District 1. Ex. 1001;

Pitt County
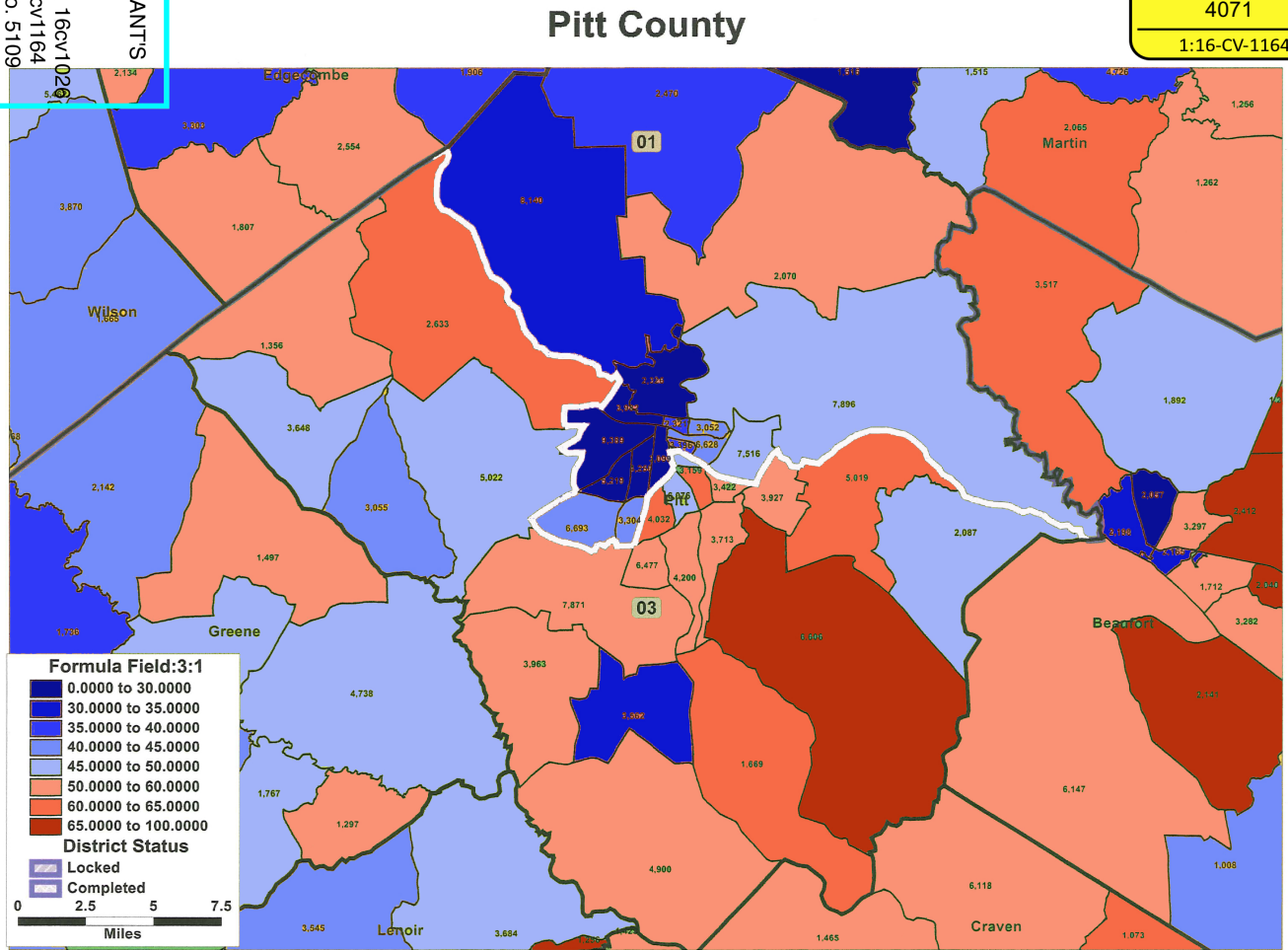
Ex. 4071.

134.   In the 2016 Plan, Democratic precincts in Wilson County were packed into District 1. Ex. 1001;
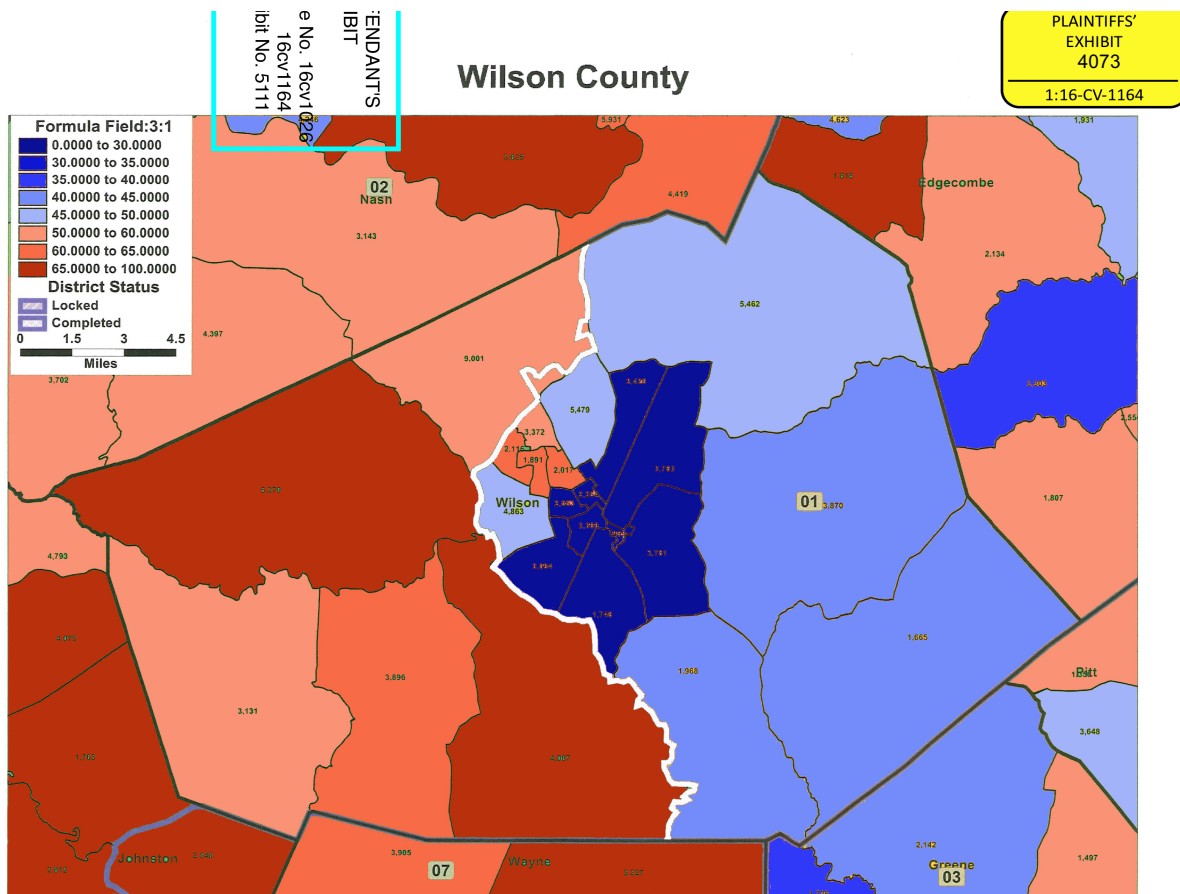
Ex. 4073.

135.   Dr. Hofeller wanted to create districts in which Republicans would have an opportunity to elect Republican candidates, and he wanted to minimize the number of districts in which Democrats would have an opportunity to elect a Democratic candidate. Hofeller Dep. (Dkt. 108-1) 127:14-127:22.

III.   DISCRIMINATORY EFFECT

a)   Measures of Partisan Asymmetry

136.   Partisan asymmetry is a concept at the heart of partisan gerrymandering. It refers to district plans that treat the major parties asymmetrically in terms of how their statewide votes translate into legislative seats. Ex. 4002 at 11, 18; Tr. II at 33:8-21.

137.   The efficiency gap, partisan bias, and the mean-median difference are all measures of partisan asymmetry that social scientists have developed and commonly use. Exs. 4002 at 13, 17, 4003 at 2; Tr. II at 34:13-17.

138.   In a two-party, single-member-district system, a partisan gerrymander operates by effectively "wasting" more votes cast for one party than for the other. Wasted votes are votes for a candidate in excess of what the candidate needed to win a given district (packing) or votes for a losing candidate in a given district (cracking). Ex. 4002 at 5, 11; Tr. II at 35:6-23.

139.   The efficiency gap is one party's total wasted votes in an election minus the other party's total wasted votes, divided by the total number of votes cast. It captures in a single number the extent to which one party's voters are more cracked and packed than the other party's voters. Exs. 4002 at 2, 17-18, 4003 at 1, 2010 at 24; Tr. II at 36:1-9, 45:19-46:11; *Whitford v. Gill*, 218 F. Supp. 3d 837 (W.D. Wis. 2016).

140.   An efficiency gap in favor of one party sees it wasting fewer votes than its opponent, thus translating its votes across the jurisdiction into seats more effectively than its opponent. Ex. 4002 at 5, 18; Tr. II at 42:22-44:6.

141.   Partisan bias is the difference between the shares of seats that the major
parties would win if they each received the same share (typically 50%) of the statewide
vote. For example, if Democrats would win 55% of a plan's districts if they received 50%
of the statewide vote (leaving 45% of the districts to be won by Republicans), then the
plan has a pro-Democratic bias of 5%. Ex. 4002 at 13-17; Tr. II at 46:12-47:4.

142.   Partisan bias is calculated first by obtaining district-by-district electoral
results as well as the statewide vote share for each party. Next, the analyst *shifts* the
observed vote share in each district by the same amount (a "uniform swing"): the amount
necessary to simulate a tied statewide election. The analyst then tallies how many
districts each party would have won and lost in this hypothetical election. The difference
between the parties' seat shares and an even split of the seats in the hypothetical election
is an estimate of the partisan bias of the underlying districting plan. Ex. 4003 at 3; Tr. II
at 47:5-21.

143.   The mean-median difference is the difference between a party's *mean* vote
share and *median* vote share across all of the districts in a plan. When the mean and the
median diverge significantly, the district distribution is skewed in favor of one party and
against its opponent. For instance, if a plan's mean district has a Democratic vote share of
50%, and the plan's median district has a Democratic vote share of 45%, then the plan
has a pro-Republican mean-median difference of 5%. Ex. 4003 at 7-8; Tr. II at 47:22-
48:12.

144.   Mean-median differences are smaller than efficiency gaps and partisan

biases because they are denominated in units of vote share rather than seat share. Ex.

4003 at 7-8.

145.   The efficiency gap is not based on the principle that parties have a right to

proportional representation based on their share of the statewide vote, nor does it measure

the deviation from seat-vote proportionality. In fact, it is calculated without any reference

to parties' statewide seat or vote shares. Exs. 4002 at 11-17, 4003 at 18-19; Tr. II at

48:21-50:7.

146.   Both Mr. Trende and Prof. Hood, offered as experts by defendants, agree

that the efficiency gap is not a measure of proportional representation. Tr. III at 70:5-7;

Tr. IV at 92:10-14.

147.   Similarly, a low partisan bias score is achieved when both parties would

win about the same share of seats if they each received the same fraction of the statewide

vote. A party's seats can therefore be highly disproportionate to its votes—as long as the

other party's seats would be as disproportionate to its votes if the parties' performances

flipped. Ex. 4002 at 13-17; Tr. II at 48:21-50:7.

148.   Likewise, the mean-median difference is simply a measure of the skew of

the district vote share distribution. The metric does not even consider seats won or lost,

meaning it cannot compel, or even encourage, proportional representation. Ex. 4003 at 7-

8.

b) Professor Jackman's Data and Methods

149.　　Prof. Jackman used congressional election results from 1972 to 2016 to calculate efficiency gaps, partisan biases, and mean-median differences for 512 observations, spanning 25 states, and 136 districting plans. Exs. 4002 at 2, 26, 4003 at 2-8; Tr. II at 53:18-55:2, 57:16-20.

150.　　The efficiency gap can be calculated directly from a given election's results. It requires no counterfactual analysis. Ex. 4002 at 5; Tr. II at 45:9-18.

151.　　When congressional races were uncontested, Prof. Jackman used two models in combination to estimate what each party's vote count would have been if the races had been contested. Ex. 4002 at 20-26; Tr. II at 57:21-59:9.

152.　　Prof. Jackman's first model predicted each party's vote share in each uncontested district using presidential vote share and incumbency status as independent variables. Ex. 4002 at 20-24.

153.　　Prof. Jackman's second model predicted the total number of votes cast in each uncontested district using previous and future election results and incumbency status as independent variables. Ex. 4002 at 24-26.

154.　　Prof. Jackman then combined the predictions from the two imputation models to produce estimated vote counts for each party in each uncontested district. Ex. 4002 at 26.

c) Partisan Asymmetry Descriptive Statistics

155.   Most district maps are reasonably symmetric in their treatment of the two major parties. Ex. 4002 at 28; Tr. II at 60:19-61:14.

156.   Over the last fifty years, the distributions of the efficiency gap, partisan bias, and the mean-median difference have all been normal, with means and medians close to zero. Exs. 4002 at 27, 4003 at 5; Tr. II at 62:2-12; 80:10-81:25;
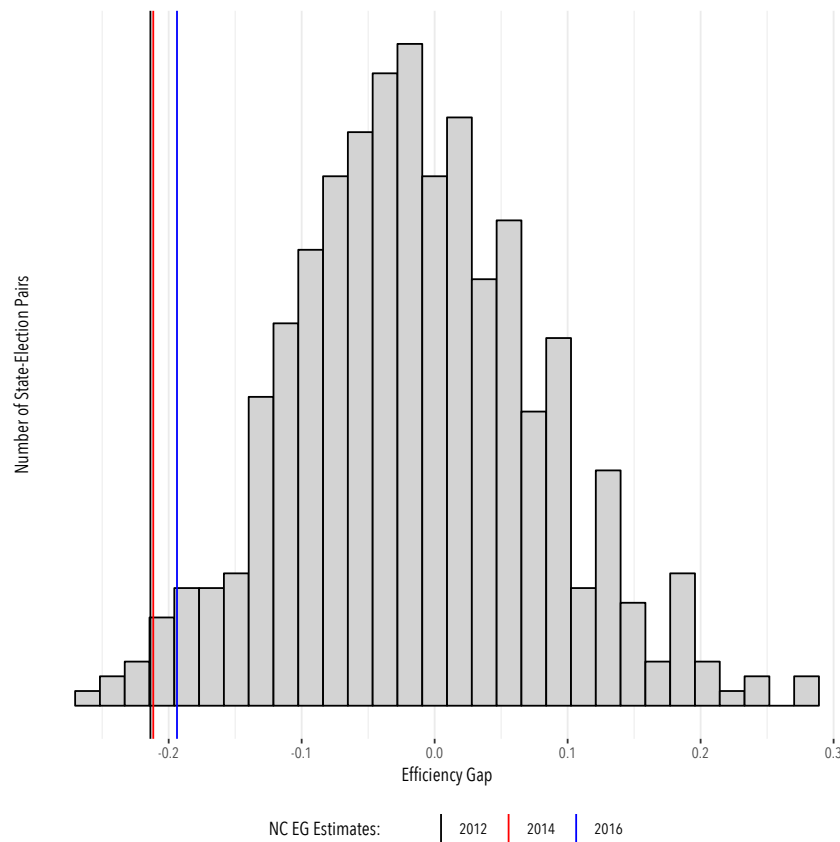
Figure 6: Histogram of efficiency gap estimates in 512 elections, 1972-2016. The three vertical lines indicate where North Carolina's three most recent elections lie in the distribution of efficiency gap scores.

Ex. 4002, Figure 6;

41
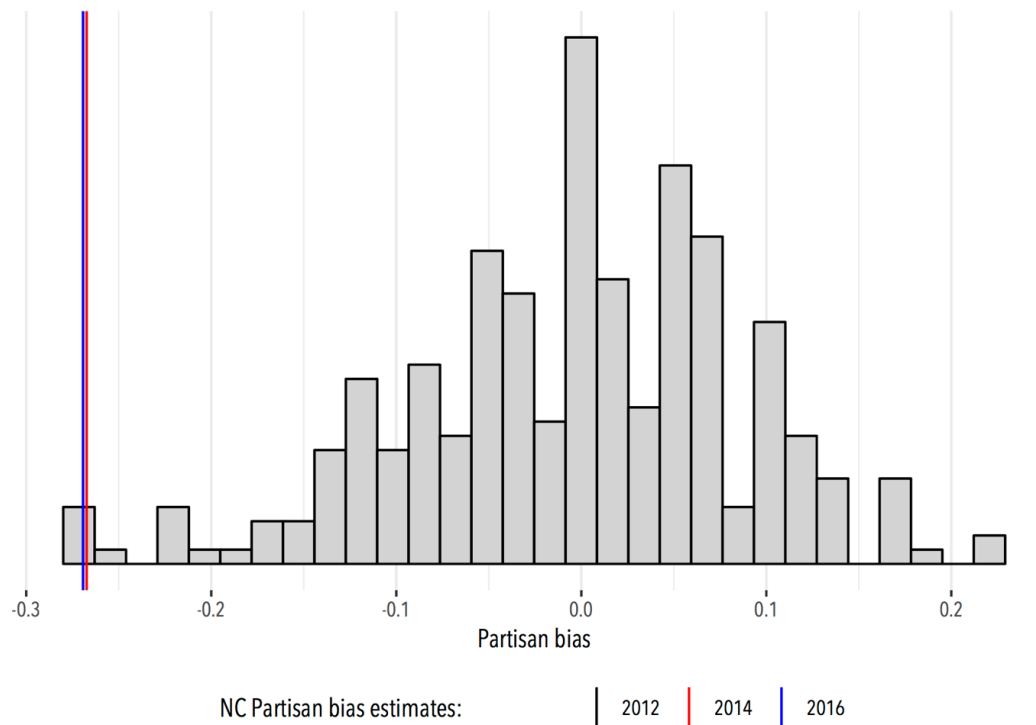
Figure 2: Histogram of partisan bias in 282 Congressional elections closer statewide than 55% to 45%, 1972-2016. The three vertical lines indicate North Carolina's scores in 2012, 2014, and 2016.

Ex. 4003, Figure 2.

157.　　In competitive elections, i.e., those close to a 50-50 split statewide, the efficiency gap, partisan bias, and the mean-median difference are all highly correlated and lead to similar substantive conclusions about district plans. For example, there is a .77 correlation between the efficiency gap and partisan bias in states closer than 55-45, and a .60 correlation between the efficiency gap and the mean-median difference. Exs. 4002 at 60, 4003 at 3-8; Tr. II at 79:20-80:6.

158.　　Only the efficiency gap should be used in uncompetitive statewide settings. This is because in these settings the uniform swing that must be carried out to simulate a

tied statewide election is unrealistic. In these settings, the correlations between the efficiency gap and partisan bias (.29) and the mean-median difference (.19) are both low. Ex. 4003 at 3-8;
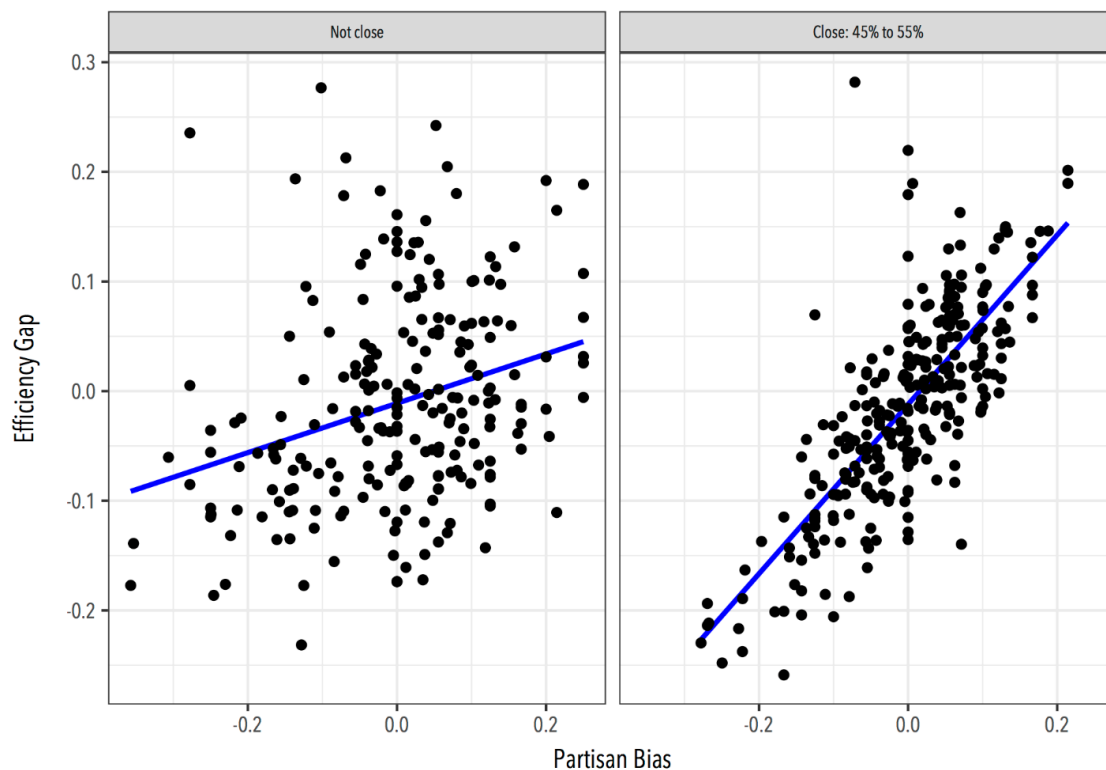
Figure 4: Efficiency gap versus partisan bias, Congressional elections, 1972-2016, competitive elections (closer than 55% to 45%) and uncompetitive elections.

Ex. 4003, Figure 4.

159.   Over the 1972-2016 period, the median efficiency gap of congressional district plans has become steadily more pro-Republican. It was pro-Democratic from the 1970s to the 1990s, and pro-Republican from the 1990s to the present. Ex. 4002 at 29,

43
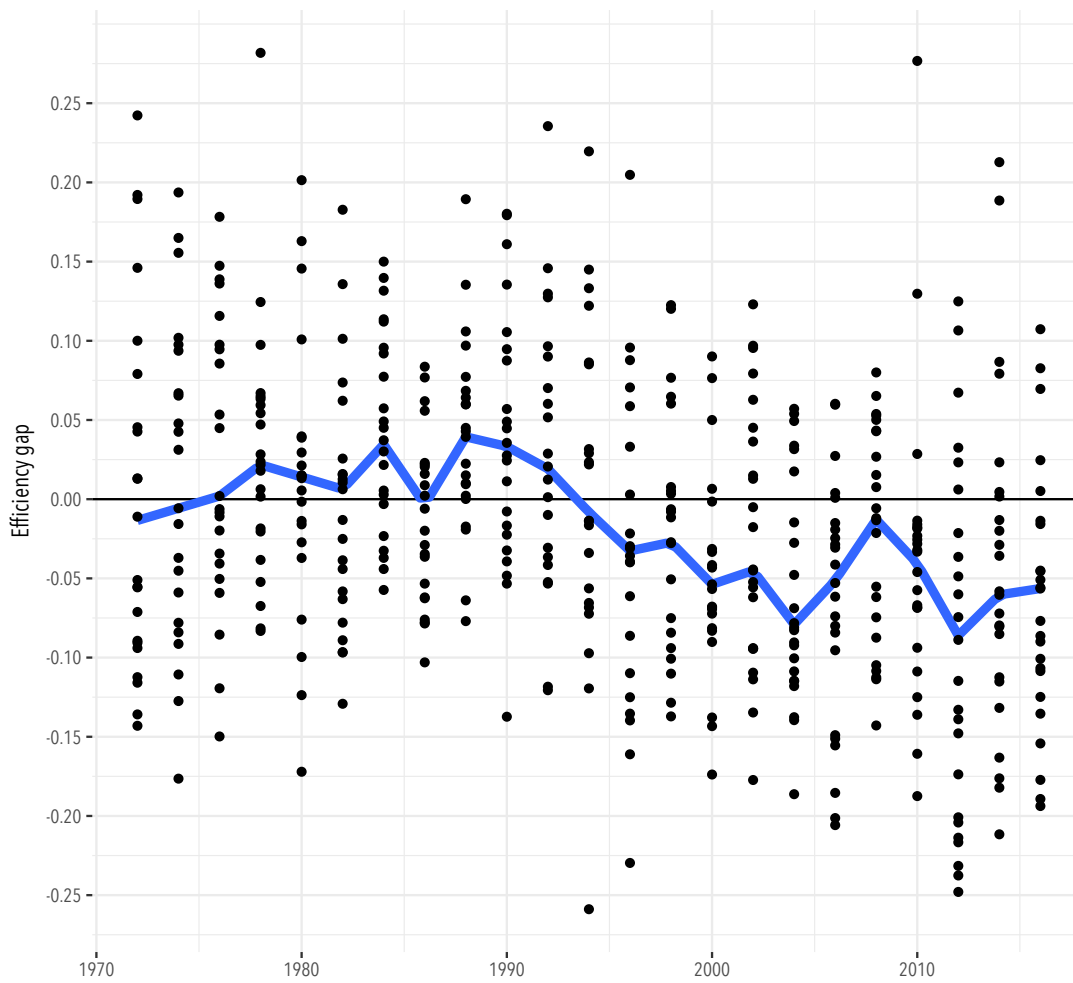
Figure 7: Efficiency gap estimates, over time. The line is a smoothed estimate of the median efficiency gap.

Ex. 4002, Figure 7.

160.   Over the 1972-2016 period, the absolute value of the median efficiency gap of congressional district plans rose slightly for several decades, but then spiked in the current cycle to the highest level recorded. Ex. 4002 at 30;

44
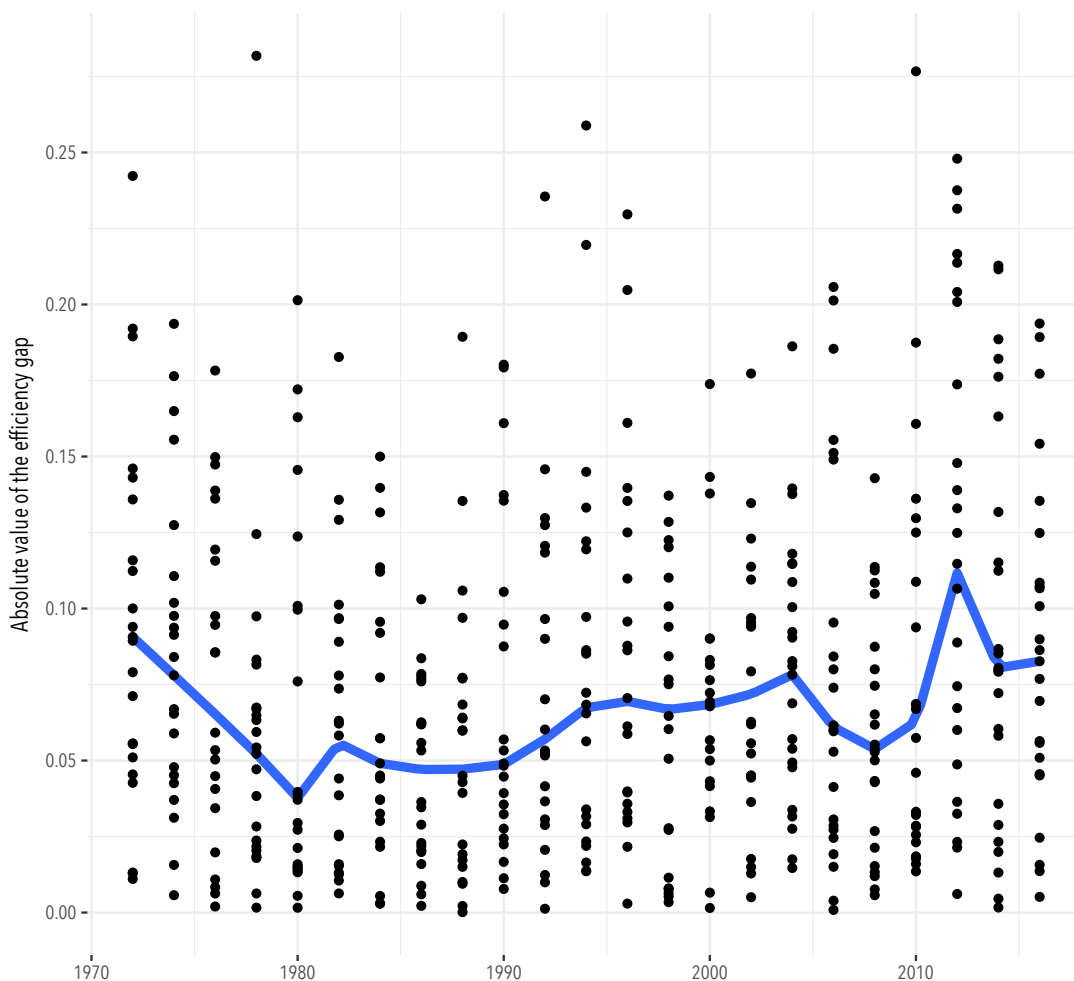
Figure 8: Absolute value of efficiency gap measures, over time. The blue line is a smoothed estimate of the median absolute value of the efficiency gap measure.

Ex. 4002, Figure 8.

d) Partisan Asymmetry Drivers

161.   To analyze the effect of party control of the redistricting process on the

efficiency gap, Prof. Jackman created a series of regression models for different time

periods. Each of these models included the efficiency gap as the dependent variable, and

the institution responsible for redistricting and fixed effects for states and years as the independent variables. Ex. 4002 at 33-35; Tr. II at 73:23-74:12.

162. Over the last two cycles, both unified Democratic control and unified Republican control are statistically significant and substantively large drivers of the efficiency gap. Unified Democratic control results in a 11.9-point swing in the efficiency gap in a Democratic direction, while unified Republican control results in a 7.0-point swing in a Republican direction. Ex. 4002 at 33; Tr. II at 74:13-75:4.

163. Much of the observed change in the efficiency gap in recent decades is due to shifts in party control over redistricting. If the distribution of party control had stayed constant between the 1990s and the current cycle, then the average efficiency gap would have become more pro-Democratic (rather than much more pro-Republican) over this period. Ex. 4002 at 35-37;

Figure 11: Average efficiency gap by decade and predicted efficiency gap had partisan control of redistricting stayed as it was in the 1990s. Vertical lines cover 95% credible intervals for predictions of the average efficiency gap.

Ex. 4002, Figure 11.

164. Prof. Jackman examined how the efficiency gap is related to the proportion of House members in a congressional delegation who are black or Latino. He found that

there is essentially no relationship between the efficiency gap and black or Latino representation. Nationally, district plans' partisan fairness is simply unconnected to how well or poorly minority voters are represented. Ex. 4003 at 10-12;
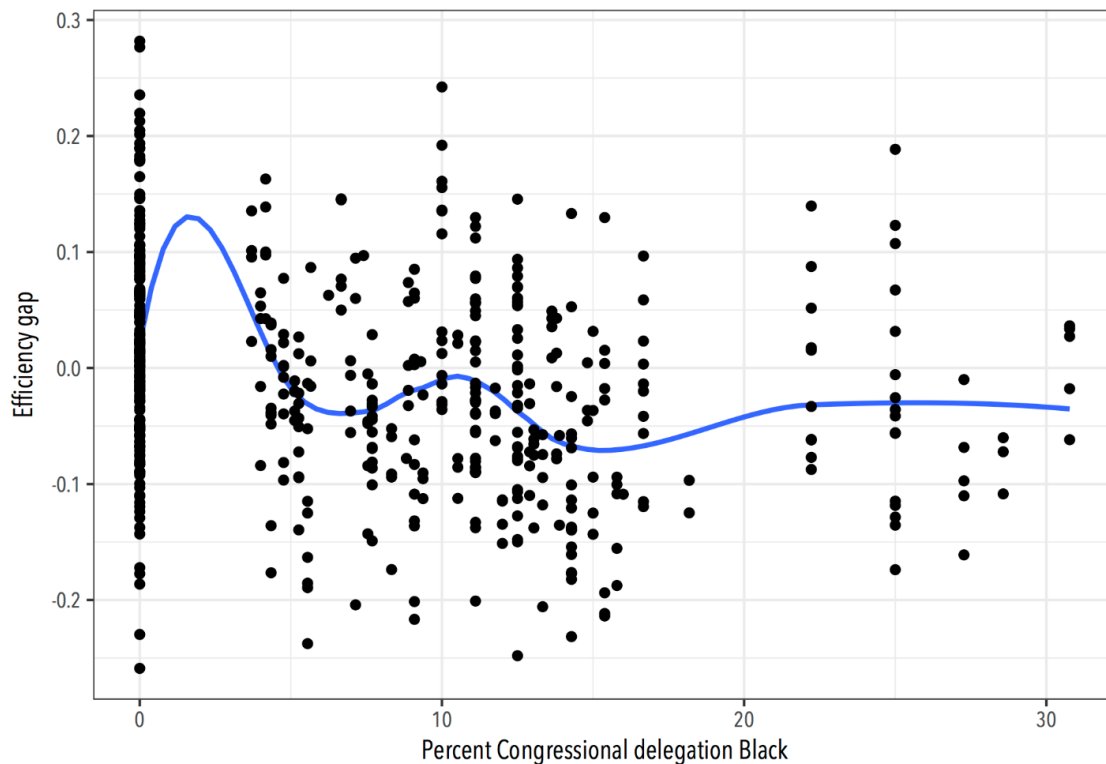
Figure 5: Efficiency gap versus proportion of Congressional seats held by African American members, Congressional elections by state and year, 1972-2016. The blue line is a loess curve summarizing the relationship between the two variables.

Ex. 4003, Figure 5;

11
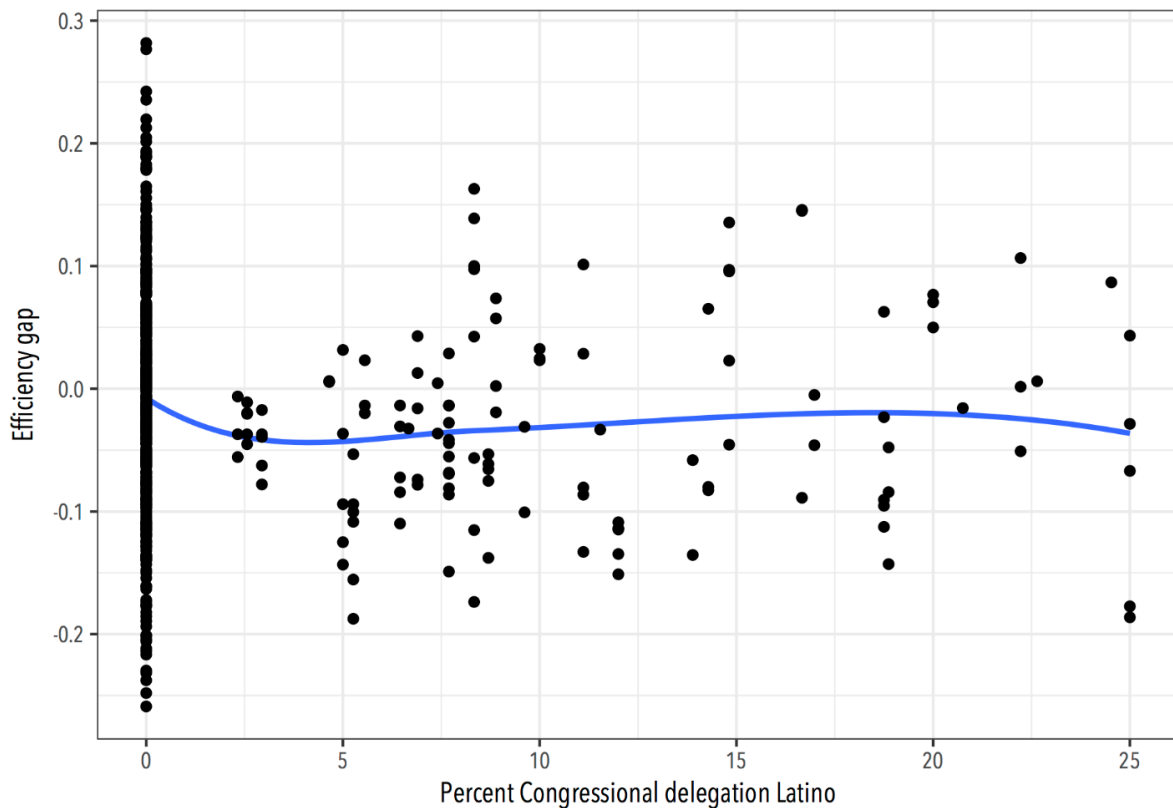
Figure 6: Efficiency gap versus proportion of Congressional seats held by Latino members, Congressional elections by state and year, 1972-2016. The blue line is a loess curve summarizing the relationship between the two variables.

Ex. 4003, Figure 6.

165.   All of Prof. Jackman's asymmetry scores are based on actual congressional election results—in fact, on 512 elections in 25 states over 44 years. Ex. 4002 at 26. These actual results are the product of "the rich tapestry of American politics [from] 1972 to 2016," including "incumbents getting into trouble," "well-funded challenges," "[t]he Watergate wave election," "[t]he '94 wave," and so on. In fact "all the things that happened in the cut and thrust of American politics" are part of Prof. Jackman's analysis. Tr. II at 68:25-70:1, 105:22-106:1.

e) Durability of Partisan Asymmetry

166. About three-fifths of the total variation in the efficiency gap is between congressional plans (rather than within plans). There is thus a moderate to strong plan-specific component to the variation in efficiency gap scores. Ex. 4002 at 31.

167. Using all congressional plans in his database in effect for at least three elections, Prof. Jackman studied the relationship between plans' initial efficiency gaps and their average efficiency gaps over the remainder of their lifetimes. He found that this relationship is quite strong: a correlation of about 0.75 over the last two cycles. This means that a plan that is highly asymmetric in its first election can be expected to remain asymmetric in the future. Ex. 4002 at 47-50;
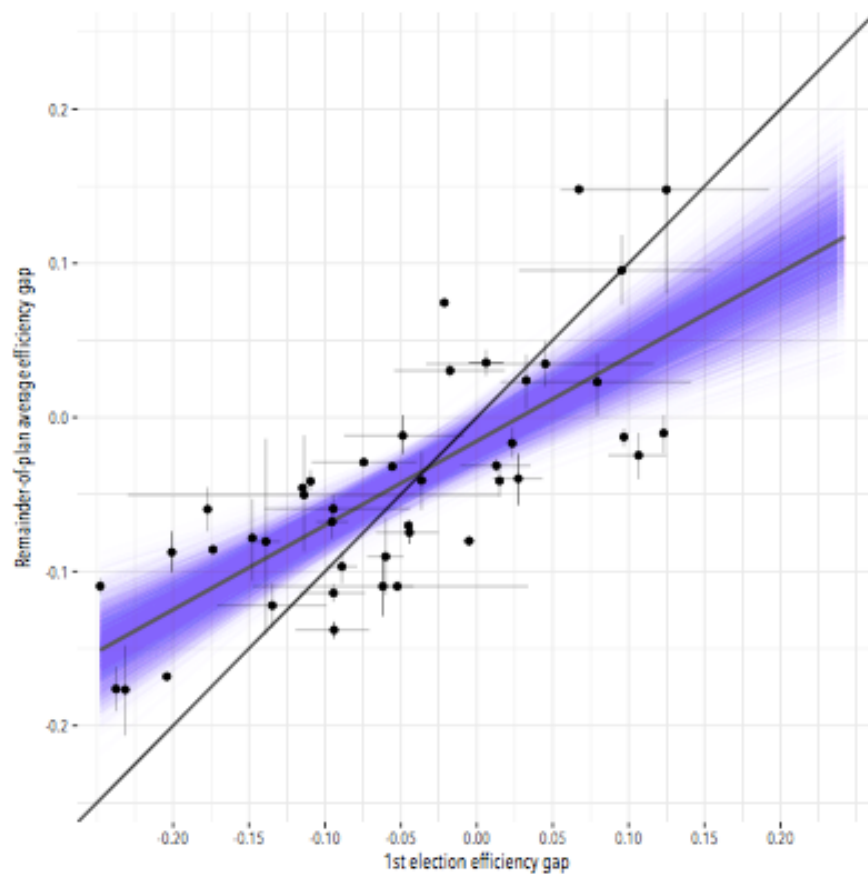
Figure 17: Scatterplot of first-election efficiency gap scores (horizontal axis) and remainder-of-plan average efficiency gap (vertical axis). The diagonal black line is a 45-degree line; the data would lie on this line if first-election efficiency gaps coincided with remainder-of-plan average efficiency gaps. The blue lines are linear regressions, which vary because the underlying data are subject to uncertainty stemming from imputations for uncontested districts. Vertical and horizontal lines extending from each data point cover 95% confidence intervals in either direction, summarizing the uncertainty in both first-election *EG* and remainder-of-plan average *EG* given the imputations for uncontested districts. Analysis restricted to plans with at least three elections, enacted after 2000. The *EG* in North Carolina in 2016 is -0.194.   49

Ex. 4002, Figure 17.

168.   Prof. Jackman conducted a series of prognostic tests to ensure that a congressional plan's large initial efficiency gap is a reliable guide to the plan's future performance. Ex. 4002 at 41-47.

169.   For maps like the 2016 Plan, the "false positive rate" is close to 0%, meaning there is virtually no chance that such maps will have small average efficiency gaps over the rest of their lifetimes. Similarly, the "true negative rate" for such maps is nearly 100%, indicating that almost all plans with small rest-of-life average efficiency gaps are not so unbalanced in their first elections. Ex. 4002 at 41-47.

170.   To further confirm that large efficiency gaps are durable, Prof. Jackman conducted sensitivity testing for all plans used in the current cycle. That is, he shifted the statewide vote by up to ten points in each direction for each plan, and then recorded the plan's resulting efficiency gap for each shift. Ex. 4002 at 54-57.

171.   For plans with small or medium efficiency gaps, this sensitivity testing revealed that their efficiency gaps may not be particularly durable. Given significant shifts in the statewide vote, these plans' simulated efficiency gaps were only modestly correlated with their actual efficiency gaps, and their simulated efficiency gaps often flipped signs as well. Ex. 4002 at 54-57.

172.   But for plans with large efficiency gaps, this sensitivity testing revealed that their efficiency gaps are likely to be quite persistent. Given significant shifts in the statewide vote, these plans' simulated efficiency gaps were highly correlated with their actual efficiency gaps, and their simulated efficiency gaps flipped signs rarely as well. Ex. 4002 at 54-57.

f)   Efficiency Gap Thresholds

173.   To recommend efficiency gap thresholds, Prof. Jackman asked himself "when on the preponderance of the evidence is it more likely than not that this plan is generating manifest differences from the status quo." He first determined at what point a congressional plan's efficiency gap is associated with a deficit or surplus of at least half a congressional seat (which rounds to one seat) relative to the historical relationship between seats and votes for congressional plans. For congressional plans with fourteen or fewer seats, this point is an efficiency gap of +/- 8%, and for congressional plans with fifteen or more seats, this point is an efficiency gap of +/- 5%. Ex. 4002 at 37-41; Tr. II at 63:12-66:2.

174.   Next, Prof. Jackman used his analysis of congressional plans' initial versus remainder-of-plan average efficiency gaps to identify the initial efficiency gap that corresponds to a remainder-of-plan average efficiency gap of at least half a congressional seat (which rounds to one seat). This initial efficiency gap is +/- 12% for congressional plans with fourteen or fewer seats, and +/- 7.5% for congressional plans with fifteen or more seats. Ex. 4002 at 51-54; Tr. II at 66:12-67:6.

175.   Prof. Jackman thus recommended these figures as initial efficiency gap thresholds. A plan with fourteen or fewer congressional seats and an initial efficiency gap above +/- 12% can be expected to have a remainder-of-plan average efficiency gap above +/- 8%, or at least half a congressional seat. Similarly, a plan with fifteen or more congressional seats and an initial efficiency gap above +/- 7.5% can be expected to have a remainder-

of-plan average efficiency gap above +/- 5%, or at least half a congressional seat. Ex. 4002 at 51-54; Tr. II at 67:7-25.

176.   These thresholds are quite conservative, in that their false discovery rates are quite low. Notably, every plan with fifteen or more congressional seats and an initial efficiency gap above +/- 7.5% in the post-2000 period went on to have a remainder-of-plan average efficiency gap above +/- 5%, or at least half a congressional seat. Ex. 4002 at 53-54.

177.   For any plans in Prof. Jackman's database that had an initial efficiency gap above the proposed threshold, but did not go on to have a large remainder-of-plan average efficiency gap, the likelihood that this would occur could have been determined ex ante using sensitivity testing. Tr. II 133:4-133:41, 134:9-134:19.

g)   Using the Efficiency Gap Prospectively

178.   All measures of partisan asymmetry can be calculated prospectively, using *expected* election results rather than *actual* vote tallies. The expected results are simply plugged into the computation instead of the actual results. Tr. II at 75:10-77:18.

179.   That the efficiency gap can be calculated prospectively is evidenced by Sen. Robert Clark, who recently worked out efficiency gaps himself, without any expert assistance, for North Carolina's new state legislative plans. Tr. II at 136:24-138:9; Tr. IV at 93:5-18.

180.   With respect to the 2016 Plan, its efficiency gap using actual 2016 congressional election results, Ex. 4002 at 62, is very similar to its efficiency gap using various sets of expected results including Hofeller's samples of seven and twenty prior statewide

elections, Ex. 2010 at 12-14, Prof. M.V. Hood III's sample of ten prior elections, Tr. IV at 86:10-16, or Prof. Chen's predictive regression model, Ex. 2010 at 36-37. Whether actual or expected results are used to evaluate the 2016 Plan, the outcome is always the same: a 10-3 Republican edge.

h) North Carolina Performance

181.   At the statewide level, North Carolina has been very competitive in recent years. Exs. 1018-25, 4003 at 12-13.

182.   It is therefore appropriate to use the efficiency gap, partisan bias, and the mean-median difference to assess the partisan asymmetry of North Carolina's congressional plans. Ex. 4003 at 2-8; Tr. II at 82:1-82:5.

183.   In the 1970s and 1980s, North Carolina's congressional plans substantially favored Democratic candidates. Exs. 4002 at 63-64, 4003 at 4; Tr. II at 78:21-79:6.

184.   In the 1990s and 2000s, North Carolina's congressional plans were almost perfectly balanced. Exs. 4002 at 63-64, 4003 at 4.

185.   In the current cycle, both the 2011 Plan and the 2016 Plan have massively advantaged Republicans. In the 2012 and 2014 elections, the 2011 Plan had an average efficiency gap of -21%, an average partisan bias of -27%, and an average mean-median difference of -7% (negative values being pro-Republican and positive values pro-Democratic). Exs. 4002 at 62-66, 4003 at 4-5, 8; Tr. II at 78:8-18.

186.   In the 2016 election, the 2016 Plan had an efficiency gap of -19%, a partisan bias of -27%, and a mean-median difference of -5%. Ex. 4003 at 4-5, 8; Tr. II at 81:2-25;
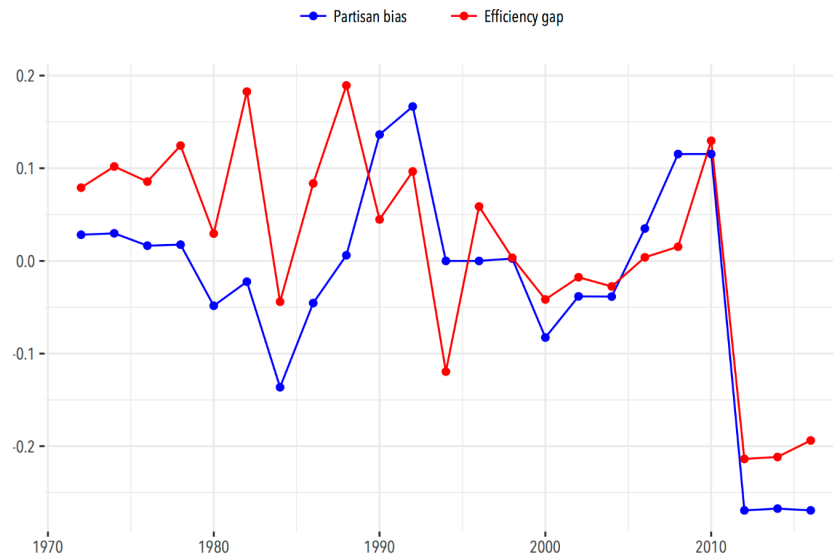
Figure 1: Efficiency gap and partisan bias for North Carolina Congressional elections, 1972-2016.

  To further highlight the partisan biases of North Carolina's congressional plans over the last three elections, Figure 2 is a histogram showing the partisan biases for all 283 elections in my database that were closer statewide than 55% to 45%. It is clear that North Carolina's 2011 plan and 2016 plan are true outliers. Indeed, their partisan biases of about -27% (in all three elections) are the *second-largest* on record, roughly *three standard deviations* from the historical mean. This is powerful corroborative evidence indicating that there is nothing idiosyncratic about the conclusions I reached based on the efficiency gap. Partisan bias tells exactly the same story.

Ex. 4003, Figure 1.

187. Both the 2011 Plan and the 2016 Plan are stark outliers relative to the historical distribution, with efficiency gaps far above Prof. Jackman's suggested 12% threshold. Ex. 4002 at 27.

4

188. The 2011 Plan had the largest average efficiency gap of *any* of the 136 congressional plans in Prof. Jackman's database. Ex. 4002 at 10; Tr. II at 60:1-17.

189. The 2016 Plan had the largest efficiency gap in the 2016 election of any map in the country analyzed by Prof. Jackman. Ex. 4002 at 10, 64; Tr. II at 54:14-22;
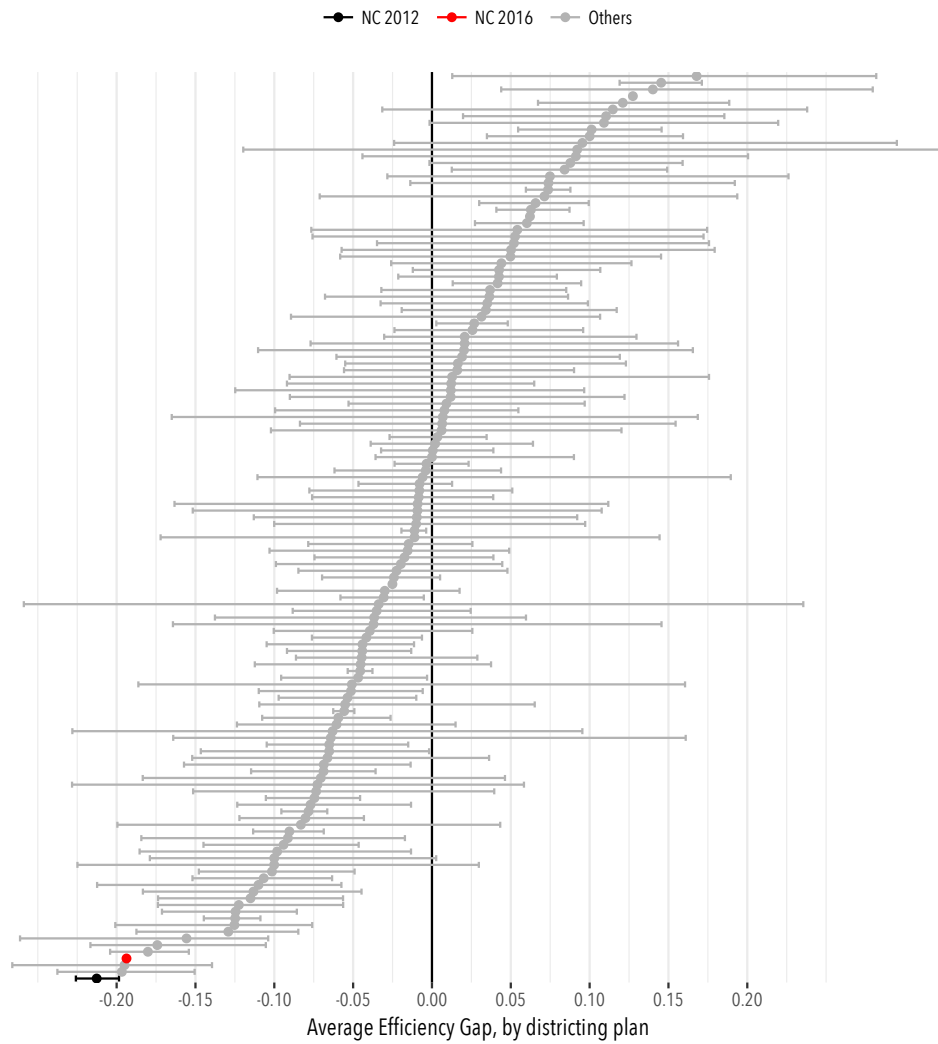
Figure 1: Average efficiency gap score, 136 districting plans, 1972-2016. Plans have been sorted from low average *EG* scores to high. Horizontal lines cover 95% confidence intervals. Negative efficiency gap scores are plans that disadvantage Democrats; positive efficiency gap scores favor Democrats. The North Carolina Plans from this decade are highlighted in red and black.

Ex. 4002, Figure 1.

190. The partisan biases exhibited by the 2011 Plan and the 2016 Plan are the second-largest in Prof. Jackman's database, and are roughly three standard deviations from the historical mean. Ex. 4003 at 4; Tr. II at 80:7-81:1.

57

191.   In 2016, Democratic candidates contesting North Carolina's 13 House of

Representative seats won 2,142,661 votes. Republican candidates won 2,447,326 votes.

Ex. 4078.

192.   In the 2016 North Carolina Congressional election, Republican candidates won ten

out of thirteen seats even though the statewide vote was close to tied. Exs. 1017, 1018,

1026, 4078.

193.   Prof. Jackman established the durability of the 2016 Plan through sensitivity

testing. Beginning with North Carolina's actual 2016 election results, he swung the

statewide vote by up to ten percentage points in each party's direction. Next, he

determined what each party's performance would be in each district if it swung by the

same margin as the statewide vote. Using these district-level estimates, he then calculated

the efficiency gap corresponding to each shift. Ex. 4002 at 57-59; Tr. II at 70:2-23,

133:4-133:21.

194.   "[T]here [is] consensus" that sensitivity testing is "the accepted method of testing

how a particular map would fare under different electoral conditions." *Whitford*, 2016

WL 6837229, at *47 n.255; Tr. II at 70:24-71:1.

195.   Prof. Jackman's sensitivity testing showed that the 2016 Plan's efficiency gap

would become even more pro-Republican, peaking at more than -30%, for pro-

Democratic shifts in the statewide vote of up to six percentage points. The Plan's

efficiency gap would also remain pro-Republican for pro-Republican shifts of up to ten

percentage points. Ex. 4002 at 58; Tr. II at 71:10-72:20.

196.   Only if the statewide vote swings by at least nine points in a Democratic

direction—producing the best Democratic showing in North Carolina in more than thirty

years—will the 2016 Plan's pro-Republican bias dissipate. Ex. 4002 at 58; Tr. II at

72:21-73:22;
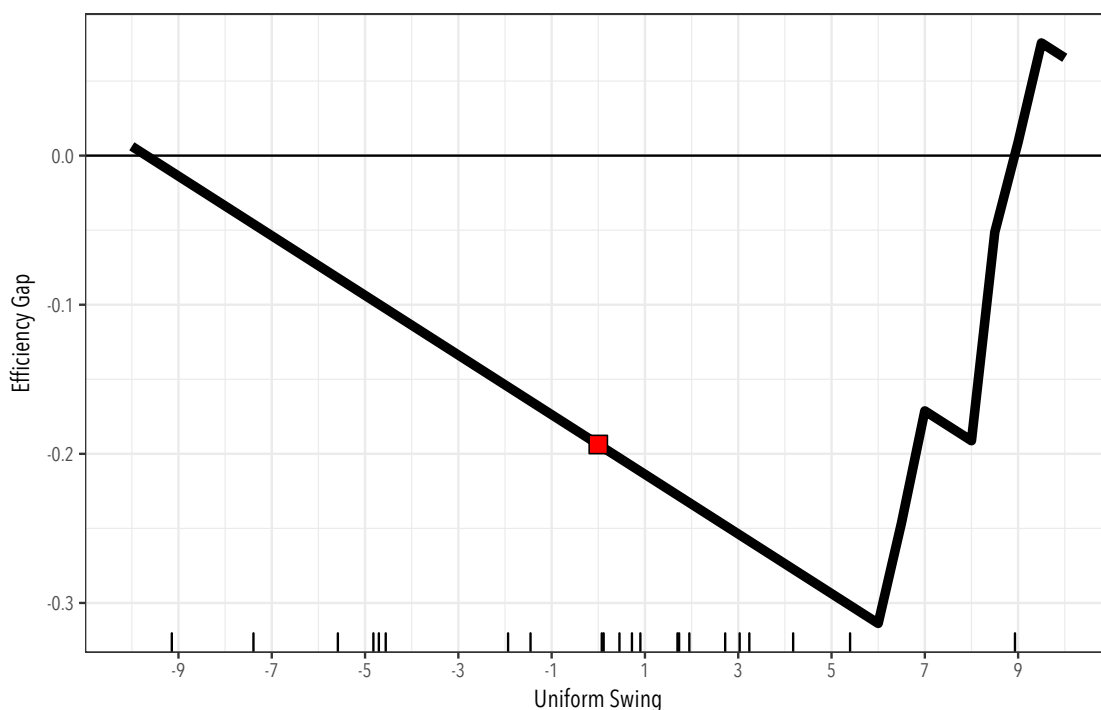
Figure 21: North Carolina efficiency gap scores generated by perturbing the
actual 2016 result by varying degrees of uniform swing. The red square indi-
cates the observed efficiency gap for North Carolina in 2016. Tick marks on
the horizontal axis indicate swings in North Carolina Congressional elections
1972-2016.

Ex. 4002, Figure 21.

197.   The durability of the Republican edge under the 2016 Plan is confirmed by Prof.

Jackman's analysis of how congressional plans' initial efficiency gaps are related to their

average efficiency gaps over the remainder of their lifetimes. Based on this analysis, Prof. Jackman estimated that the 2016 Plan will have an average efficiency gap of roughly -12% if it remains in place in future elections. Ex. 4002 at 47-50.

198.   The durability of the Republican edge under the 2016 Plan is further confirmed by Prof. Jackman's prognostic tests. According to these tests, the false positive rate for the 2016 Plan is close to 0% and the true negative rate is nearly 100%. Ex. 4002 at 41-47.

199.   Prof. Jackman therefore concluded that the 2016 Plan will continue to "favor Republicans over Democrats in a systematic and durable way." Tr. 69:25-70:1.

III.   LACK OF JUSTIFICATION

a)   Professor Chen's Simulations

200.   Plaintiffs' expert, Prof. Jowei Chen, used a simulation technique that the Fourth Circuit has previously endorsed, *see Raleigh Wake Citizens Ass'n v. Wake Cty. Bd. of Elections*, 827 F.3d 333, 344-45 (4th Cir. 2016), to produce three thousand different congressional plans for North Carolina. Ex. 2010 at 12; Tr. I at 166:1-166:10.

201.   The purpose of Prof. Chen's simulations is not to produce "better" maps or alternate maps the legislature could have or should have adopted. Instead, the purpose is, using a large number of simulated maps, to hold certain redistricting factors constant so that one can compare the simulated maps to an enacted map, thereby observing and measuring the effect of purely partisan factors (not held constant in the simulations) on the ultimate political performance of the enacted map. Tr. II at 153:17-154:13.

202.   All three thousand of Prof. Chen's simulated maps matched or surpassed the 2016

Plan's performance in terms of the nonpartisan Adopted Criteria (district compactness,

county splits, and VTD splits). Ex. 2010 at 12.

203.   The districts for all three thousand maps were "as equal as practicable" in

population, "comprised of contiguous territory," and generated without "[d]ata

identifying the race of individuals." They also did at least as good a job "improv[ing] the

compactness" and "keep[ing] more counties and VTDs whole." Ex. 1007, 2010 at 6-7;

Tr. I at 170-81.

204.   Prof. Chen's simulations did not represent an attempt to "maximize" compactness.

As can be seen in each of his charts showing the compactness scores of each of the

simulated maps, these maps had a wide range of compactness scores, some more compact

than others. Ex. 2010 at 14, 17, 22, 32-34, 36-37.

205.   The compactness of Prof. Chen's simulated maps is completely uncorrelated with

the maps' efficiency gaps. There is thus no basis for hypothesizing that had the maps

been merely as compact as the 2016 Plan (rather than more compact), they would have

become drastically more asymmetric. Ex. 2010 at 32-37.

206.   Two thousand maps (Prof. Chen's second and third simulation sets) also paired at

least as few incumbents as the 2016 Plan. These maps thus took incumbency into account

notwithstanding Prof. Chen's understanding that incumbency protection can be used as a

proxy for partisan advantage and is often not, in reality, a non-partisan redistricting

criterion. Ex. 2010 at 12.

207. Not one of Prof. Chen's three thousand maps ever resulted in a 10-3 Republican edge or an efficiency gap as large as the 2016 Plan's. No matter which criteria were employed, no matter which past elections were included, and no matter how incumbents were treated, every single map simulated by Prof. Chen was more symmetric than the 2016 Plan. Ex. 2010 at 12-14, 16-17, 21-22, 32-37; Tr. I at 185:14-185:17, 196:9-22, 197:9-197:11, 204:5-204:9.

208. Prof. Chen's three thousand maps tilted slightly in a Democratic direction. Therefore, North Carolina's political geography and the nonpartisan Adopted Criteria seem mildly to favor Democrats. In no way can the spatial patterns of the state's voters or the principles used to design the 2016 Plan explain the map's extreme pro-Republican asymmetry. Ex. 2010 at 32; Tr. I at 194-205; Tr. II at 147: 22-148:10.

209. The modal simulated map from Prof. Chen using all twenty past elections available to Dr. Hofeller featured seven *Democratic* seats and an efficiency gap of almost exactly zero. Ex. 2010 at 12-14, 16-17, 21-22, 32-37; Tr. I at 185:14-185:17, 196:9-196:22, 197:9-197:11, 204:5-204:9.

210. In the first simulation set, Prof. Chen instructed his computer to follow all of the nonpartisan criteria enumerated in the Adopted Criteria with the exception of incumbency protection. Prof. Chen then measured whether the 2016 Plan deviated from these 1,000 simulated plans with respect to the Adopted Criteria. Ex. 2010 at 10-14; Tr. II at 142:23-143:3.

211.   By comparing his first set of one thousand simulations to the 2016 Plan, Prof.

Chen found that the 2016 Plan failed to minimize county splits and had less compact

districts on average than all one thousand simulated plans. Ex. 2010 at 10-14; Tr. I at

189:5-190:18, 191:19-192:13; Tr. II at 148:11-149:12;

Figure 3:
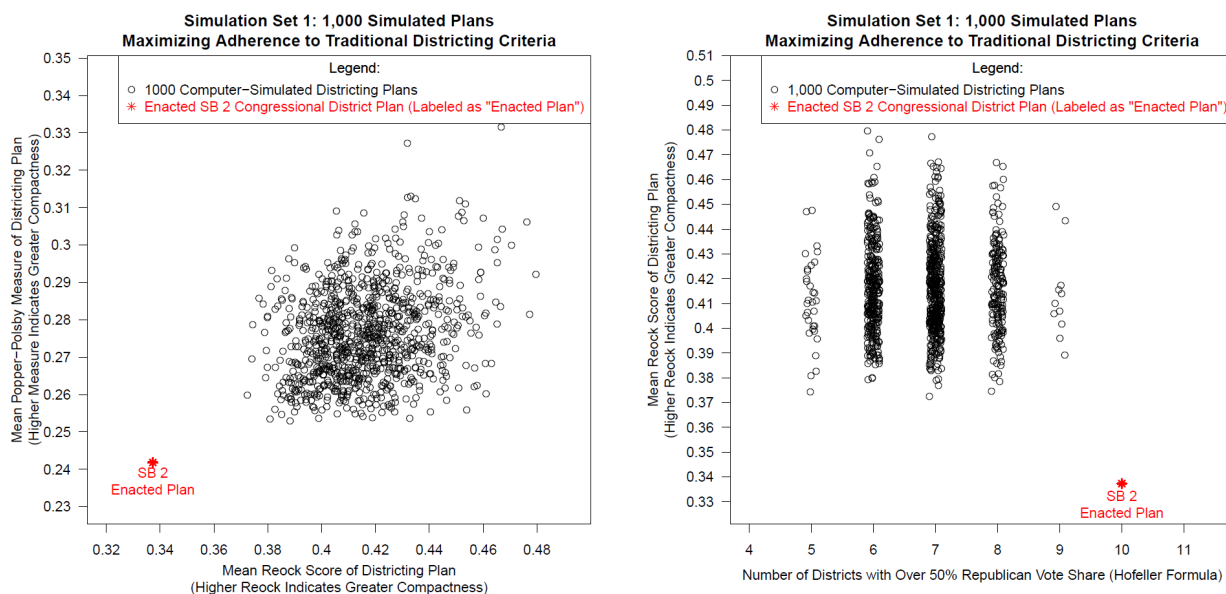
Ex. 2010, Figure 3.

212.   None of the one thousand plans in Prof. Chen's first simulation set produced a 10-

3 Republican plan. Most of the simulated plans had either 5 or 6 Republican districts

using the twenty past elections available to Dr. Hofeller. Ex. 2010 at 10-14; Tr. I at

185:14-17, 187:6-25;

**Simulation Set 1: Optimizing on Traditional Districting Criteria
Results from 1000 Simulated Plans**

**Simulation Set 1: Optimizing on Traditional Districting Criteria
Results from 1000 Simulated Plans**
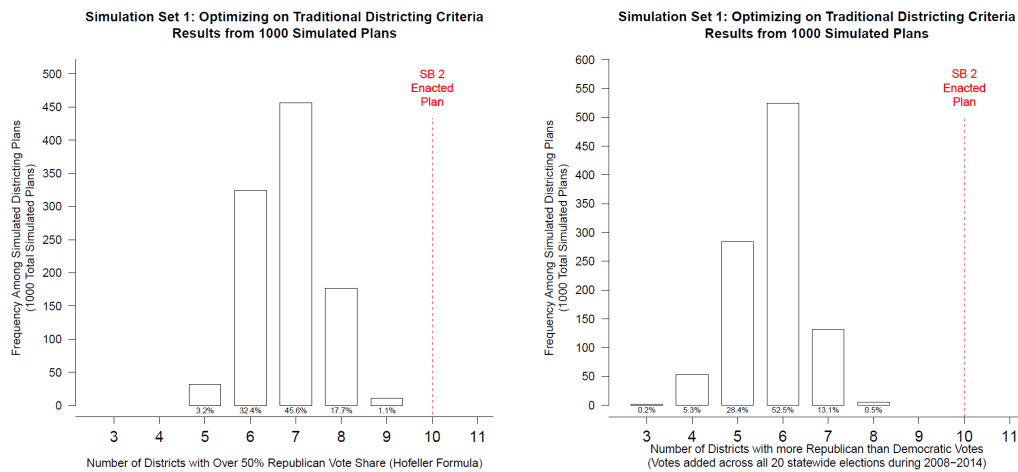
Ex. 2010, Figure 2.

213.   Prof. Chen concluded "with extremely high statistical certainty that the SB2

Enacted Plan's creation of ten Republican seats is an extreme outlier and it is entirely

outside of the range of the sorts of plans that would emerge under…a districting process

that strictly follows the nonpartisan portions of the Adopted Criteria." Put another way,

compliance with traditional redistricting criteria did not, simply by chance, cause or result

in a plan with an extremely large Republican advantage. Tr. I at 188:17-188:23; Tr. II at

149:4-149:12.

214.   In the second simulation set, Prof. Chen followed the same criteria as the first set,

but also avoided pairing *any* Congressional incumbents. Ex. 2010 at 12, 15-19; Tr. I at

194:5-195:17; Tr. II at 149:13-149:22.

215.   The 2011 Plan paired four incumbents (all Democrats). Ex. 2001.

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216. The 2016 Plan paired two incumbents. Ex. 1001, 1009 at 53:2-54:14, 1010 at 22:21-23:9, 2010 at 3, 2043 at ¶40, 4061.

217. Despite not pairing any incumbents, not one of the one thousand simulations in Prof. Chen's second simulation set produced a 10-3 Republican plan. Most of the simulated plans had either 6 or 7 Republican districts using the twenty past elections available to Dr. Hofeller. Ex. 2010 at 15-19; Tr. I at 196:9-196:22, 197:9-197:11;

Figure 4:
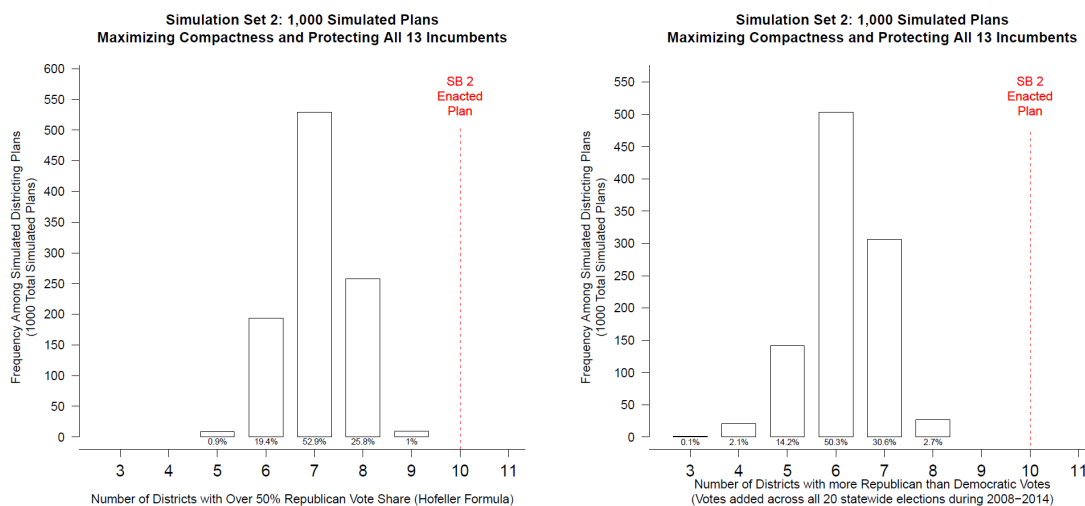
Ex. 2010, Figure 4.

218. Prof. Chen was "able to conclude with very strong statistical certainty that even if the map drawer had been motivated by the concern of or by the factor of trying to protect all 13 incumbents as mandated by the Adopted Criteria, even such an extreme effort would not have justified or explained or necessitated the creation of an enacted districting plan with as extreme of a partisan outlier as what we see in the SB2 Plan." Again, understood a different way, the enacted plan did not end up with its extreme partisan

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asymmetry simply because it sought to avoid pairing incumbents. Tr. I at 197:21-198:3; Tr. II at 151:6-151:12.

219.   Prof. Chen's third simulation set exactly matched the 2016 Plan in terms of incumbency protection as defined by the Adopted Criteria, protecting 11 of 13 incumbents from pairings. The third set also exactly matched the 2016 Plan in terms of county splits, dividing 13 counties. The third set thus examined whether the unique combination of protecting exactly as many incumbents and splitting exactly as many counties as the 2016 Plan could explain the map's partisan asymmetry. Ex. 2010 at 12, 19-22; Tr. II at 151:13-151:19.

220.   None of the simulations in Prof. Chen's third simulation set produced a 10-3 Republican plan. Most of the simulated plans had either 5 or 6 Republican seats using the twenty past elections available to Dr. Hofeller. Thus, the 10-3 Republican advantage was not caused by the unique combination of the exact number of counties split or incumbents paired in the enacted plan. Ex. 2010 at 3, 12; Tr. I at 203:20-204:9; Tr. II at 152:22-153:14;

Figure 6:
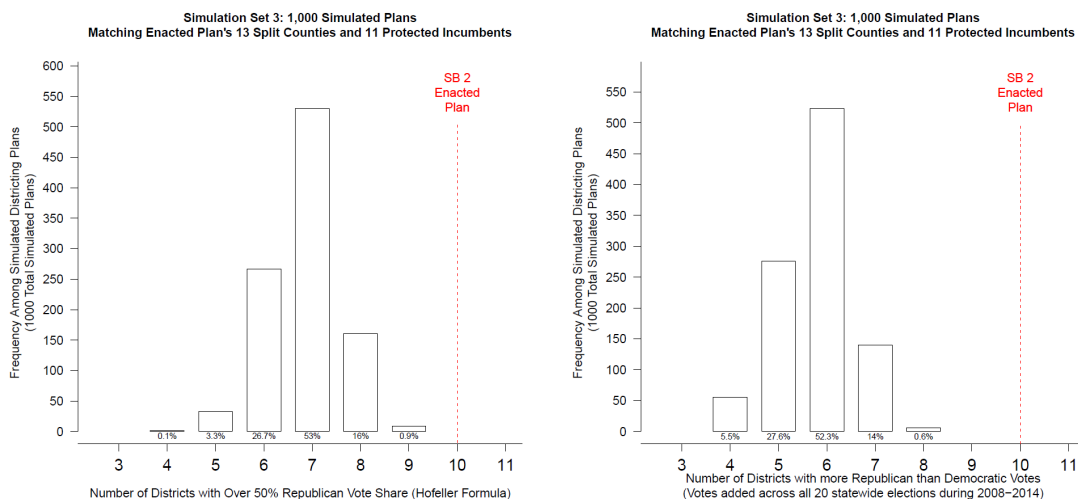
Ex. 2010, Figure 6.

221.   Over half of Prof. Chen's simulated plans in simulation set two (529 of the 1,000

plans) had an efficiency gap within 2% of zero, and thirty-one percent of the 1,000 plans

had an efficiency gap between -1% and 1%, indicating de minimis electoral bias in favor

of either party. Ex. 2010 at 25; Tr. II at 150:12-150:21;

Figure 10:

Simulation Set 2: 1,000 Simulated Plans
Maximizing Compactness and Protecting All 13 Incumbents
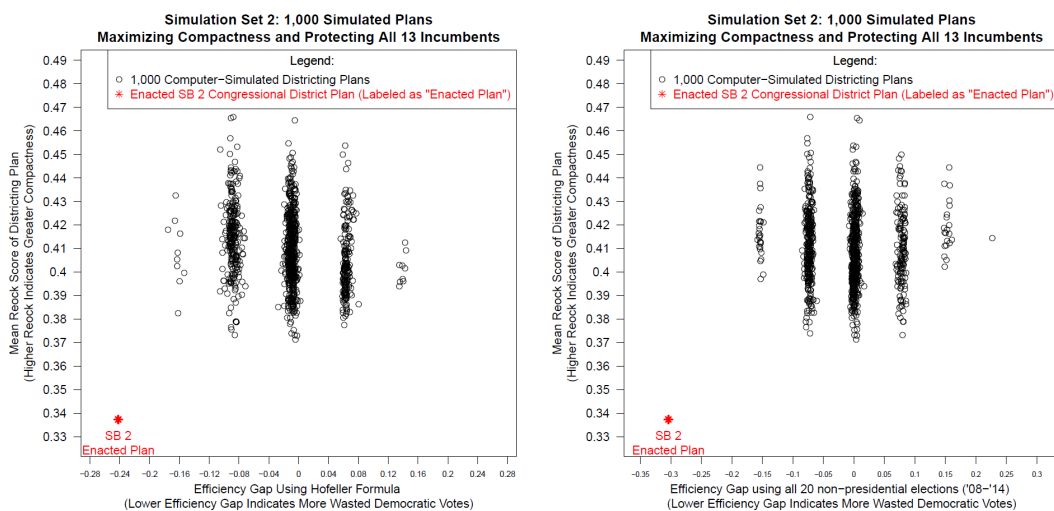
Ex. 2010, Figure 10.

222. Similarly, the majority of Prof. Chen's simulated plans in simulation sets one and three had very small efficiency gaps, indicating de minimis electoral bias in favor of either party. Ex. 2010 at 32, 34; Tr. II at 146:7-147:3, 147:22-148:10; 149:4-12; 151:6-151:12; 152:7-153:14;

Figure 9:

Simulation Set 1: 1,000 Simulated Plans
Maximizing Adherence to Traditional Districting Criteria

68
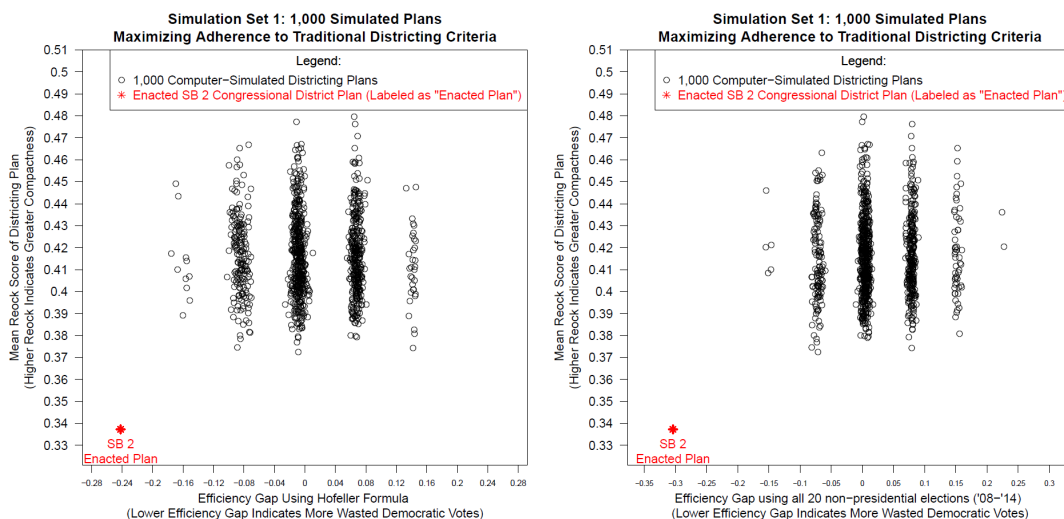
Ex. 2010, Figure 9;

Figure 11:
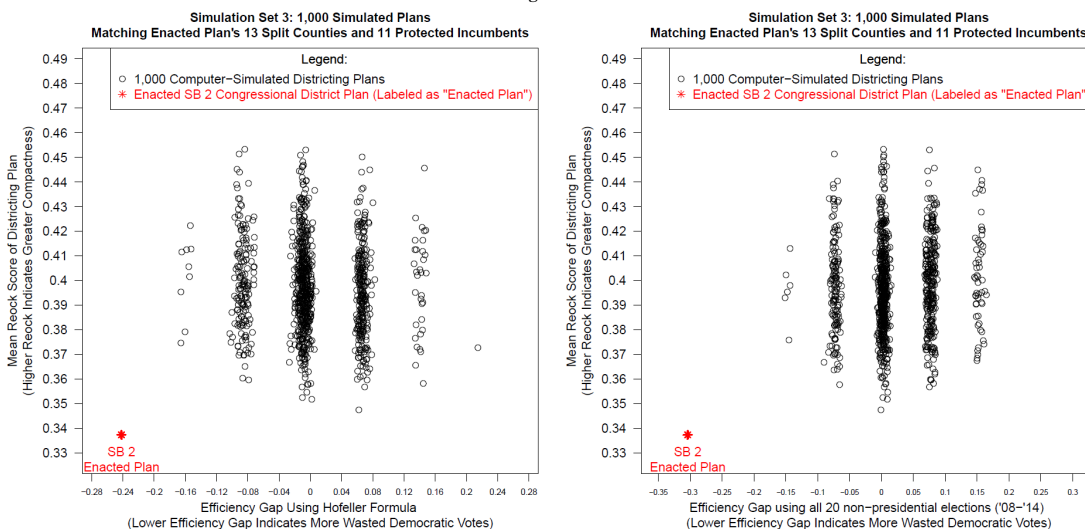
Ex. 2010, Figure 11.

223.   According to a regression model constructed by Prof. Chen, incumbency provided

a boost of only about three percentage points to congressional candidates in North

Carolina's 2012 election. Ex. 2010 at 27, 38; Tr. II at 158:6-158:20.

224.   All of the congressional races in North Carolina in 2016 were won by at least

56.1% to 43.9%. Thus, even if Republican incumbents had not run in any districts (and

the incumbency advantage of approximately three percentage points had been removed),

ten of the thirteen congressional districts would still have been won by Republican

candidates. Ex. 1018.

225.   That Republican candidates would have won ten out of thirteen districts under the

2016 Plan, even without the benefit of incumbency, is confirmed by Prof. Chen's open

seat model. In this model, Prof. Chen assumed that each seat was uncontested by any

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incumbent, and still found that Republicans would enjoy a ten-three advantage. Ex. 2010 at 30-31, 37; Tr. II at 159:25-160:7.

226.   In his regression model, Prof. Chen used presidential election results, congressional incumbency status, turnout rate, and county fixed-effects to predict the Republican vote share, all at the VTD level and using data from 2012. Ex. 2010 at 27, 38; Tr. II at 158:21-159:21.

227.   Prof. Chen also constructed an analogous regression model in which congressional turnout rate was the dependent variable, again at the VTD level and in 2012. Ex. 2010 at 27, 38; Tr. II at 158:21-159:21.

228.   Using these two models, Prof. Chen analyzed the efficiency gaps of the one thousand simulated plans in his simulation set two, first taking into account the actual incumbency status of the candidates who ran in 2016 and then assuming that each district was open. Ex. 2010 at 29-31.

229.   Taking into account the actual incumbency status of the candidates who ran in 2016, 603 of the one thousand simulated plans had an efficiency gap within 2% of zero. In contrast, the 2016 Plan had an efficiency gap of -24.4%, well outside the entire distribution of simulated plans. Ex. 2010 at 29, 36,
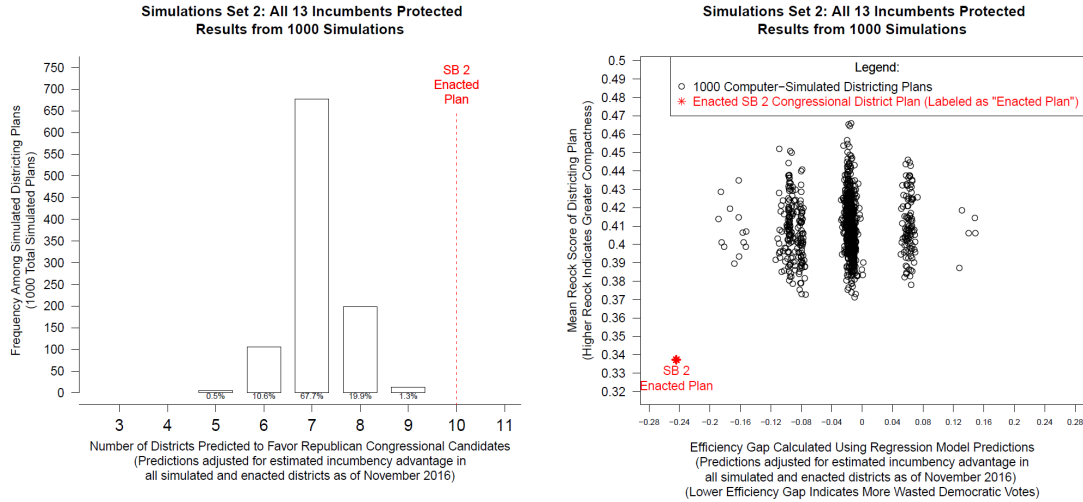
Ex. 2010, Figure 13.

230.   Assuming that each district was open, over 90% of the 1,000 simulated plans produced 5 to 7 Republican districts. In contrast, the 2016 Plan continued to exhibit 10 Republican districts, a figure outside the entire distribution of simulated plans. Ex. 2010 at 30-31, 37,

71

**Simulations Set 2: All 13 Incumbents Protected
Results from 1000 Simulations**
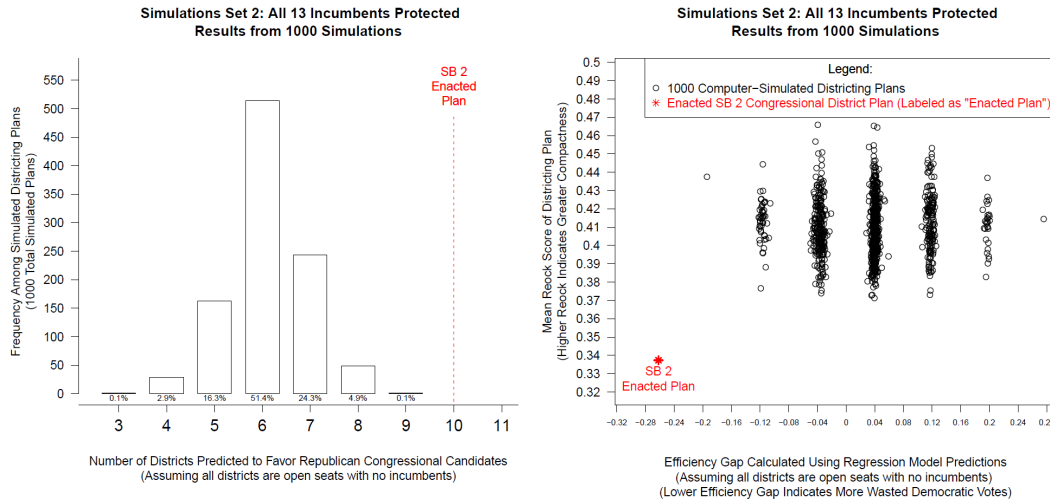
Ex. 2010, Figure 14.

b) Dr. Hofeller's Draft Plans

231.   Over the course of designing the 2016 Plan, Dr. Hofeller created draft maps, including maps titled "Congress ST-B" and "Congress 17A." Exs. 2004-05, 4018, 4021.

232.   "2016 Contingent Congressional Plan.dbf" and "2016 Contingent Congressional Plan.xls" are true and correct copies of the underlying data files for the maps of the same name produced by Dr. Hofeller in DEF000042-000064. Exs. 4005-06.

233.   "Congress 17A.dbf" and "Congress 17A.xls" are true and correct copies of the underlying data files for the maps of the same name produced by Dr. Hofeller in DEF000042-000064. Exs. 4016-17.

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234. "Congress ST-B.dbf" and "Congress ST-B.xls" are true and correct copies of the underlying data files for the maps produced by Dr. Hofeller in DEF000042-000064. Exs. 4020-21.

235. Congress ST-B and Congress 17A are much more symmetric than the 2016 Plan. Both of these maps include just seven Republican seats and six Democratic seats according to the twenty past elections available to Dr. Hofeller. Both of them are also more compact, on average, than the 2016 Plan, and split either somewhat fewer (10 versus 13) or slightly more (15 versus 13) counties.

Exhibit 4022: Dr. Hofeller Draft Maps Summary

Plan Name	Total County Splits	Republican/ Democrat Seats using 20 election average	Average Reock Score
Congress 2016 Contingent	13	10R / 3D	0.36
Congress ST-B	10	7R / 6D	0.41
Congress 17A	15	7R / 6D	0.40

Ex. 4022;

Exhibit 4023: Congress 17A Map with Election Data

Plan 17A
7 Republican districts (20-race average)
Split counties: 10

C-05
(53.19% R)

C-13
(48.24% R)

C-01
(26.72% R)

C-11
(51.82% R)

C-09
(54.66% R)

C-06
(50.4% R)

C-03
(48.59% R)

C-02
(47.08% R)

C-04
(49.97% R)

C-08
(51.44% R)

C-10
(51.52% R)

C-12
(51.6% R)

C-07
(48.5% R)

Ex. 4023;

Plan STB
7 Republican districts (average of 20 races)
Split counties: 15
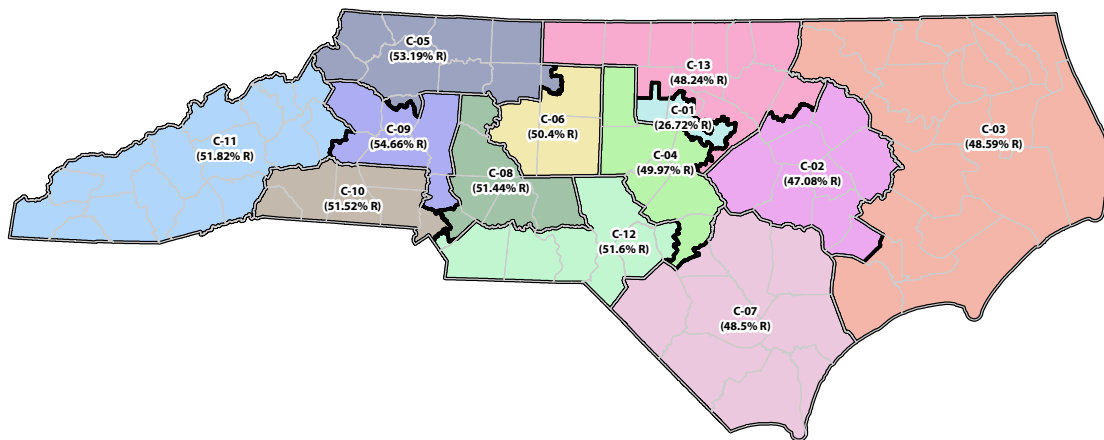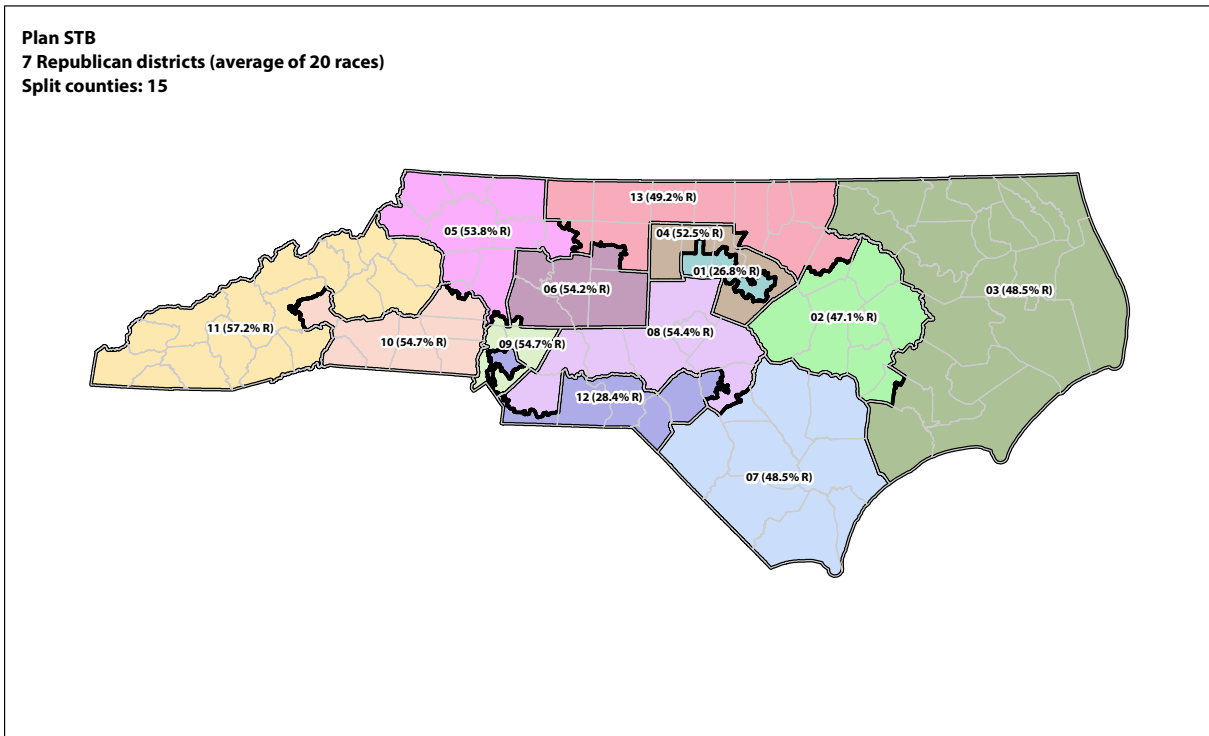
Ex. 4024.

c)   Former North Carolina Plans

236.   During the 2000s, North Carolina's congressional plan had an average efficiency

gap of just 2%, or very close to perfect symmetry. Ex. 4002 at 63.

d)   No Other Justification

237.   For each of his three sets of simulations, Prof. Chen identified all maps containing

one district with a black voting-age population (BVAP) of at least 40%. These 262 maps

were indistinguishable from the full array of three thousand in their electoral

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consequences. Not a single one of these maps had ten Republican seats, and, the modal

map using all twenty past elections available to Dr. Hofeller had six or seven *Democratic*

seats. Thus, Prof. Chen was able to conclude that the presence of a district with at least

40% BVAP (as contained by the 2016 Plan) does not cause or explain the extreme

partisan asymmetry seen in the 2016 Plan. Tr. II at 161:21-162:13, 163:8-164:3;

Simulation Set 1: Optimizing on Traditional Districting Criteria
Results of 85 Plans Containing One District Over 40% Black VAP

SB 2
Enacted
Plan

Frequency Among Simulated Districting Plans
(85 Total Simulated Plans)

40

35

30

25

20

15

10

5

0

2.35% 18.82% 41.18% 36.47% 1.18%

3   4   5   6   7   8   9   10   11

Number of Districts with Over 50% Republican Vote Share (Hofeller Formula

Simulation Set 1: Optimizing on Traditional Districting Criteria
Results of 85 Plans Containing One District Over 40% Black VAP

SB 2
Enacted
Plan

Frequency Among Simulated Districting Plans
(85 Total Simulated Plans)

45

40

35

30

25

20

15

10

5

0

1.18% 25.88% 49.41% 22.35% 1.18%

3   4   5   6   7   8   9   10   11

Number of Districts with more Republican than Democratic Votes
(Votes added across all 20 statewide elections during 2008–2014)

Simulation Set 2:
Maximizing Compactness and Protecting All 13 Incumbents
Results of 119 Plans Containing One District Over 40% Black VAP

SB 2 Enacted Plan

Frequency Among Simulated Districting Plans (119 Total Simulated Plans)

0.84% 61.34% 36.13% 1.68%

Number of Districts with Over 50% Republican Vote Share (Hofeller Formula

Simulation Set 2:
Maximizing Compactness and Protecting All 13 Incumbents
Results of 119 Plans Containing One District Over 40% Black VAP

SB 2 Enacted Plan

Frequency Among Simulated Districting Plans (119 Total Simulated Plans)

0.84% 2.52% 23.53% 66.39% 6.72%

Number of Districts with more Republican than Democratic Votes
(Votes added across all 20 statewide elections during 2008–2014)

Simulation Set 3:
Matching Enacted Plan's 13 Split Counties and 11 Protected Incumbents
Results of 58 Plans Containing One District Over 40% Black VAP

SB 2 Enacted Plan

Frequency Among Simulated Districting Plans (58 Total Simulated Plans)

1.72% 5.17% 60.34% 25.86% 6.9%

Number of Districts with Over 50% Republican Vote Share (Hofeller Formula

Simulation Set 3:
Matching Enacted Plan's 13 Split Counties and 11 Protected Incumbents
Results of 58 Plans Containing One District Over 40% Black VAP

SB 2 Enacted Plan

Frequency Among Simulated Districting Plans (58 Total Simulated Plans)

1.72% 22.41% 43.1% 31.03% 1.72%

Number of Districts with more Republican than Democratic Votes
(Votes added across all 20 statewide elections during 2008–2014)

Ex. 2011.

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238.	When non-congressional election results are used to evaluate the 2016 Plan, Republican candidates are advantaged in ten out of thirteen districts even though the statewide vote is nearly tied. Exs. 4038, 4039, 5038 at 25; Tr. IV at 86:10-86:20.

239.	None of the other post hoc justifications offered by Defendants hold water either. Dr. Hood opined that the partisan asymmetry of the 2016 Plan may have resulted from natural packing of Democrats in urban areas, which can cause districts in urban areas that appear packed and reduce the overall number of Democratic districts. Tr. IV 37:16-38:17. During cross examination, however, Dr. Hood conceded that the 2016 Plan unnecessarily split Democratic concentrations in Guilford, Buncombe, and Cumberland Counties, among others, and thus there was no "natural packing" of Democrats into districts in those areas. Tr. IV at40:1-40:10, 41:2-41:18, 44:20-45:8, 48:7-49:2.

240.	Dr. Hood also seemed to suggest that "core retention"—preservation of the core of the prior district—may have given all incumbents an advantage and could explain the continuation of the 10-3 Republican advantage after the implementation of the 2016 Plan. First, "core retention" was not one of the Adopted Criteria, so there is no indication that it was used to design the 2016 Plan. Second, nearly a third of the Republican seats in the 2016 Plan did not include at least 50% of the prior district, yet that is the level at which Dr. Hood suggested one might infer that core retention was a priority. Ultimately, and most importantly, Republicans won even in districts where core retention could not have been a priority, showing that core retention cannot explain or justify the extreme partisan asymmetry seen in the 2016 Plan. Tr. IV at 60:18-22, 62:14-20, 84:7-12, 100:20-101:3.

e) **Miscellaneous**

241. Since 1972, about half of all congressional maps have been crafted by an institution other than a unified state government. Ex. 4002 at 32.

242. Lewis's deposition testimony, like that of Hofeller and of the Committee's other co-chair, Sen. Bob Rucho, was consistent with Lewis's public statements. Hofeller Dep. (Dkt. 108-1) at 125:7-9, 175:19-176:5, 188-89; Lewis Dep. (Dkt. 108:3) at 91:7-17, 124:10-125:5, 127:12-20, 150:6-25; Rucho Dep. (Dkt. 108-5) at 33:6-23, 63:19-25, 89:13-90:11, 118:20-119:10, 184:19-23.

PROPOSED CONCLUSIONS OF LAW
A.   Individual and Organizational Standing

1.   The standing requirement is meant to ensure that the plaintiffs have "alleged such

a personal stake in the outcome of the controversy as to assure that concrete adverseness

which sharpens the presentation of issues upon which the court so largely depends for

illumination of difficult constitutional questions." *Baker v. Carr*, 369 U.S. 186, 204

(1962).

2.   The party invoking federal jurisdiction, here the plaintiffs, bears the burden of

establishing Article III standing. *DaimlerChrysler Corp. v. Cuno*, 547 U.S. 332, 342

(2006).

3.   The constitutional requirements for standing are well-established. First, the

plaintiff must have suffered an "injury in fact"—an invasion of a legally protected

interest which is (a) concrete and particularized, and (b) "actual or imminent, not

'conjectural' or 'hypothetical.'" Second, there must be a causal connection between the

injury and the conduct complained of—the injury has to be "fairly . . . trace[able] to the

challenged action of the defendant, and not . . . th[e] result [of] the independent action of

some third party not before the court." Third, it must be "likely," as opposed to merely

"speculative," that the injury will be "redressed by a favorable decision." *Lujan v.*

Defenders of Wildlife, 504 U.S. 555, 560-561 (1992).

4.   Because they are supporters of the political party that is allegedly disadvantaged

by the 2016 Congressional redistricting plan, plaintiffs have suffered an "injury in fact"

that is "concrete and particularized" and "actual or imminent." *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560 (1992) (internal quotation marks omitted).

5. Plaintiffs' injury is concrete and particularized because as a result of the statewide partisan gerrymandering, Democrats do not have the same opportunity provided to Republicans to elect representatives of their choice to Congress. The electoral influence of plaintiffs and other Democratic voters statewide has been unfairly and disproportionately reduced for the rest of the decade. *See Whitford v. Gill*, 218 F. Supp. 3d 837, 927 (W.D. Wis. 2016); *see also Vieth v. Pennsylvania*, 188 F. Supp. 2d 532, 540 (M.D. Pa. 2002) ("The constitutional injury lies . . . in the configuration of the districts as a whole when they serve to disadvantage a certain class of voters.").

6. This injury is plaintiffs' assignment to districts on the basis of their political viewpoints, resulting in their diminished ability to convert their votes into legislative representation, and thus a reduction in the number of representatives affiliated with plaintiffs' party. See *Baker v. Carr*, 369 U.S. 186, 207 (1962) (recognizing "injury" when "classification disfavors [certain] voters," "placing them in a position of constitutionally unjustifiable inequality vis-à-vis [other] voters.")

7. This injury is also "fairly traceable to the challenged action of the defendant"— that is, the enactment of a plan that intentionally cracks and packs plaintiffs and supporters of plaintiffs' party, thus diminishing their ability to translate their votes into representation due to their political viewpoints. *Lujan*, 504 U.S. at 660 (internal quotation marks and alterations omitted). And the injury would be "redressed by a favorable

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decision," which would entail the plan's replacement with a map that does not intentionally crack or pack either party's supporters, and thus treats both parties symmetrically. *Id*. at 561 (internal quotation marks omitted).

8. The individual plaintiffs are all longtime Democrats and supporters of the Democratic Party. They have been injured by their assignment to districts on the basis of their political views, and the consequent reduction in Democratic representation in Congress. This injury is attributable to the enactment of the 2016 Congressional redistricting plan and its purposeful cracking and packing of Democratic voters. *See Whitford*, 218 F. Supp. 3d at 928 ("Moreover, there can be no dispute that a causal connection exists between Act 43 and the plaintiffs' inability to translate their votes into seats as efficiently as Republicans. The evidence has established that one of the purposes behind Act 43 was solidifying Republican control of the legislature for the decennial period. Indeed, the drafters had drawn other statewide maps that, their own analysis showed, would secure fewer Republican seats.").

9. Plaintiffs' injury would be remedied by declaratory and injunctive relief prohibiting the use of the 2016 Congressional redistricting plan and requiring the legislature to enact a neutral plan that treats both parties symmetrically. *See id.* ("Finally, adopting a different statewide districting map, perhaps one of those earlier maps or . . . [the] Demonstration Plan, would redress the constitutional violation by removing the state-imposed impediment on Democratic voters.").

10. The individual plaintiffs have established their standing to bring a statewide partisan gerrymandering claim. *See Vieth v. Jubelirer,* 541 U.S. 267, 328 (2004) (Stevens, J., dissenting) (only one Justice opined that the plaintiffs lacked standing to bring a statewide partisan gerrymandering claim).

11. "An organization . . . can assert standing either in its own right or as a representative of its members." *S. Walk at Broadlands Homeowner's Ass'n, Inc. v. OpenBand at Broadlands, LLC,* 713 F.3d 175, 182 (4th Cir. 2013); *see Warth v. Seldin*, 422 U.S. 490, 511 (1975) ("There is no question that an association may have standing in its own right to seek judicial relief from injury to itself and to vindicate whatever rights and immunities the association itself may enjoy.").

12. The organization need not prove that both it and its members have standing; either alone will suffice. However, under either form of standing, the "plaintiff must demonstrate standing separately for each form of relief sought." *Friends of the Earth Inc. v. Laidlaw Envtl. Servs. (TOC), Inc*., 528 U.S. 167, 185 (2000).

13. The standing analysis for an organization itself is more direct than that for "associational standing" on behalf of the organization's members. "In determining whether an organization has standing," the court "must conduct the same inquiry as in the case of an individual." *Lane v. Holder*, 703 F.3d 668, 674 (4th Cir. 2012).

14. The plaintiff organization therefore must prove that it "(1) it has suffered an 'injury in fact' that is (a) concrete and particularized and (b) actual or imminent, not conjectural or hypothetical; (2) the injury is fairly traceable to the challenged action of

the defendant; and (3) it is likely, as opposed to merely speculative, that the injury will be redressed by a favorable decision." *S. Walk*, 713 F.3d at 182 (quoting *Friends of the Earth*, 528 U.S. at 180–81).

15. The organization itself, rather than its members, must be personally injured. A "'broadly alleged' impairment of an organization's ability to advance its purposes combined with an alleged 'consequent drain on the organization's resources'" may be sufficient to demonstrate that an organization has standing in its own right. *S. Walk*, 713 F.3d at 183 (quoting *Havens Realty Corp. v. Coleman*, 455 U.S. 363, 379 (1982)).

16. The League of Women Voters of North Carolina has demonstrated how the organization's ability to advance its purposes, including its goal of a fair redistricting plan for congressional districts that weighs the votes of all voters equally regardless of their partisan affiliation, is adversely affected by the 2016 Congressional redistricting plan. The all-volunteer organization's resources are drained by the need to expend significant time and effort addressing redistricting reform. In addition, the organization's goal of registering voters is impeded by non-competitive districts widely seen as rigged such that voters believe their votes do not matter. The League of Women Voters has sufficiently demonstrated the prerequisites for standing in its own right.

17. To claim associational standing on behalf of its members, an organization must prove that: "(1) its members would otherwise have standing to sue as individuals; (2) the interests at stake are germane to the group's purpose; and (3) neither the claim made nor the relief requested requires the participation of individual members in the suit." *White*

Tail Park, Inc. v. Stroube, 413 F.3d 451, 458 (4th Cir. 2005); *accord Ala. Legislative Black Caucus (ALBC) v. Alabama*, 135 S. Ct. 1257, 1268 (2015).

18. The first of these prongs requires the court to conduct the same standing inquiry cited above, but for at least one of the organization's members rather than for the organization itself. *See Friends of the Earth*, 528 U.S. at 180-81. The Supreme Court has noted that "a 'member' of an association 'would have standing to sue' in his or her 'own right' when that member 'resides in the district that he alleges was the product of a racial gerrymander.'" *ALBC*, 135 S. Ct. at 1268. Similarly, the League of Women Voters of North Carolina has Democratic members residing in each of the thirteen congressional districts in the state who are thereby directly disadvantaged by the partisan gerrymander.

19. The second and third prongs of the associational standing test are easily satisfied in this case. The partisan gerrymandering claim is germane to the League's purpose, since one of its stated goals is "to promote transparent and accountable redistricting processes and to end hyper-partisan practices that don't benefit constituents." And the individual members are not required to participate as parties in the case: "neither the [equal protection] claim nor the request for declaratory and injunctive relief requires individualized proof and both are thus properly resolved in a group context." *Hunt v. Washington State Apple Advert. Comm'n*, 432 U.S. 333, 344 (1977).

B. Partisan Gerrymandering

20. The constitutionality of legislative apportionments is governed by (among other provisions) the Equal Protection Clause of the Fourteenth Amendment. *Reynolds v. Sims*, 377 U.S. 533 (1964).

21. The right to vote "is a fundamental matter in a free and democratic society. Especially since the right to exercise the franchise in a free and unimpaired manner is preservative of other basic civil and political rights, any alleged infringement of the right of citizens to vote must be carefully and meticulously scrutinized." *Id*. at 561-62.

22. "Most citizens" exercise their "inalienable right to full and effective participation in the political process" by voting for their elected representatives. *Id.* at 565. "Full and effective participation by all citizens in state government requires, therefore, that each citizen have an equally effective voice in the election of members of his state legislature." *Id.*

23. The concept of equal protection has been traditionally viewed as requiring the uniform treatment of persons standing in the same relation to the governmental action questioned or challenged. With respect to the allocation of legislative representation, all voters, as citizens of a State, stand in the same relation regardless of where they live. *Id.*

24. However, the requirement of equal treatment is not limited to where a voter resides. Instead, "[a]ny suggested criteria for the differentiation of citizens are insufficient to justify any discrimination, as to the weight of their votes, unless relevant to the permissible purposes of legislative apportionment." *Id.*

25. "Since the achieving of fair and effective representation for all citizens is concededly the basic aim of legislative apportionment . . . the Equal Protection Clause guarantees the opportunity for equal participation by all voters in the election of state legislators." *Id*. at 565-66 (citations omitted).

26. A districting plan may create multimember districts that are perfectly acceptable under equal population standards, but invidiously discriminatory because they are employed "to minimize or cancel out the voting strength of racial or political elements of the voting population." *Gaffney v. Cummings*, 412 U.S. 735, 751 (1973).

27. "[A]n excessive injection of politics is unlawful." *Vieth*, 541 U.S. at 293 (plurality opinion).

28. Excessive partisan gerrymandering raises concerns under the Equal Protection Clause, by discriminating against voters on the basis of their partisan affiliations, and under the First Amendment, by "burdening or penalizing citizens because of their participation in the electoral process, their voting history, their association with a political party, or their expression of political views." *Id.* at 314 (Kennedy, J., concurring in the judgment).

29. "Under general First Amendment principles those burdens in other contexts are unconstitutional absent a compelling government interest." *Id*. (citing *Elrod v. Burns*, 427 U.S. 347, 362 (1976) (plurality opinion)).

30. "'Representative democracy . . . is unimaginable without the ability of citizens to band together in promoting among the electorate candidates who espouse their political

views.'" *Id.* (quoting *Cal. Democratic Party v. Jones*, 530 U.S. 567, 574 (2000)). First Amendment concerns arise where a State enacts a law that has the purpose and effect of subjecting a group of voters or their party to disfavored treatment by reason of their views. In the context of partisan gerrymandering, that means that First Amendment concerns arise where an apportionment has the purpose and effect of burdening a group of voters' representational rights. *Id.*

31. In a First Amendment analysis, the inquiry is not whether political classifications were used. The inquiry instead is whether political classifications were used to burden a group's representational rights. If a court were to find that a State did impose burdens and restrictions on groups or persons by reason of their views, there would likely be a First Amendment violation, unless the State shows some compelling interest. *Id.*

32. The First Amendment and the Equal Protection clause prohibit a redistricting scheme which (1) is intended to place a severe impediment on the effectiveness of the votes of individual citizens on the basis of their political affiliation, (2) has that effect, and (3) cannot be justified on other, legitimate legislative grounds. *Whitford*, 218 F. Supp. 3d at 884.

33. The discriminatory intent prong of plaintiffs' proposed test for partisan gerrymandering—that is, whether a district plan "intentional[ly] discriminat[es] against an identifiable political group," *Davis v. Bandemer*, 478 U.S. 109, 127 (1986) (plurality opinion)—is judicially discernible and manageable.

34. The intent prong is discernible because it stems from the "basic equal protection principle that the invidious quality of a law . . . must ultimately be traced to a . . . discriminatory purpose." *Washington v. Davis*, 426 U.S. 229, 240 (1976); *see also Harris v. Indep. Redist. Comm'n*, 136 S. Ct. 1301, 1310 (2016) (suggesting that "partisanship is an illegitimate redistricting factor"); *Bandemer,* 478 U.S. at 141 (plurality opinion) (requirement of discriminatory intent is "consistent with our equal protection cases generally").

35. The intent prong is manageable because courts have successfully distinguished for decades between district plans that aim to pursue partisan advantage and plans that do not.

36. When a single party has unified control over redistricting, "it should not be very difficult to prove that the likely political consequences of the reapportionment were intended." *Bandemer*, 478 U.S. at 129 (plurality opinion); *see also id*. at 129 n.11 ("That discriminatory intent may not be difficult to prove in this context does not, of course, mean that it need not be proved at all . . . ."). Conversely, when a district plan is enacted by divided government, by a bipartisan or nonpartisan commission, or by a court, partisan intent may well be absent. *See Vieth*, 541 U.S. at 350 (Souter, J., dissenting) ("I would . . . treat any showing of intent . . . as too equivocal to count unless the entire legislature were controlled by the governor's party (or the dominant legislative party were vetoproof).").

37. Justice Kennedy noted in *Vieth* that "[i]f a State passed an enactment that declared 'All future apportionment shall be drawn so as most to burden Party X's rights to fair and effective representation, though still in accord with one-person, one-vote principles,' we would surely conclude the Constitution had been violated." *Vieth*, 541 U.S. at 312 (Kennedy, J., concurring in the judgment). The North Carolina General Assembly did just that in adopting its "partisan advantage" redistricting criterion for the 2016 Congressional redistricting plan.

38. Much other evidence confirms that the intent prong is satisfied by the evidence in this case. This evidence includes the official criteria for the 2016 Congressional redistricting plan, statements by Dr. Thomas Hofeller, Rep. David Lewis, Sen. Bob Rucho, and the party-line votes by which the plan was passed.

39. The discriminatory effect prong of plaintiffs' proposed test for partisan gerrymandering—that is, whether a district plan has exhibited a high and durable level of partisan asymmetry—is judicially discernible and manageable and satisfied by the evidence in this case.

40. In *LULAC v. Perry*, 548 U.S. 399 (2006), five Justices expressed interest in a partisan gerrymandering test based on the concept of partisan symmetry. See *id*. at 420 (opinion of Kennedy, J.) (not "discounting its utility in redistricting planning and litigation"); *id*. at 466, 468 n.9 (Stevens, J., concurring in part and dissenting in part) (observing that symmetry is "widely accepted by scholars as providing a measure of fairness in electoral systems" and is a "helpful (though certainly not talismanic) tool"); *id*.

at 483-84 (Souter, J., concurring in part and dissenting in part) (noting "utility of a criterion of symmetry as a test" and urging "further attention [to] be devoted to the administrability of such a criterion at all levels of redistricting and its review"); *id*. at 492 (Breyer, J., concurring in part and dissenting in part) (pointing out that asymmetry may cause a plan to "produce a majority of congressional representatives even if the favored party receives only a minority of popular votes.").

41. Further support for the discernibility of a test based on partisan symmetry comes from the Supreme Court's definitions of partisan gerrymandering in other cases, all of which involve some notion of asymmetry. *See Ariz. State Legis. v. Ariz. Indep. Redist. Comm'n*, 135 S. Ct. 2652, 2658 (2015) (gerrymandering is "the drawing of legislative district lines to subordinate adherents of one political party and entrench a rival party in power"); *Vieth*, 541 U.S. at 271 n.1 (plurality opinion) (gerrymandering is "giv[ing] one political party an unfair advantage by diluting the opposition's voting strength"); *Bandemer,* 478 U.S. at 127 (plurality opinion) (gerrymandering is "the manipulation of individual district lines" causing a party's "voters over the State as a whole" to be "subjected to unconstitutional discrimination.").

42. The effect prong of plaintiffs' test is judicially discernible not only because it is based on the concept of partisan symmetry, but also because it incorporates the Supreme Court's concern about the durability of gerrymandering. *See LULAC*, 548 U.S. at 419 (opinion of Kennedy, J.) (criticizing a plan that "entrenched a party on the verge of minority status"); *Vieth*, 541 U.S. at 360 (Breyer, J., dissenting) (advocating a test based

on the "use of political factors to entrench a minority in power"); *Bandemer*, 478 U.S. at

132-33 (plurality opinion) (requiring a plan to "consistently degrade . . . a group of

voters' influence," resulting in "continued frustration of the will . . . of the voters.").

43. The effect prong of plaintiffs' test is judicially manageable because a plan's

partisan asymmetry can be reliably measured using metrics such as the efficiency gap,

partisan bias, and the mean-median difference. These metrics can be used to determine

both the magnitude of a plan's asymmetry and the likelihood that the plan will remain

asymmetric over its lifetime. *See LULAC*, 548 U.S. at 466 (Stevens, J., concurring in part

and dissenting in part) (observing that "the symmetry standard . . . is undoubtedly a

reliable standard for measuring a burden on the complainants' representative rights"

(internal quotation marks omitted)).

44. The durability of a plan's partisan asymmetry can also be reliably measured

through sensitivity testing, that is, shifting the statewide vote in each party's direction and

determining the asymmetry that results from each shift. "There [is] consensus" that

sensitivity testing is "the accepted method of testing how a particular map would fare

under different electoral conditions." *Whitford*, 218 F. Supp. 3d at 899 n.255.

45. The effect prong of plaintiffs' test is satisfied by the evidence in this case. In the

2016 election, the 2016 Congressional redistricting plan had the largest efficiency gap of

any plan analyzed by plaintiffs' expert. In the 2016 election, the 2016 Plan also had the

second-largest partisan bias in the entire database assembled by plaintiffs' expert,

spanning 512 cases from 1972 to 2016.

46. Sensitivity testing conducted by plaintiffs' expert further indicates that the 2016 Congressional redistricting plan will remain skewed in a Republican direction under almost any electoral scenario. It would take the largest Democratic wave in more than thirty years for the plan's asymmetry to disappear.

47. The justification prong of plaintiffs' proposed test for partisan gerrymandering—that is, whether a district plan's high and durable level of partisan asymmetry can be "justified by the State," *Brown v. Thomson*, 462 U.S. 835, 843 (1983)—is judicially discernible and manageable and satisfied by the evidence in this case.

48. The justification prong of plaintiffs' test is judicially discernible because it is identical to the final stage of the test for determining whether state legislative plans comply with the one person, one vote requirement. At this stage, "larger disparities in population . . . create[] a prima facie case of discrimination and therefore must be justified by the State." *Brown*, 462 U.S. at 842-43. The disparities are permitted only if they "may reasonably be said to advance the rational state policy" that is offered to justify them. *Mahan v. Howell*, 410 U.S. 315, 328 (1973).

49. The justification prong of plaintiffs' test is judicially manageable because courts have successfully employed its exact analogue in the one person, one vote context for decades. Under this framework, courts have ably distinguished between justified and unjustified population deviations. *See, e.g., Brown*, 462 U.S. at 844 (holding that "the State's apportionment formula ensures that population deviations are no greater than necessary to preserve counties as representative districts"); *Chapman v. Meier*, 420 U.S.

1, 24 (1975) (holding that "none of these factors . . . has been explicitly shown to necessitate the substantial population deviation"); *Mahan*, 410 U.S. at 326 (holding that "the legislature's plan . . . produces the minimum deviation above and below the norm, keeping intact political boundaries" (internal quotation marks omitted)); *Kilgarlin v. Hill*, 386 U.S. 120, 123 (1967) ("[W]e are not convinced that the announced policy of the State of Texas necessitated the range of deviations between legislative districts which is evident here.").

50. The evidence in this case demonstrated that neutral factors, or adherence to traditional redistricting criteria, cannot justify the enormous and durable partisan advantage produced for Republicans by the 2016 Congressional redistricting plan. Thousands of simulated maps created by plaintiffs' expert perform at least as well as the plan on every nonpartisan criterion—but are much more symmetric in their electoral consequences. Dr. Hofeller himself produced draft maps with fewer county splits than the plan, more compact districts, and just seven Republican seats. And North Carolina's Congressional redistricting plan in the 2000s complied with all federal and state requirements and had an average efficiency gap of just 2%.

51. The 2016 Congressional redistricting plan violates the First Amendment by "burdening or penalizing citizens because of their participation in the electoral process, their voting history, their association with a political party, or their expression of political views." *Vieth*, 541 U.S. at 314 (Kennedy, J., concurring in the judgment).

52. The 2016 Congressional redistricting plan is an unconstitutional partisan gerrymander because the plan (1) intentionally disadvantages Democrats, (2) does so severely and durably, and (3) does so unjustifiably.

53. The 2016 Congressional redistricting plan violates the First and Fourteenth Amendments of the United States Constitution because it is an extreme partisan gerrymander, and so deprives plaintiffs of their civil rights under color of state law in violation of 42 U.S.C. §§ 1983, 1988.

54. Plaintiffs are entitled to immediately declaratory and injunctive relief. "[O]ur precedents recognize an important role for the courts when a districting plan violates the Constitution." *LULAC*, 548 U.S. at 415 (opinion of Kennedy, J.).

Respectfully submitted this 6th day of November, 2017.

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CERTIFICATE OF SERVICE

I hereby certify that I have this day served a copy of the foregoing via electronic mail, addressed to counsel for all parties in this consolidated action.

This the 6th day of November, 2017.

/s/ Ruth M. Greenwood
Ruth M. Greenwood