IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF NORTH CAROLINA
NO. 1:15-CV-00399-TDS-JEP

SANDRA LITTLE COVINGTON, *et al*.,
 	
  Plaintiffs,
 	
v.
 	
THE STATE OF NORTH CAROLINA, *et al*.,
 	
  Defendants.
	PLAINTIFFS' BRIEF IN SUPPORT OF MOTION TO EXCLUDE EXPERT TESTIMONY BY SEAN TRENDE

Pursuant to Local Rule 7.2, Plaintiffs, by and through their undersigned counsel, submit the following brief in support of their Motion to Exclude Expert Testimony by Sean Trende.

NATURE OF THE MATTER

In this action, Plaintiffs have challenged as unconstitutional racial gerrymanders a number of State Senate and House districts enacted by the North Carolina General Assembly in 2011. Following the decision in *Alabama Legislative Black Caucus v. Alabama*, 135 S. Ct. 1257 (Mar. 25, 2015), Plaintiffs filed suit on May 19, 2015. (D.E. # 1). Trial for this matter has been scheduled for April 11, 2016. Defendants have stated they may call Sean P. Trende as a testifying expert at trial in their final pretrial designations, and they have listed his report as an exhibit for trial. For all of the reasons described below, this Court should exclude any testimony by Defendants' proposed expert, Sean Trende.

STATEMENT OF FACTS

Defendants have proffered Sean P. Trende as an expert witness in this case. Trende describes himself as "a recognized expert in the fields of campaigns and elections, redistricting, gerrymandering, and United States demographic trends and political history." (Trende Decl. ¶ 2, copy attached as Exhibit A).

Trende does not have a doctoral degree. (Trende Dep. p. 8) (copy of transcript without exhibits attached as Exhibit B). Trende went to Yale University for his undergraduate degree, then he enrolled at Duke University for a juris doctor and a master's degree. (*Id.* at 7). He has taken two semesters of statistics as part of his graduate degree. (*Id.* at 9). He has no publications in any peer-reviewed journal. (*Id.* at 10). In fact, he has never published in any journal. (*Id.* at 87). He has never taught at any university. (*Id.* at 9). He is currently employed by Real Clear Politics. (*Id.* at 4).

Trende has a law degree and practiced law as an associate attorney for 8 years at three different firms in Richmond. (*Id.* at 14-15). He was involved with—but "didn't really handle"— one election-related case in that time. (*Id.* at 15).

Prior to authoring the declaration for this case, Trende had never written on the subject of the competitiveness of state legislative districts. (*Id.* at 13). He did not have any political scientist or statistician review his declaration. (*Id.* at 16-17). He did not have a political scientist or statistician check the accuracy of his methodology. (*Id.* at 57-58, 65).

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Trende states in his declaration that he is a "recognized expert in the fields of campaigns and elections, redistricting, gerrymandering, and United States demographic trends and political history." (Trende Dec. ¶ 2). When asked by whom he is recognized as an expert, he explained that the more than one million people who read Real Clear Politics would recognize him as an expert, plus various "commentators and analysts who would agree with that." (Trende Dep. p. 17).[1] But, he also clarified he is not using the term "expert" in a legal sense. (*Id.* at 17-18).   With regard to his expertise in redistricting, Trende considers his previous submission of an expert report that was accepted without objection (in *Dickson v. Rucho*)[2] and the fact that he has published a book on redistricting qualify him as an expert on the topic. (*Id.* at 18).

In his declaration, Trende rates the partisan competitiveness of North Carolina House and Senate districts. (Trende Dep. p. 23). He explained this task as "[t]he likelihood of Republicans or Democrats winning a particular seat using the techniques that are typically utilized for such ratings." (*Id.*). In performing this task, he reviewed House and Senate maps given to him by Defendants' counsel. (*Id.* at 23-24). He evaluated the 2001 maps, even though those maps were never used in an election. (*Id.* at 24). He did not evaluate the 2002 maps that were used for the 2002 election. (*Id.*). He

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[1] Real Clear Politics is a website containing political content. According to Real Clear Politics, the average website viewer spends ten minutes on the website. http://www.realclearpolitics.com/about.html.

[2] Trende's report in *Dickson v. Rucho* was never cited by the court in any decision.

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analyzed and estimated the competitiveness for these elections even though the elections had already passed and actual election results were available to him. (*Id.* at 28-29).

Trende first evaluated the "fundamentals" of the district, which he described as the "basic partisan lean of the district." (Trende Decl. ¶ 34). Then, he evaluated "the district's likely performance in the context of the national political environment." (*Id.*). Finally, he would have evaluated the impact that "fundraising, candidate quality, incumbency, scandals, and other election-specific effects have on the election," but performing this step "at this point would be impossible." (*Id.* at ¶¶ 34-35). Instead, he assumed "every seat were open, and the parties ran equally well funded candidates of equal quality in each district." (*Id.* at ¶ 120). Despite having actual election results for the elections he considered, Trende used those results to validate his ranking of the competitiveness of the districts. (Trende Dep. p. 29).

When asked about the relevance of his analysis of the competitiveness of districts to the legal issues in this litigation, Trende's "vague guess" was that it plays into questions of intent. But he conceded he made no inquiry into the legislature's intent in performing this analysis. (*Id.* at 27-28).

The General Assembly did not have Trende's opinions or theories before it when it enacted the plans in 2011. (*Id.* at 30).

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SHOULD THIS COURT EXCLUDE TRENDE'S TESTIMONY BECAUSE HE IS NOT QUALIFIED AS AN EXPERT WITNESS AND HIS TESTIMONY WOULD NOT BE HELPFUL TO THE COURT?

ARGUMENT

I.   TRENDE IS NOT QUALIFIED UNDER RULE 702 OR *DAUBERT*

Trende is not qualified to testify as an expert witness in this case. Rule 702 of the

Federal Rules of Evidence provides as follows:

> If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

Fed. R. Evid. 702. The trial judge must act as a gatekeeper, admitting only that expert

testimony which is relevant and reliable. *Daubert v. Merrell Dow Pharms., Inc.*, 509

U.S. 579, 589 (1993). To aid the Court in this gatekeeping role, the Supreme Court has

identified four key considerations, including:

1. whether the expert opinion can be, and has been, tested;

2. whether it has been subjected to peer review or publication;

3. the error rate of the methods that the expert employed; and

4. whether the expert's methods are generally accepted by the relevant scientific community for the purpose for which it is employed.

Id. at 592-94; *Anderson v. Westinghouse Savannah River Co.*, 406 F.3d 248, 261 (4th Cir.

2005). In order to be considered reliable, the expert's opinions must reflect "scientific

knowledge," be "derived by scientific method," and be the result of work product that amounts to "good science." *Daubert*, 509 U.S. at 590, 593. The trial court is to exclude "subjective belief or unsupported speculation." *Id.* at 590.

The objective of *Daubert*'s gatekeeping requirement is to ensure "that an expert, whether basing testimony upon professional studies or personal experience, employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field." *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 152 (1999). The proponent of the expert testimony carries a substantial burden under Rule 702. "The burden of laying the proper foundation for the admission of the expert testimony is on the party offering the expert, and admissibility must be shown by a preponderance of the evidence." *Allison v. McGhan Med. Corp.*, 184 F.3d 1300, 1306 (11th Cir. 1999) (citing *Daubert*, 509 U.S. at 592 n. 10). "[A] bold statement of the experts' qualifications, conclusions, and assurances of reliability are not enough to satisfy the *Daubert* standard." *Doe 2 v. Ortho-Clinical Diag., Inc.*, 440 F. Supp. 2d 465, 471 (M.D.N.C. 2006).

Here, Trende's personal credentials do not qualify him as an expert witness. He does not have a Ph.D. (Trende Dep. p. 8). He only took two statistics classes in graduate school, but claims his work can be verified by the logistic regression he performed. (Trende Dep. p. 9; Trende Decl. ¶ 123). He has been designated as an expert in only one other redistricting case, though his work was not relied upon by the court. Prior to authoring the declaration for this case, Trende had never written on the subject of the competitiveness of state legislative districts. (Trende Dep. p. 13). He contends the

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readers of Real Clear Politics view him as an expert, though not an expert "in the legal sense." (*Id.* at 17-18). It is well-settled that an expert must have proper qualifications through knowledge, skill, experience, training or education. *Kopf v. Skyrm*, 993 F.2d 374 (4th Cir. 1993). Here, Trende's knowledge, skill, experience, training, and education fall short of what is needed to opine on redistricting matters and the legislature's intent in drawing the maps. He should be excluded on this basis alone.

A. A review of the *Daubert* factors shows that Trende's report would not be accepted in the scientific community.

Trende's report provides interesting material for the readers of Real Clear Politics, but his work does not meet the stringent standards of *Daubert*.

Dr. James Stimson, the Raymond H. Dawson Distinguished Bicentennial Professor of Political Science at the University of North Carolina at Chapel Hill, reviewed Trende's work "to analyze the scientific validity" of his report. (Stimson Aff. ¶ 8) (attached as Exhibit C). Dr. Stimson is the founding editor of the journal *Political Analysis*, which is now published by Oxford University Press, and the official journal of the Political Methodology Section of the American Political Science Association. (*Id.* at ¶ 4). He currently serves on the editorial board and is a past president of the Political Methodology Section. (*Id.*). He has also served on the editorial boards of *American Journal of Political Science*, *Journal of Politics*, *American Politics Quarterly*, *Political Methodology*, and *Public Opinion Quarterly*. (*Id.*). Dr. Stimson has been honored as an elected Fellow of the American Academy of Arts and Sciences, a Fellow of the John Simon Guggenheim Foundation, a Fellow at the Center for Advanced Study in the

Behavioral Sciences, and a Fellow of the Political Methodology Society, among other distinctions, honors, awards, and prizes. (*Id.* at ¶ 3). Dr. Stimson's work has been published in numerous books and journal articles, and he has "evaluated the scientific validity of hundreds of articles submitted for publication in numerous scholarly journals." (*Id.* at ¶ 5).

In ruling on a *Daubert* motion, this Court may consider Dr. Stimson's affidavit critiquing Trende's work, even where the affiant has not been proffered as an expert witness for trial. *Celebrity Cruises, Inc. v. Essef Corp.*, 434 F. Supp. 2d 169, 190 (N.Y.S.D. 2006); F.R.E. 104(a); *Daubert*, 509 U.S. at 593, n. 10; *Ruffin v. Shaw Indus.*, 149 F.3d 294, 296-97 (4th Cir. 1998). The Court need only consider whether Dr. Stimson's opinions are "sufficiently reliable to be persuasive" in the Court's evaluation of the expert report that it criticizes. *Celebrity Cruises*, 434 F. Supp. 2d at 190. Dr. Stimson determined that Trende's analyses "are not scientifically valid." (Stimson Aff. ¶ 9).

Trende's work has not been tested. In fact, his work cannot be tested. The first step he performed was to sort the districts into categories "by base district partisanship." (Trende Decl. ¶ 72). As Dr. Stimson explains, this step cannot be replicated because it requires researcher judgment, which necessarily involves inherent researcher bias. (Stimson Aff. ¶¶ 12-13). Dr. Stimson observes that Trende's predictions "may be perfectly appropriate for the business use of such electoral advice," such as Real Clear Politics, but they "will never do for scientific application." (*Id.* at ¶ 14). This is because

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another researcher does not have access to Trende's "hidden, private, subjective, or holistic criteria." (*Id.*). The scientific community and standards require decision rules to be "public and fully transparent." (*Id.*). Because Trende's analysis is based on secret classification rules that only he knows, it cannot be tested. *See Snoznik v. Jeld-Wen, Inc.*, No. 1:09-cv-42, 2010 U.S. Dist. LEXIS 46814, at *35-36 (W.D.N.C. May 12, 2010) (excluding expert where his methodologies could not be replicated or verified in a scientific manner). Thus, his work fails the first *Daubert* test.

Trende's work has not been peer reviewed. He testified he did not have any political scientists or statisticians review his work. (Trende Dep. pp.16-17, 34, 65). He testified that his work has never been published in any peer-reviewed journal. (*Id.* at 10, 87). Peer review and publication are pertinent considerations because "submission to the scrutiny of the scientific community is a component of 'good science.'" *Daubert*, 509 U.S. at 594. But as Dr. Stimson explains, the ability of the scientific community to scrutinize Trende's work is severely hampered. While Trende's peers could possibly confirm or validate Trende's conclusions in other ways, Trende leaves the conclusions unstated. (Stimson Aff. ¶ 19). Thus, Dr. Stimson concludes "it is impossible to know whether a second analysis yields the same conclusion." (*Id.* at ¶ 19).

Dr. Stimson further observes that Trende's validation of his own work is not valid. (*Id.* at ¶ 22). Trende claims he used the combination of logistic regression and Monte Carlo simulation to validate his first method. (Trende Decl. ¶¶ 121, 133). However, as Dr. Stimson explains, the inference required by Trende's process would require "perfect

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verisimilitude between the model world and reality." (Stimson Aff. ¶ 22). In other words, because Trende's simulated hypothetical elections can never match reality, his inferences about reality can never be valid. (*Id.*). Importantly, because these inferences are not valid, they would never be accepted for publication. (*Id.* at ¶ 23). Thus, Trende's work fails the second *Daubert* test.

Because Trende's work has not been tested, the known or potential rate of error is entirely unknown. Trende provides no rate of error for his work, and one cannot determine it from his report, given his secret and holistic decisions. Though he did concede that he made at least one error in his calculations, *see* Trende Dep. p. 59 ("That's probably an error."), there is no way for the court to determine the rate of error. The Supreme Court in *Daubert* stated that the trial court "ordinarily should consider the potential rate of error." *Daubert*, 509 U.S. at 594. That is impossible here. Thus, Trende's work fails the third *Daubert* test.

Finally, Trende's methods are not generally accepted by the scientific community. As Dr. Stimson explains, Trende's use of classification data would never be accepted by the scientific community because he uses the criteria in different ways, he makes judgments "holistically," and he offers no conclusions that can be validated by others. (Stimson Aff. ¶¶ 13, 14, 23). If simulation exercises are published, the researcher must meet "a very high standard of completeness of documentation of the simulation model and its context and assumptions." (*Id.* at ¶ 24). Trende's report does not meet this standard. (*Id.*). Thus, Trende's work fails the final *Daubert* test.

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Because Trende's report does not meet any of the *Daubert* factors, it should not be considered by this Court.

II.   TRENDE'S TESTIMONY WILL NOT BE HELPFUL TO THE COURT

Trende's report is nothing other than an after-the-fact attempt to explain the legislature's actions as something other than the division of citizens on the basis of race. *See Caraker v. Sandoz Pharms. Corp.*, 172 F. Supp. 2d 1046, 1049 n. 5 (S.D. Ill. 2001) ("Justifying a conclusion after the fact by applying a methodology does not generally lead to reliable scientific knowledge.") (cited with approval by *Dunn v. Sandoz Pharms. Corp.*, 275 F. Supp. 2d 672, 679 (M.D.N.C. 2003)). Trende's after-the-fact explanation is not helpful to any issue in this case. As the Supreme Court described in Daubert:

> Expert testimony which does not relate to any issue in the case is not relevant and, ergo, non-helpful. The consideration has been aptly described by Judge Becker as one of fit. Fit is not always obvious, and scientific validity for one purpose is not necessarily scientific validity for other, unrelated purposes. . . . Rule 702's helpfulness standard requires a valid scientific connection to the pertinent inquiry as a precondition to admissibility.

Daubert, 509 U.S. at 591-92 (internal citations and quotation marks omitted). Trende's "vague guess" was that his work played into questions of intent, but he could not say for certain. (Trende Dep. p. 28). He conceded that he made no inquiry into the legislature's intent. (*Id.*).

Defendants have not defended these plans on the basis of politics. They did not assert a defense relating to politics in their answer. (D.E. # 14). The General Assembly did not analyze the competitiveness of the legislative districts in drawing the maps. Thus,

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Trende's declaration is not relevant to the legislature's intent, or any other issue in this case. Accordingly, his report and testimony should be excluded.

CONCLUSION

For the foregoing reasons, Plaintiffs request that this Court exclude all expert testimony from Sean Trende.

This the 21st day of March, 2016.

POYNER SPRUILL LLP

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CERTIFICATE OF SERVICE

I hereby certify that on this date I have electronically filed the foregoing PLAINTIFFS' BRIEF IN SUPPORT OF MOTION TO EXCLUDE SEAN TRENDE with the Clerk of Court using the CM/ECF system which will provide electronic notification of the same to the following:

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This the 21st day of March, 2016.

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IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF NORTH CAROLINA
MIDDLE DIVISION

SANDRA LITTLE COVINGTON, et al.,	:	
	:	
	:	Case No. 1:15-CV-00399
Plaintiffs,	:	
	:	Judge Thomas D. Schroeder
	:	
v.	:	Magistrate Judge
	:	Joi Elizabeth Peake
THE STATE OF NORTH CAROLINA, et al.,	:	
	:	
Defendants.	:	

DECLARATION OF SEAN P. TRENDE

Sean Patrick Trende, under penalty of perjury, makes the following declaration:

1.   I am over 18 years of age and am competent to testify regarding the matters discussed in this declaration.

2.   I am a recognized expert in the fields of campaigns and elections, redistricting, gerrymandering, and United States demographic trends and political history.

3.   I have been retained in this matter to provide expert testimony. I am compensated at a rate of $300 per hour, excluding travel time.

4.   My *curriculum vitae* is attached to this declaration as **Exhibit 1.**

5.   A list of materials upon which I relied in the preparation of this declaration are attached as **Exhibit 2.**

EXPERT CREDENTIALS

6.   I have studied and followed United States elections on both a part-time and full-time basis for almost two decades.

7.   I received a B.A. from Yale University in 1995, with a double major in history and political science.

8.   I received a J.D. from Duke University in 2001.

9.   I also received an M.A. from Duke University in 2001, in political science.

10.   I joined RealClearPolitics in January of 2009 as their Senior Elections Analyst. I assumed a fulltime position with RealClearPolitics in March of 2010.

11.   RealClearPolitics is one of the most heavily trafficked political websites in the world. It serves as a one-stop shop for political analysis from all sides of the political spectrum and is recognized as a pioneer in the field of poll aggregation. It is routinely cited by the most influential voices in politics, including David Brooks of *The New York Times*, Brit Hume of *Fox*

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News, Michael Barone of *The Almanac of American Politics*, Paul Gigot of *The Wall Street Journal*, and Peter Beinart of *The New Republic*.

12.   My main responsibilities with RealClearPolitics consist of tracking, analyzing, and writing about elections. I also am in charge of rating the competitiveness of House of Representatives races, and collaborate in rating the competitiveness of Presidential, Senate and gubernatorial races. As a part of carrying out these responsibilities, I have studied and written extensively about demographic trends in the country, exit poll data at the state and federal level, public opinion polling, and voter turnout and voting behavior.

13.   In May of 2009, columnist Stuart Rothenberg, one of the three best-known elections analysts in the nation (Larry Sabato and Charlie Cook being the other two) wrote that the idea of a Republican takeover of the House of Representatives in the 2010 midterm elections was "lunacy [that] ought to be put to rest immediately." Stuart Rothenberg, *April Madness: Can GOP Win Back the House in 2010?*, RealClearPolitics, April 24, 2009, http://www.realclearpolitics.com/articles/2009/04/24/ april_madness_can_gop_ win_back_the_house_in_2010_96149.html.

14.   At the same time, Cook suggested that the most likely scenario for the Democrats was a pickup of a few seats. Charlie Cook, *Obama's Midterm Exam*, Government Executive, May 5, 2009, http://gatekeeper1.govexec.com/oversight/on-politics/2009/05/obamas-midterm-exam/29089/print/.

15.   By contrast, I concluded that the GOP clearly had at least a chance to take back the House. Sean Trende, *Is A 2010 Republican Comeback Really Impossible*, RealClearPolitics, May 12, 2009, http://www.realclearpolitics.com/articles/2009/05/12/is_a_2010_republican_ comeback_really_impossible_96455.html.

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16. In 2010, RealClearPolitics' median outcome was that Republicans would pick up 66 or 67 House seats. Cook projected that Republicans would pick up between 50 and 60 House seats, for a median outcome of 55 seats. Rothenberg projected that Republicans would pick up between 55 and 65 House seats, for a median outcome of 60 seats. Sabato projected that Republicans would pick up 55 House seats. Republicans picked up 63 House seats.

17. In 2012, RealClearPolitics' median outcome was that Republicans would lose two seats. Cook's median outcome was a Republican loss of one seat. Sabato projected Democrats would gain three seats. Republicans lost eight seats.

18. In 2014, RealClearPolitics' median outcome was that Republicans would pick up seven House seats. Cook's projected that the outcome for Republicans would be between a three seat loss and a 17 seat gain, for a median outcome of a Republican gain of seven seats. Sabato projected that Republicans would pick up nine House seats. Republicans picked up 13 House seats.

19. I am also a Senior Columnist for Dr. Larry Sabato's "Crystal Ball." I began writing for the Crystal Ball in January of 2014.

20. As part of familiarizing myself with how parties have drawn lines over the decades, as well as learning the political geography of the United States, I drew, using Adobe Illustrator, complete maps of every congressional district ever drawn, dating back to 1789. Examples of these maps are attached as Exhibits 3-12.

21. The overarching purpose of my writings, both at RealClearPolitics and the Crystal Ball, is to try to convey more rigorous statistical understandings of elections than are typically found in journalistic coverage of elections to a lay audience.

22.   I am the author of *The Lost Majority: Why the Future of Government is up For Grabs and Who Will Take It.* The book offers a revisionist take on realignment theory. It argues that realignments are a poor concept that should be abandoned. As part of this analysis, it conducts a thorough analysis of demographic and political trends beginning around 1920 and continuing through the modern times.

23.   I also authored a chapter in Dr. Larry Sabato's *Barack Obama and the New America: The 2012 Election and the Changing Face of Politics*, which discussed the demographic shifts accompanying the 2012 elections. I also authored a chapter in Sabato's *The Surge: 2014's Big GOP Win and What It Means for the Next Presidential Election*, which discusses demographics and Electoral College shifts.

24.   I co-authored the 2014 *Almanac of American Politics*. The Almanac is considered the foundational text for understanding congressional districts and the representatives of those districts, as well as the dynamics in play behind those elections. PBS's Judy Woodruff described the book as "the oxygen of the political world," while NBC's Chuck Todd noted that "[r]eal political junkies get two *Almanacs*: one for the home and one for the office." My focus was researching the history of and writing descriptions for many of the newly-drawn districts, including those in North Carolina. Writing these descriptions required heavy research into the topography, political geography, and history of North Carolina's political subdivisions.

25.   I have spoken on these subjects before audiences from across the political spectrum, including at the Heritage Foundation, the American Enterprise Institute, the CATO Institute, the Bipartisan Policy Center, and the Brookings Institution. In 2012, I was invited to Brussels to speak about American elections to the European External Action Service, which is the European Union's diplomatic corps.

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26.   It is my policy to appear on any news outlet that invites me, barring scheduling conflicts, and I have appeared on both Fox News and MSNBC to discuss electoral and demographic trends. I have spoken on a diverse array of radio shows such as First Edition with Sean Yoes, the Diane Rehm Show, the Brian Lehrer Show, the John Batchelor Show, the Bill Bennett Show, and Fox News Radio. I have been cited in major news publications, including *The New York Times*, *The Washington Post*, *The Los Angeles Times*, *The Wall Street Journal*, and *USA Today*.

27.   I sit on the advisory panel for the "States of Change: Demographics and Democracy" project. This three-year project is sponsored by the Hewlett Foundation and involves three premier think tanks: The Brookings Institution, the American Enterprise Institute, and the Center for American Progress. The group takes a detailed look at trends among eligible voters and the overall population, both nationally and in key states, in an attempt to explain the impact of these changes on American politics, and to create population projections, which the Census Bureau abandoned in 1995.

28.   I previously authored an expert report in *Dickson v. Rucho*, No. 11-CVS-16896 (N.C. Super Ct., Wake County), which involved almost identical claims to the ones in this litigation. Although I was not called to testify, it is my understanding that my expert report was accepted without objection.

29.   I also previously authored two expert reports in *NAACP v. McCrory*, No. 1:13CV658 (M.D.N.C.), which involves challenges to multiple changes to North Carolina's voter laws, including a reduction in early voting days and elimination of same-day registration. I testified at the trial phase of that litigation.

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30.   I also previously authored an expert report in *NAACP v. Husted*, No. 2:14-cv-404 (S.D. Ohio). There was no live testimony at the preliminary injunction phase of that litigation, but it is my understanding that my expert report was accepted by and cited to by the Court without objection. I also authored an expert report in a later iteration of that litigation, *Ohio Democratic Party v. Husted.*

Evaluating the Competitiveness of Districts Under Various Plans

31.   I have been asked to rate the competitiveness of districts drawn for the North Carolina House of Representatives and North Carolina Senate. To do this, I utilized two approaches: First, I evaluated the districts individually. Secondly, I validated these conclusions using logistic regression analysis.

32.   For the North Carolina Senate, I was asked to evaluate the following maps, as described on the North Carolina General Assembly Redistricting Website, http://www.ncleg.net/representation/redistricting.aspx: "NC Plan 1C", ratified in 2001, but not used in an election; "2003 Senate Redistricting Plan", ratified in 2003, used for the 2004 through 2010 elections; "Rucho Senate 2"; "SCSJ Senate"; "Possible Senate Districts – McKissick"; "Senate Fair and Legal – Nesbitt."

33.   For the North Carolina House of Representatives, I was asked to evaluate the following maps, as described on the North Carolina General Assembly Redistricting Website, *supra*: "Sutton House Plan 3," ratified in 2001, but not used in an election; "Session Law 2009-78", ratified in 2009, used for the 2010 elections (and used for most House districts for the 2004 through 2010 elections); "Lewis-Dollar-Dockham 4"; "SCSJ House"; "Possible House Districts – Alexander, K"; "House Fair and Legal – Martin."

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34. Throughout my career as an analyst, my basic approach to rating the competitiveness of districts has consisted of a three-step process: (1) evaluate the "fundamentals" of the district; (2) evaluate the district's likely performance in the context of the national political environment and; (3) evaluate the impact that fundraising, candidate quality, incumbency, scandals and other election-specific effects have on the election.

35. My objective here, however, is not to provide full projections for any particular election. My objective is instead to evaluate how the districts themselves might perform in various election scenarios over the course of the following decade. In short, I was asked to perform Steps One and Two as described above.

36. Performing Step Three at this point would be impossible, as one cannot really know who is likely to run in a particular district over the course of a decade. Nor can we predict which challengers will arise and what degrees of funding they will have in any given year. All of these things would affect the final rating assigned to a district after Step Two. In other words, this report should only be read as an evaluation of the districts themselves, in various political environments. It should not be read as a prediction for the 2016 elections or beyond.

37. Perhaps most importantly, because these maps were drawn several years ago, and because we are attempting to analyze the effect of the laws as drawn, the objective here is to evaluate the districts as they would have appeared to a mapmaker in 2011.

38. In preparing these race ratings, I drew upon data provided by the website of the North Carolina General Assembly, *supra*. For the 2001 maps, I drew upon data provided by the redistricting archives of that website, found at http://www.ncleg.net/representation/Content/Archives.aspx.

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39.   I relied upon the following source for presidential election data: "Dave Leip's Atlas of U.S. Presidential Elections," http://www.uselectionatlas.org.

40.   In evaluating these districts, I paid particular attention to the following data for each district, in descending order of importance: (1) the performance of the presidential candidates, as measured by Partisan Voting Index (hereinafter "PVI"); (2) the party registration data for the district; (3) the performance of the candidates in the 15 statewide races for which data were provided; (4) the performance of the candidates in the 10 statewide races for *state* office for which data were provided;[1] (5) demographic trends in North Carolina; (6) previous state senate or house race results in the baseline districts from 2004 through 2010.

41.   An explanation of these data follows:

42.   **Partisan Index:** Perhaps the most commonly used heuristic device for understanding the political orientation of a district is the performance of presidential candidates in a district. This is usually expressed using either the district's PVI, or its Partisan Index. These are techniques for filtering out the national political environment, in order to ascertain how a state, district, or county would perform in a neutral political environment. PVI is calculated by selecting a party to measure,[2] averaging the previous two performances of that party's presidential candidates in a state, district or county, and then subtracting the average of the previous two performances of that party's presidential candidates nationally. *See* Barone et al., *passim*; Trende at xxix.

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[1] These ten races are a subset of the fifteen races described in item (3), not an independent collection of data.

[2] The result is the same regardless of which party one selects.

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43.   Here, I use a variant of PVI called Partisan Index. A state's Partisan Index is computed by subtracting the share of the state that voted for the Republican presidential candidate from the share of the nation that voted for Republican presidential candidate for a single election. For purposes of these calculations, third parties are excluded.

44.   To illustrate the utility of the Partisan Index, consider the following election results from Massachusetts:

Table 1: Democratic Vote Performance and PVI in Massachusetts: 1976-1988

Year	Dem Share in MA	Dem Share Nationally	PVI
1976	58.1 percent	51.4 percent	D+6.7
1980	49.9 percent	44.7 percent	D+5.2
1984	48.6 percent	40.8 percent	D+7.8
1988	54.0 percent	46.1 percent	D+7.9

45.   In 1984, Ronald Reagan won 51.4 percent of the two-party vote in Massachusetts. In absolute terms, one could consider Massachusetts a swing state. But no one would have considered Massachusetts a swing state, because it had two Democratic senators, a Democratic governor, and an overwhelmingly Democratic legislature. Ten of the state's eleven congressional districts elected Democrats, and the one Republican, Silvio Conte, was very liberal Republican.

46.   Moreover, one would conclude that, using absolute terms, the state has swung wildly toward Democrats in the interim, since Barack Obama won 61.8 percent of the two-party vote in the state in 2012.

47.   But Reagan's 51.4 percent win in Massachusetts has to be viewed in the context of his winning 59.2 percent of the two-party vote nationally. Compared to the country as a whole, Massachusetts actually had a Democratic lean of 7.8 points in 1984.

48.   Likewise, Obama's 61.7 percent win in Massachusetts has to be viewed in the context of his winning 52 percent of the two-party vote nationally. Compared to the country as a

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whole, Massachusetts actually had a Democratic lean of 9.8 points in 2012. Viewed in this light, Massachusetts has actually had relatively stable politics since 1984, with only a slight shift toward Democrats.

49.   For an illustration of how Partisan Index works, Figure 1 shows the Partisan Index of North Carolina from 1972 through 2012.

Fig. 1: Partisan Index of North Carolina, 1972-2012
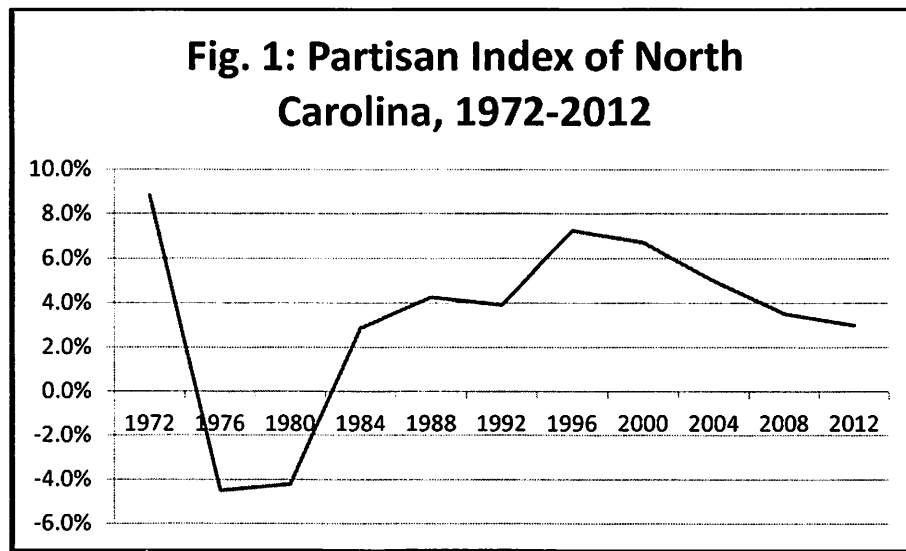
50.   In 1976, and again in 1980, the state was roughly four points more Democratic than the country as a whole. Over the next four cycles, the state gradually trended toward Republicans, before moving back toward the Democrats beginning in 2000.

51.   A district's partisan index has a tight correlation with election outcomes, as well as good predictive powers. If we examine the relationship between Democratic state senate candidates' vote shares in 2012 and Barack Obama's vote share in 2008, the r-square is .69. The t-stat, which helps us evaluate whether there is a statistically significant relationship between two variables, is 10.5 (a t-stat of 1.96 or greater suggests statistical significance). If we exclude uncontested districts, the r-square jumps to .85 and the t-stat is 13.2.

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52.   **Party Registration:** When the current lines were drawn, many places in the rural South were places where the Democrats' national candidates performed poorly, yet were also open to conservative-to-moderate Democrats at the local level. This is still true to some extent, though it is less true than it was in 2011. Conversely, in the suburban North, the Republicans may perform poorly at the Presidential level while performing well at the local level.

53.   As of 2011, this phenomenon was commonplace in North Carolina, especially in the tidewater and coastal portions of the state. Party registration statistics can help distinguish between districts where John Kerry and Barack Obama may have fared poorly, but where Democrats nevertheless maintain a substantial registration advantage, and where a local Democrat might actually have begun with a marked advantage in 2011. Likewise, areas where Republicans have an outright registration advantage are rare, and can suggest an advantage that might not be immediately obvious in Presidential voting.

54.   **Overall Election Results:** For the 2003 and 2009 maps, data were presented for each individual district's performance for the following elections: 2004 State Auditor's race; 2004 Governor's race; 2004 Presidential race; 2004 Senate race; 2008 Attorney General's race; 2008 Agriculture Commissioner's race; 2008 Commissioner of Labor's race; 2008 State Auditor's race; 2008 Insurance Commissioner's race; 2008 Superintendent of Public Instruction's race; 2008 Lieutenant Governor's race; 2008 Governor's race; 2008 Presidential race; 2008 Senate race; and 2010 Senate race.

55.   Downballot races can be particularly useful in evaluating the true partisan leanings of districts, because they are often low-information races that turn more around base partisanship than the unique attributes of the candidates.

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56.   For the 2003 and 2009 maps, I used four iterations of the data. First, I looked at the number of races that all statewide Democratic candidates won during these years. Second, I looked at the number of races that statewide Democratic candidates won during these years who were running for state offices only. Third, I looked at the average percentage of for statewide Democratic candidates during these years. Fourth, I looked at the average percentage for those statewide Democratic candidates who were running for state office.

57.   I then compiled the results for the 2004, 2006, 2008, and 2010 in House and Senate races within the given districts, to get a sense of how often Democratic candidates won actual races in these districts. The results are compiled in Tables 2 and 3.

Table 2: % of State House or Senate Races Won By Democrats, 2004-2010, by Number of Statewide Races Won By Democrats In Given Districts

Statewide Races Won By Ds	% of House/Sen Races Won By Ds	# state-level Races Won By D	% of House/Sen Races Won By Ds
0	0%	0	0%
1	11%	1	11%
2	20%	2	19%
3	25%	3	35%
4	42%	4	35%
5	42%	5	50%
6	25%	6	47%
7	50%	7	75%
8	58%	8	92%
9	92%	9	92%
10	93%	10	97%
11	88%		
12	90%		
13-15	100%		

Table 3: % of State House or Senate Races Won By Democrats, 2004-2010,
by Vote Share in Statewide Races Won By Democrats In Given Districts

Avg. D % In Statewide Races In District	% of State Senate or House Races Won By Ds	Avg. D % In Statewide Races, State Office Only	% of State Senate or House Races Won By Ds
0%-40%	1.3%	0%-40%	0.0%
41%-45%	19.0%	41%-45%	12.0%
46%-48%	27.4%	46%-48%	27.9%
49%-50%	52.5%	49%-50%	30.0%
51%-52%	52.0%	51%-52%	52.8%
53%-55%	86.4%	53%-54%	96.9%
56%+	100.0%	56%-60%	89.9%
		61%-100%	99.1%

58.   For the 2001 maps, more limited data are available. Data were presented for each individual district's performance for the following races: 2000 Governor's race; 2000 State Auditor's race; 2000 Chief Justice, Supreme Court of North Carolina race.

59.   **Demographic Trends:** North Carolina in 2011 was a dynamic state, where the political alignments were changing rapidly. Traditionally, Republicans drew their strength from the mountainous region in the northwest of the state, where Republican ties date back to the Civil War. These regions were fully capable of electing Republicans members to Congress. Democrats responded by drawing sinuous districts connecting the mountains with more heavily Democratic regions in the Piedmont area. *See* Key at 226, fig. 43; Martis, *passim*, http://www.ncleg.net/GIS/Download/ReferenceDocs/2011/NC%20Congressional%20Districts% 20-%20Historical%20Plans%20-%201941-1992.pdf. These regions remain largely Republican today.

60.   This Republican base, however, was more than offset by the heavily Democratic rural areas of the state.

61.   The South as a whole and North Carolina in particular did not begin to move strongly toward Republicans until the urban areas began to grow rapidly after World War II. This growth brought in residents from the North and raised the living standards for voters in urban

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counties such as Mecklenburg and Wake. *See, e.g.*, Black & Black at 64-71; Christensen at 203-04; Trende at 20-31. *See generally* Shafer & Johnston.

62.   Beginning in the mid-1960s, the rural areas also began to shift gradually toward Republicans at the Presidential level. This shift became especially marked when Jesse Helms succeeded in convincing rural voters in eastern North Carolina to vote Republican in 1972. *See* Barone at 816-17 (1982); Christensen at 212-14; Larry Copeland, "'Jessecrats' propel a native to victory," *USA Today*, Nov. 6, 2002, http://www.usatoday.com/news/politicselects/2002-11-06-dole_x.htm. These "Jessecrats," however, were reluctant to embrace Republicans at the local level, and the political shift here proceeded in fits and starts. Republicans won several districts in this region in the 1994 midterm election, but lost them in the subsequent elections.

63.   Beginning in the 1990s, Northern suburbs began to move toward the Democratic Party. This phenomenon occurred in North Carolina as well, particularly in the Research Triangle area. This trend continued through the 2000s.

64.   The areas that have shifted toward Democrats are mostly located in the urban areas of the state. The I-40 corridor from Raleigh to Winston-Salem, Buncombe County (Asheville), and Mecklenburg County (Charlotte) have moved substantially in a Democratic direction. Watauga County, with its substantial college population, and two rural counties in the east have also moved leftward.

65.   It was assumed that if a district was located in one of these counties, the district would tend to shift toward the Democrats over the course of the decade. Such a district would therefore generally be moved toward the Democrats, compared to where a district with similar characteristics outside of these counties would be located.

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66.   The areas that have shifted toward Republicans are mostly located in the rural areas of the state. In particular, the areas in the southeastern portion of the state, the northeastern corner of the state, and west of Charlotte have moved toward Republicans. The shift in the northeastern and southeastern corners of the state have been especially strong.

67.   It was assumed that if a district was located in one of these counties, the district would tend be shifted toward the Republicans over the course of the decade. The district would therefore generally be moved toward the Republicans, compared to where a district with similar characteristics outside of these counties would be located.

68.   **Election Results**: Finally, I reviewed election results over the course of the past decade, including the percentages that GOP and Democratic candidates for the state house or state senate received in a given district in 2004, 2006, 2008, and 2010. This is the least important information for evaluating a district's competitiveness, given that challenger quality and fundraising can play such an important role. I used these numbers in a sort of "tiebreaker" role – if a district was somewhere between Tossup and "Lean Democratic," the performance of Democratic candidates in these years would help determine what the final rating would be.

69.   **Previous Overall House Results**: When discussing and analyzing races, it was useful to keep in mind the overall history of Republican and Democratic performance in the House and Senate in a given year. These data are collected in Table 4.

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Table 4: Number of N.C. Gen. Assembly Seats Won, By Party, By Year
(Source: Dubin 142)

Year	House		Senate	
	D	R	D	R
1992	78	42	39	11
1994	52	68	26	24
1996	59	61	30	20
1998	66	54	35	15
2000	62	58	35	15
2002	59	61	28	22
2004	63	57	22	21
2006	68	52	31	19
2008	68	52	30	20
2010	52	67	19	31

70.   From viewing the data, it is apparent that 2006 and 2008 were unusually good Democratic years, while 1994 and 2010 stand out as unusually good Republican years.

71.   While this is the approach that I would use in my day-to-day work, it also reflects the approach suggested by political scientist John Dinan. *See* http://www.ncleg.net/GIS/Download/ReferenceDocs/2011/Analysis%20of%20NC%20congressi onal%20redistricting%20by%20Professor%20John%20Dinan%20Wake%20Forest%20Universit y.pdf (suggesting that dividing the seats into four categories (safe, likely, leans and tossup), and looking at registration and voting behavior at the presidential and sub-presidential level would be a proper approach to evaluating the competitiveness of congressional seats).

Method 1: Individual Evaluation of Districts

72.   The first step was sorting the districts into categories, by base district partisanship. These categories are "Safe Republican," "Likely Republican," "Lean Republican," "Tossup," "Lean Democrat," "Likely Democrat," and "Safe Democrat."

73.   Districts in the "Likely" categories are expected to be competitive only in the most heavily partisan years. Even then they will be competitive only in particular districts with

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peculiar circumstances. This category is included only as an acknowledgement that there are districts that are not generally competitive, but which are also not wholly safe.

74.   I began with the 2001 maps. For these, district data were compiled with the party registration numbers and the share of the two-party vote that the Democrats won in each of the three races for which data were provided.

75.   Because Presidential data were not available for these maps, it was reverse-engineered from the other statewide races. Democrats won the statewide races that year by 3 points on average. George W. Bush won the state by 13 points. Therefore, any race that Democrats won by 16 points or more was assumed to have voted for Al Gore. Given the narrowness of the national race, any district that voted for Gore had Democratic Partisan Index. Because Republicans won only 2 of 228 races held in districts that had a Democratic PIs in the 2000s, any district with a Democratic PI was rated "Safe Democrat."

76.   Districts were also sorted by party registration. Because Democrats won only 11 of 240 races held in districts where Republicans held a registration advantage in the 2000s, any district with a Republican registration advantage was rated "Safe Republican." In addition, in districts where Democrats failed to win any of the three 2000 statewide races, they would not be expected to win a state house or senate election. These districts are rated "Safe Republican" as well.

77.   In some districts, Democrats won all three 2000 statewide races, although George Bush may have carried the district against Al Gore. Democrats won each of these districts by, on average, more than five points, and won the bulk of them by, on average, more than ten points. It would be very difficult for Republicans to overcome such odds. They are therefore rated as "Likely Democratic seats."

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78.   In three additional districts, the Republican candidate for Chief Justice of the Supreme Court of North Carolina won by only a fraction of a point, while Democrats retained substantial registration advantages of over fifteen percent. These races are likewise rated as "Likely Democratic seats."

79.   In some districts, Democrats won one of the three 2000 statewide races, but ran behind their statewide margin in all three races. These districts would be very difficult for a Democrat to win, and are rated Likely Republican.

80.   The remaining few races were competitive, and were rated according to party registration and the Democratic performance in the three 2000 statewide elections.

81.   The analysis of the 2001 maps was backwards-looking. In other words, it attempted to look at how the maps would have performed over the course of the '00s. This allowed for a mechanistic application of PVI and registration data. By contrast, the analysis of the remaining maps is forward-looking.

82.   More robust data were available for the 2003, 2009, and 2011 plans. They are therefore assigned ratings by considering all of the data described above.

83.   During the 2004, 2006, 2008 and 2010 elections, Democrats won only 11 of 240 elections in senate or house districts where Republicans have an outright registration advantage over Democrats. Therefore, the heavy presumption was that a district where Republicans were given a registration advantage would be rated Safe for the Republicans, unless it was located in a county that was trending Democrat, or unless some other factor strongly suggested it would be competitive.

84.   Similarly, during the 2004, 2006, 2008 and 2010 elections, Republicans won only 2 of 226 elections in senate or house districts with a Democratic PVI. Therefore, the heavy

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presumption was that a district with a Democratic PVI would be rated Safe for the Democrats, unless it was located in a county that was trending Republican, or unless some other factor strongly suggested it would be competitive.

85. These districts were evaluated holistically, using the metrics established above, particularly the data in Tables 2 and 3.

86. The following data are summarized in Table 5.

87. Under NC Plan 1C, 18 districts were Safe Democrat, 8 districts were Likely Democrat, 6 districts were Lean Democrat, 1 district was Tossup, 1 district was Likely Republican, and 16 districts were Safe Republican.

88. Under NC Plan 1C, 7 districts were Competitive.

89. Under the 2003 Enacted Plan, 17 districts are Safe Democrat, 5 districts are Likely Democrat, 1 district is Lean Democrat, 2 districts are Tossups, 7 districts are Lean Republican, 5 Districts are Likely Republican, and 13 districts are Safe Republican.

90. Under the 2003 Enacted Plan, 10 districts are Competitive.

91. It is important to keep in mind that the forgoing 2 paragraphs are forward-looking, rather than backward looking. In other words, they sketch out what would happen if the baseline plan were to remain in effect for the following decade.

92. Under the Rucho Plan, 16 districts are Safe Democrat, 1 district is Likely Democrat, 2 districts are Lean Democrat, 4 districts are Tossups, 11 districts are Lean Republican, 3 Districts are Likely Republican, and 13 districts are Safe Republican.

93. Under the Rucho Plan, 17 districts are Competitive.

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94.   Under the SCSJ Plan, 14 districts are Safe Democrat, 7 districts are Likely Democrat, 5 districts are Lean Democrat, 3 districts are Tossups, 2 districts are Lean Republican, 6 Districts are Likely Republican, and 13 districts are Safe Republican.

95.   Under the SCSJ Plan, 10 districts are Competitive.

96.   Under the Nesbitt Plan, 18 districts are Safe Democrat, 4 districts are Likely Democrat, 2 districts are Lean Democrat, 4 districts are Tossups, 5 districts are Lean Republican, 4 Districts are Likely Republican, and 13 districts are Safe Republican.

97.   Under the Nesbitt Plan, 11 districts are Competitive.

98.   Under the McKissick Plan, 17 districts are Safe Democrat, 7 districts are Likely Democrat, 2 districts are Lean Democrat, 3 districts are Tossups, 3 districts are Lean Republican, 3 Districts are Likely Republican, and 15 districts are Safe Republican.

99.   Under the McKissick Plan, 8 districts are Competitive.

Table 5: Senate Projections

Map	Safe D	Likely D	Lean D	Tossup	Lean R	Likely R	Safe R	Total Comp.
2001	18	8	6	1	0	1	16	7
2003	17	5	1	2	7	5	13	10
Rucho	16	1	2	4	11	3	13	17
SCSJ	14	7	5	3	2	6	13	10
Nesb	18	4	2	4	5	4	13	11
McK	17	7	2	3	3	3	15	8

100.   A list of the specific district ratings under the various plans is included at the end of this report, in Table 16.

101.   To get a sense for how things would play out, I ran through scenarios of a "good Republican" year, a "good Democrat" year, and a neutral year. A neutral year was intended to be a year where the tossups are split 50-50 between the parties, and both parties won all seats that leaned their way. In a good Republican year, the Republicans won all the tossups, and half the "Lean Democrat" seats. For a good Democrat year, the inverse is true.

102.   The results are listed in Table 6.

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Table 6: Senate Outcomes, Various Scenarios

	Good Democrat		Neutral		Good Republican	
	D	R	D	R	D	R
2001	33	17	32.5	17.5	29	21
2003	28.5	21.5	24	26	22.5	27.5
Rucho	28.5	21.5	21	29	18	32
SCSJ	30	20	27.5	22.5	23.5	26.5
Nesb	30.5	19.5	26	24	23	27
McK	30.5	19.5	27.5	22.5	25	25

103.   Again, this is not a prediction of how races themselves would play out. This is just a measurement of the playing field in different scenarios. Or, if one prefers to think of it this way, these results represent the results we should see if every seat were open and the parties ran equally well funded candidates of equal quality in each district.

104.   The results for the North Carolina House of Representatives are summarized in Table 7.

Table 7: House Projections

Map	Safe D	Likely D	Lean D	Tossup	Lean R	Likely R	Safe R	Total Comp.
2001	37	23	2	3	1	8	46	6
2009	41	14	7	5	11	11	31	23
LDD	36	9	6	3	22	15	29	31
SCSJ	41	13	6	5	16	9	30	27
Mart	44	14	5	2	12	10	33	19
Alex	42	14	5	4	11	13	31	20

105.   Under Sutton House Plan 3, 37 districts are Safe Democrat, 23 districts are Likely Democrat, 2 districts are Lean Democrat, 3 districts are a Tossup, 8 districts are Likely Republican, and 46 districts are Safe Republican.

106.   Under Sutton House Plan 3, 6 districts are Competitive.

107.   Under the 2009 Enacted Plan, 41 districts are Safe Democrat, 14 districts are Likely Democrat, 7 districts are Lean Democrat, 5 districts are Tossups, 11 districts are Lean Republican, 11 Districts are Likely Republican, and 31 districts are Safe Republican.

108.   Under the 2009 Enacted Plan, 23 districts are Competitive.

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109.   It is important to keep in mind that the forgoing 2 paragraphs are forward-looking, rather than backward looking. In other words, they sketch out what would happen if the baseline plan were to remain in effect for the following decade.

110.   Under the Lewis Dollar Dockham 4 Plan, 36 districts are Safe Democrat, 9 districts are Likely Democrat, 6 districts are Lean Democrat, 3 districts are Tossups, 22 districts are Lean Republican, 15 Districts are Likely Republican, and 29 districts are Safe Republican.

111.   Under the Lewis Dollar Dockham 4 Plan, 31 districts are Competitive.

112.   Under the SCSJ Plan, 41 districts are Safe Democrat, 13 districts are Likely Democrat, 6 districts are Lean Democrat, 5 districts are Tossups, 16 districts are Lean Republican, 9 Districts are Likely Republican, and 30 districts are Safe Republican.

113.   Under the SCSJ Plan, 27 districts are Competitive.

114.   Under the Martin Plan, 44 districts are Safe Democrat, 14 districts are Likely Democrat, 5 districts are Lean Democrat, 2 districts are Tossups, 12 districts are Lean Republican, 10 Districts are Likely Republican, and 33 districts are Safe Republican.

115.   Under the Martin Plan, 19 districts are Competitive.

116.   Under the Alexander Plan, 42 districts are Safe Democrat, 14 districts are Likely Democrat, 5 districts are Lean Democrat, 4 districts are Tossups, 11 districts are Lean Republican, 13 Districts are Likely Republican, and 31 districts are Safe Republican.

117.   Under the Alexander Plan, 20 districts are Competitive.

118.   A list of the specific district ratings under the various plans is included in Table 17, at the end of this report.

119.   To get a sense for how things would play out, I ran through scenarios of a "good Republican" year, a "good Democrat" year, and a neutral year. A neutral year was intended to

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be a year where the tossups are split 50-50 between the parties, and both parties won all seats that leaned their way. In a good Republican year, the Republicans won all the tossups, and half the "Lean Democrat" seats. For a good Democrat year, the inverse is true.

Table 8: House Outcomes, Various Scenarios

	Good Democrat		Neutral		Good Republican	
	D	R	D	R	D	R
2001	65.5	54.5	63.5	56.5	61	59
2009	72.5	47.5	64.5	55.5	58.5	61.5
LDD	65	55	52.5	67.5	48	72
SCSJ	73	47	62.5	57.5	57	63
Mart	71	49	64	56	60.5	59.5
Alex	70.5	49.5	63	57	58.5	61.5

120. Again, this is not a prediction of how races themselves would play out in actuality. Incumbency, challenger quality, and money will all alter these outcomes. This is just a measurement of the playing field in different scenarios. Or, if one prefers to think of it this way, what the result would be if every seat were open, and the parties ran equally well funded candidates of equal quality in each district.

Method 2: Logistic Regression

121. To validate these findings, I employed a logistic regression analysis to evaluate the competitiveness of the various maps. Logistic regression analysis is a well-tested approach to testing correlations between dichotomous dependent variables and various independent variables.

122. In plain English, it is employed when we are interested in "yes/no" outcomes, such as the relationship between various legal regimes and whether a person is likely to vote or not. *E.g.*, Barry C. Burden et al, "Election Laws, Mobilization, and Turnout: The Unanticipated Consequences of Election Reform," 58 *Am. Poli. Sci. Rev.* 95 (2014). Logistic regression coefficients, properly transformed, give a probability that the dependent variable is true. So,

depending on the context, it can give the probability that someone will vote, the likelihood that countries will go to war, or, as is the case here, the likelihood that a candidate will win an election.

123. Here, I employed logistic regression analysis to "check my work" above, and to independently determine the probability that a party would win a particular seat in the North Carolina legislature. This analysis looks at the winner of all 50 state senate seats and 120 state house seats for 2004, 2006, 2008 and 2010 (the years for which we have full data available), coding the district as a 1 if the Democrat won and a zero if the Republican won. It compares those wins and losses to the registration advantage of the Democrats in a district (or disadvantage), the Democrats' share of the vote in the state attorney general and presidential races in 2008, and the sum total of the fifteen statewide races referenced above that Democrats won. To control for the national environment, we include "dummy variables" – that is, "yes/no" variables represented as a one or a zero – for the 2006, 2008 and 2010 elections; a race held in 2004 is represented by all zeros.

124. I included a variable for incumbency; if a district had a Republican incumbent it was coded a negative one, if it had a Democratic incumbent it was coded as a 1, and if there was no incumbent (or if the incumbent had not served a full term), it was coded as a zero. I also included a variable for whether the race was a senate or house race, as we might expect Republicans to have performed better in one chamber than the other.

125. It is important to test whether model are "well calibrated." To do so, I pulled random observations from the overall 2004-2010 dataset, representing a quarter of the overall set. I then ran the regression analysis on the remaining three-quarters of the observations, and tested how well the coefficients produced predicted the remaining observations. On multiple

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runs, it predicted between 95 percent and 99 percent of individual race outcomes, suggesting an error rate of between one and five percent. This is satisfactory.

126. It is noteworthy that the predictions from Method 1 seemed to under-predict Republican performance. I suspect that this was due to the fact that Method 1 does not account for the incumbency advantage that Republicans gained when they took control of the General Assembly. To test this hypothesis, I used the estimates produced from the overall logistic regression to see how well it predicts the 2012 and 2014 elections. I took the coefficient estimates from the regression and applied them to the data from the Rucho2 and Lewis-Dollar-Dockham maps. I used state board of election results to identify races where an incumbent was present and where an incumbent was not present for 2012 and 2014. Finally, I treated 2012 as a moderate environment in North Carolina, similar to that of 2004, and treated 2014 as a Republican wave year, similar to 2010.

127. The model predicts the 2012 and 2014 elections well in the state senate. In 2012, it suggests that Democrats should have won 19 seats, two more than they actually did. This is within the model's "error margin." It calls four seats incorrectly, suggesting that Republicans should not have won the 1st senate seat (which they won by just 21 votes), the 18th senate seat, and the 19th senate seat. Notably, all three of these seats are in eastern North Carolina; this is consistent with the conclusion that rural seats should be expected to trend Republican, especially in the eastern portion of the state. It also suggests that Democrats should not have won the 25th district.

128. In 2014, the model predicts the winners and losers in all 50 senate races perfectly.

129. The model also predicts the 2012 and 2014 state House races well. In 2012, it predicted 112 of 120 seats correctly. It missed districts 8, 9, 49, 63, 88, 92, 115 and 118.

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130.   In 2014, it once again predicted 112 of 120 seats correctly. It missed districts 6, 22, 41, 44, 46, 51, 115 and 116. Notably, all of the misses in 2012 were seats won by Republicans, while in 2014 the misses were seats won by Democrats. This suggests that 2012 was probably a environment for Republicans downballot in 2012 than in 2004, while 2014 was probably a better environment for Democrats downballot than 2010 (perhaps reflecting the strong GOTV effort from the Hagan-Tillis race).

131.   Overall, this validates the theory that Method 1 under-predicts actual Republican performance because it does not account for incumbency (nor is it intended to). The model predicts 130 of 150 races correctly, and misses Republican and Democratic wins with similar frequency.

132.   The model's estimates are then applied to the various proposed House and Senate maps tested in Method 1. An environment of 2004 was assumed. I set all incumbency variables to zero, to mimic the analysis in Method 1 and to test the "baseline" partisanship of the districts. I then used the logit model to generate probabilities that Democrats would win the various House and Senate seats.

133.   Finally, I used these estimates to run what is called a Monte Carlo simulation, which is a complex way of saying that I used the probabilities produced to simulate several thousand races for each map. I recorded the average number of seats Democrats won across these simulations, the standard deviation (to calculate how much the results would vary under various maps), the minimum number of seats won by each party, and the maximum number of seats won by each party.

134.   The results for the various Senate maps are as follows:

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Table 9: Logit Model: Predictions From Various Senate Maps

	Baseline	Rucho	FairLegal	McKissick	SCSJ
Average	26.5	21.6	26.3	27.8	27.6
St. Dev.	1.47	1.67	1.47	1.42	1.55
Min	21	17	21	23	22
Max	32	28	32	34	33

135. The logit model validates the approach take above. Using the traditional method, in a neutral environment, Democrats would be expected to win 24 seats under the baseline map, 21 seats under the Rucho map, 26 seats under the "Fair and Legal" map, 27.5 seats under the McKissick map, and 27.5 seats under the SCSJ map. With the exception of the baseline estimates, these estimates match up almost perfectly.

136. The Rucho map has the highest standard deviation of the various maps, suggesting that it allows for more variable outcomes than the other maps.

137. Overall, the enacted map generally results in Republican-controlled senates in neutral environments, while the alternate maps result in Democratic-controlled senates in neutral environments. The Fair and Legal, McKissick, and SCSJ maps either maintain or build upon the Democratic advantage found in the 2003 baseline map.

138. The results for the House are as follows:

Table 10: Logit Model: Predictions From Various House Maps

	Baseline	LDD	Alexander	Martin	SCSJ
Average	65.0	56.7	62.8	63.8	61.8
St. Dev.	2.28	2.49	2.24	2.00	2.35
Min	56	48	53	56	54
Max	74	66	73	72	73

139. Once again, the results match up closely with the predictions in method 1. The enacted map results in Republican Houses under the current map, while the baseline and alternative maps result in Democratic Houses (again, this assumes a neutral map with no incumbents). The model predicted 64.5 Republican seats under the baseline map, 52.5 seats under the Lewis-Dollar-Dockham map, 63 seats under the Alexander map, 64 seats under the

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Martin map, and 62.5 seats under the SCSJ map. Once again, the current map allows for the greatest variability in outcomes of the various maps.

140. This independent verification of the estimates from Method 1 suggests that the results from Method 1 are reliable and accurate. It also confirms that the varying maps do, in fact, result in different partisan outcomes over time.

Specific Examples of Partisan Differences

141. Plaintiffs challenge the 4th, 5th, 14th, 20th, 21st, 28th, 32nd and 38th districts under the enacted Senate maps. There are naturally "paired" districts with those, respectively: The 11th, 7th, 18th, 22nd, 19th, 27th, 31st and 40th districts. The differences in the maps go beyond those paired districts, and have substantial partisan impact.

142. For example, the 1st District under the Rucho map contained Democratic state Senator Stan White, who was facing his first election to a full term. This district had been historically Democratic. Under the baseline plan, Democrats had won nine statewide contests, and enjoyed a 23-point registration advantage. The Rucho plan included Gates, Perquimans, Pasquotank, Camden, Currituck, Dare, Hyde and Beaufort counties. Although Democrats maintained a sizeable registration advantage of 21 points, the Rucho district had split evenly in statewide contests, with Democrats carrying seven of them. The average Democratic performance in statewide contests in this district is 49.6 percent. Republicans would have a decent chance in this election.

143. The alternative plans, by contrast, sought to shore up Sen. White. The McKissick plan, for example, removes Gates and Perquimans counties and includes Martin County. This improves the average statewide performance for a Democrat to 51.4 percent.

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144.   The Fair and Legal plan likewise helps Sen. White. It removes Gates County and inserts Washington and Tyrell counties. This improves the averages statewide performance for a Democrat to 50.8 percent and gives Democrats wins in 8 statewide races.

145.   The SCSJ plan helps Sen. White. Under its lines, Democratic performance is 50 percent, while Democrats win seven races. Given that this race was decided by some 20 votes in 2012, Sen. White would probably have been re-elected under the alternative lines.

146.   Under all of the maps, the 3rd district is a heavily Democratic map. The Fair and Legal map and the SCSJ map place a Republican Senator, Buck Newton, in this district. It would have been virtually impossible for him to win under those lines.

147.   Under the Rucho map, the 8th district includes Pender, Bladen and Brunswick counties. At the time of redistricting, it was occupied by a Republican, Bill Rabon. Democrats won seven statewide races under these lines, and won 49.5 percent of the statewide vote.

148.   The Fair and Legal map actually shored up Rabon at the expense of Republican Sen. Thom Goolsby in the 9th District. The others did not. Under the McKissick map, Democrats won 52.3 percent of the statewide vote, and 12 statewide contests. Under the SCSJ map, Democrats won nine statewide contests while winning 50 percent of the statewide vote.

149.   Under the Rucho map, the 9th district includes all of New Hanover County. All three of the alternative maps split New Hanover County by removing Republican-leaning precincts from the northern portion of the county. Under the Rucho map, Republicans won 48 percent of the vote in statewide races in the 9th, while Democrats won 49.4 percent, 49.6 percent, and 49.2 percent of the vote under the SCSJ, Fair and Legal, and McKissick maps, respectively. Under the Rucho map, Democrats won five statewide contests. Under the SCSJ, Fair and Legal and McKissick maps, Democrats won six statewide contests.

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150.   Under the Rucho map, the 10th district includes Sampson and Duplin Counties, as well as the heavily Republican precincts in Johnston County, which cluster at the outer edges of the county. Under the Rucho lines, Democrats won 46.7 percent of the statewide vote, and won only three statewide maps.

151.   The SCSJ map places Republican Sen. Jackson in the 19th district with Republican Sen. Wesley Meredith. Democrats won 49.5 percent of the vote in that district, and won eight of the statewide contests. The Fair and Legal map pushes the district into the center of Johnston County, improving Democratic performance to 49.6 percent, and giving Democrats wins in eight of the statewide contests. The McKissick map redraws the district completely, resulting in a district where Democrats won 49.8 percent of the statewide vote, and won eight statewide contests.

152.   Under the Rucho map, the 24th District gave Democrats in Republican Sen. Rick Gunn's district 43.6 percent of the vote. It voted for Democrats in two statewide contests. It consists of Alamance County and parts of historically Republican Randolph County.

153.   The SCSJ map pushes the 24th into Chatham County, weakening Gunn and giving him a district where Democrats won 48.9 percent of the vote, along with eight statewide contests. The McKissick map places Gunn in a heavily Republican district, but places him in the same district as Republican Sen. Jerry Tillman. The Fair and Legal map pushes Gunn's district into Guilford County, and improves Democratic performance to 44.7 percent.

154.   Under the Rucho map, the 25th district is pushed toward central North Carolina. Democrats received 48.2 percent of the vote here, and won five statewide contests.

155.   Under the SCSJ map, Democrats won 52.2 percent of the vote on average, and nine statewide contests. Under the McKissick map, Democrats won 52.2 percent of the vote, and

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nine statewide contests. Under the Fair and Legal map, Democrats won 60.7 percent of the vote, and 15 statewide contests.

156. Under the SCSJ map, Republican Sens. James Forrester and Kathy Harrington were placed into the same district.

157. Under the McKissick plan, Republican Sens. Warren Daniel and Ralph Hise are placed in the same district.

158. The alternate maps are drawn to increase Democrats' odds of winning four of five seats in Mecklenburg County (under the McKissick map, the fifth Mecklenburg County map is numbered 47).

Table 11: Mecklenburg Sen. Districts, # statewide D wins

District	Rucho	SCSJ	F&L	McKissick
37	15	10	14	14
38	15	15	15	15
39	0	0	0	0
40	15	15	15	15
41	1	9	11	11

Table 12: Mecklenburg Sen. Districts, Avg. statewide D %

District	Rucho	SCSJ	F&L	McKissick
37	62%	52%	56%	56%
38	74%	76%	74%	74%
39	39%	40%	38%	38%
40	77%	79%	72%	72%
41	42%	50%	53%	53%

159. In the state House, the story is much the same. Plaintiffs challenge House districts 5, 7, 12, 21, 24, 29, 31, 32, 33, 38, 42, 43, 48, 57, 58, 60, 99, 102 and 107. These districts are paired with, respectively, districts 1, 25, 10, 4 and 22, 8 and 9, 30 and 31, 2, various Wake County districts (for both 33 and 38), 44 and 45 (for both 42 and 43), 47 and 66, various Guilford County seats (for 57, 58 and 60), and various Mecklenburg County seats (for 99, 102 and 107). Because the movement of the districts tends to be convoluted and confusing here, we will be comparatively brief.

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160.   For example, under the Lewis-Dollar-Dockham plan (the "Enacted" or "LDD" plan), Rep. Bill Cook, a Republican, and Rep. Spear, a Democrat, were placed together in a district where Democrats had won 49.2 percent of the vote and won seven statewide contests.

161.   The Fair and Legal plan and Alexander plans, by contrast, maintained Rep. Spear in a district where Democrats won 53.2 percent of the vote and won 11 statewide contests.

162.   Republicans drew a swath of Republican-leaning districts down the Carolina coast from Carteret County to Brunswick County. The various alternative maps seek to improve the Democrats' positioning. Because the numbers employed vary, they are sorted by Representative name here:

Table 13: Coastal Districts, Various Maps

Rep.	Party	LDD	Alexander	F&L	SCSJ
McElraft	R	40.2%	39.8%	37.9%	37.2%
Cleveland	R	44.1%	46.5%	48.2%	47.4%
Shepard	R	42.7%	40.4%	40.1%	45.2%
Justice	R	43.9%	43.5%	40.9%	43.4%
Iler	R	43.8%	43.9%	43.3%	43.2%
Hamilton	D	64.3%	60.8%	61.1%	61.0%
Open		43.4%	44.8%	42.9%	42.1%
Open		43.1%	44.1%	53.8%	

Table 14: Coastal Districts, Various Maps

Rep.	Party	LDD	Alexander	F&L	SCSJ
McElraft	R	3	1	0	0
Cleveland	R	2	4	8	8
Shepard	R	2	1	0	3
Justice	R	3	2	0	1
Iler	R	3	2	2	2
Hamilton	D	15	15	15	15
Open		4	3	2	1
Open		2	3	11	

163.   The LDD map includes seven districts that are likely to elect a Republican. The Alexander map includes a similar number of opportunities. The Fair and Legal and SCSJ maps, however, would probably elect five Republicans, with a chance at a sixth.

164.   In Anson County, the LDD map placed Dem. Rep. McGuirt into a very difficult district to win, where Democrats had averaged 44 percent of the vote. The alternate maps

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preserved a safe district for Rep. McGuirt, giving Democrats 55.8 percent, 56.1 percent, and 55.7 percent of the vote across the Alexander, Fair and Legal, and SCSJ plans, respectively. Likewise, whereas the LDD plan gave McGuirt just two statewide wins, the three alternative plans gave Democrats 14, 14, and 13 wins, respectively.

165.   Under the LDD plan, Republican Reps. Current and Moore receive districts that gave Democrats one and four statewide wins, respectively. Democrats won 41.4 and 44.1 percent of the vote, respectively.

166.   All three alternative plans improved Democratic chances in at least one of districts. The Alexander plan gives Democrats five wins in Rep. Moore's district, with 48 percent of the vote. The Fair and Legal plan gives Democrats six wins in both Reps Current's and Moore's districts, with 47.9 and 48.4 percent of the vote, respectively. The SCSJ gives Democrats four wins in Rep. Current's district and six in Rep. Moore's district, with 46.9 percent and 48.3 percent of the vote, respectively.

167.   Finally, all four plans draw three districts in Buncombe County. Their numbering systems vary, so they are labelled districts one, two and three. LDD draws one Democratic district, one Republican district, and a Democratic-leaning swing district. Alexander and SCSJ draw two Democratic districts, while Fair & Legal draws three Democratic districts.

Table 15: Democratic Wins and Vote Shares. Buncombe County Districts.
Various Plans

District	LDD	Alexander	F&L	SCSJ
District 1	15	15	14	15
District 2	8	15	14	15
District 3	3	4	12	6
District 1	71%	61%	58%	62%
District 2	50%	59%	56%	58%
District 3	46%	47%	55%	48%

CONCLUSION

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168. Using both a traditional rating technique and a quantitative logit regression, we can safely conclude that the enacted maps from 2011 sought to strengthen Republican majorities in the state. The alternative plans sought either to maintain or build up plans with Democratic advantages. This is even more obvious when we look at the differences in individual districts not challenged here.

Table 16: Senate Ratings

District	2001	2003	Rucho	SCSJ	Nesbitt	McKissick
1	LiD	LiD	LD	LD	LiD	LiD
2	SD	LiR	LiR	LiR	LiR	LiR
3	LD	SD	SD	SD	SD	SD
4	SR	SD	SD	SD	SD	SD
5	TU	LiD	SD	LiD	LiD	LiD
6	SD	LiR	LiR	LiR	LiR	LiR
7	SD	SD	LR	SD	SD	SD
8	LD	TU	TU	LD	TU	LiD
9	SD	LR	LR	TU	TU	TU
10	LiD	LiD	LR	LiD	LD	LD
11	SD	LiD	TU	LiD	LR	LiD
12	SR	LiR	LR	LiR	LiD	LiR
13	SR	SD	SD	SD	SD	SD
14	SD	SD	SD	SD	SD	SD
15	LD	LR	LR	LiR	LD	LD
16	SR	SD	SD	SD	SD	SD
17	SR	LR	LR	LR	LR	LR
18	SD	SD	LD	TU	SD	LiD
19	SR	LiD	LiD	LiD	TU	TU
20	SD	SD	SD	SD	SD	SD
21	SR	SD	SD	SD	SD	SD
22	SR	SR	SD	LD	SR	SR
23	LiD	SD	SD	SD	SD	SD
24	LiD	TU	LR	LD	LR	SD
25	SR	LD	TU	LD	SD	LiD
26	SR	LiR	LR	LiR	LiR	SR
27	SR	SD	LR	LiD	SD	SD
28	SR	SD	SD	SD	SD	SD
29	LD	SR	SR	SR	SR	SR
30	SD	SR	SR	SR	SR	SR
31	SD	SR	SR	SR	SR	SR
32	SD	SD	SD	SD	SD	SD
33	SD	SR	SR	SR	SR	SR
34	LiD	SR	SR	SR	SR	SR
35	SR	SR	SR	SR	SR	SR

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Table 16: Senate Ratings (ctd.)

District	2001	2003	Rucho	SCSJ	Nesbitt	McKissick
36	SR	SR	SR	SR	SR	SR
37	LiR	SD	SD	LiD	SD	SD
38	SR	SD	SD	SD	SD	SD
39	SR	SR	SR	SR	SR	SR
40	SD	SD	SD	SD	SD	SD
41	SD	SR	SR	LiD	SR	SR
42	SR	SR	SR	SR	LiD	SR
43	LiD	LR	SR	SR	SR	SR
44	SR	SR	SR	SR	LiR	LR
45	SR	LiR	LiR	SR	SR	SR
46	SR	LR	LR	LiR	LR	LR
47		LR	LR	LR	LR	LiD
48		SR	SR	SR	SR	SR
49		SD	SD	SD	SD	SD
50		LR	TU	TU	TU	TU

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Table 17: House Ratings

District	2001	2003	LDD	SCSJ	Martin	Alexander
1	LiD	LiD	LD	LiD	LiD	LiD
2	LiD	LiD	LiD	TU	LiD	LiD
3	LiR	LiR	LR	LR	SR	LiR
4	LiR	LiD	LR	LR	LD	LiD
5	SD	SD	SD	SD	SD	SD
6	LiD	LD	LiD	LR	LR	LD
7	SD	SD	SD	SD	SD	SD
8	SD	SD	LD	SD	SD	SD
9	LD	LiD	LiD	LiD	LiD	LiD
10	TU	TU	LR	LR	LiR	LR
11	TU	LiR	SD	LiR	LR	SR
12	SD	SD	SD	SD	SD	SD
13	SR	SR	SR	SR	LiR	SR
14	LiR	LR	LiR	LD	LR	LR
15	SR	SR	LiR	LR	LiD	LiR
16	SR	SR	LiR	SR	SR	LiR
17	SR	SR	SR	SR	SR	SR
18	SD	SD	SD	SD	SD	SD
19	LiD	SR	SR	SR	SR	SR
20	SD	LiD	LiR	LiD	LiD	LiD
21	SD	SD	SD	SD	SD	SD
22	SR	LiD	LiD	LiD	LR	LD
23	LiD	SD	SD	TU	LR	LiD
24	SD	SD	SD	SD	SD	SD
25	MCR	TU	CR	CR	SR	SD
26	SR	CR	CR	CR	SR	SR
27	SD	SD	SD	SD	SD	SD
28	SR	SR	MCR	SR	SD	CR
29	SR	SD	SD	SD	SD	SD
30	MCD	SD	SD	SD	SD	SD
31	SR	SD	SD	SD	SD	SD
32	CR	SD	SD	SD	MCR	SD
33	SD	SD	SD	SD	SD	SD
34	SD	MCD	SD	SD	SD	SD
35	SD	SD	CR	SD	SD	SD

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District	2001	2003	LDD	SCSJ	Martin	Alexander
36	SR	TU	CR	TU	MCD	TU
37	SR	CR	CR	TU	CR	TU
38	SD	SD	SD	SD	SD	SD
39	SR	SD	SD	SD	SD	SD
40	MCR	CR	CR	CR	CD	CR
41	MCD	CD	TU	CD	CD	CD
42	SD	SD	SD	SD	SD	SD
43	SD	SD	SD	SD	SD	SD
44	MCD	MCD	MCD	MCD	MCD	MCD
45	MCD	MCD	MCD	MCD	MCD	MCD
46	SD	MCD	MCD	MCD	SD	CD
47	SD	SD	SD	SD	SD	SD
48	SD	SD	SD	SD	SD	SD
49	SD	MCD	CR	SD	SD	MCD
50	SR	SD	SD	CD	MCD	SD
51	MCD	CD	CR	MCD	MCD	MCD
52	SR	SR	SR	SR	SR	SR
53	SR	CR	CR	MCD	CD	CR
54	MCD	SD	MCD	SD	SD	MCD
55	MCD	SD	CR	MCD	MCD	SD
56	MCD	SD	SD	SD	MCD	SD
57	SR	SD	SD	SD	SD	SD
58	SD	SD	SD	SD	SD	SD
59	SD	SD	CR	SD	SD	SD
60	SD	SD	SD	SD	SD	SD
61	SR	CR	MCR	MCR	MCR	MCR
62	SD	CR	CR	CR	CR	CR
63	SR	SD	CD	SD	SD	SD
64	SR	SR	CR	CR	SR	SR
65	MCD	CD	TU	MCD	CR	TU
66	CD	MCD	MCD	MCR	CR	MCD
67	SR	SR	SR	SR	SR	MCR
68	SR	SR	SR	SR	SR	SR
69	MCD	SD	SR	SD	SD	SD
70	SR	SR	SR	SR	SR	SR

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Table 17: House Ratings, Ctd.

District	2001	2003	LDD	SCSJ	Martin	Alexander
71	SD	SD	SD	SD	SD	SD
72	SD	SD	SD	SD	SD	SD
73	SR	SR	SR	SR	SR	CR
74	SR	CR	SR	CD	CR	MCR
75	MCD	MCR	CR	SD	SR	SR
76	SR	SR	SR	SR	MCR	SR
77	MCD	CD	CR	TU	SR	TU
78	SR	SR	SR	SR	SR	SR
79	SR	SR	SR	SR	MCR	SR
80	SR	SR	SR	SR	SR	SR
81	SR	TU	SR	MCR	SR	CR
82	SD	MCR	SR	SR	SR	SR
83	SR	SR	MCR	CR	SR	SR
84	SR	SR	MCR	SR	SR	SR
85	SD	MCR	SR	SR	SR	MCD
86	SD	CR	MCR	MCR	MCR	MCR
87	SD	MCR	SR	MCR	MCR	MCR
88	SD	MCR	CR	CR	SR	SR
89	SD	SR	SR	SR	SR	SR
90	SR	MCR	MCR	MCR	SR	MCR
91	SR	SR	MCR	SR	TU	MCR
92	SR	SR	TU	SR	CR	SR
93	SR	CD	CD	CD	CD	CD
94	SR	SR	SR	SR	SR	MCR
95	SR	SR	SR	SR	SR	SR
96	SR	SR	SR	SR	SD	SR
97	SR	SR	SR	SR	SD	SR
98	TU	CR	SR	SR	SR	SR
99	SR	SD	SD	SD	SD	SD
100	SR	SD	SD	SD	SD	SD
101	SR	SD	SD	SD	SD	SD
102	MCD	SD	SD	SD	SD	SD
103	MCR	TU	CR	CR	SD	CR
104	SR	MCR	MCR	MCR	MCR	MCR
105	MCR	SR	SR	CR	SR	SR

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District	2001	2003	LDD	SCSJ	Martin	Alexander
106	SR	SD	SD	SD	SD	SD
107	MCD	SD	SD	SD	SD	SD
108	MCR	SR	SR	SR	SR	SR
109	SR	MCR	MCR	CR	TU	SR
110	SR	SR	MCR	SR	SR	SR
111	SR	CR	CR	CR	CR	CR
112	SD	MCR	MCR	MCR	MCR	MCR
113		SR	SR	SR	SR	SR
114		SD	SD	SD	SD	SD
115		SD	CD	SD	SD	SD
116		CD	CR	CD	MCD	CR
117		SR	SR	SR	SR	SR
118		MCD	CD	MCD	MCD	MCD
119		MCD	SD	MCD	SD	SD
120		SR	SR	SR	SR	SR

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury under the laws of the United States that the foregoing statements are true and correct.

This the 30th day of November, 2015.

Sean P. Trende

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EDUCATION

B.A., Yale University, with distinction, History and Political Science, 1995.

M.A., Duke University, *cum laude*, Political Science, 2001. Thesis titled *The Making of an Ideological Court: Application of Non-parametric Scaling Techniques to Explain Supreme Court Voting Patterns from 1900-1941*, June 2001.

J.D., Duke University School of Law, *cum laude*, 2001; Duke Law Journal, Research Editor; Moot Court Board.

PROFESSIONAL EXPERIENCE

Law Clerk, Hon. Deanell R. Tacha, U.S. Court of Appeals for the Tenth Circuit, 2001-02.

Associate, Kirkland & Ellis, LLP, Washington, DC, 2002-05.

Associate, Hunton & Williams, LLP, Richmond, Virginia, 2005-09.

Associate, David, Kamp & Frank, P.C., Newport News, Virginia, 2009-10.

Senior Elections Analyst, RealClearPolitics, 2009-present.

BOOKS

Larry J. Sabato, ed., *The Surge:2014's Big GOP Win and What It Means for the Next Presidential Election*, ch. 12 (2015).

Larry J. Sabato, ed., *Barack Obama and the New America*, ch. 12 (2013).

Barone, Kraushaar, McCutcheon & Trende, *The Almanac of American Politics 2014* (2013).

The Lost Majority: Why the Future of Government is up for Grabs – And Who Will Take It (2012).

REAL CLEAR POLITICS COLUMNS

Full archives available at http://www.realclearpolitics.com/authors/sean_trende/

PUBLICATIONS FROM LAST 10 YEARS

"The GOP and the Latino Vote," *National Review*, June 15, 2012.

"Political Economy," *National Review*, Special 2010 Election Issue.

"It's 1974 All Over Again," *The Weekly Standard*, Apr. 26, 2010.

"Defamation, Anti-SLAPP Legislation, and the Blogosphere: New Solutions for an Old Problem," 44 Duq. L. Rev. 607 (2006).

(with Christian C. Burden), "The Economic Loss Rule and Franchise Attorneys," 27 Franchise L.J., 192 (2008)

SELECTED PRESENTATIONS AND APPEARANCES

Panelist, "Independent Experts on Republican Candidates" (with Michael Barone and Josh Kraushaar), American University, Washington, DC, November 2011.

Panelist, "2011 Mortimer Caplin Conference on the World Economy" (with Bill Schneider, John Sides, and Sarah Binder), The National Press Club, Washington, DC, December 2011.

"The State of the Presidential Nominating Process: A Debate" (with Jay Cost), Berry College, December 2011.

"The Lost Majorities: 2008, 2010 and America's Political Future," Bradley Lecture, American Enterprise Institute, January 2012.

Panelist, "Collective Bargaining, Public Pensions and Voters: The Policy and Politics of Public-Sector Employees in the 2012 Elections," (with Karlyn Bowman, Ruy Teixeira, and Henry Olson), American Enterprise Institute, January 2012.

"The People's Money: How Voters Will Balance the Budget and Eliminate the Federal Debt.," (with Michael Barone and Scott Rasmussen), CATO Institute, March 2012.

Panelist, "Republican Primaries: Explaining the Results and Assessing What they Mean for the Future of the GOP," (with Dante Scala and Kate Zernike), Chaire Raoul-Dandurand en Etudes Strategiques et Diplomatiques, Montreal, March 2012

"Obama's Vanished Coalition," (with Lance Tarrance and Emily Ekins), CATO Institute, April 2012.

Panelist, "The Future of Red and Blue," (with Ruy Teixeira), Bipartisan Policy Center, Washington, DC, April 2012.

"The 2012 Elections: Trends, Prognostications and What's at Stake," 3rd Annual Family Office Wealth Management Forum, Greensboro, Georgia, May 2012.

"2012 U.S. Elections Series," with Bruce Stokes and Alexandra de Hoop Scheffer, German Marshall Fund, Brussels, Belgium, Oct. 4, 2012.

Panelist, "The Power of Pundits," (with John Sides, Linda Vavreck, and Melissa Harris-Perry), American Political Science Ass'n, Aug. 29, 2013.

Panelist, "Post-Election Coverage" (with Raul Avillar, Dan Balz, Robert Collins, Jen O'Malley Dillon, Alex Isenstadt, Nathan Klein, Joe Lenski, John McLaughlin, and Patrick O'Connor), University of Kansas, Dec. 11-12, 2014.
Panelist, "Evenwel v. Abbott: What Does One Person, One Vote Really Mean?" (with Andrew W. Grossman and Hans A. von Spakovsky), Heritage Foundation, Sept. 15, 2015.

Appeared in countless radio and television appearances including appearances on Fox News, MSNBC, ABC News Australia, Fox News Radio, Beijing Radio, CNN Radio, NPR, and other outlets.

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Exhibit 2: Sources

All documents, statutes, and websites, and other materials mentioned in the Declaration of Sean P. Trende, as well as all documents and datasets provided or referenced in supporting materials, including but not limited to:

1. Online datasets:

    a. Current Population Survey, Voting and Registration Supplements, available at https://www.census.gov/hhes/www/socdemo/voting/publications/p20/2012/tables. html. Different years can be accessed by changing the "2012" to the desired election.

    b. Dave Leip, *Atlas of United States Elections*, http://uselectionatlas.org/Results, (last visited April 24, 2014).

    c. Dave's Redistricting App, available at http://gardow.com/davebradlee/redistricting/davesredistricting2.0.aspx

    d. The Election Assistance Commission's Election Administration and Voting Surveys, for various years. http://www.eac.gov/research/election_administration_and_voting_survey.aspx.

2. Books:

    a. Michael Barone et al., *The Almanac of American Politics*, various editions;

    b. Earl Black & Merle Black, *The Rise of Southern Republicans* (2002);

    c. Rob Christensen, *The Paradox of Tar Hell Politics: The Personalities, Election, and Events that Shaped Modern North Carolina* (2d ed. 2008);

    d. V.O. Key, Jr., *Southern Politics* (1949);

10

e. Christopher H. Cooper & H. Gibbs Knotts, eds., *The New Politics of North Carolina* (2008);

f. Kenneth C. Martis, *The Historical Atlas of United States Congressional Districts: 1789-1983* (1982);

g. Douglas Orr et al., *The North Carolina Atlas: Portrait For A New Century* (2000);

h. Byron E. Shafer & Richard Johnston, *The End of Southern Exceptionalism: Class, Race, and Partisan Change in the Postwar South*;

i. Sean Trende, *The Lost Majority: Why The Future of Government is Up For Grabs - And Who Will Take It* (2012).

11

Trende Exhibit 3:

Alabama 1952
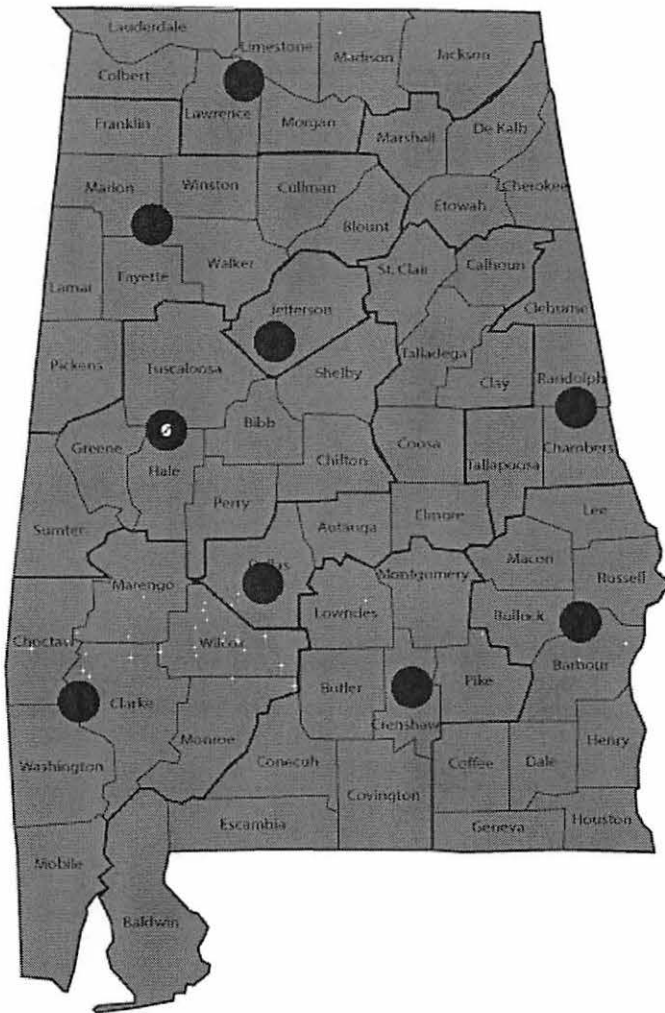
Trende Exhibit 4:

Los Angeles 1958
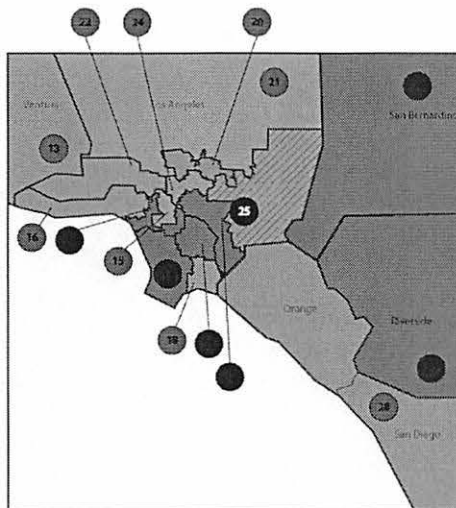
Trende Exhibit 5:

Georgia 1992
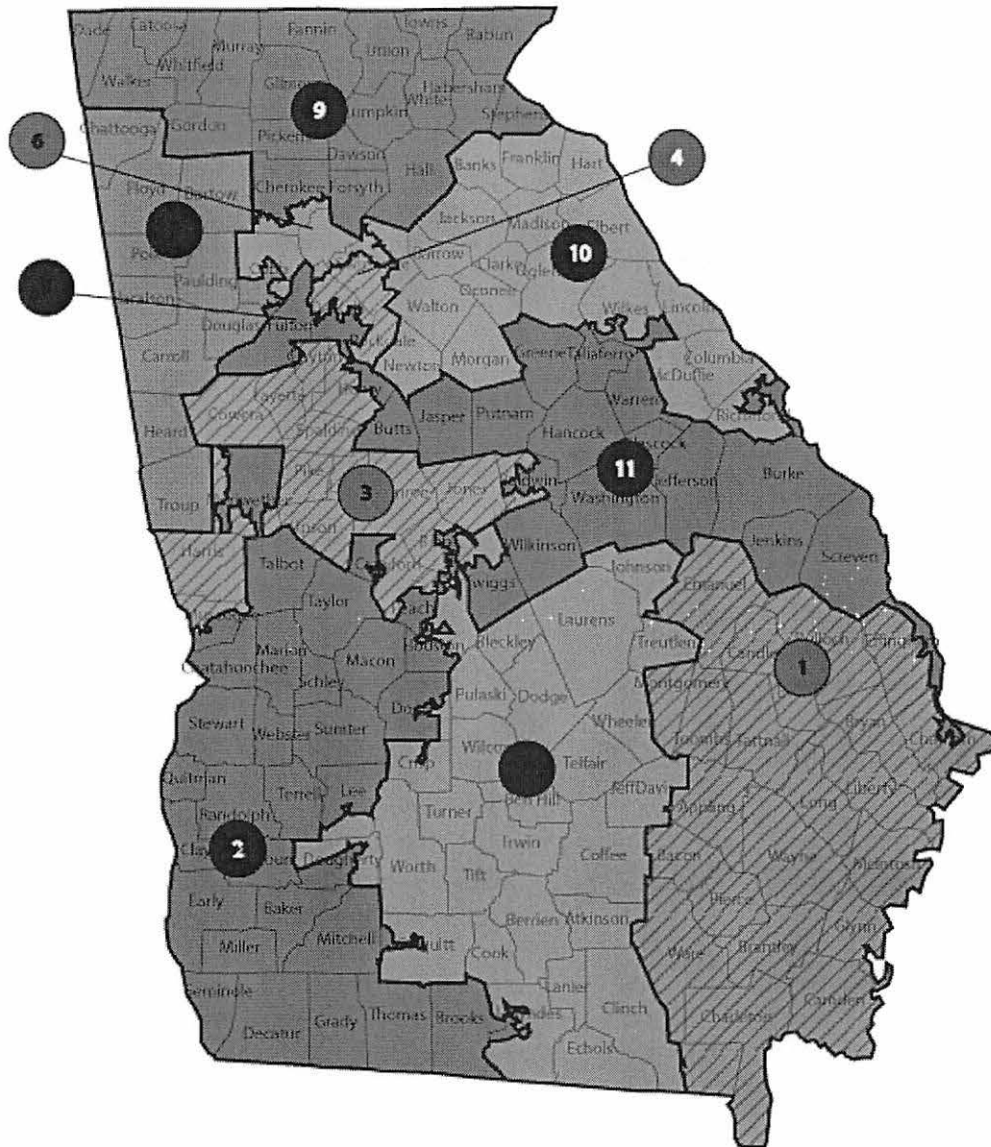
Trende Exhibit 6 (Illinois 1946):
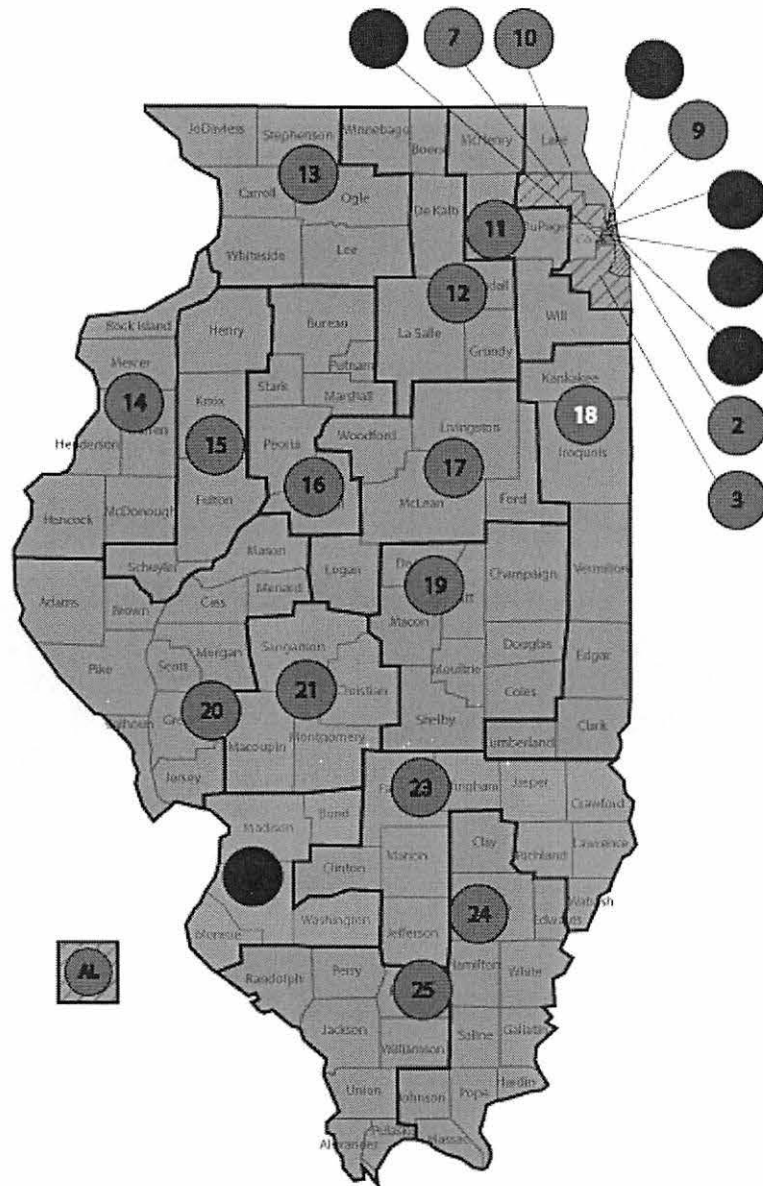
Trende Exhibit 7:

North Carolina 1790
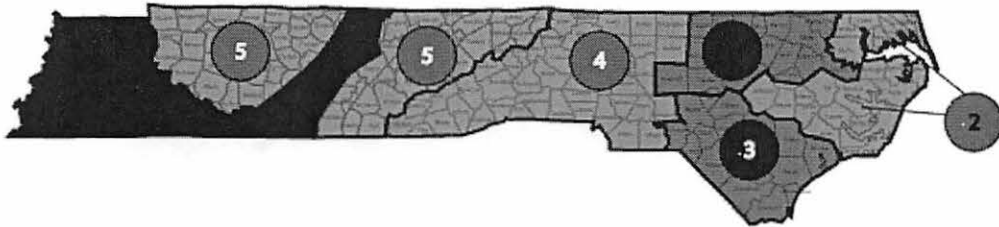
Trende Exhibit 8:

North Carolina 1992
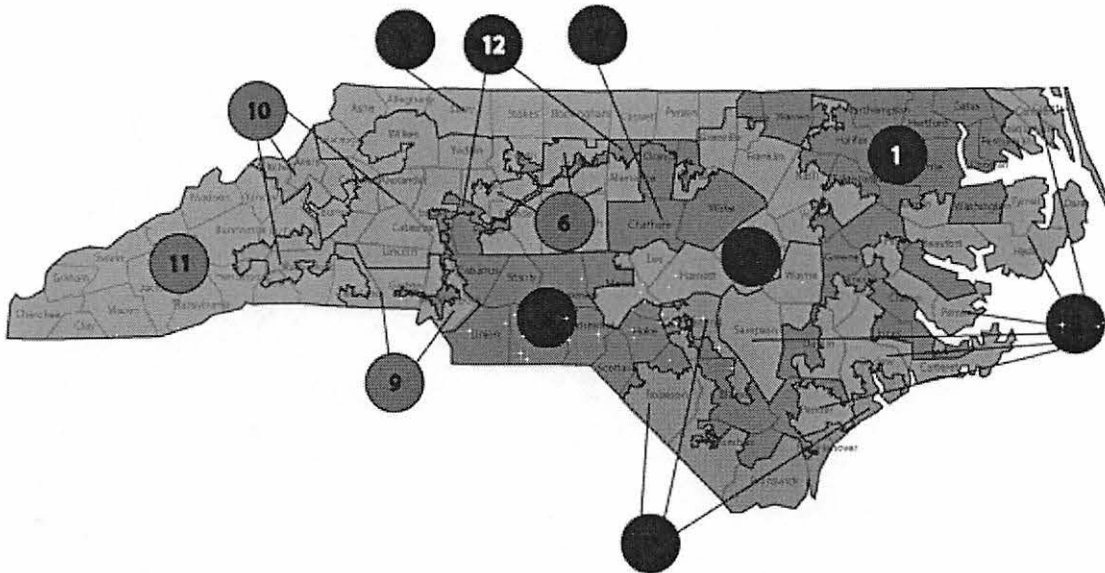
Trende Exhibit 9:

Dallas 1992
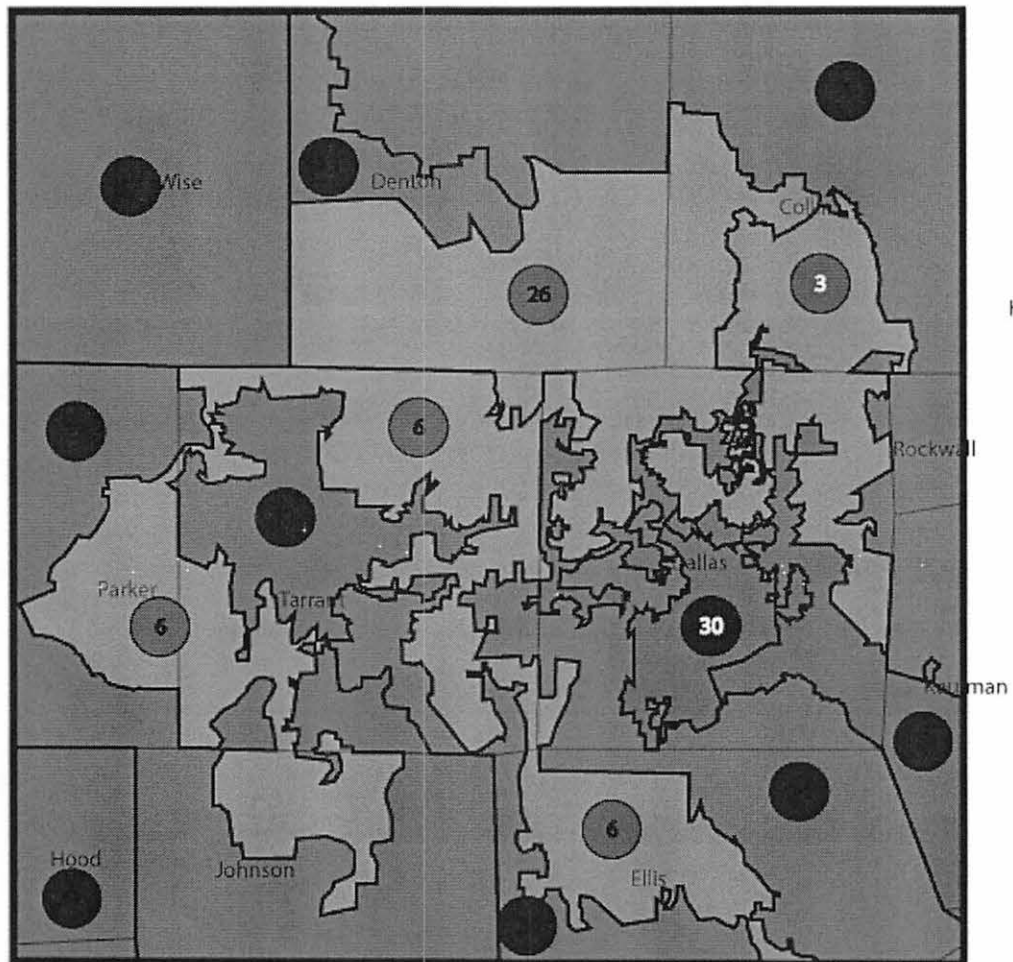
Trende Exhibit 10:
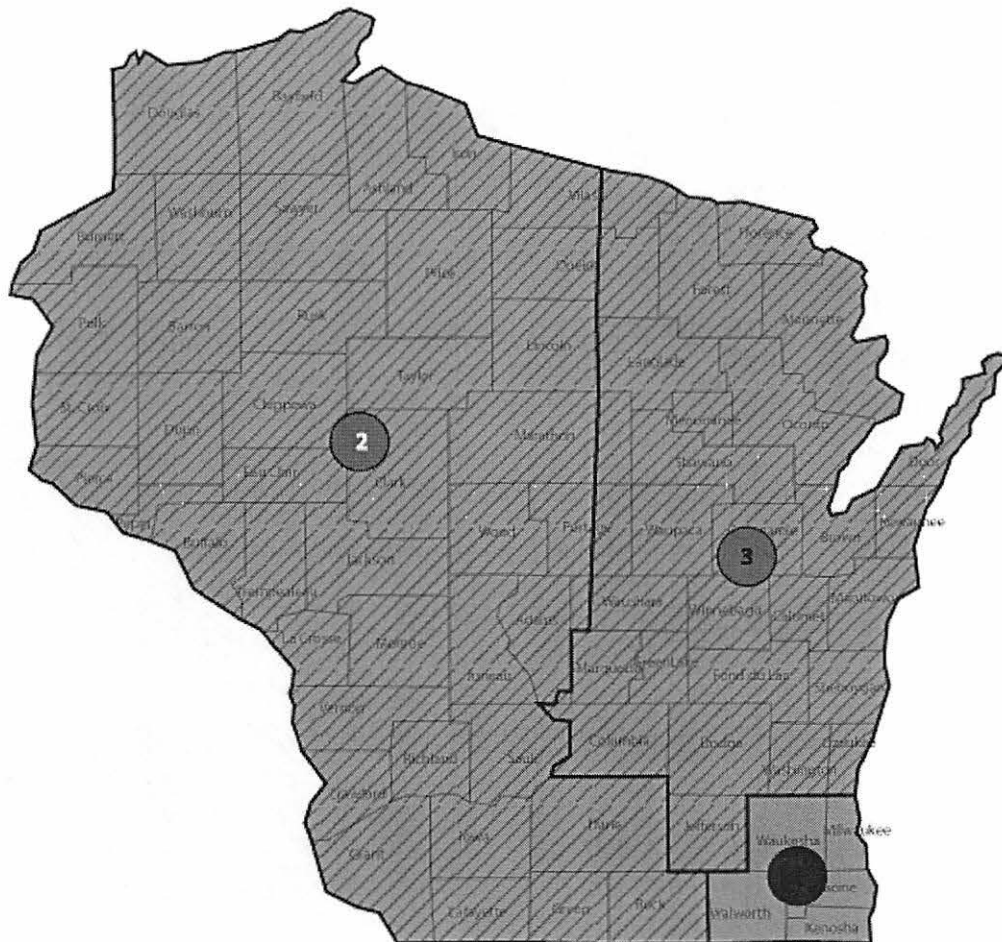
Wisconsin 1854

Trende Exhibit 11:

Wisconsin 1900
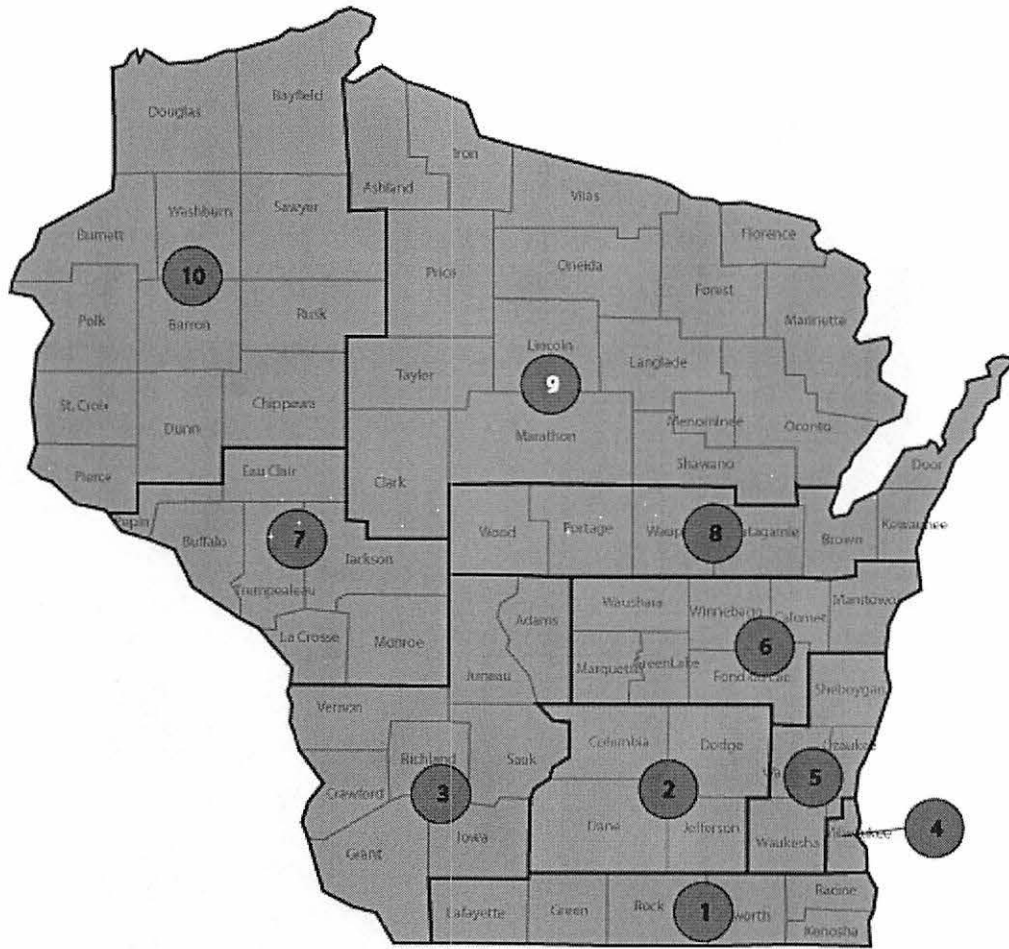
Trende Exhibit 12:

Wisconsin 2002

IN THE UNITED STATES DISTRICT COURT

FOR THE MIDDLE DISTRICT OF NORTH CAROLINA

NO. 1:15-CV-00399
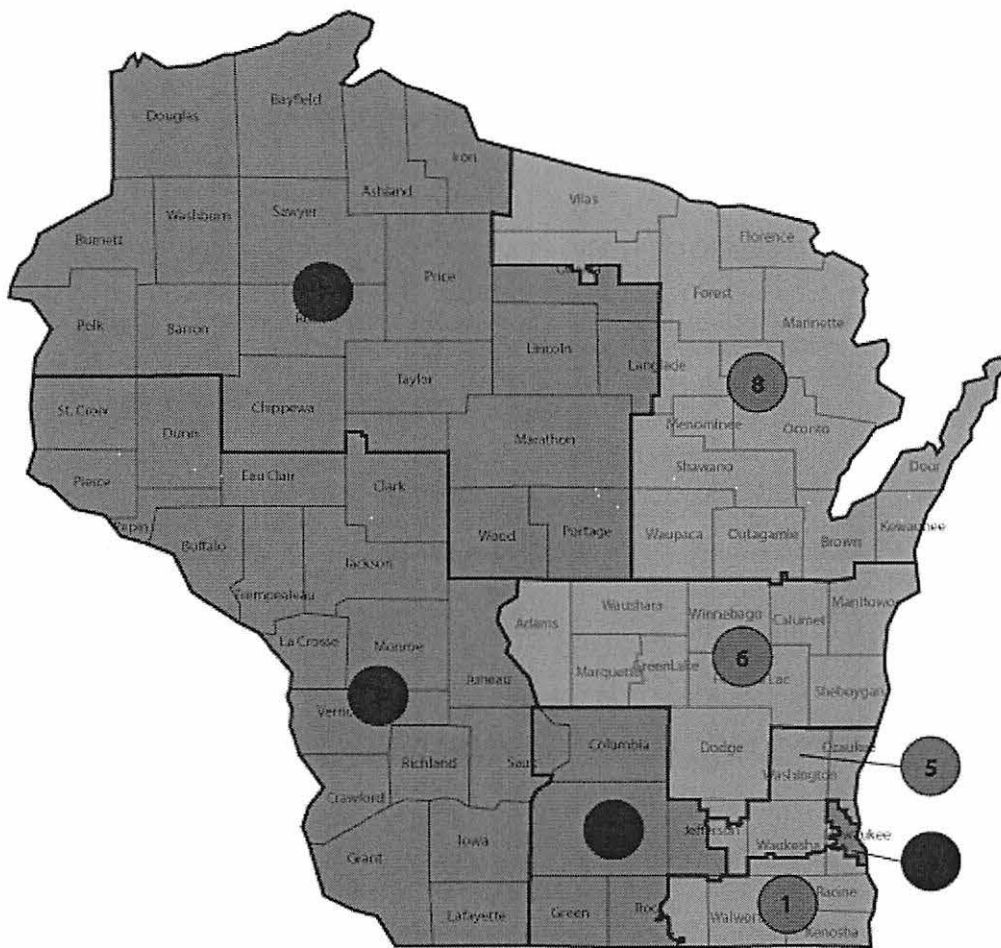
SANDRA LITTLE COVINGTON, et al,   )
)
          Plaintiffs,   )
)
     vs.   )
)
THE STATE OF NORTH CAROLINA, et   )
al.,   )
)
          Defendants.   )
)

DEPOSITION OF SEAN P. TRENDE

_____

9:08 A.M.

TUESDAY, JANUARY 12, 2016

_____

POYNER SPRUILL

301 FAYETTEVILLE STREET

SUITE 1900

RALEIGH, NORTH CAROLINA

By: Denise Myers Byrd, CSR 8340, RPR

```
 1                A P P E A R A N C E S

 2

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17

      The Reporter:

18

                      Discovery Court Reporters

19                       and Legal Videographers, LLC
                      BY:  DENISE MYERS BYRD, RPR, CSR 8340

20                    4208 Six Forks Road
                      Suite 1000

21                    Raleigh, NC  27609
                      (919) 424-8242

22                    (919) 649-9998 direct
                      denise@discoverydepo.com

23

24                         --o0o--

25

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16   --o0o--

17

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25

3

1   SEAN P. TRENDE,

2   having been first duly sworn or affirmed by the

3   Certified Shorthand Reporter and Notary Public

4   to tell the truth, the whole truth and nothing

5   but the truth, testified as follows:

6   EXAMINATION

7   BY MR. SPEAS:

8   Q.   Would you state your name and address for the

9   record, please.

10   A.   Sean Patrick Trende, T-R-E-N-D-E, and 1146

11   Elderberry -- that's one word,

12   E-L-D-E-R-B-E-R-R-Y -- Loop, Delaware, Ohio,

13   43015.

14   Q.   And where are you employed?

15   A.   Real Clear Politics.

16   Q.   Okay. And where is Real Clear Politics

17   located?

18   A.   That's a good question. It's -- it has an

19   office on K Street in Washington, DC, the

20   servers are located somewhere in northern

21   Indiana and then we have people who work all

22   over the country.

23   Q.   Do you work out of your home?

24   A.   I do generally.

25   Q.   When did you first meet Tom Farr?

                                                          4

1   A.   I think it would have been the evening before

2   my first deposition in the North Carolina early

3   voting case.

4   Q.   And can you give me an approximate date for

5   that deposition?

6   A.   Sometime in June 2014.

7   Q.   All right. Are you acquainted with Senator Bob

8   Rucho?

9   A.   No.

10   Q.   Are you acquainted with Representative David

11   Lewis?

12   A.   No. And by "acquainted," I assume you mean met

13   them, spoke with them.

14   Q.   Yes.

15   A.   I'm familiar with who they are.

16   Q.   Yes. Have you ever met with any North Carolina

17   legislative committee?

18   A.   No.

19   Q.   To your knowledge, did the North Carolina

20   legislature have any of your work available

21   when it was enacting the challenge districts in

22   2011?

23   A.   Not to my knowledge.

24   Q.   I believe you attended Yale University.

25   A.   I did.

5

1   Q.   And graduated in '95?

2   A.   That's right.

3   Q.   What did you do after graduation?

4   A.   I was a bartender.

5   Q.   Great. Where?

6   A.   Garfield's in Oklahoma City and then Champions

7   in Georgetown.

8   Q.   And how long were you engaged in that role?

9   A.   That profession?

10   Q.   That profession.

11   A.   I was at Garfield's in Oklahoma City from May

12   of '95 to I guess September of '95, and then I

13   worked -- I was a bar back as well as a

14   bartender at Champions from September of '95

15   to -- I think I did it into '96. I know I did

16   it in '96. I think I did it into '97.

17   Q.   And what did you do then?

18   A.   I worked on Capitol Hill.

19   Q.   Okay. Where?

20   A.   For the House Committee on Small Business.

21   Q.   What role?

22   A.   Answering phones.

23   Q.   How long did you do that?

24   A.   I did that until '98 -- '97.

25   Q.   Okay. Is that when you went to Duke?

6

 1   A.   I was accepted to Duke, but I got a call, like,

 2   two weeks before I was accepted. The Economist

 3   at the American Enterprise Institute was

 4   looking to do research into the history of the

 5   Federal Reserve, and so I spent the next year

 6   in the archives of the Fed reading their

 7   minutes from the 1930s and '40s.

 8   Q.   Okay. As an employee of the American

 9   Enterprise Institute?

10   A.   I don't know if I was their employee or if I

11   was The Economist's employee.

12   Q.   So you delayed your enrollment at Duke for a

13   year?

14   A.   That's right.

15   Q.   And when did you actually enroll at Duke?

16   A.   I matriculated in June of '98.

17   Q.   And what program were you enrolled?

18   A.   I received -- I was enrolled in a program for a

19   jurist doctorate and a master's.

20   Q.   A four-year program?

21   A.   A three-year program. Well, three-and-a-half.

22   Three years plus a summer.

23   Q.   At any time did you apply to enroll in the

24   doctoral program at Duke?

25   A.   No.

                                                          7

1   Q.   At any point in time did you apply to enroll in

2   a doctoral program at any university?

3   A.   Yes.

4   Q.   Where?

5   A.   The Ohio State University.

6   Q.   And what program did you apply to?

7   A.   The doctoral program in political science.

8   Q.   Were you admitted?

9   A.   I don't know yet.

10   Q.   Don't know yet.

11   A.   It's pending.

12   Q.   It's pending. Okay.

13   So when did you apply for the Ohio

14   State Ph.D. program?

15   A.   December 11, 2014 -- 2015.

16   Q.   Prior to December 11, 2014, had you ever

17   applied for enrollment in any doctoral program

18   at any university?

19   A.   2015.

20   Q.   2015.

21   A.   No, I had not.

22   Q.   And while you were at Duke, I believe I've

23   learned that you took a couple of statistics

24   courses.

25   A.   It was part of my master's program. I took two

8

1   semesters of graduate-level statistics.

2   Q.   And I assume you did not take any statistics

3   courses as part of the Duke law program.

4   A.   That's correct.

5   Q.   Okay. Have you ever taught political science

6   at any college or university?

7   A.   No.

8   Q.   Have you ever taught a statistics course at any

9   college or university?

10   A.   No.

11   Q.   Have you ever taught a course at any college or

12   university?

13   A.   No.

14   Q.   Okay. I'm going to ask the court reporter to

15   mark as Exhibit 1 your declaration in this

16   case, the Covington case.

17   (WHEREUPON, Plaintiffs' Exhibit 1 was

18   marked for identification.)

19   BY MR. SPEAS:

20   Q.   Mr. Trende, in front of you is Exhibit 1.

21   A.   Trende. The E is long.

22   Q.   Okay. I may have the southern pronunciation so

23   if you'll forgive me.

24   MR. FARR: Beaufort or Beaufort

25   [pronunciation]?

                                                            9

1   MR. SPEAS: I never know.

2   THE WITNESS: When I start massacring

3   North Carolina county names, I hope you'll give

4   me the same --

5   MR. SPEAS: Mr. Farr's other clients

6   have already done that.

7   BY MR. SPEAS:

8   Q.   So do you recognize this as the declaration

9   that was filed in this case?

10   A.   Yes.

11   Q.   And this declaration includes with it, toward

12   the end, your c.v., correct?

13   A.   Correct.

14   Q.   And if you could turn to those pages, I'd like

15   to ask you a few questions about that.

16   A.   Okay.

17   Q.   Is this c.v. current?

18   A.   I believe so.

19   Q.   Okay. And can you identify for me in this c.v.

20   any publication in any peer-reviewed journal?

21   A.   Oh, no.

22   Q.   Okay. Is it correct that you do not have any

23   publications in any peer-reviewed journals?

24   A.   That's correct.

25   Q.   You do list under the heading Books some

                                                    10

1   entries, correct?

2   A.   Yes, four entries.

3   Q.   And the first entry is Larry Sabato, "The

4   Surge." Do you have a chapter in that book?

5   A.   I do.

6   Q.   And what is the chapter about?

7   A.   This is the 2015 book. The chapter that year

8   was about the electoral college.

9   Q.   Okay. And the second book is also by Sabato,

10   "Barack Obama and the New America," Chapter 12.

11   What's that chapter about?

12   A.   That chapter was about whether 2012 was a

13   realigning year.

14   Q.   And you are one of the editors of "The Almanac

15   of American Politics" for 2014?

16   A.   That's correct.

17   Q.   The Almanac is issued every year, I believe.

18   A.   No, that's not correct.

19   Q.   Are you one of the editors of the present

20   edition of "The Almanac"?

21   A.   No. They have an entirely new editorial team,

22   but they reuse the descriptions from the 20 --

23   the redistricting book which is the 2013 book.

24   Q.   The final entry is "The Lost Majority." Who

25   published that document or that book?

                                                        11

1   A.   Paul Grave.

2   Q.   And what's it about?

3   A.   Well, it's a 200-page book so it's difficult to

4   summarize succinctly, but it's -- the kind of

5   central question of it is after 2008, a lot of

6   people thought the Democrats had locked in a

7   permanent majority, and in 2010 --

8   (Brief Interruption.)

9   THE WITNESS: Can you read back where I

10   left off.

11   (Record Read.)

12   THE WITNESS: -- Republicans took back

13   the House and had a very good Senate year which

14   most people hadn't thought possible a couple

15   years previous. So the question is why did

16   that happen.

17   And my answer was that people are kind

18   of in the thralls of this idea of realigning

19   elections, but those really don't exist and you

20   could really see it on the wall if you look

21   closely in 2006 and 2008.

22   BY MR. SPEAS:

23   Q.   Okay. Now, I asked you a moment ago if you had

24   any publication in any peer-reviewed journal

25   and you responded no. Let me now ask you if

                                                        12

1   any of the publications listed in this document

2   relate in any way to the subject matter of your

3   declaration.

4 A.   Well, I'm sure there are columns at Real Clear

5   Politics about gerrymandering and drawing

6   districts. Obviously the House race ratings

7   which is part of my experience at Real Clear

8   Politics relates to this matter. Beyond that,

9   no.

10 Q.   So would it be accurate that prior to this

11   declaration, you had not written on the subject

12   of the competitiveness of legislative -- state

13   legislative districts?

14 A.   Of state legislative districts, that's probably

15   correct with the general caveat that there's

16   300 articles at Real Clear Politics. I don't

17   know the contents of every one of them off the

18   top of my head.

19 Q.   Okay. Now, let me switch subjects slightly.

20   After you received your law degree, you

21   clerked for the Tenth Circuit?

22 A.   That's right.

23 Q.   Then you went to Kirkland & Ellis --

24 A.   That's correct.

25 Q.   -- as an associate?

13

1   A.   That's correct.

2   Q.   Were -- did you ever become a partner?

3   A.   No. I was only there three years.

4   Q.   Why did you leave Kirkland?

5   A.   I got married and Kirkland isn't a great place

6   to raise a family.

7   Q.   And you went from there to Hunton & Williams?

8   A.   Yep.

9   Q.   In Richmond?

10   A.   That's correct.

11   Q.   As an associate?

12   A.   That's correct.

13   Q.   Did you become partner?

14   A.   No.

15   Q.   And you left there to go to Newport News?

16   A.   That's correct.

17   Q.   Why did you leave?

18   A.   Because I wanted to get into court and we were

19   having suspicions about my oldest son being

20   diagnosed -- having Autism and the Hunton &

21   Williams lifestyle doesn't cut it for that.

22   Q.   Okay. And you were an associate at your

23   Newport News firm?

24   A.   That's correct.

25   Q.   And did you ever become partner?

14

1   A.   No.

2   Q.   And you left there to go to Real Clear

3   Politics?

4   A.   That's correct.

5   Q.   Now, in your -- you practiced law, what, eight

6   or nine years?

7   A.   Not counting the clerkship, I actually

8   practiced law eight.

9   Q.   What was the nature of your practice?

10   A.   Litigation.

11   Q.   Litigation about election issues?

12   A.   Were you finished? Were you finished with the

13   question?

14   Q.   Any litigation regarding elections?

15   A.   At Kirkland & Ellis, I worked on the

16   McCain-Feingold Supreme Court appeal. I think

17   that's the only election related issue I

18   handled or was involved in. I didn't really

19   handle that case.

20   Q.   Okay. Now, did you review Exhibit 1 prior to

21   coming for your deposition today?

22   A.   No.

23   Q.   Okay. Are you --

24   A.   Oh, wait. I'm sorry. I was thinking

25   Exhibit 1 -- Exhibit 1 to the declaration.

15

1   I read Exhibit 1 here, yes.

2   Q.   Okay. And did you find any errors in

3   Exhibit 1?

4   A.   I didn't look for any.

5   Q.   Do you have any corrections that need to be

6   made to Exhibit 1?

7   A.   Not to my knowledge.

8   Q.   Now, Exhibit 1, your declaration in this case,

9   is dated November 30, 2015, correct?

10   A.   That's right.

11   Q.   Approximately when did Mr. Farr engage you to

12   prepare this declaration?

13   A.   Oh, you would have the e-mails that would have

14   the formal engagement. I think I became aware

15   of it during the trial for the early voting

16   case.

17   Q.   And did you write your declaration or was it

18   written by somebody else?

19   A.   I wrote it.

20   Q.   Okay. Did you have an editor to review your

21   declaration?

22   A.   Outside of review by counsel, no.

23   Q.   Did you consult with any political scientist in

24   preparing your declaration?

25   A.   No.

                                                       16

1   Q.   Did you consult with any statistician in

2   preparing your declaration?

3   A.   No.

4   Q.   Did you -- who selected the maps that you've

5   analyzed in your declaration?

6   A.   I believe I was requested -- it was requested

7   to analyze those maps by counsel.

8   Q.   Now, looking at the declaration itself,

9   particularly Paragraph 2, could you read

10   Paragraph 2 into the record.

11   A.   "I am a recognized expert in the

12   fields of campaigns and elections,

13   redistricting, gerrymandering, and

14   United States demographic trends and

15   political history."

16   Q.   And recognized by whom in the field of

17   campaigns and elections?

18   A.   I think most -- you know, over a million people

19   who read Real Clear Politics each month, they

20   would recognize me as that. I think there are

21   numerous commentators and analysts who would

22   agree with that. I've written a book that

23   deals with all of these issues.

24   You know, I think -- I'm not

25   necessarily using the term in a legal sense

17

1   there. I'm not currently familiar with the

2   legal definition of it, but there might be

3   additional factors that would be considered for

4   that.

5   Q.   And who has recognized you as an expert in the

6   field of redistricting?

7   A.   As I said, I think that the fact that I have

8   submitted an expert report -- actually, I

9   didn't say that.

10   The fact that I previously submitted an

11   expert report on a redistricting case that was

12   accepted, to my knowledge, without objection

13   would qualify me. I think that -- the fact

14   that I've published a book that deals with

15   redistricting is sufficient.

16   Q.   And who has recognized you as an expert in the

17   field of gerrymandering?

18   A.   Same answer.

19   Q.   And who has recognized you as an expert in the

20   field of US demographic trends and political

21   history?

22   A.   Same answer. Well, no, not the same answer

23   because I haven't -- well, no, I've submitted

24   expert reports that deal with demographic

25   trends and political history, plus the writing

                                                    18

 1   at Real Clear Politics.

 2   Q.   All right. Now, you made reference just a

 3   moment ago to an affidavit -- another

 4   affidavit. Let me ask the court reporter to

 5   mark this as Exhibit 2.

 6   (WHEREUPON, Plaintiffs' Exhibit 2 was

 7   marked for identification.)

 8   BY MR. SPEAS:

 9   Q.   The court reporter has placed in front of you

10   Exhibit 2 which is the Revised Affidavit of

11   Sean Trende in a case Dickson versus the NAACP

12   in North Carolina trial courts.

13   Do you recognize that as an affidavit

14   that you filed in that case?

15   A.   Yes.

16   Q.   And what's the date of that affidavit?

17   A.   It looks like December 10, 2012.

18   Q.   And to your knowledge, was --

19   A.   You know, I think you might have given me your

20   copy because it's got highlighting on it.

21   Q.   Okay. I'm sorry. Let's see. I'll let you

22   have that one.

23   MR. SPEAS: What was my question?

24   (Record Read.)

25   BY MR. SPEAS:

                                                        19

1   Q.   And to your knowledge, was this affidavit ever

2   cited in court in support of any particular

3   finding of fact?

4   A.   I have no idea.

5   Q.   To your knowledge, was this affidavit ever

6   cited by Mr. Farr or any of his co-counsel in

7   any affidavit?

8   A.   I have no idea.

9   Q.   Please explain to me the difference between

10   Exhibits 1 and 2.

11   A.   Well, this was filed in this case, has

12   additional analysis and qualifications up to

13   date, and this is mostly a subset -- Exhibit 2

14   is mostly a subset of Exhibit 1.

15   Q.   Okay. So Exhibit 1 expands on Exhibit 2; is

16   that correct?

17   A.   That's correct.

18   Q.   But Exhibit 2 is not different than Exhibit 1

19   in any respect other than that?

20   A.   I won't testify to that, but I think the

21   analyses -- the substantive analyses are the

22   same.

23   Q.   Okay. And I'm going to ask the court reporter

24   to mark this as Exhibit 3.

25   ///

                                                              20

1   (WHEREUPON, Plaintiffs' Exhibit 3 was

2   marked for identification.)

3   BY MR. SPEAS:

4   Q.   The court reporter has put Exhibit 3 in front

5   of you. Do you recognize that as the Affidavit

6   of Sean Trende filed in the Dickson versus

7   Rucho case?

8   A.   Looks like it, yes.

9   Q.   And what's the date of that affidavit?

10   A.   June 18, 2012.

11   Q.   And it's entitled -- it's -- Exhibit 3 is

12   entitled Affidavit. Exhibit 2 is entitled

13   Revised Affidavit.

14   A.   That's right.

15   Q.   Do you know the difference between Exhibits 2

16   and 3?

17   A.   I honestly didn't know that I had filed two in

18   that matter.

19   Q.   All right. Now, looking collectively at

20   Exhibits 2 and 3, did you write both 2 and 3

21   yourself?

22   A.   To my recollection, yes.

23   Q.   Did you have an editor who worked with you on

24   Exhibits 2 and 3?

25   A.   Outside of counsel, no.

                                                      21

1   Q.   Okay. Did you consult with any political

2   scientist with regard to -- in preparing

3   Exhibits 2 and 3?

4   A.   No.

5   Q.   Did you consult with any statistician in

6   preparing Exhibits 2 and 3?

7   A.   No.

8   Q.   Now, let's go back to Exhibit 1. I believe

9   that in Paragraph 3 you indicated that you have

10   been paid $300 an hour for preparing that

11   exhibit, correct?

12   A.   Yes.

13   Q.   Do you know approximately how much you have

14   been -- how many hours you've expended so far

15   in preparing Exhibit 3 -- Exhibit 1? I'm

16   sorry.

17   A.   Probably -- I haven't put together a bill --

18   somewhere in the 60- to 70-hour range.

19   Q.   Okay. And turning to Exhibits 2 and 3, which

20   were the earlier affidavits, how much were you

21   paid for preparing those affidavits?

22   A.   My recollection is somewhere in the

23   neighborhood of 25,000.

24   Q.   Okay.

25   A.   Might have been less.

22

1   Q.   Same hourly rate?

2   A.   That's right.

3   Q.   All right. Let's turn to Paragraph 31 in your

4   declaration in this case. You state there that

5   you've been asked to rate the competitiveness

6   of districts drawn for the North Carolina House

7   of Representatives and the North Carolina

8   Senate.

9   Did I read that correctly?

10   A.   That's correct.

11   Q.   Explain to me what you mean by that you were

12   asked to rate the competitiveness of districts.

13   A.   The likelihood of Republicans or Democrats

14   winning a particular seat using the techniques

15   that are typically utilized for such ratings.

16   Q.   So you were asked to rate the partisan

17   competitiveness of the districts?

18   A.   That's right.

19   Q.   And in Paragraph 32, you list the certain

20   maps -- Senate maps that you were asked to

21   evaluate, correct?

22   A.   Correct.

23   Q.   And did Mr. Farr provide you that list of maps?

24   A.   I have no idea what the scope of this new

25   attorney-expert privilege is, but barring any

23

1   objection, yes, that's my recollection.

2   Q.   And were you asked to evaluate any other maps?

3   A.   Not to my recollection.

4   Q.   And you are aware that no elections were held

5   under the 2001 map that you evaluated?

6   A.   Yes.

7   Q.   And you are aware that no elections were held

8   under the SCSJ Possible Senate and Senate Fair

9   and Legal plans, correct?

10   A.   Yes.

11   Q.   Are you aware that the North Carolina courts

12   drew a plan that -- in 2002 that was used in

13   the 2002 elections?

14   A.   That's my recollection.

15   Q.   Were you asked to evaluate that map?

16   A.   I don't believe so.

17   Q.   Did you ever undertake to evaluate that map?

18   A.   I don't believe so.

19   Q.   In Paragraph 33, you list the House maps that

20   you were asked to evaluate, correct?

21   A.   Yes.

22   Q.   And again, did Mr. Farr ask you to evaluate

23   those maps?

24   A.   Yes.

25   Q.   You did not conduct any independent

                                                        24

1   investigation as to what maps you should

2   analyze; is that correct?

3   A.   My -- I think as an expert you should analyze

4   the maps that the lawyer asks you to analyze,

5   to answer the question.

6   Q.   All right. So you did not evaluate the 2002

7   House map used for the 2002 general election?

8   A.   That's correct.

9   Q.   In Paragraph 34, you describe a three-step

10   process in conducting this competitive

11   analysis. Am I correct?

12   A.   That's correct.

13   Q.   The first step is evaluating the "fundamentals"

14   of the district?

15   A.   That's correct.

16   Q.   What are the fundamentals of a district?

17   A.   The basic partisan lean of the district. So

18   you look at the performance in previous

19   elections, the history of the district.

20   You're basically looking at the

21   district on its own terms without relation to

22   any candidate.

23   Q.   The fundamentals, though, all relate to -- to

24   use your term -- the partisan lean of the

25   district?

25

1   A.   Correct.

2   Q.   The second part of your approach, as described

3   in Paragraph 34, is the evaluation of the

4   district's likely performance in the context of

5   the national political environment.

6   Explain to me what is involved in that

7   step in this process of evaluation.

8   A.   So you can think of a ladder in a swimming

9   pool. And the ladder would be the fundamentals

10   of the districts from, say, most Republican to

11   most Democratic. And the swimming pool -- the

12   amount of water in the swimming pool would be

13   the national tide. And if the Republican tide

14   rises, districts that would otherwise be

15   Democratic fall into the Republican pool, and

16   if the tide falls, the opposite effect occurs.

17   So you're looking at the way the

18   different political environments would interact

19   with the district. A district that leans

20   Democrat in a neutral year might be expected to

21   be Republican in a GOP wave year like 2010 or

22   2014.

23   Q.   And the third step is the evaluation of the

24   impact of fundraising and other factors,

25   correct?

26

1   A.   Correct.

2   Q.   You did not perform the third step in this

3   analysis; is that correct?

4   A.   That's right because it's impossible to

5   perform.

6   Q.   What impact did your failure to perform this

7   third step of this process have on the quality

8   or accuracy of your analysis?

9   A.   The inability to perform that step had no

10   impact on the accuracy of the analysis because

11   you're ultimately looking to see if the

12   districts themselves have specific lean, not

13   how they interact with particular candidates.

14   Q.   Are you familiar with the issues in this

15   lawsuit?

16   A.   Vaguely.

17   Q.   Okay. Do you have any sense about how your

18   analysis of the competitiveness of these

19   districts is relevant to any issue in the

20   lawsuits?

21   MR. FARR: Objection.

22   You may answer.

23   THE WITNESS: I might have a vague

24   guess, but I don't know specifically how they

25   would play out. That's for counsel and the

                                                        27

1   court to determine.

2   BY MR. SPEAS:

3   Q.   What's your vague guess?

4   A.   My vague guess is that an argument over the

5   partisanship of districts plays into questions

6   of intent and questions of -- I know there is

7   some language in the Supreme Court decisions

8   about partisanship being something that can be

9   a race plus factor. I'm sure this has

10   something to do with that. I have not read

11   those decisions in over a decade, though, so...

12   Q.   And you made no inquiry with regard to the

13   intent of the legislature in performing this

14   analysis, did you?

15   A.   That's correct.

16   Q.   In Paragraph 36, you state in the last sentence

17   your analysis should not be read as a

18   prediction for the 2016 elections or beyond,

19   correct?

20   A.   Correct.

21   Q.   But we have had -- you do in fact know the

22   election results under actual plans in

23   North Carolina for all years prior to the 2016

24   general election, don't you?

25   A.   I have access to those data, yeah.

                                                            28

1   Q.   Did you use those data in performing this

2   analysis?

3   A.   I used those data for Step 2 which validates

4   the analysis in -- or Method 2 which validates

5   the analysis in Method 1.

6   Q.   So can you help me understand why you would be

7   engaged in understanding the partisan lean of

8   districts in the past when you have actual

9   election results for those districts that

10   determine their lean?

11   A.   Sure. Because we're looking at what the

12   legislature was doing in 2011 when it didn't

13   have access to those data. So the fact that a

14   district that -- in its fundamental should be a

15   Lean Democratic district but perhaps you had an

16   unusually strong Republican candidate running

17   in a wave year, like 2014, against a weak

18   Democratic opponent can result in a different

19   outcome than the fundamentals of the district

20   might suggest.

21   So that's why you look at the

22   fundamentals. And then you can go back with

23   the logit analysis and see how those

24   predictions play out in the actual elections.

25   Q.   Did the legislature have the benefit of your

29

1   analysis when it was enacting these plans in

2   2011?

3   A.   No.

4   Q.   Then help me understand what value this

5   analysis now has in understanding what the

6   General Assembly had in mind in 2011?

7   MR. FARR: Objection to form. It's

8   asking for a legal conclusion.

9   Go ahead.

10   THE WITNESS: Again, that's a question

11   for Mr. Farr to argue with the Court.

12   In my mind, you're just looking at the

13   partisan impact of the different maps by

14   looking at the fundamentals of the districts

15   that are drawn because the legislature doesn't

16   have access, when they're drawing these things,

17   to what the election results will be in 2012

18   and 2014 and so forth.

19   BY MR. SPEAS:

20   Q.   But it did have access to the 2002, 2004, 2006,

21   2008 and 2010 election results.

22   A.   That's right. And those play a factor at this

23   step. Those play a role at this step.

24   I believe that is in Paragraph -- no --

25   54 through 58 and in Paragraph 68.

30

1   Q.   Okay. And we'll get to those in a few minutes.

2   A.   Yes.

3   Q.   Now, you looked at plans drawn in 2001, plans

4   drawn in 2003 and plans drawn in 2011, correct?

5   A.   I think the -- there's a map drawn after

6   Bartlett v Strickland that's tweak of the

7   earlier map.

8   Q.   Of 2009.

9   A.   Yeah.

10   Q.   Did you use the same types of data to evaluate

11   the competitiveness of each of those sets of

12   maps or did you use different types of data to

13   evaluate their competitiveness?

14   A.   The first map in 2000 had different data sets

15   available. So it's -- I would say it's the

16   same types of data for the early maps, but

17   there are differences in the particulars.

18   Q.   Okay. And what are those differences?

19   A.   Well, there's different races that are

20   available. Obviously for the maps drawn in

21   2000 -- that were used for 2000, there wasn't

22   access to the -- or 2001, whatever the year is.

23   The first set of maps that I evaluated, there

24   wasn't access to the elections that were held

25   in the 2000s. There was access to 2000

31

1   Presidential race and a Supreme Court race and

2   one other race. I can't recall.

3   So it just required using different

4   particular data than were available in the maps

5   that were enacted and utilized throughout the

6   2000s.

7   Q. So you used the same types of data in

8   evaluating the competitiveness of each of the

9   three sets of maps?

10 A. Yes, to the extent they were available.

11 Q. Okay. And who provided you the data that you

12   evaluated? Mr. Farr?

13 A. I believe when I did this for the Dickson v

14   Rucho case, I had those data from Mr. Farr, but

15   for this particular iteration, I got them

16   directly from the legislative website.

17 Q. So in evaluating the 2001 maps for the House

18   and the Senate, you used the elections data on

19   the legislative website for that evaluation?

20 A. Now, the 2001 map, it might have just been

21   provided by Mr. Farr. I honestly don't

22   remember.

23 Q. And for the evaluation of the 2003 House and

24   Senate maps, did you use the elections data on

25   the legislative website?

                                                    32

1   A.   I believe Senate -- 2003 Senate Redistricting

2   Plan and Session Law 2009/78 was on the Senate

3   website, yeah.

4   Q.   Did you use all of the elections data on the

5   legislative website for the 2003?

6   A.   There's a massive amount of data on that

7   website, you know. So they have maps, for

8   example, going back to the 1940s that I don't

9   know would be particularly relevant, but I

10   believe for the -- for example, for the

11   statewide elections that are -- that are

12   provided, I used all 15.

13   Q.   Do you recall that there is straight-party

14   voting -- straight-ticket voting data on the

15   legislative website for the 2003 elections?

16   A.   Yes.

17   Q.   Did you use that?

18   A.   No.

19   Q.   Why not?

20   A.   Because it was a small subset of the statewide

21   voting results.

22   Q.   Okay. And did you confer with Mr. Farr in

23   making that decision?

24   A.   No.

25   Q.   That was an independent decision you made?

33

1   A.   Yes.

2   Q.   And do you recall that there is straight-party

3   voting data on the legislative website for the

4   2011 plans?

5   A.   Yes.

6   Q.   And did you use that data?

7   A.   No.

8   Q.   And why not?

9   A.   Same answer.

10   Q.   And you did not confer with Mr. Farr in making

11   that decision?

12   A.   That's correct.

13   Q.   Did you confer with any political scientist or

14   statistician in making that decision?

15   A.   No, I wouldn't need to do that.

16   Q.   Let's look at Paragraph 40 for a minute.

17   There you list certain data to which

18   you say you paid particular attention. The

19   first of those types of data is the performance

20   of presidential candidates as measured by the

21   Partisan Voting Index.

22   A.   Correct.

23   Q.   What is the Partisan Voting Index?

24   A.   It's a way of controlling for national effect.

25   So you take the presidential vote and you --

34

1   you take the presidential vote from the

2   district and you subtract out the national

3   presidential votes. So it gives a way to

4   compare the presidential vote for the 2008

5   elections with the presidential vote for the

6   2004 elections.

7   Q.   And do you compare the -- is the -- are you

8   looking at the presidential vote for the state

9   as a whole or the presidential vote for the

10   particular districts?

11   A.   You're looking at the presidential vote for the

12   particular districts subtracted from the

13   national share of the presidential vote.

14   You're trying to control for national effects

15   so you can do an apples-to-apples comparison.

16   Q.   The second category of data you look at is

17   party registration.

18   Where did you obtain that data?

19   A.   That's on the legislative website.

20   Q.   The third category is the performance of the

21   candidates in 15 statewide races.

22   And that is the data that came from the

23   legislative website?

24   A.   Correct.

25   Q.   The fourth category is the performance of the

35

1   candidates in the ten statewide races for state

2   office.

3   What's the difference between

4   Category 3 and Category 4?

5   A.   Category 4 excludes federal races.

6   Q.   Okay. Fifth category is demographic trends in

7   North Carolina.

8   What data are you talking about there?

9   A.   And just to clarify on that last answer,

10   there's Footnote 1 that refers down to a more

11   specific data -- definition of what that is.

12   As for demographic trends in

13   North Carolina, it's familiarity with

14   North Carolina demography and how elections are

15   changing that I learned from years of doing

16   this job and particularly from writing the

17   Almanac districts for North Carolina.

18   Q.   And what are those trends?

19   A.   Well, you have -- in some of the urban areas

20   you've seen an increase in Democratic voting.

21   In eastern North Carolina and kind of a swath

22   across the middle of the western panhandle --

23   that's my Oklahoma term for it. I don't know

24   if you call that here -- there's been -- the

25   rural voters have increasingly voted

                                                        36

1   Republican.

2   Q.   And the last category of data is previous state

3   senate or house race results from 2004 through

4   2010. We've already discussed that.

5   A.   Correct.

6   Q.   And that information was certainly available to

7   the General Assembly when it enacted these

8   plans?

9   A.   I would assume.

10   Q.   And it needed no analysis to know what those

11   results were.

12   A.   Again, I assume so.

13   Q.   Did you calculate the Partisan Index on your

14   own or was that calculated in some -- by some

15   other place -- in some other place and simply

16   used by you?

17   A.   No. I calculated it.

18   Q.   Okay. For each district?

19   A.   Correct.

20   Q.   In Paragraph 43, you say you used "a variant of

21   PVI called Partisan Index."

22   A.   Yeah.

23   Q.   What is the variation that you're referring to

24   there?

25   A.   It's whether you average the two previous

37

1   presidential elections or simply use the

2   individual elections.

3   So for Cook -- Charlie Cook, we call it

4   Cook PVI versus regular PVI. He doesn't like

5   that. So we also use PVI versus what we call

6   Partisan Index.

7   Charlie will average the previous two

8   presidential years. So he'll average 2004 and

9   2000. The Partisan Index would be just looking

10   at 2004.

11 Q. And what -- on what years did you calculate the

12   Partisan Index?

13 A. The individual presidential years for the

14   presidential races.

15 Q. Which presidential races?

16 A. I believe 2004 and 2008. And when I was doing

17   the 2001 maps for 2000, although since that's a

18   tied election, they're pretty much identical.

19 Q. And did you average those or use each

20   separately?

21 A. No. It was impossible because -- to average

22   them because for the 2001 maps, I didn't have

23   access to 1996 presidential results, and for

24   the 2000 -- for the maps from the aughts I

25   didn't have 2000 to average with 2004.

38

1   Q.   And did you use the 2012 presidential election

2   results?

3   A.   I don't have access to those data and neither

4   would the legislature when they drew these maps

5   to my recollection.

6   Q.   But those results were available at the time

7   you prepared this document?

8   A.   Again, I don't know if they are. I don't know

9   if they went back and recalculated the 2012

10   presidential results for all of the maps that

11   were drawn.

12 Q.   Who is "they"?

13 A.   Whoever did the calculations for the

14   North Carolina legislative website. If there

15   is data for the 2012 elections for the

16   McKissick map, I haven't seen them.

17 Q.   Okay. All right. Now, in determining the

18   competitiveness of these districts under these

19   various maps, what weight did you give your

20   so-called Partisan Index?

21 A.   The Partisan Index was one of the more

22   important factors because presidential

23   elections tend to give a very good idea of

24   where districts stand.

25   As I indicate in Paragraph 51, there's

39

1   a tight correlation between candidates' vote

2   shares and presidential vote shares. So it's

3   obviously a very relevant detail.

4   I believe later on -- we'll get

5   there -- I talk about how common it is for

6   candidates to win in races where the

7   presidential election went in the opposite

8   direction.

9   Q. At any point in this report do you describe the

10   particular weight you gave the Partisan Index

11   in preparing your study?

12   A. Again, I think -- we're on Paragraph 18. Well,

13   not Paragraph 18. I'm sorry. Yeah,

14   Paragraph 84 on Page 18 is a very heavy

15   presumption that if a district had a Democrat

16   PVI, it would be Safe Democratic because only

17   2 of 226 elections where there was a Democratic

18   PVI had it ever elected a Republican.

19   Q. So I hear you saying that you gave PVI or the

20   Partisan Index determinative weight for some

21   districts but not for others; is that correct?

22   MR. FARR: Objection to the form.

23   You may answer.

24   THE WITNESS: I gave it a heavy

25   presumption if a Republican -- if it had -- the

                                                      40

1   district had a Democratic PVI because those

2   districts almost never elect Republicans. If

3   there's a Republican PVI, it's more of a mixed

4   bag. So that's not determinative.

5   BY MR. SPEAS:

6   Q.   Do you define what you mean by "heavy

7   presumption" any place?

8   A.   No.

9   Q.   What did you mean by "heavy presumption"?

10   A.   I meant that it would almost always -- such a

11   district would almost always be classified as

12   Safely Democratic, but there might be

13   districts, for example, where the Democratic

14   PVI was plus .1, and when you looked at the

15   other details of the district, it was more --

16   it was more Republican-leaning.

17   Some of the urban districts are

18   examples of that. I think there is a district

19   in northwestern -- northwestern North Carolina,

20   where the university is, Appalachian State,

21   that is an example of that. So those are the

22   factors that I considered.

23   Q.   Okay. So in circumstances, for example, like

24   described in Paragraph 84, you did give the PVI

25   or Partisan Index determinative weight in

41

1   classifying a district as partisan -- as Safe

2   Democratic or Safe Republican?

3   A. Not Safe Republican because if a district had a

4   Republican-leaning PVI, it would flip both

5   ways.

6   What was more or less determinative of

7   whether a district was Safe Republican was the

8   registration advantage because Democrats tend

9   not to win in North Carolina when there's a

10   Republican registration advantage. That's in

11   Paragraph 83.

12   Q. So am I correct that you use the partisan

13   impact --

14   A. Partisan Index.

15   Q. -- Partisan Index differently in evaluating

16   whether a district was Safe Democrat or Safe

17   Republican?

18   A. I don't know that I used it differently. It

19   had a different interpretation when it had a

20   Republican lean than when it had a Democratic

21   lean because districts that have Democratic

22   Partisan Indexes almost never elect

23   Republicans, but districts that have Republican

24   Partisan Indexes frequently elect Democrats

25   because the Partisan Index is referring only to

                                                          42

1   presidential elections.

2   Q.   And did you give the Partisan Index the same

3   weight in evaluating the 2001 maps as you did

4   the 2003 maps?

5   A.   I took the same approach, yeah, because it

6   says, in Paragraph 75, because the Partisan

7   Index was so determinative in the future

8   elections under the other maps, I did the same

9   approach for Paragraph 75 and then I looked at

10   registration advantage for determining what

11   would be Safe Republican, Paragraph 76.

12   Q.   So is it correct that the most weight in your

13   analysis in determining how to classify a

14   district was assigned to the Partisan Index?

15   A.   That was the first thing I looked at and so

16   that would classify things -- put things into

17   the Safe Democratic category. Then you have a

18   subset of the elections that you still need to

19   sort out. For that, I looked at the party

20   registration to sort out the Safe Republican

21   districts.

22   So since that's the order, I suppose

23   you could say it was the most weight, but if

24   you had reversed the order and looked at party

25   registration first, it would have been the same

43

1   answer.

2   Q.   Okay. Going back to Paragraph 51 for a minute

3   on Page 10 -- which you referred to a minute

4   ago, I believe. Am I correct?

5   A.   I think I did, yes.

6   Q.   In the second sentence of that you make

7   reference to the 2012 Obama vote share. I

8   thought you did not use the 2012 elections in

9   calculating the --

10   A.   That's an incorrect statement.

11   Q.   So there's -- that's an error?

12   A.   No. You made an incorrect statement.

13   Q.   All right. I thought you said you did not use

14   2008 -- 2012 presidential election results in

15   determining the Partisan Index.

16   A.   I don't use 2012 presidential results in

17   determining the Partisan Index. That's not

18   what that sentence says.

19   Q.   All right. What does it say?

20   A.   It says I used Barack Obama's vote share in

21   2008.

22   Q.   In evaluating the Democratic state Senate

23   candidates' shares in 2012?

24   A.   I compare President Barack Obama's vote

25   share -- or Senator Barack Obama's vote share

44

1   in 2008 to the Democratic state candidates'

2   vote shares in 2012. I didn't have the data

3   for 2012, President Obama's vote share.

4   And, you see, even with the four-year

5   interval, there's a high R-square and a

6   strongly significant -- statistically

7   significant result, a relationship between the

8   two.

9   Q.   Looking in Paragraph 52, is it correct that

10   party registration is one of a sets of data

11   that you used to make your evaluation?

12   A.   Yes, it is correct.

13   Q.   And did you use party registration data in the

14   same way in classifying a district as Safe

15   Republican and Safe Democratic?

16   A.   Well, I already classified districts as safe --

17   are you okay?

18   MR. FARR: I'm sorry. I just have

19   these allergies and I can't get the right

20   stuff.

21   THE WITNESS: The districts had already

22   been classified as Safe Democratic under PVI

23   given the relationship between PVI and

24   Democrats almost always winning the districts.

25   In -- for party registration, I'm

45

1   looking at the subset of data that have the

2   Safe Democrat -- or the Democratic PVI,

3   districts excluded, and used that to ferret out

4   the Safe Republican districts.

5   BY MR. SPEAS:

6   Q. And so what weight did you accord to party

7   registration?

8   A. Once you've ferreted out the Safe Democratic

9   districts, there aren't going to be -- I'm not

10   sure there are any districts that have a

11   Democratic PVI and a Republican registration

12   advantage. There might be a handful, but I

13   don't believe so.

14   Party registration will be a heavy

15   presumption unless something was very strange

16   about the district. If there was a Republican

17   edge in registration, it was going to be Safe

18   Republican.

19   Q. So is it accurate that you use party

20   registration to classify a -- reclassify a Safe

21   Democratic district?

22   A. No. No. I used it after the Safe Democratic

23   districts were classified to look at the

24   districts that would be Safe Republican.

25   Like I said, I don't believe there are

46

1   any districts that have a Democratic PVI and a

2   Republican registration advantage. There might

3   be a handful, but I'm not aware of any as I sit

4   here.

5   Q. All right. In Paragraph 54, you talk about

6   your use of overall election results as one of

7   the sources of data in making your -- doing

8   your analysis, correct?

9   A. That's right.

10 Q. What weight did you afford to overall election

11   results?

12 A. So when you're then trying to further classify

13   these races, looking at the statewide

14   elections, you can see on Page 12 the number of

15   races won by the Democrats versus how often

16   Democrats would win a House or Senate seat in

17   such districts. And so this was used in

18   combination with the average Democratic vote

19   share in the districts, which is Table 3 on

20   Page 13, as really the main tool that I used to

21   sort out between likely, leans and tossups.

22 Q. Okay. Looking at Table 2 in Paragraph 57, in

23   the title to the table you use the phrase "in

24   given districts." What districts are you

25   referring to there?

47

1   A.   All the districts that held elections in 2004

2   to 2010.

3   Q.   And how did you treat districts in which there

4   was no general election, there was only a

5   candidate -- either a Democratic or a

6   Republican candidate?

7   A.   I don't think there were any statewide races

8   that didn't have a Democratic or a Republican

9   in the data set.

10   Q.   All right. And in looking -- let me make sure

11   I understand how Table 2 works.

12   Looking at the first column, Statewide

13   Races Won by four. And using, I take it --

14   A.   I'm sorry. Where are we? First column --

15   Q.   Statewide Races won by four -- Won by

16   Democrats, correct?

17   A.   Yes.

18   Q.   One number in that column is the number 4 --

19   A.   Gotcha.

20   Q.   -- which indicates that Democrats won 4 of 15

21   statewide races, correct?

22   A.   Correct.

23   Q.   And that in those instances, the Democrats won

24   42 percent of the House or Senate races,

25   correct?

48

1   A.   Exactly.

2   Q.   Now, if we go down the first column to the

3   number 6, we see that in that instance

4   Democrats won 6 statewide races but only 25

5   percent of the House and Senate districts; is

6   that correct?

7   A.   Correct.

8   Q.   So the Democrats performed more poorly in the

9   Senate districts when they won 6 statewide

10   districts than when they won 4 statewide

11   districts; is that correct?

12   A.   Yeah. My guess is there weren't very many

13   districts when the Democrats only won 6 and

14   that represents -- I would actually bet that

15   it's 4 or 8 such districts and that probably

16   represents just statistical weirdness.

17   Q.   And you would call this an anomaly, wouldn't

18   you?

19   A.   Yes.

20   Q.   And did you look to see if there was some

21   explanation for the anomaly?

22   A.   No. You would just look at it and say that's

23   anomalous.

24   The general trend line is clear.

25   You're up to 42 percent for 4 and 5. You go to

49

1   50 percent for 7 and then 58 percent for 8. So

2   6 races is probably realistically going to be

3   somewhere between 42 and 50.

4   Q. And so by this table, when the Democrats win 8

5   of the 15 statewide races, they win 58 percent

6   of the House and Senate races, correct?

7   A. Correct.

8   Q. But when they win 9, they win 92 percent. Very

9   large difference, correct?

10   A. Oh, yes.

11   Q. An anomaly, you would think?

12   A. No.

13   Q. You don't think so?

14   A. No. I think that probably represents a break

15   where you start -- there's probably a break in

16   competitive races there and this is where if a

17   Democrat wins Race Number 9, it was a race that

18   was generally not as competitive and indicates

19   that the district really has heavily Democrat

20   leanings.

21   Q. And the same sorts of anomalies occur when you

22   look at state-level races, correct?

23   A. Correct.

24   Q. Did you make any investigation to determine the

25   explanation for that anomaly?

50

1   A.   Well, again, since this is in my mind is the

2   reason that that gap occurs, I'm sure I looked

3   at that. I don't know which race it is off the

4   top of my head.

5   Q.   And isn't it correct that one explanation for

6   these anomalies is the validity of the

7   methodology used?

8   A.   No.

9   Q.   Why not?

10   A.   Because if you can explain it with the

11   statewide races and the nature of the statewide

12   races, then there's nothing wrong with the

13   methodology.

14   Q.   Well, explain to me why Democrats win 42

15   percent of the House and Senate seats when they

16   win 4 statewide races but only win 25 percent

17   when they win 6?

18   A.   Well, as I said, I think 6 is probably an

19   anomaly due to low sample size. Those things

20   happen in statistics.

21   Q.   All right. Now, looking at Table 3, tell me

22   how Table 3 differs from Table 2.

23   A.   Table 3 is the average Democratic vote share,

24   not the number of races.

25   Q.   Did you look at state-level races in preparing

51

1   Table 3?

2   A. It's the same data set. So the 15 races that

3   were held statewide.

4   Q. No. I'm using -- I'm not asking about

5   statewide.

6   There are 15 statewide races and there

7   are 10 state-level races, correct?

8   A. Right. So the left-hand -- Column 1 is the 15

9   statewide races. Column 3 is the 10 state

10   races.

11   (Brief Recess: 10:10 to 10:16 a.m.)

12 BY MR. SPEAS:

13 Q. Let's look -- we were looking at Table 3 on --

14   which is a part of Paragraph 57. The question

15   I had asked you is whether you used both

16   statewide races and state-level races in

17   preparing Table 3 and your answer was yes; is

18   that correct?

19 A. I think the answer is yes. Just to make sure

20   we're all on the same page here, statewide

21   races are Column 1 and the statewide races for

22   state office only, which are a subset of

23   Column 1, are in Table 3.

24 Q. And this table, like Table 2, has a number of

25   anomalies in it, doesn't it?

52

1   A.   I think you identified one.

2   Q.   Well, let's look, for example, in the statewide

3   races column, when the Democrat vote is 51

4   to --

5   A.   Are we back on to Table 2?

6   Q.   Were on Table 3. On Table 3, when the

7   Democrats win 51 to 52 percent of the

8   statewide -- of the vote in the statewide

9   races, the Democrats win 52 percent of the

10   House and Senate races, correct?

11   A.   Correct.

12   Q.   When the Democrats win 53 to 55 percent of the

13   statewide races, the Democrats win 86.4 percent

14   of the House and Senate districts.

15   A.   Correct.

16   Q.   Small change, big difference?

17   A.   That's right.

18   Q.   Anomalous?

19   A.   I don't know that I would say that's anomalous

20   at all.

21   Q.   Did you conduct any analysis or study to

22   determine whether that was anomaly -- was

23   anomalous -- that anomaly was the product of

24   the methodology you used?

25   A.   I don't know what analysis I would conduct. It

                                                         53

1   looks -- it's symmetrical with what occurs on

2   the other side and it's what we typically see

3   in elections. I mean, sometimes you hit a

4   breakpoint where to get a certain PVI, for

5   example, in congressional races, once you get

6   to a PVI of 5, Republicans just don't win those

7   districts, period, except in very unusual

8   circumstances. So that's just how elections

9   work.

10 Q. Let me see if I understand how you went about

11   this. You initially categorized districts

12   based on their Partisan Index, correct?

13 A. Correct.

14 Q. You then use overall election results to move a

15   district from one category to another, correct?

16 A. No. You skipped the step about party

17   registration.

18 Q. I'm sorry, I did.

19   You then use party registration to move

20   a district from its original category to

21   another category, correct?

22 A. No. Well, that can happen. It rarely happens.

23   The main point of this is that you're

24   left with -- after you sort out the Safe

25   Democratic and Safe Republican seats, you are

54

1   left with, unfortunately, a small sub sample in

2   all the maps. And by unfortunate, I mean

3   unfortunate that it's small of races that can't

4   be classified as Safely Republican or Safely

5   Democratic.

6   And so the question is how do you sort

7   these out. And the main way to do that is to

8   look at the state-level races, in addition to

9   consulting the party registration and PVI of

10   the district.

11 Q. And you also use Democratic trends to

12   accomplish this, correct?

13 A. Correct.

14 Q. And you discuss demographic trends in

15   Paragraph 59 and following?

16 A. Yes, 67.

17 Q. And the two demographic trends you note there

18   are urban areas tend to vote Democratic and

19   rural areas tend to vote Republican; is that

20   correct?

21 A. They're shifting towards Democrats and towards

22   Republicans.

23 Q. Okay. And you describe this in Paragraph 64

24   as -- in urban areas as a leftward -- a

25   leftward swing?

1   A.   Yes.

2   Q.   What do you mean by leftward?

3   A.   I mean Democrats are typically more liberal

4   than Republicans. So most people will refer to

5   movement towards Democrats as also a leftward

6   movement.

7   Q.   So looking at Paragraph 65, you say in the

8   second -- you say "It was assumed that if a

9   district was located in one of these counties,"

10   that is in an urban county or a rural county,

11   correct?

12   A.   Yes.

13   Q.   Well, an urban county, "the district would tend

14   to shift toward the Democrats over the course,"

15   correct?

16   A.   Correct.

17   Q.   "Such a district would therefore generally be

18   moved toward the Democrats." Tell me what you

19   mean by generally being moved.

20   A.   So if you had a district that was -- and again,

21   this part I'm looking at the subset that aren't

22   Safe Republican or Safe Democrat overall.

23   If it was a district that had a profile

24   of safely -- of, say, tossup, you know, if it

25   was a district like the Democrats had won 7

                                                      56

1   statewide races and 5 state-level races, so

2   it's 50/50 but it was in a county that had been

3   moving towards Democrats, I would generally

4   move it a step towards the Democrats, so leans

5   Democrat.

6   Q.   Okay. Then the final category of data that you

7   used is election results, correct?

8   A.   Correct.

9   Q.   And you state that the election results you're

10   talking about here are 2004, '-6, '-8 and '10?

11   A.   Yes.

12   Q.   And you say those are the least important in

13   your evaluation, correct?

14   A.   Correct.

15   Q.   Are you aware that political scientists believe

16   that the best predictor of the election results

17   in a district is the past election results in

18   that district?

19   A.   Well, that might be the case if you're trying

20   to predict the individual candidate who's going

21   to win or lose, but that's not the exercise

22   we're engaged in here.

23   We're trying to determine the

24   overall -- the basic fundamental lean of the

25   district that was drawn by the legislature to

57

1   be in place over the course of the decade. So

2   in this context it's not as important.

3 Q. And did you check that with any political

4   scientist?

5 A. No. I wouldn't need to do that.

6 Q. Okay. Did you check it with any statistician?

7 A. Again, I wouldn't need to do that. I know more

8   about this stuff than your average political

9   scientist or statistician.

10 Q. Okay. Now, in Table 4, you set forth the

11   actual election results by party in the House

12   and the Senate for the 1992 through the 2010

13   elections. Am I correct?

14 A. Correct.

15 Q. You do not set out the 2012 and 2014 election

16   results.

17 A. Correct.

18 Q. But they were available at the time you

19   prepared this report?

20 A. Sure.

21 Q. Look with me at the 20 -- the entry for the

22   year 2004.

23 A. Okay.

24 Q. The Senate numbers are 22 and 21, correct?

25 A. Yes.

58

1   Q.   Isn't that an error?

2   A.   That's probably an error.

3   Q.   That should total to 50?

4   A.   Yes.

5   Q.   It only totals to 43.

6   A.   Yes. That's a typo.

7   Q.   Do you know whether that same typo appears in

8   your original affidavit?

9   A.   I would assume it does.

10   Q.   Doesn't that -- did that error affect any other

11   analysis you performed?

12   A.   No, it wouldn't.

13   Q.   Now, in Paragraph 70, you say 2006 and 2008

14   were unusually good Democratic years.

15   A.   Correct.

16   Q.   Weren't 1998 and 2000 better Democratic years?

17   A.   In terms of the seats that were won in the

18   Senate by Democrats, yes. Not in the House and

19   not in the overall national mood.

20   Q.   And you describe 1994 and 2010 as unusually

21   good Republican years; is that correct?

22   A.   That's correct.

23   Q.   Now, you evaluated, according to Paragraph 72,

24   each district in the House and the Senate as

25   either Safe Republican, Likely Republican, Lean

59

1   Republican, Tossup, Lean Democrat, Likely

2   Democrat and Safe Democrat, correct?

3   A.   Correct.

4   Q.   Please explain to me the characteristics a

5   district would have that was classified as Safe

6   Republican.

7   A.   Well, again, it would be a district that the

8   Republicans had a registration advantage. I

9   believe all the Safe Republican districts

10   contain registration advantages for

11   Republicans.

12   Q.   And what would move a district from Safe

13   Republican to Likely Republican?

14   A.   So in an unusual circumstance where you had a

15   district where Republicans had a registration

16   advantage, however, when you looked at the

17   election results, Democrats had always won it,

18   it's in an urban area that's trending Democrat

19   and, say, the number of statewide races won by

20   Democrats was 7 and let's say the registration

21   advantage was small, like 1 percent, the Safe

22   Republican designation probably isn't

23   appropriate in that circumstance. So it would

24   be moved leftward.

25   Q.   Okay. And how would you move a district from

                                                        60

1   Likely Republican to Lean Republican?

2   A. I don't know that any individual district was

3   moved from Likely Republican to Lean

4   Republican.

5   The Lean Republican categorization

6   would be a district that, say, was in the 4 or

7   5 statewide races where Democrats are winning

8   42 percent, and you would also look at the

9   statewide share -- you would take, as I say, a

10   holistic view of the district.

11 Q. So you testified I think that you assigned a

12   district to the Safe Republican category based

13   on registration advantage, correct?

14 A. Correct.

15 Q. What if that advantage was just by 1?

16 A. Well, that's what I just said. If you have a

17   district where the registration advantage is 1

18   and you look at the rest of the factors that

19   are considered, you would move it towards

20   likely.

21 Q. And what if a district had a large number of

22   unaffiliated voters, how would you treat that

23   district?

24 A. I didn't look at unaffiliateds. I looked at

25   Republicans versus Democrats.

                                                        61

1   Q.   All right. So unaffiliated voter status was

2   not a factor in any of your analysis?

3   A.   Of course not.

4   Q.   Now, what were the factors that would lead you

5   to characterize a district as a tossup

6   district?

7   A.   Well, again, it's a holistic view of the

8   districts. So if you had a district -- there's

9   some districts where, over the course of the

10   decade, it had switched, you know, Republican,

11   Democrat, Republican, Democrat in terms of who

12   had won it. It wasn't in an area that was

13   trending one way or another. You have

14   Republicans had won -- or Democrats had won 7

15   of the statewide races and 5 or 6 of the

16   state-level races. It really truly looked like

17   a 50/50 district. That would be rated as a

18   toss-up.

19   Q.   Okay. Now, tell me the characteristics of a

20   district you rated as Safe Democratic.

21   A.   Those were -- the Safe Democratic districts I

22   believe are all districts where Democrats that

23   had a Democratic PVI.

24   Q.   And what would be the characteristics of a

25   Likely Democrat district?

62

1   A.   So that would be -- well, a Likely Democratic

2   district would be a district where -- you might

3   have a district where Democrats had won 11 or

4   12 races or 10, so you're in a 90 percent

5   likelihood that they win scenario, combined

6   with a 53 to 55 percent average -- average

7   statewide result. It might be a district where

8   you have a Democratic PVI but it's only, say, a

9   1 percent PVI and Democrats have otherwise

10   performed poorly in statewide races and so the

11   Safe Democratic application just wasn't

12   appropriate.

13   Q.   Okay. What are the characteristics of a Lean

14   Democrat?

15   A.   Again, you would have a district, say, that

16   was -- Democrats had won 8 races so it was in

17   the 58 percent range that the Democrats tended

18   to win. You would look at the statewide races.

19   You would look at the trend in the district,

20   whether it's located in an urban county and how

21   it had voted over the course of the aughts.

22   Q.   A Safe Republican or Democrat district was a

23   district that in your view would even -- in

24   almost all circumstance vote for a Democrat or

25   a Republican?

                                                          63

1   A.   Right. And again, that's based on the fact

2   that Democrats almost never win districts that

3   have registration advantages for Republicans

4   and Republicans almost never win districts that

5   have Democratic PVIs.

6   Q.   And the category Likely Republican, Likely

7   Democrat included districts that would vote

8   Democrat or Republican only in the most heavily

9   partisan years, correct?

10   A.   Right. Well, the districts themselves, yes.

11   You might have candidate effects that change

12   that, but based on -- if you had -- you can

13   think of these ratings as what would happen if

14   you had no incumbents running in a neutral year

15   and the challengers were of the same quality

16   and fundraising ability.

17   Q.   And what about Lean Democrat, what is -- do

18   your expectation for the category Lean

19   Republican and Lean Democrat?

20   A.   These are races that in most circumstances

21   would still tend to vote Republicans or

22   Democrats. In a wave year they might all fall

23   to one party or the other, but one party has a

24   clear advantage.

25   Q.   And tossups?

64

1   A.   Tossup is one that generally would go either

2   way.

3   Q.   Okay. Now, you used the world holistically to

4   describe your analysis, correct?

5   A.   Correct.

6   Q.   And by that do you mean that you looked at each

7   district in light of all these different

8   factors and assigned to it some particular

9   rating?

10   A.   Correct.

11   Q.   And did you consult with any political

12   scientist with regard to the validity of that

13   methodology?

14   A.   No. A political scientist should probably

15   consult with me.

16   Q.   Did you consult any statistician with regard to

17   the validity of that methodology?

18   A.   No.

19   Q.   Isn't this the same process that a bookie in

20   Las Vegas would follow in establishing the odds

21   of the Super Bowl?

22   A.   I have no idea how bookies in Las Vegas perform

23   their ratings, thankfully.

24   Q.   Okay. All right. Let's look -- did the fact

25   that a candidate was unopposed have in a

65

1   particular election play any part in your

2   analysis?

3 A. Well, again, I believe for the 15 races for

4   which I had data there weren't unopposed

5   candidates so it wouldn't be a factor, period.

6 Q. What about the fact -- would the fact that a

7   Senate or a House seat was unopposed in a given

8   year play any role in your analysis?

9 A. No.

10 Q. Okay. Would you look with me at Paragraph 81.

11   There you say, and I quote, "The analysis of

12   the 2001 maps was backwards-looking."

13   What do you mean by that?

14 A. So we're taking this from the point of view of

15   someone making the maps in 2011, which was easy

16   when I was originally doing these ratings

17   because I was doing it in 2012. So you were

18   looking backwards for those maps because you

19   knew how things turned out.

20   For the 2000s, you had to look forward

21   where you didn't have any -- you weren't

22   entirely certain how things played out.

23 Q. Well, you didn't -- you in fact didn't know

24   what happened with the 2000 maps -- 2001 maps

25   because no elections were held under those

66

1   maps.

2   A.   I believe -- well, that's a good -- you knew

3   how similar districts performed clearly over

4   the course of the 2000s. The -- so you could

5   draw on that.

6   When you're looking at the 2012 maps,

7   you had to assume that the districts would

8   continue to perform the same way. To hedge

9   against that assumption, you have the

10   demographic trends factor which has continued

11   to play out, in fact, over the course of the

12   trends.

13   Q.   But you did know -- you could have known the

14   results under the 2002 maps but you did not

15   look at those maps?

16   A.   I didn't have those data.

17   Q.   They weren't provided to you by Mr. Farr?

18   A.   I don't know if they're available anywhere.

19   Q.   And you did have the results of the 2004, '-6,

20   '-8 and '10 elections when looking at the 2003

21   maps?

22   A.   Correct.

23   Q.   So let's look over at Table 5 --

24   A.   Okay.

25   Q.   -- under Paragraph 99. Tell me what that table

1   contains.

2   A.   So the different maps that were examined, that

3   is the totals for -- of different assignations

4   for each map.

5   Q.   And in the paragraphs preceding Paragraph 99,

6   you characterize certain numbers of districts

7   in each of these plans as competitive, correct?

8   A.   Correct.

9   Q.   Using Table 5, can you explain to me, for

10   example, how you determined that in the 2001

11   plan 7 districts were competitive?

12   A.   That is Lean D plus Tossup.

13   Q.   Okay. So would it be accurate that for the

14   2001 maps, your Senate projections were that 32

15   seats would be either Safe or Likely Democrat,

16   17 would be -- well, I'm sorry. That 32 would

17   be -- let's go back a step.

18   The competitive districts in the 2001

19   map that you -- the 7 competitive districts

20   are, what, 6 Lean Democrat, the 1 Tossup and

21   the 0 Lean Republican?

22   A.   Correct.

23   Q.   And that pattern is -- follows through with the

24   rest of the other maps?

25   A.   Correct.

                                                        68

1   Q. So, for example, with Senator Rucho's plan, the

2   actual enacted plan, there were 17 competitive

3   districts which consist of 2 Lean Democrat,

4   4 Tossup and 11 Lean Republican?

5   A. Correct.

6   Q. And let's look at Table 7. And do you repeat

7   those same projections for each of the maps

8   using the same method for the House seats?

9   A. Correct.

10   Q. So, for example, under the 2001 map, you would

11   have rated 6 districts as competitive?

12   A. Correct.

13   Q. Now, let's go back to Table 5 for a moment and

14   let's also look at Table 2.

15   A. Okay.

16   Q. I'm sorry. It's not Table 2 but, rather,

17   Table 4.

18   A. Okay.

19   Q. So looking at Tables 4 and 5, is it correct

20   that for the Rucho plan, you predicted that

21   Republicans -- that Democrats -- I'm getting my

22   numbers mixed up here -- that Democrats should

23   win 19 districts?

24   A. In a neutral year.

25   Q. Okay.

69

1   A.   And that's -- that's not quite right. In

2   Paragraph 103, I say:

3   "...this isn't a prediction of how

4   the races themselves would play out.

5   It's just a measurement of the playing

6   field in different scenarios. Or, if

7   one prefers to think of it this way, the

8   results represent the results we should

9   see if every seat were open and the

10   parties ran equally well-funded

11   candidates of equal quality in each

12   district."

13   Q.   Okay. But for the Rucho plan, your projection

14   was that the Republicans had a good chance of

15   winning 27 seats and the Democrats had a good

16   chance of winning 9 seats and 4 were tossups?

17   A.   Where is that from?

18   Q.   It's totaling the Safe, Likely and Lean

19   Democrat, the Safe, Likely and Lean Republican.

20   A.   Okay.

21   Q.   And according to Table 4, isn't it correct that

22   the Democrats won 22 seats that year?

23   A.   Which year?

24   Q.   2004.

25   A.   Well, Table -- that has an error in it as we --

                                                            70

1   Q.   Okay.

2   A.   -- we established, but I don't believe the

3   Rucho plan was in effect that year.

4   Q.   Okay. So by your Senate projections, the

5   Republicans -- under the Rucho plan, the

6   Democrats should have won 19 seats in 2006 but

7   they won 31?

8   MR. FARR: Objection.

9   THE WITNESS: I don't think the Rucho

10   plan was in effect in 2006 and -- and you're

11   mischaracterizing what this is doing.

12   BY MR. SPEAS:

13   Q.   Okay. Well, let's, then, look at the 2003

14   plan. You projected for the 2003 Senate plan

15   that 17 seats were Safe Democrat, 5 were Likely

16   Democrat, 1 was Lean Democrat, 2 were Tossup,

17   7 were Lean Republican, 5 were Likely

18   Republican and 13 were Safe Republican,

19   correct?

20   A.   Correct.

21   Q.   And in 2006, the Democrats in fact won 31 seats

22   and the Republicans won 19?

23   A.   Well, sure. 2006 wasn't a neutral year. It

24   wasn't a year where all the races were open and

25   it wasn't a year where the candidates ran --

71

1   where the parties ran equally funded candidates

2   of equal quality.

3   Q.   So your projections were not accurate?

4   A.   No. You're mischaracterizing what Table 5 is.

5   Q.   Okay. So let's look at 2008 for the 2003 plan.

6   The Democrats in fact won 30 seats, correct?

7   A.   Correct.

8   Q.   And the Republicans 20.

9   A.   Yeah.

10   Q.   That's not the same as the projections you made

11   for the 2003 plan.

12   A.   I wasn't projecting how -- I don't know why

13   this is so confusing, but that's not what

14   Table 5 does.

15   As I say clearly in Table 103 [sic],

16   it's not a projection of how the races

17   themselves play out. It's just a measurement

18   of the playing field under different scenarios.

19   It's what happens when you have every seat open

20   and the parties run equally well-funded

21   candidates of equal quality.

22   There should probably be a caveat in

23   there as well for a neutral year.

24   Q.   And in 2010, the actual results don't match

25   your projections for the 2003 plan?

72

1   A.   Well, I wasn't projecting the 2010 elections.

2   I was saying what would happen if you had a --

3   it wasn't a projection of how races themselves

4   play out.

5   It's a measurement of the playing field

6   in different scenarios or, if you prefer to

7   think of it this way, they represent the

8   results we should see if every seat were open

9   and the parties ran equally funded candidates

10   of equal quality in each district.

11   Q.   And comparing Table 4 and Table 7, you would

12   agree that the results for -- in the House

13   under the 2003 and '-9 plans don't come very

14   close to matching your projections for the 2009

15   plan, do they?

16   MR. FARR: Objection. Objection to the

17   form.

18   THE WITNESS: Well, again, you're a

19   little confused about what I'm trying to do

20   here. In Paragraph 120, I say:

21   "...this is not a prediction of how

22   races would play out in actuality.

23   Incumbency, challenger quality and money

24   will all alter these outcomes. This is

25   just a measurement of the playing field

73

1   in different scenarios. Or, if one

2   prefers to think of it this way, what

3   the result would be if every seat were

4   open and the parties ran equally well-

5   funded candidates of each equal in each

6   district."

7   BY MR. SPEAS:

8   Q. So --

9   A. If we're moving on to Method 2, I think it's a

10   good time for a quick break.

11   Q. Okay. Sure.

12   (Brief Recess: 10:46 to 10:49 a.m.)

13   BY MR. SPEAS:

14   Q. In Paragraph -- going back to 103.

15   A. Yes.

16   Q. You say these results, that is, your projected

17   outcomes for the House and the Senate,

18   represent the results we would see if every

19   seat were open and the parties ran equally

20   well-funded candidates of equal quality in each

21   district, correct?

22   A. Correct.

23   Q. Have you ever known of any election anywhere in

24   the United States that had those

25   characteristics?

74

1   A.   Oh, no, no, because -- but the point here,

2   again, is to look at the districts that were

3   drawn, not to engage in some sort of analysis

4   where we try to guess what's going to happen in

5   2020.

6   Q.   So this is an unrealistic analysis of results

7   that might be, correct?

8   A.   No. It's an extremely realistic analysis of

9   what I understand my job to be, which is to

10   look at the competitiveness of the districts

11   themselves as were drawn.

12   Q.   You were asked to look at the competitiveness

13   of the districts in an unrealistic environment,

14   correct?

15   MR. FARR: Objection to form.

16   THE WITNESS: No. I was asked to look

17   at what types of districts were drawn, and

18   since we can't know who's going to run in 2020

19   or who's going to be incumbents or how

20   well-funded they're going to be, we look at the

21   baseline partisanship of the districts.

22   BY MR. SPEAS:

23   Q.   Let's look for a moment back at Table 6 on

24   Page 21. Tell me what that table represents.

25   A.   So this looks at good -- to give an idea of

75

1   what could happen in a good Democratic year, a

2   neutral year and a good Republican year, how

3   you would expect the districts themselves to

4   support equally funded candidates without

5   incumbency of equal quality.

6   Q.   And tell me how you went about constructing

7   that chart.

8   A.   Yeah. So that's explained in Paragraph 101. A

9   neutral year is a year where the tossups are

10   split 50/50 between the parties and both

11   parties won all the seats that leaned their

12   way. In a good Republican year, the

13   Republicans would win all the tossups and half

14   the Lean Democratic seats. And the inverse or

15   converse -- I can never remember which is which

16   -- is true for the Democrats.

17   Q.   So looking at your projection for the Rucho

18   plan, you projected that in a good Democratic

19   year, the Democrats would win 28.5 and the

20   Republicans would win 21.5?

21   A.   Correct.

22   Q.   Then looking at your projection in a neutral

23   year, you projected that the Democrats would

24   win 21, or 7 and a half fewer, seats than they

25   did in a good Democratic year and the

76

1   Republicans would win 29, or 7 and a half more,

2   seats than they would have won in a good

3   Democrat year, correct?

4   A. Subject to the caveat of what -- that it's not

5   a prediction in Paragraph 103, sure.

6   Q. So there's a wide swing for Democrats under

7   your analysis between a good year and a neutral

8   year.

9   A. Well, yeah.

10   Q. Okay. The swing is much less for the Rucho

11   plan between a neutral year and a good

12   Republican year, correct?

13   A. Obviously.

14   Q. Why is that obvious?

15   A. Well, because there are a lot of leans

16   Republican districts under the Rucho plan and

17   so those seats will tend to vote Republican in

18   good Republican years or neutral years, but if

19   you have a Democratic wave, that kind of

20   firewall is going to get breached. It's a

21   weakness in the plan from a partisan viewpoint.

22   Q. So let's go to the logistic regression.

23   What was your purpose in conducting the

24   logistic regression?

25   A. So at the time that I did this report, I had,

77

1   as you noted, results from 2012 and 2014, and

2   so it was a way to see how the elections -- how

3   the model would predict actual elections and to

4   see what happens when we take incumbency into

5   account and so forth.

6   Q.   And do you at any point in your report set

7   forth the actual election results for the House

8   and Senate in 2012 and 2014?

9   A.   Oh, no.

10   Q.   Why not?

11   A.   I didn't include it.

12   Q.   If that's what you were trying to validate, why

13   wouldn't you set forth what you were trying to

14   validate?

15   A.   Well, I'm trying to validate the total

16   districts projected, and you can get that from

17   the underlying data that I provided to you as

18   well as the R code.

19   Q.   And does it sound correct to you that in 2012,

20   the Republicans won 33 Senate seats and the

21   Democrats 17?

22   A.   I think -- I think that -- yeah, because in

23   Paragraph 127, I say in 2012, the model

24   suggests Democrats should have won 19 seats,

25   two more than they actually did. So, yeah,

78

1   that would be 17.

2   Q.   And do you know the actual results in 2004 were

3   16 seats in the Senate and 34 for the

4   Republicans?

5   A.   2004 or 2014?

6   Q.   2014.

7   A.   That sounds right.

8   Q.   Okay. And do results of 43 Democrats and 77

9   Republicans in the House in 2012 sound right to

10   you?

11   A.   I don't know, but I'll -- we can stipulate to

12   that.

13   Q.   Okay. And do the results 46 Republicans and

14   74 -- I'm sorry -- 46 Democrats and 74

15   Republicans in the House in 2014 sound right to

16   you?

17   A.   Again, I don't know, but I believe you'll be

18   candid.

19   Q.   So if we knew the actual results for 2012 and

20   2014, which is the means by which you would

21   validate your projection, why was it necessary

22   to do a logistic regression?

23   MR. FARR: Objection to form.

24   THE WITNESS: Because the exercise that

25   you went through before we went on break where

                                                          79

1   you were talking about the so-called

2   projections of Method 1, as I explained,

3   have -- don't take incumbency and so forth into

4   account and you suggest that that's not

5   realistic.

6   So what you can do to see whether or

7   not the underlying model works is to take

8   incumbency into account by conducting a

9   regression analysis utilizing the same basic

10   factors in addition to incumbency to project

11   forth what actually happened in 2012 and 2014.

12   You can't do it for 2016 because we

13   have no idea what incumbency is going to be in

14   2016, but you can do it for 2012 and 2014 since

15   you know what happened.

16   Q.   Let's look for a minute at the third section of

17   your declaration, Specific Examples of Partisan

18   Differences.

19   A.   Correct.

20   Q.   What was the purpose of this section of your

21   report?

22   A.   To look at individual examples that go beyond

23   the challenges -- the challenge districts to

24   see how the maps differ in those instances.

25   Q.   Okay. And who asked you to perform this part

                                                        80

1   of your -- prepare this part of your report?

2   A.   Discussion with counsel.

3   Q.   And in Paragraph 141, did you list the

4   districts that are challenged?

5   A.   I believe those are the districts that are

6   challenged.

7   Q.   Did Mr. Farr inform you that Senate District 40

8   is also challenged?

9   A.   No, but that's under the natural paired

10   district so I'm counting -- Paragraph 40 is

11   paired with one of these other districts.

12   Q.   Okay. And in the paragraphs after

13   Paragraph 141 -- well, let me back up.

14   In Paragraph 141, you identify certain

15   paired districts.

16   A.   Correct.

17   Q.   Paired with one of the challenge districts,

18   correct?

19   A.   Correct, respectively.

20   Q.   And how did you make the determination that

21   districts were paired?

22   A.   Well, you could see how they bordered each

23   other.

24   Q.   Did Mr. Farr assist you in making that pairing?

25   A.   No.

                                                        81

1   Q.   Did you do it on your own?

2   A.   I did it on my own.

3   Q.   All right. Let me ask you to turn to the end

4   of your declaration and there are -- could you

5   turn to Trende Exhibit 3.

6   A.   Yes.

7   Q.   What is that?

8   A.   That is the district map of Alabama from 1952

9   that I drew.

10   Q.   And help me understand where you mention

11   Exhibit 3 in your report itself.

12   A.   I believe it's in my qualifications, or it

13   should have been. Yeah, Paragraph 20.

14   Q.   So these are simply examples of congressional

15   districts used in the United States in 1789?

16   A.   Right.

17   Q.   For what purposes did you prepare these maps?

18   A.   My own interest in learning how parties draw

19   districts, how political geography has changed

20   over time.

21   For example, Exhibit 4, it's

22   interesting that in 1958, which was a very good

23   Democratic year, that downtown LA elects a

24   Republican. That's what the political

25   orientation of LA was.

82

1   In some years in particular, like 1982,

2   it's interesting to see how the Democrats drew

3   the maps to maximize -- I don't include the

4   1982 map here, but how Democrats drew the maps

5   to maximize their advantage.

6   Obviously, Georgia in 1992 is a very

7   important map given that that was the subject

8   of a lot of litigation.

9   Q.   That's a congressional map, correct?

10   A.   Correct, correct, but for learning the basic

11   political geography of the state, that's

12   interesting, as is the case with North Carolina

13   in 1992 and Dallas in 1992 and so forth.

14   Q.   And your 1992 map of North Carolina is the

15   congressional map?

16   A.   Correct.

17   Q.   And isn't it correct that there are differences

18   between the methods used by political

19   scientists in evaluating the competitiveness of

20   congressional and legislative districts --

21   state legislative districts?

22   A.   I don't know what political scientists do to

23   evaluate the competitiveness of state

24   legislative districts. I'm not aware of any

25   peer-reviewed literature on that subject.

83

1   Q.   So in preparing your report, you did not

2   examine the literature to determine the

3   methodology applied by political scientists in

4   evaluating the competitiveness of state

5   legislative districts?

6   MR. FARR: I'm going to object to the

7   form because I don't know if there are any such

8   papers, but you can go ahead and answer that.

9   THE WITNESS: Like I said in my

10   previous answer, I don't know that such -- such

11   literature exists, and even if it did exist, I

12   would prefer to go with the methodology used by

13   a professional in the field rather than a

14   political scientist in a stats lab.

15   BY MR. SPEAS:

16   Q.   And are you the professional in the field?

17   A.   I am. But as I said, this is the basic

18   methodology used by other professionals in the

19   field, like Charlie Cook and Stu Rothenberg.

20   So I'm comfortable with it.

21   MR. SPEAS: Can we have a minute.

22   (Brief Recess: 11:03 to 11:06 a.m.)

23   BY MR. SPEAS:

24   Q.   Let me put Exhibit 2 in front of you. Is that

25   your revised affidavit in the Dickson case?

84

1   A.   Yes.

2   Q.   And you authored that, correct?

3   A.   Yes.

4   Q.   And look at Paragraph 1. Is it true that you

5   state that you are a recognized expert in the

6   field of P-S-E-P-H-O-L-O-G-Y?

7   A.   That's correct.

8   Q.   How do you pronounce that?

9   A.   Psephology.

10   Q.   What is psephology?

11   A.   The psephology is the study of campaigns and

12   elections.

13   Q.   Is that a recognized field of study in the

14   United States?

15   A.   Yes.

16   Q.   Are you aware of any university that awards a

17   degree or certificate in this subject area?

18   A.   No. I'm not aware of any university that

19   offers a degree in redistricting.

20   Psephology is the study of campaigns

21   and elections which is a subdiscipline of

22   American government which is a subdiscipline of

23   political science.

24   Q.   And are you aware of any university that has a

25   department of -- say it again.

85

1   A.   Psephology.

2   Q.   -- psephology?

3   A.   Again, that is the study of campaigns and

4   elections which is a subdiscipline of American

5   politics which is a subdiscipline of political

6   science. Psephology would be included in the

7   political science discipline just as

8   redistricting would be included in the

9   discipline.

10   Q.   Are there professional associations of

11   psephology?

12   A.   Psephology. Same basic answer: It's a

13   subdiscipline of political science which is

14   well-recognized. Just as redistricting doesn't

15   have a political science association, neither

16   does psephology, but it's still a major focus

17   of the discipline.

18   Q.   So there is no professional association of

19   psephology?

20   A.   Or any other subdiscipline of political science

21   that I know.

22   Q.   There is no association of psephology?

23   A.   Again, there's no -- there is no association of

24   psephology or any other subdiscipline of

25   political science of which I'm aware of.

1   Q.   And there is no -- there is no peer-reviewed

2   professional journal in the field of

3   psephology?

4   A.   Psephology. There are peer-reviewed articles

5   that deal with psephology, but there is no

6   peer-reviewed journal of psephology just as

7   there is, to my knowledge -- well, I guess you

8   can say the Journal of Election Law might be a

9   journal of psephology, although it's probably a

10   little broader than that.

11   Q.   You've never published in that journal?

12   A.   I've never published in any journal.

13   Q.   Okay. And you did not consult that journal in

14   preparing this report?

15   A.   No.

16   Q.   Thank you, Mr. Trende.

17   A.   All right. Allison?

18   MR. FARR: I don't have any questions.

19   [SIGNATURE RESERVED]

20   [DEPOSITION CONCLUDED AT 11:09 A.M.]

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                                                        87

1   A C K N O W L E D G E M E N T   O F   D E P O N E N T

2

3   I, SEAN P. TRENDE, declare under the

4   penalties of perjury under the State of North

5   Carolina that I have read the foregoing pages, which

6   contain a correct transcription of answers made by me

7   to the questions therein recorded, with the

8   exception(s) and/or addition(s) reflected on the

9   correction sheet attached hereto, if any.

10   Signed this the   day of   , 2016.

11

12

                              SEAN P. TRENDE

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1   E R R A T A   S H E E T

2   Case Name: Covington, et al. vs. The State of NC, et al.

3   Witness Name: SEAN P. TRENDE

4   Deposition Date: Tuesday, January 12, 2016

5

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23

24

25   Signature   Date

1   STATE OF NORTH CAROLINA   )

)   C E R T I F I C A T E

2   COUNTY OF WAKE   )

3

4   I, DENISE MYERS BYRD, Court Reporter and Notary

5   Public, the officer before whom the foregoing proceeding was

6   conducted, do hereby certify that the witness whose testimony

7   appears in the foregoing proceeding were duly sworn by me;

8   that the testimony of said witness was taken by me to the

9   best of my ability and thereafter transcribed under my

10   supervision; and that the foregoing pages, inclusive,

11   constitute a true and accurate transcription of the testimony

12   of the witness(es).

13   Before completion of the deposition, review of

14   the transcript [X] was [ ] was not requested. If requested,

15   any changes made by the deponent (and provided to the

16   reporter) during the period allowed are appended hereto.

17   I further certify that I am neither counsel

18   for, related to, nor employed by any of the parties to this

19   action, and further, that I am not a relative or employee of

20   any attorney or counsel employed by the parties thereof, nor

21   financially or otherwise interested in the outcome of said

22   action. Signed this 29th day of January 2016.

23

24

                              Denise Myers Byrd

25   CSR 8340, RPR, CLR 102409-02

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EXHIBIT C

**IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF NORTH CAROLINA
NO. 1:15-cv-00399**

SANDRA LITTLE COVINGTON, *et al.*, Plaintiffs, v. THE STATE OF NORTH CAROLINA, *et al.*, Defendants.	**AFFIDAVIT OF DR. JAMES STIMSON**

I, James Stimson, being first duly sworn, depose and say:

Credentials

1.   I am the Raymond H. Dawson Distinguished Bicentennial Professor of Political Science at the University of North Carolina at Chapel Hill. I am a specialist in American politics, public opinion and elections, and research methodology. I have been a member of the faculty at UNC-CH since 1997. Prior to that I was the Arleen Carlson Professor of Political Science at the University of Minnesota (1992-1997). I hold or have held adjunct positions at Duke University, Nuffield College, Oxford, and SciencesPo, Paris.

2.   I hold the Ph.D. degree in political science from the University of North Carolina at Chapel Hill (1970) and a Bachelor of Arts degree, also in political science, from the University of Minnesota (1966).

3.   I have been honored as an elected Fellow of the American Academy of Arts and Sciences (2000), a Fellow of the John Simon Guggenheim Foundation (2006-2007), a Fellow at the Center for Advanced Study in the Behavioral Sciences, Palo Alto, CA (1994-1995), a Fellow of the Political Methodology Society (2009), recipient of the Career Achievement Award of the Political Methodology Society, recipient of the Warren E. Miller Award for a "career of intellectual accomplishment and service to the profession in the Elections, Public Opinion, and Voting Behavior Field," and lesser honors, prizes, and awards.

4.   I am the founding editor of the journal *Political Analysis* (1990-1992), now published by Oxford University Press and the official journal of the Political Methodology Section of the American Political Science Association. I currently serve on its editorial board and am past President of the Political Methodology Section. I have served on the editorial boards of

American Journal of Political Science, *Journal of Politics*, *American Politics Quarterly*, *Political Methodology*, and *Public Opinion Quarterly*.

5.   I have authored eight books (plus two second editions and three annual editions) and a great many journal articles generally on American politics, public opinion, elections, political economy, and political methodology.

6.   My curriculum vita is attached as Appendix A. I am not being compensated for the work leading up to the preparation of this report.

7.   I am familiar with the standards applied by scholarly journals for publishing articles and in the course of my career have evaluated the scientific validity of hundreds of articles submitted for publication in numerous scholarly journals.

Charge and Conclusions

8.   I am asked by counsel for Plaintiffs in this matter to analyze the scientific validity of the "Declaration by Sean P. Trende" presented as expert testimony by the counsel for the Defense.

9.   I conclude that the analyses presented in the Trende Declaration are not scientifically valid. His analyses can show that different maps produce different outcomes, a matter not in contention. What he cannot show is which, if any, faithfully represent the wishes of North Carolina voters. So on the issue of partisan gerrymander, there is no valid evidence.

Methodological Flaws in Mr. Trende's Analysis

10.   One of the difficulties of reviewing Trende's declaration and deposition is that he tends not to make any claims of the normal sort, theses to be demonstrated by analysis or conclusions from that analysis. One has to infer both his purpose and his findings from his largely uninterpreted data displays. He shows us fairly raw data displays and then leaves it to the reader to make factual conclusions. Where there are no conclusions, one can never say that conclusions are faulty or unsupported, the normal focus of an analysis of scientific validity. But there are implicit conclusions to the work, which I will address.

11.   Trende's declaration strategy is twofold. First he outlines a methodology for classifying district election outcomes. And then he characterizes a neutral outcome as one in which districts classified as "toss-ups" divide equally between the parties and those "leaning," "likely," or "safe" go the designated party, "leaning Democratic" districts going to the Democrats, and so forth. Having established a neutral outcome it is then an easy matter to define parallel outcomes where each of the parties has a short-term advantage.

12.   The problem can now be stated. The "neutral" outcome is only truly neutral if Trende's classification system is also neutral and, in particular, unbiased with respect to party.

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To meet a scientific standard the classification model should be objective in the sense that it is a set of public rules which could be applied by anybody with access to the district data, yielding exactly the same classifications. Such a model or set of rules could then be subject to analysis of its inherent properties and its bias, or lack thereof, could be determined.

13.   The scientific failure of Trende's declaration is that there is no such model. Instead there is a list of criteria to be applied in a manner requiring researcher judgment. Some districts are to be classified by the presidential vote index, some by party registration advantage. In some cases information about demographic trends is required. In others it is not. At points, (paragraph 85) Trende writes that judgments were made "holistically."

14.   These may be perfectly appropriate for the business use of such electoral advice. There potential readers wish to accurately handicap races and want maximum application of relevant knowledge, including subjective judgments that may be relevant to the case. But this will never do for scientific application, where we require decision rules to be public and fully transparent. In order to examine the properties of a classification, it will never do to have hidden, private, subjective, or holistic criteria.

15.   So the question is: does Trende's classification procedure produce unbiased district outcomes? The answer is that it is impossible to know. Properties of the classification system propagate to neutral or partisan outcomes based upon that system. Therefore it is impossible to know what properties the claimed neutral or partisan outcomes will have, rendering the analyses in Tables 5-8 meaningless.

16.   If imagining a neutral standard for judging the effect of districting maps were truly difficult or obscure, we might have reason to tolerate some subjectivity. But it is actually quite easy. A hypothetically neutral election is one in which both parties win an equal share of the statewide vote. We can then array district outcomes based on a single predictor (for example the presidential vote index) or, better yet, multiple predictors, and observe whether the district outcomes reflect the voters' intentions or distort them into sizable majority for one party. That could easily be extended similarly to Trende's analysis to cases of good and bad years for the two parties.

17.   Number of Competitive Seats: In Table 5 Trende sets up number of competitive seats as a criterion for maps. Imagine that we can array all of the House or Senate seats from most Democratic on one end to most Republican on the other. The criterion for "competitive" is the number of seats in the lean Democratic, lean Republican, and tossup categories, crude but nonetheless reasonable. Now imagine that we add a bias of say two percent in either direction. How does that affect the number of competitive seats? In general, not at all. If it is a Republican bias, for example, some "likely Democratic" seats become "lean Democratic," some "lean Democratic" seats become "tossups," some "tossups" become "lean Republican," and so forth. But notice that the shift neither increases or decreases competition, it just shifts it from some districts to others. The same applies to maps. Any net bias that they induce shifts

3

competitiveness from some districts to others, but does not increase or decrease the net. I conclude that it is not a meaningful evaluative criterion.

18.   In summary, a classification based on loose heuristics and researcher judgment calls—rather than a public model, the properties of which are available for inspection—cannot generate a set of classifications known to be unbiased. Any bias present in the classifications would propagate to the "neutral" and partisan standards based upon the classifications. Such standards do not have any known properties, including explicitly neutrality, and cannot be used to illustrate the properties of various maps.

Defects in Mr. Trende's Validation of His Flawed Analysis

19.   Trende claims that his district classification analysis, discussed above, is confirmed and validated by the combination analysis of logistic regression and Monte Carlo simulation. An "analysis" cannot be confirmed or validated. But conclusions from an analysis are subject to validation by other means. But the conclusions are left unstated in Trende's declaration, in the eye of the beholder. Not knowing exactly what the conclusion is, it is impossible to know whether a second analysis yields the same conclusion. I conclude that Trende's validation claim is false, that he who is unwilling to explicitly state a conclusion cannot then claim a validation of it.

20.   Monte Carlo simulation methods have two common sorts of application, one useful and important and one problematic. The useful application, as applied to questions in statistics, involves the creation of artificial data from a known model with a random error term. If a particular parameter of a model is known (in this case because it is stipulated by the researcher) then Monte Carlo analysis can address the question of the empirical properties of a set of thousands of datasets and thousands of estimations of that parameter. We wish to learn about three properties, (1) bias, whether the average of the thousands of estimates is the known parameter or not, (2) efficiency, whether the spread of estimates around the true value is as small as possible (compared to alternatives), and (3) consistency, whether the mean of the estimates converges on the true value as the number of trials becomes very large. Monte Carlo analysis provides empirical answers to these questions of estimator properties. It is particularly useful when we are unable to learn those properties though formal mathematical proof, a very common situation with advanced and novel estimators.

21.   What is critical about this class of applications is that the true parameter value must be known. That known value provides the target against which the estimations are judged.

22.   A second class of applications tries to determine *unknown* parameter values from artificial data. That is the application in the Trende declaration. Starting with a predictor model estimated by logistic regression, Trende simulates thousands of hypothetical elections by adding random error to the model. The design is to observe large numbers of outcomes in the artificial world (hypothetical elections) and make inferences about the real one. What that would require for inference is perfect verisimilitude between the model world and reality. Any skeptical

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observer can object that the model is in some regard not a perfect replication of reality and thus no inference from one to the other is possible. Since all Monte Carlo analyses lack perfect verisimilitude, such inferences are never valid.

23. And what is not valid is not accepted for publication. Scholars do such analyses because heuristic learning is possible from simulation. But such studies are virtually never published. I have done many myself, but they do not become part of the accepted scientific literature because conventional hypothesis testing is impossible with such simulation methods.

24. Because every decision that goes into a simulation exercise may influence its outcomes, the rare published work that describes simulations has a very high standard of completeness of documentation of the simulation model and its context and assumptions. That standard is not met by the brief paragraph 133. It does not tell us what the model is, what is varied between trials, how random error is generated and according to what parameters, and even the number of trials (without which statistical significance is undefined).
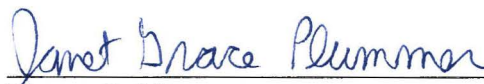
This the ___20 μ___ day of March, 2016.

_____
James Stimson
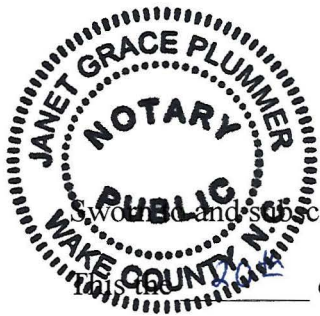
Sworn and subscribed before me
This the _____ day of March, 2016.

_Janet Grace Plummer_____
Notary Public

My Commission Expires: __11-23-18_____

CERTIFICATE OF SERVICE

I hereby certify that on this date I have electronically filed the foregoing AFFIDAVIT OF DR. JAMES STIMSON with the Clerk of Court using the CM/ECF system which will provide electronic notification of the same to the following:

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This the 21st day of March, 2016.

s/ Edwin M. Speas, Jr.
Edwin M. Speas, Jr.