

# **EXHIBIT A**

STATE OF NORTH CAROLINA GENERAL COURT OF JUSTICE  
SUPERIOR COURT DIVISION  
COUNTY OF WAKE 18 CVS 014001

COMMON CAUSE, ET AL., )  
)  
Plaintiffs, )  
)  
vs. )  
)

DAVID LEWIS, IN HIS OFFICIAL )  
CAPACITY AS SENIOR CHAIRMAN )  
OF THE HOUSE SELECT COMMITTEE )  
ON REDISTRICTING, ET AL., )  
)  
Defendants. )

VIDEOTAPED DEPOSITION OF  
STEPHANIE HOFELLER

9:38 A.M.  
FRIDAY, MAY 17, 2019

POYNER SPRUILL  
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RALEIGH, NORTH CAROLINA

BY: LISA A. WHEELER, RPR, CRR

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1 PROCEEDINGS  
 2 THE VIDEOGRAPHER: Going on the record  
 3 at 9:38 a.m. Today's date is May the 17th,  
 4 2019. This begins the video deposition of  
 5 Stephanie Hofeller taken in the matter of  
 6 Common Cause, et al., versus David Lewis, in  
 7 his Official Capacity As Senior Chairman of  
 8 the House Select Committee on Redistrict --  
 9 Redistricting, et al. This is filed in the  
 10 General Court of Justice, Superior Court  
 11 Division, in Wake County, North Carolina,  
 12 Case Number 18 CVS 014001.  
 13 If counsel will please identify  
 14 yourselves for the record and whom you  
 15 represent and then our court reporter will  
 16 swear in our witness.  
 17 MR. JONES: Stanton Jones from Arnold &  
 18 Porter for the plaintiffs.  
 19 MR. SPEAS: Eddie Speas with Poyner  
 20 Spruill for the plaintiffs.  
 21 MR. COX: Paul Cox with the North  
 22 Carolina Attorney General's Office for the  
 23 State Board of Elections.  
 24 MR. BRANCH: John Branch with Shanahan  
 25 Law Group for the intervenor defendants.

5

1 MR. FARR: Tom Farr with Ogletree  
 2 Deakins for the def- -- legislative  
 3 defendants.  
 4 MS. SCULLY: Elizabeth Scully with  
 5 BakerHostetler for the legislative  
 6 defendants.  
 7 MR. SPARKS: Tom Sparks representing  
 8 the deponent, Stephanie Hofeller.  
 9 \* \* \* \*  
 10 STEPHANIE HOFELLER,  
 11 having been first sworn or affirmed by the court  
 12 reporter and Notary Public to tell the truth, the  
 13 whole truth, and nothing but the truth, testified  
 14 as follows:  
 15 EXAMINATION  
 16 BY MR. JONES:  
 17 Q. Good morning, Ms. Hofeller.  
 18 A. Hello.  
 19 Q. I'm Stanton Jones from Arnold & Porter and I  
 20 represent the plaintiffs in this lawsuit.  
 21 Would you please state your full name for the  
 22 record.  
 23 A. Stephanie Louise Hofeller.  
 24 Q. Excellent. And am I right that you  
 25 previously went by what I believe is a

6

1 married name of Stephanie Hofeller Lizon?  
 2 A. It was actually Stephanie Louise Lizon.  
 3 Q. Okay. And now you -- you've dropped the  
 4 Lizon; you just go by Stephanie Hofeller?  
 5 A. That's right.  
 6 Q. And that's your maiden name?  
 7 A. Correct.  
 8 Q. Excellent. Okay. I'll go over some brief  
 9 ground rules for the deposition today if  
 10 that's okay.  
 11 A. Yes.  
 12 Q. So you understand that you've taken an oath  
 13 to tell the truth today?  
 14 A. I do.  
 15 Q. Great. And the court reporter is taking down  
 16 everything that we say so let's try not to  
 17 talk over one another. If you let me finish  
 18 my question, I will let you finish your  
 19 answer. Does that make sense?  
 20 A. Acknowledged, yes.  
 21 Q. Your -- your counsel may object to some of my  
 22 questions today and -- and that's fine.  
 23 Un- -- you understand that unless he  
 24 instructs you not to answer a question, you  
 25 should let him state his objection for the

7

1 record and then you'll go ahead and answer?  
 2 A. Yes, I understand that.  
 3 Q. Great. Is there any reason that you couldn't  
 4 give complete, accurate, and truthful  
 5 testimony today?  
 6 A. No.  
 7 Q. And if you want a break, just let me know.  
 8 We'll finish the question and answer that  
 9 we're doing and -- and happy to take a break  
 10 whenever you'd like, okay?  
 11 A. All right. Thanks.  
 12 Q. What state do you live in?  
 13 A. Kentucky.  
 14 Q. Great. So you don't live in North Carolina?  
 15 A. That's correct.  
 16 Q. Okay. And where you live in Kentucky, how  
 17 far is it from where we are in Raleigh?  
 18 A. It's about a ten- or 11-hour drive.  
 19 Q. Okay. Do you know, roughly how many miles is  
 20 it?  
 21 A. Roughly 650, something like that, I think.  
 22 Q. Okay. And can you tell me, who -- who are  
 23 your parents?  
 24 A. My father is Thomas Brooks Hofeller and my  
 25 mother is Kathleen Hartsough Hofeller.

8

1 Q. Great. So I have some questions about the  
 2 subpoena that you received in this case. Is  
 3 that okay?  
 4 A. Yes.  
 5 Q. Great. So earlier this year you received a  
 6 subpoena from the plaintiffs in this case; is  
 7 that right?  
 8 A. That's correct.  
 9 Q. Okay.  
 10 MR. JONES: Mark this.  
 11 (HOFELLER EXHIBIT 1 was marked for  
 12 identification.)  
 13 BY MR. JONES:  
 14 Q. I'm showing you what's been marked as Exhibit  
 15 1. Do you recognize this document as the  
 16 subpoena that you received from the  
 17 plaintiffs in this case?  
 18 A. Yes. Yes, I do.  
 19 Q. Okay. And do you see on the first page under  
 20 name and address of person subpoenaed on the  
 21 left side toward the top it says, Stephanie  
 22 Hofeller Lizon? That -- that's you, correct?  
 23 A. That is me.  
 24 Q. Okay. Great. And it says, care of Tom  
 25 Sparks, Esquire. That's -- that's your

1 attorney, correct?  
 2 A. That's my attorney.  
 3 Q. Great. Okay. And if you look down in the  
 4 handwritten portion where there's a date and  
 5 a signature, do you see it's dated February  
 6 13th, 2019?  
 7 A. I do.  
 8 Q. Okay. And is -- does -- is that around the  
 9 time that you recall receiving this subpoena?  
 10 A. Yes.  
 11 Q. When you received the subpoena, did you take  
 12 a look at it?  
 13 A. Yeah.  
 14 Q. Great.  
 15 A. I got it in a electronic format initially  
 16 from my attorney because I wasn't actually in  
 17 the state at that moment, but I was shortly  
 18 after that.  
 19 Q. Great. And if you flip a couple of pages  
 20 ahead to what's -- what's marked as Page 2 at  
 21 the bottom of the page, do you see where it  
 22 says, list of documents and things to be  
 23 produced pursuant to this subpoena?  
 24 A. Yes, I do.  
 25 Q. Okay. And when you received this subpoena in

1 February, did you review this -- this list of  
 2 documents and things that were -- were asked  
 3 to be produced?  
 4 A. Yes, I did.  
 5 Q. Okay. And did -- did you understand that the  
 6 subpoena was requesting any electronic  
 7 storage devices that had any of your father's  
 8 work drawing maps for the North Carolina  
 9 legislature?  
 10 A. Yes.  
 11 Q. Okay. Did you have any materials that were  
 12 responsive to these requests in the subpoena?  
 13 A. I did.  
 14 Q. Okay. And -- and were -- am I right that  
 15 those were electronic storage devices?  
 16 A. Yes.  
 17 Q. Okay.  
 18 A. External hard drives and ad -- I don't know  
 19 what the proper -- or what people prefer to  
 20 call them, ad-stick, thumb drive, external  
 21 storage devices to be used as backup  
 22 principally.  
 23 Q. Okay. So -- so the materials that you had  
 24 that were responsive to the requests in the  
 25 subpoena were -- were external hard drives

1 and external what we'll call thumb drives?  
 2 A. That's correct.  
 3 Q. Okay. Great.  
 4 A. Nothing that -- that appeared to have been  
 5 pulled out from an already assembled  
 6 computer. These were all, you know, backup  
 7 devices.  
 8 Q. Okay. These were all external devices that  
 9 you would need to plug into a computer some  
 10 way --  
 11 A. Correct.  
 12 Q. -- to look at them? Okay. Am I right that  
 13 these storage devices had previously belonged  
 14 to your father?  
 15 A. Yes.  
 16 Q. Okay.  
 17 A. And mother.  
 18 Q. And -- and you understood that the storage  
 19 devices contained your father's work on North  
 20 Carolina legislative maps?  
 21 MS. SCULLY: Objection to form,  
 22 leading. You can answer.  
 23 A. It was -- at what point you -- I would have  
 24 to -- to ask you to clarify at what point  
 25 it -- it was or wasn't clear. I knew -- when

1 I first saw them I knew that they were all  
 2 belonging to my father and mother. I wasn't  
 3 really sure which of them, if any, would have  
 4 anything involving his work in North Carolina  
 5 or elsewhere.  
 6 Q. Got it. Let -- let's focus on the time when  
 7 you received the subpoena and you --  
 8 A. Oh, at that point, yes, I did know that it  
 9 contained -- that all of those devices had at  
 10 least -- at least one or two -- at least one  
 11 or two files that would -- that were labeled  
 12 in a -- in a way that it was obvious that  
 13 they pertained to my father's work  
 14 redistricting in North Carolina.  
 15 Q. And did you send the storage devices -- those  
 16 storage devices that we've been discussing to  
 17 the plaintiffs' lawyers in response to the  
 18 subpoena?  
 19 A. Yes, I did.  
 20 Q. Okay. Do you recall roughly when you sent  
 21 them?  
 22 A. I remember it was about a month after I  
 23 received the subpoena. Originally, I -- my  
 24 intention was to -- to bring them physically  
 25 to Raleigh, but I got delayed and it was then

13

1 decided that it would be best for preserving  
 2 the integrity of -- of the evidence that it  
 3 would be going straight to a third party.  
 4 Q. Great. And I'll represent to you that I  
 5 received the materials you sent on March  
 6 13th. Does that sound about right in terms  
 7 of --  
 8 A. That does.  
 9 Q. -- the time?  
 10 A. That does, actually. Where -- where I was in  
 11 Kentucky, I couldn't even find a FedEx  
 12 office. I had to go -- I had to go down the  
 13 highway. I was surprised.  
 14 MR. JONES: Can we mark this?  
 15 (HOFELLER EXHIBIT 2 was marked for  
 16 identification.)  
 17 BY MR. JONES:  
 18 Q. I'm showing you what's been marked as Exhibit  
 19 2. On the -- you can take a moment to -- to  
 20 flip through. That's fine. Go ahead.  
 21 A. That's...  
 22 Q. So my first question is, if you look at the  
 23 very first page, do you -- do you recognize  
 24 the -- the photograph -- the photographs  
 25 there as images of the package that you sent

14

1 containing the storage devices in --  
 2 A. Yes.  
 3 Q. -- response to the subpoena?  
 4 A. Yes, that does appear to be the box that I  
 5 sent them in, exactly.  
 6 Q. Great. And -- and on the first page, if you  
 7 look at that top picture, it's addressed to  
 8 R. Stanton Jones at Arnold & Porter, LLP, at  
 9 an address in Washington, D.C. Is that the  
 10 address where you sent the package?  
 11 A. Yes.  
 12 Q. Great. And if you flap -- flip to the second  
 13 page, do you recognize those as additional  
 14 photographs of the outside of the package  
 15 that you sent with the storage devices in  
 16 response to the subpoena?  
 17 A. Yes.  
 18 Q. If you flip to the third page, if you'll  
 19 focus on the bottom image, do you recognize  
 20 that as a photograph of the -- the interior  
 21 of the box that you sent to the plaintiffs'  
 22 lawyers with the storage devices in response  
 23 to the subpoena?  
 24 A. Yes.  
 25 Q. Okay. If you flip to Page 4, do you

15

1 recognize the image there as being one of the  
 2 thumb drives that you put in the -- in the  
 3 package and sent to the plaintiffs' lawyers  
 4 in response to the subpoena?  
 5 A. Yes.  
 6 Q. Okay. Do you remember offhand how many  
 7 external hard drives there were and how many  
 8 thumb drives there were?  
 9 A. I know there were four external hard drives.  
 10 I honestly don't remember exactly how many --  
 11 you know, there were -- I -- I -- there were  
 12 a couple of empty thumb drives in my -- in  
 13 my, you know, possession so I -- I was making  
 14 sure that I wasn't, you know, sending  
 15 anything wrong. These were all the ones  
 16 that -- that I got from my father, but I  
 17 don't remember exactly -- from his room, but  
 18 I don't remember exactly how many there were.  
 19 Like eight or nine, maybe, was it, or seven?  
 20 Q. So if I -- I'll represent to you that inside  
 21 the package that we received that we're  
 22 looking at photographs of there were -- there  
 23 were four external hard drives, as you said,  
 24 and also 18 thumb drives.  
 25 A. 18, yeah. Okay.

16

1 Q. Does that seem right?  
 2 A. Yeah.  
 3 Q. Great.  
 4 A. Yeah.  
 5 MR. FARR: Excuse me. I don't mean to  
 6 interrupt and I'm new to the game, but what  
 7 were the stipulations about objections in  
 8 this case? Are all objections reserved  
 9 except for privilege and form of the  
 10 question?  
 11 MR. SPEAS: Yeah. That's the way we've  
 12 been operating so far.  
 13 MR. FARR: Okay. Thank you.  
 14 BY MR. JONES:  
 15 Q. I'm not going to go through every single  
 16 photograph here. There's about 50 pages of  
 17 photographs. But would you just take a  
 18 moment and flip through them and if you could  
 19 just tell me, do you recognize these as  
 20 photographs of the storage devices, both the  
 21 external hard drives and the thumb drives,  
 22 that you sent to the plaintiffs' lawyers in  
 23 response to the subpoena? Do you recognize  
 24 them that way?  
 25 A. So far, yes. It's a rainbow of colors. I

17

1 remember that, too. Yes, those look -- all  
 2 of them I -- I remember.  
 3 Q. Great. So having flipped through all of the  
 4 photographs here, you recognize all of these  
 5 images --  
 6 A. Yes.  
 7 Q. -- as being --  
 8 A. I -- I don't see anything that I didn't have  
 9 my hands on and put in that package.  
 10 Q. Okay. Excellent. Would you flip to Page 23.  
 11 Do you see the image there of a storage  
 12 device with the label, NC Data?  
 13 A. Yes, I do.  
 14 Q. Do you recall that as one of the images that  
 15 you sent?  
 16 A. I do.  
 17 Q. Or, sorry, as one of the --  
 18 A. One of the --  
 19 Q. -- storage devices?  
 20 A. -- storage devices, yes.  
 21 Q. Okay. Before sending all of these storage  
 22 devices to the plaintiffs' lawyers in  
 23 response to the subpoena you received, did  
 24 you alter any of the -- the contents of the  
 25 storage devices?

18

1 A. No.  
 2 Q. Okay.  
 3 A. No.  
 4 Q. Did you -- did you delete any files that were  
 5 on any of the storage devices?  
 6 A. No. I was careful not to add or take  
 7 anything away.  
 8 Q. Did you modify any of the files in any way?  
 9 A. No.  
 10 Q. Okay. You didn't make any changes at all to  
 11 any of the files --  
 12 A. None.  
 13 Q. -- on the storage devices? You have to --  
 14 A. I'm sorry.  
 15 Q. Yeah. You -- you -- I'll just start over  
 16 again so we have a clean record.  
 17 A. Yes.  
 18 Q. So you -- you did not make any changes to any  
 19 of the files or data on these storage devices  
 20 before sending them to the plaintiffs'  
 21 lawyers in response to the subpoena?  
 22 A. That's correct. I did not.  
 23 Q. Okay. You can put that to the side. So now  
 24 I have some -- some pretty basic questions  
 25 about where you got the devices from. Is

19

1 that okay?  
 2 A. Yes.  
 3 Q. Okay. Great. So, first, can you please tell  
 4 me just the month and the year when you got  
 5 these devices.  
 6 A. October 2018.  
 7 Q. Okay. And next could you please tell me just  
 8 where specifically did you get the devices  
 9 from, just the physical location for  
 10 starters?  
 11 A. The apartment where my recently deceased  
 12 father lived with my mother at Springmoor.  
 13 Q. Okay. And what is Springmoor?  
 14 A. Springmoor is a retirement community.  
 15 Q. Okay. And your father and mother had been  
 16 living in this apartment in Springmoor before  
 17 his -- his death; is that right?  
 18 A. That's correct.  
 19 Q. Okay. And at the time you got these files  
 20 from the Springmoor apartment in October  
 21 2018, was your mother living there at the  
 22 time?  
 23 A. Yes, she was.  
 24 Q. Okay. Before getting the devices from the  
 25 apartment in Springmoor, did you ask your

20

1 mother if it was okay to take them?  
 2 A. Yes, I did.  
 3 Q. Okay. And did you ask her that in October  
 4 2018?  
 5 A. Yes, that -- that same day.  
 6 Q. Okay. Did your mother object to you taking  
 7 the devices?  
 8 A. No, she didn't.  
 9 Q. Okay. Did -- did -- did she say it was okay  
 10 to take the devices?  
 11 A. Yes. She encouraged me to.  
 12 Q. Okay. So now I'm -- I'm going to back and --  
 13 and ask a few more questions just to fill in  
 14 some additional details about when and where  
 15 you got the devices, okay?  
 16 A. Yes.  
 17 Q. Okay. When did you first learn that your  
 18 father had died?  
 19 A. September 30th, 2018.  
 20 Q. Okay. And when you -- when you learned of  
 21 his death -- and -- and I'll say for the  
 22 record, I'm -- I'm sorry for your -- for the  
 23 loss.  
 24 When you learned of your father's death,  
 25 did you contact your mother?

21

1 A. Yes.  
 2 Q. Did -- did you go to visit her then?  
 3 A. Yes.  
 4 Q. Okay. And -- and did you go to visit her in  
 5 Raleigh at the Springmoor apartment in  
 6 October 2018?  
 7 A. Yes, I did.  
 8 Q. And at that time when you were there at the  
 9 Springmoor apartment in Raleigh in October  
 10 2018 visiting your mother, did -- did you  
 11 go -- did you and your mother go through some  
 12 of your father's things?  
 13 A. There wasn't much to go through. Most of  
 14 what there even was in there was what was  
 15 left out, really. There were a couple of  
 16 desk drawers. I -- there were a couple of  
 17 keepsakes of mine that I was looking for, but  
 18 one of the main reasons that I was looking  
 19 was because when I walked in the door to his  
 20 room, immediately I saw a keepsake of mine  
 21 from my childhood, a -- a jewelry box that I  
 22 had and that I had left in -- in my parents'  
 23 care. And inside of it -- it was displayed  
 24 prominently right under the flag that he was  
 25 buried with and -- well, not with but the

22

1 flag that draped his coffin and a picture of  
 2 my grandparents and inside the box was  
 3 everything exactly as I had left it. So I  
 4 took that to mean that I was supposed to look  
 5 for other things and so I started -- I -- I  
 6 thought there was a chance that there might  
 7 have been something specifically for me as in  
 8 a note or a message of some sort that I would  
 9 find.  
 10 Q. Okay. And -- and was that when you found the  
 11 storage devices that we've been discussing?  
 12 A. It was in that same incident, yes, that --  
 13 that same evening.  
 14 Q. Okay. And where in the apartment were the  
 15 storage devices?  
 16 A. They were on a shelf in my father's room.  
 17 Q. Okay. Were they just sitting out open on the  
 18 shelf?  
 19 A. Yes, they were. There was a bag -- a clear  
 20 plastic bag with the thumb drives and  
 21 ad-sticks and then there was just a stack  
 22 of -- it wasn't the only thing on the shelf.  
 23 He had also some of those pullout boxes that  
 24 kind of are like drawers that had some of his  
 25 papers in there, and the -- the hard drives

23

1 just were there in the corner of -- it was  
 2 a -- one of those kind of box-style book  
 3 shelves. It wasn't just a straight shelf.  
 4 Some of them had those removable drawers in  
 5 them and others were just open.  
 6 Q. Okay. But all of the four external hard  
 7 drives and the 18 thumb drives that you sent  
 8 to the plaintiffs' lawyers in response to the  
 9 subpoena were on this bookshelf in your  
 10 father's room in the apartment at Springmoor?  
 11 A. That's right.  
 12 Q. Okay. And -- and they weren't in any sort of  
 13 safe or lockbox; they were -- they were just  
 14 out?  
 15 A. That's right.  
 16 Q. Okay. Had you seen any of these storage  
 17 devices before?  
 18 A. Inasmuch as I could say later having looked  
 19 at them and when they were done, then I was  
 20 able to confirm that, yes, there were a  
 21 couple of those that I recognized from when I  
 22 was either staying with on short trips or  
 23 living with my parents in their house in  
 24 Alexandria, Virginia.  
 25 Q. Okay. And -- and could you just tell me

24

1 briefly how -- how did you recognize -- what  
 2 was the connection that you made to these  
 3 storage devices?  
 4 A. The -- one of them had that blue rubber  
 5 lining around it that I recognized  
 6 immediately, and I know that there could be  
 7 more than one and I also know it's a  
 8 removable cover, so -- but then it just -- it  
 9 appeared to be really what I -- what I was  
 10 looking for, really.  
 11 Q. And after getting the storage devices, when  
 12 did you ask your mother if it was okay to  
 13 take them?  
 14 A. When I noticed them, it was in a survey and  
 15 I'd first come in and -- and I was a little  
 16 overwhelmed with emotion when I first walked  
 17 into my father's room. Excuse me. So, you  
 18 know, I was sort of looking around. There  
 19 was heirloom furniture all around the  
 20 apartment and other -- other things that  
 21 belonged to my extended family, my, you know,  
 22 great-grandparents and such, so I -- I sort  
 23 of took the whole thing in, had another sort  
 24 of, you know, casual, brief conversation with  
 25 my mother about how things had unfolded, and

25

1 it was later when I was back in there and I  
 2 also said, this is -- I think he wanted me to  
 3 have this jewelry box. And so I said, I'm  
 4 going to take that. Is that okay? And she  
 5 said, of course. And I said, I'm going to  
 6 take these, too. I think that I'll find the  
 7 pictures and some of the things that I'm  
 8 looking for on -- on these. Can I take  
 9 these? And she said, absolutely. She -- she  
 10 said, I don't even know how to use them.  
 11 Q. Okay. Do you know if anyone else other than  
 12 you had been to your parents' apartment at  
 13 Springmoor to -- to look through or -- or  
 14 potentially take any of your father's things  
 15 before you had gotten there?  
 16 A. That was my understanding because before I  
 17 took any of those things, I specifically  
 18 asked my mother -- I said, he had a work  
 19 laptop still, yes? She said, yes. And she  
 20 said, and a work computer. And I said, okay,  
 21 did Dale come and take that stuff? She said,  
 22 yes, Dale took the laptop, Dale took the work  
 23 computer, and Dale took everything that he  
 24 wanted.  
 25 Q. And -- and who is Dale?

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1 A. Dalton Lamar Oldham. That was my father's  
 2 business partner, attorney. Together he and  
 3 my father were Geographic Strategies.  
 4 Q. Okay. And -- and you understood your mother  
 5 to be telling you that Mr. Oldham had come to  
 6 the apartment in Springmoor after your  
 7 father's death and taken -- is -- was it a  
 8 laptop and a desktop computer?  
 9 A. Yes. And, again, it was a -- it wasn't clear  
 10 exactly how much had -- he had taken as my  
 11 father was dying that he had -- that my  
 12 father had said to him, take this. I don't  
 13 think my mother really remembers exactly what  
 14 was there before and -- shortly before and  
 15 then shortly after his -- his death.  
 16 Q. Okay. Great. Thank you. Okay. So now I  
 17 have some questions just about what you did  
 18 after getting the devices, okay?  
 19 A. Uh-huh.  
 20 Q. Great. So after getting the devices from  
 21 your parents' apartment in Springmoor, did  
 22 you consistently hold on to them until you  
 23 sent them to the plaintiffs' lawyers in  
 24 response to the subpoena?  
 25 A. Yes.

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1 Q. Okay. You didn't give them to anyone else  
 2 for any period of time in there?  
 3 A. No.  
 4 Q. Okay.  
 5 A. I'm sorry I laugh. It's just I was so  
 6 thrilled to have some of this precious data  
 7 of mine that I would not let anyone else near  
 8 them.  
 9 Q. Great. And did -- did you stay in Raleigh  
 10 then or did -- did you eventually go back to  
 11 Kentucky?  
 12 A. I stayed in Raleigh for a few days that time  
 13 and then I went back to Kentucky.  
 14 Q. Okay. And -- and did you take the storage  
 15 devices with you when you went back to  
 16 Kentucky?  
 17 A. Yes, I did.  
 18 Q. Okay. And were you then able to look at any  
 19 of the -- the actual contents of the devices?  
 20 A. I looked at the content of some of them that  
 21 first night in my hotel room in Raleigh.  
 22 Q. Oh, okay. And did -- am I -- did you -- you  
 23 connected them to a computer to be able to  
 24 look at them?  
 25 A. Yes. Yes. I had a -- I had -- I had a

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1 laptop with me that I use. I had found a --  
 2 an appropriate cable in one -- one of my  
 3 father's drawers I found a whole box of  
 4 cables and one of them was the proper adapter  
 5 for that -- for those external hard drives.  
 6 Q. Okay. And -- and when you -- when you did  
 7 connect some of the -- the storage devices to  
 8 the computer to be able to look at the  
 9 contents, did -- did you see any personal  
 10 information in there like photographs or  
 11 other personal information?  
 12 A. Yes. I found specifically really what I was  
 13 looking for, which were files of mine that I  
 14 had -- essentially I backed them up onto my  
 15 parents' computer when I was visiting them  
 16 last and, actually, many times before that as  
 17 I felt that it was a really good way to  
 18 assure that they would be preserved because I  
 19 knew that my father was not -- you know, I  
 20 knew he had a tendency to -- to be, you know,  
 21 careful about those things -- those kinds of  
 22 things. And, yes, I found a great many  
 23 photographs that I was looking for of my  
 24 children and other documents that were  
 25 related to my life, matters that concerned me

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1 and my children, and it was -- it was -- I  
 2 felt, well, I buried this treasure and that I  
 3 was getting to dig it up. I was really very  
 4 excited to see those pictures again,  
 5 pictures -- also some pictures of my -- of my  
 6 great-grandparents and things like that that  
 7 I had hoped that I would find copies of as  
 8 well.  
 9 Q. Got it. So -- so some of these photographs  
 10 and other personal materials were things that  
 11 you yourself had stored on your parents'  
 12 computer years earlier when your father was  
 13 still alive; is that correct?  
 14 A. That's correct.  
 15 Q. Okay. And -- and you -- you saw some of  
 16 those materials on these storage devices?  
 17 A. Yes.  
 18 Q. Okay. Other than personal files like  
 19 photographs, letters, et cetera, did you see  
 20 data or files on the storage devices re- --  
 21 that related to your father's work creating  
 22 maps?  
 23 A. Yes, I did.  
 24 Q. Okay. And I think I asked this before, but  
 25 I'll just ask it again. Before sending the

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1 storage devices to the plaintiffs' lawyers in  
 2 this case in response to the subpoena, did  
 3 you change or manipulate any of the files on  
 4 the storage devices that related to your  
 5 father's work?  
 6 A. No, I did not.  
 7 Q. Okay. Am I right that at some point after  
 8 getting the storage devices, you contacted  
 9 someone at the organization Common Cause; is  
 10 that right?  
 11 A. Yes.  
 12 Q. Okay. And do -- do you remember the specific  
 13 person who you first contacted at Common  
 14 Cause?  
 15 A. I first reached out to Bob Phillips, the  
 16 director, and it was in hopes that he might  
 17 be able -- he and Common Cause might be able  
 18 to give me a referral to find an attorney for  
 19 my mother.  
 20 Q. Okay. And in the course of those discussions  
 21 with Mr. Phillips, did you -- did you discuss  
 22 these storage devices?  
 23 A. Not in that conversation, no.  
 24 Q. Okay. Did Mr. Phillips connect you to  
 25 someone else at Common Cause?

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1 A. Yes.  
 2 Q. Okay. And who was that?  
 3 A. Jane Pinsky.  
 4 Q. Did you then have discussions with  
 5 Ms. Pinsky?  
 6 A. Yes, I did.  
 7 Q. Okay. And in the course of those discussions  
 8 with Ms. Pinsky did you mention the storage  
 9 devices that we've been discussing?  
 10 A. Yes, I did.  
 11 Q. Okay. And did -- did you offer to -- to  
 12 provide the devices to Ms. Pinsky and Common  
 13 Cause?  
 14 A. You know, when I first brought it up it was  
 15 really just kind of an anecdotal reference to  
 16 a interview with David Daley that I had  
 17 recently read. At the end of this interview  
 18 his last statement, and it was really the --  
 19 the gist of it was about the fact that the  
 20 rejected districts had been sent for redraw  
 21 back to my father and now he was deceased and  
 22 the comment that David Daley made was, I  
 23 wonder -- I -- I think that somewhere out  
 24 there on a hard drive there's a gift for the  
 25 state legislators.

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1 Q. I see. And -- and am I right, Mr. Daley is a  
 2 journalist, an author who covers  
 3 redistricting issues?  
 4 A. Yes. He --  
 5 Q. Okay.  
 6 A. He sort of brought it to a little bit more  
 7 mainstream attention by, I don't know, making  
 8 it a little more personal, personable maybe  
 9 even.  
 10 Q. Got it. And -- and the article that you had  
 11 read by Mr. Daley was one that was discussing  
 12 the -- the redraw of North Carolina's  
 13 legislative districts?  
 14 A. Specifically, yes. Yes. That was the first  
 15 time -- I did not even know that -- I was  
 16 aware of Mr. Daley's book about Operation Red  
 17 Map, but I was not aware that he was actually  
 18 from North Carolina and would have such a  
 19 specific interest in this for that reason.  
 20 Q. Got it. So -- so in these discussions with  
 21 Ms. Pinsky, having read Mr. Daley's article,  
 22 am I right that you -- you expressed to  
 23 Ms. Pinsky that you wanted to provide the  
 24 storage devices to her and to Common Cause?  
 25 A. Well, I -- I sim- --

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1 THE WITNESS: Pardon?  
 2 MR. SPARKS: I just want you to let him  
 3 finish.  
 4 A. Oh, I'm sorry.  
 5 Q. Yeah. Go ahead.  
 6 A. I -- I -- I simply quipped that, I have -- I  
 7 have some hard drives. And we continued the  
 8 discussion about that. At that time I was  
 9 not aware that there was -- that one of the  
 10 matters was not an appeal. I -- I was under  
 11 the impression that all of the matters  
 12 pending were appeals, therefore, no new  
 13 evidence. I -- when I first mentioned these  
 14 things, it was really from a journalistic  
 15 point of view and more anecdotal. I did not  
 16 presume that they had any value as  
 17 evidence --  
 18 Q. I see. And --  
 19 A. -- per se.  
 20 Q. -- did Ms. Pinsky explain to you that there  
 21 is, in fact, a lawsuit relating to North  
 22 Carolina's legislative districts that -- that  
 23 is not on appeal yet, that is still in the  
 24 trial phase?  
 25 A. She did explain. I think the way she put

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1 it -- because we were discussing whether  
 2 there was new evidence or no new evidence,  
 3 errors of law only. So she mentioned that  
 4 the case of the state legislative districts  
 5 would be accepting new evidence and I said,  
 6 well, I think this might be pertinent. And I  
 7 didn't know if it was -- I said -- even at  
 8 that time I said that I was skeptical that  
 9 there was anything here that was not already  
 10 disclosed after all of those. I recall  
 11 personally discovery and discovery and  
 12 discovery and discovery and a lot of  
 13 grumbling because everyone always grumbles  
 14 about discovery in civil litigation. That's  
 15 my experience.  
 16 Q. So when you say that this is pertinent, you  
 17 mean you believed that the storage devices  
 18 that you had gotten from your parents'  
 19 apartment in Springmoor had files or evidence  
 20 that were pertinent or relevant to -- to this  
 21 litigation?  
 22 A. Well, in that they -- they were clearly about  
 23 redistricting and they were clearly labeled,  
 24 North Carolina.  
 25 Q. Excellent. After speaking to Ms. Pinsky

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1 about the devices, did she put you in touch  
 2 then with the plaintiffs' lawyers in this  
 3 case?  
 4 A. Yes. And I wanted to clarify. This -- the  
 5 conversation about these hard drives did not  
 6 come up in the first of my conversations with  
 7 Ms. Pinsky. That was a development later on  
 8 when we were discussing how I was very  
 9 frustrated about what was -- what was going  
 10 on and -- with -- with my mother and I  
 11 commented -- that's -- that's -- that's  
 12 right. I commented on the progress that  
 13 Common Cause had made with their assertions  
 14 about the relative fairness of partisan  
 15 redistricting and also the underlying issues  
 16 that -- that sometimes are disguised, in my  
 17 opinion, as simply partisan. And I sort of  
 18 made that comment. I said, this is -- this  
 19 is the furthest I've ever seen a plaintiff  
 20 get with anything that my father drew, and I  
 21 will say I also said, and the way I knew my  
 22 father a decade ago, he would have looked at  
 23 those maps and -- and laughed.  
 24 Q. So am I understanding correctly that when you  
 25 originally contacted Bob Phillips at Common

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1 Cause and then in your initial discussions  
 2 with Jane Pinsky, you were not contacting  
 3 them principally about these storage devices?  
 4 A. No, I was not.  
 5 Q. Okay. Okay. Did you say you were -- you  
 6 were contacting them in hopes that Common  
 7 Cause would be able to help refer you to a  
 8 lawyer in connection with your -- with your  
 9 mother's situation?  
 10 A. Yes.  
 11 MR. SPARKS: Objection.  
 12 MS. SCULLY: Objection to form,  
 13 mischaracterizes the witness's testimony.  
 14 A. I -- I know enough about litigation and  
 15 attorneys because I'm a Hofeller. I knew  
 16 that bias would come into play whether or not  
 17 it was admitted. My father was often  
 18 concerned that he would be discriminated  
 19 against for his political position and took  
 20 care to know the allegiance of someone he  
 21 chose to represent him. I was not familiar  
 22 with this town. I did not know -- I knew  
 23 that -- many of the parties that were  
 24 involved in the litigation surrounding my  
 25 mother. I knew they had significant

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1 allegiances here and I felt that the only  
 2 party in Raleigh that would both believe me  
 3 that politics was an element and would know  
 4 who might be actually independent counsel for  
 5 my mother --  
 6 Q. Okay. And am I right that the -- the lawyer  
 7 you were seeking for your mother was in  
 8 connection with the incompetency proceeding?  
 9 A. Correct.  
 10 Q. Okay. Let's go -- go back. After you  
 11 discussed the storage devices with Ms. Pinsky  
 12 at Common Cause, am I right that Ms. Pinsky  
 13 then connected you directly with the  
 14 plaintiffs' lawyers in this case?  
 15 A. That's correct.  
 16 Q. Okay. And is that Mr. Speas and Ms. Mackie?  
 17 A. Yes.  
 18 Q. Okay. Great. And did you -- did you have  
 19 conversations with them then?  
 20 A. Yes.  
 21 Q. Okay. And in the course of those  
 22 conversations did you -- did you express that  
 23 you wanted to provide the storage devices  
 24 that you had gotten from the apartment in  
 25 Springmoor to them?

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1 A. Yes.  
 2 Q. Okay. Then in February of -- of 2019 did you  
 3 receive the subpoena from plaintiffs and  
 4 that's when you sent the storage devices?  
 5 A. Yes.  
 6 Q. Okay. Did you tell anyone that you object to  
 7 the subpoena or that you object to providing  
 8 a response to the subpoena?  
 9 A. No.  
 10 Q. Okay. Did you, in fact, have any objection  
 11 or problem with the subpoena or with  
 12 providing a response to the subpoena?  
 13 A. No, I didn't.  
 14 Q. Okay. Did anyone else tell you that they  
 15 object to the subpoena?  
 16 A. No.  
 17 Q. Did anyone else tell you that they had any  
 18 objection or problem with you providing a  
 19 response to the subpoena?  
 20 A. No.  
 21 Q. Did you -- did you ever speak to your mother  
 22 about the subpoena?  
 23 A. Yes, I did.  
 24 Q. Okay. And did you tell her that you were  
 25 going to respond to the subpoena?

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1 A. Yes. And because there were files that  
 2 belonged to her, I asked for her permission  
 3 also. I said -- she said that she had no  
 4 problem with that. She also felt, as I did,  
 5 that the process would most likely be  
 6 centered around provably pertinent files  
 7 anyway, but that -- I -- I reassured her -- I  
 8 assured her, I should say, that she should be  
 9 aware that once you -- and, again, this is  
 10 something my father taught me. Once you let  
 11 go of it, you don't have control of it  
 12 anymore so you can't be guaranteed what will  
 13 and won't be disclosed, so it's something you  
 14 should be prepared for when you are involved  
 15 with discovery.  
 16 Q. Okay. And in the course of that discussion  
 17 with your mother, did you understand that  
 18 your mother was giving you permission or her  
 19 okay to --  
 20 A. Yes.  
 21 Q. -- to -- let me -- let me finish the  
 22 question.  
 23 A. I'm sorry.  
 24 Q. That's okay. I'll just -- I'm just going to  
 25 ask it again, okay?

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1 A. (Nods head).  
 2 Q. So in the course of that discussion with your  
 3 mother about the subpoena, did you understand  
 4 that she was giving you her permission or her  
 5 okay to provide the storage devices that  
 6 we've discussed to the plaintiffs' lawyers in  
 7 response to the subpoena?  
 8 A. Yes.  
 9 Q. Okay. Thank you. Okay. I just have a -- a  
 10 few other questions and I -- I did want to  
 11 ask you just a couple of questions about your  
 12 relationship with each of your parents. And  
 13 I -- and I don't intend to pry, but -- but  
 14 I'll just ask a couple of basic questions if  
 15 that's okay.  
 16 A. That is okay, yes.  
 17 Q. Okay. Would -- would you say that you had a  
 18 positive relationship with your father in  
 19 recent years?  
 20 A. Not in recent years, no.  
 21 Q. Okay. When was the last time you spoke to  
 22 your father before his death last year?  
 23 A. July of 2014.  
 24 Q. Okay. Would you say that you have a positive  
 25 relationship, a functional relationship, with

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1 your mother?  
 2 A. Yes.  
 3 Q. Okay. Do you know whether an official estate  
 4 was opened for your father after his death?  
 5 A. No. That has been a confused issue.  
 6 Q. Okay. So when you say no, you --  
 7 A. I --  
 8 Q. -- the answer is, no, you don't know?  
 9 A. Exactly.  
 10 Q. Okay. That's fine. Did you send these  
 11 storage devices to the plaintiffs' lawyers in  
 12 this case to -- to get back at your father or  
 13 to spite your father for personal reasons?  
 14 A. Not at all.  
 15 Q. Okay. Could you just tell me briefly in your  
 16 words, why did you want to provide these  
 17 devices to the plaintiffs' lawyers in this  
 18 case?  
 19 A. When I was expressing my skepticism that  
 20 there would be anything in the way of  
 21 evidence, I stated that I felt that these  
 22 files would if -- certainly be of historical  
 23 value, that they would give insight into the  
 24 process, not any value judgment on that  
 25 process. I did not have -- my political

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1 viewpoint to me seemed irrelevant to the  
 2 function of census data turning into voting  
 3 districts, and I really thought of it in --  
 4 in those terms. I really -- I knew that if I  
 5 presented them this way that they would be  
 6 preserved, that they -- their integrity would  
 7 be preserved and everything there, including  
 8 my files, including other matters completely  
 9 unrelated to this, that those -- that that  
 10 would be a snapshot in time.  
 11 Q. Was -- was there any financial benefit to you  
 12 personally from providing these files to the  
 13 plaintiffs' lawyers? Did you -- did you make  
 14 any profit here?  
 15 A. No.  
 16 Q. Okay.  
 17 MR. JONES: Can we go off the record,  
 18 take a five-minute break?  
 19 THE WITNESS: Sounds great.  
 20 THE VIDEOGRAPHER: Going off the  
 21 record. The time is 10:24 a.m.  
 22 (Whereupon, there was a recess in the  
 23 proceedings from 10:24 a.m. to 10:46 a.m.)  
 24 THE VIDEOGRAPHER: Going back on the  
 25 record. The time is 10:46 a.m.

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1 MR. JONES: Thank you. Ms. Hofeller, I  
 2 have no more questions for you today. Thank  
 3 you for your time.  
 4 THE WITNESS: My pleasure.  
 5 EXAMINATION  
 6 BY MS. SCULLY:  
 7 Q. Ms. Hofeller, Elizabeth Scully. We met  
 8 earlier this morning. I represent the  
 9 legislative defendants in this case and I do  
 10 have some follow-up questions that I would  
 11 like to ask of you today.  
 12 First, if I could turn your attention to  
 13 the document that was marked as Exhibit 2  
 14 that you went through with counsel for the  
 15 plaintiffs earlier. Looking at -- at the --  
 16 at the first page where there's a photograph  
 17 of a -- of a box and then appears to be  
 18 handwriting for -- addressed to Arnold &  
 19 Porter.  
 20 Do you see that there?  
 21 A. I see the handwriting behind the box.  
 22 Q. Uh-huh.  
 23 A. Yes.  
 24 Q. Is that your handwriting?  
 25 A. No.

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1 Q. No. Do you know whose handwriting that is?  
 2 A. No.  
 3 Q. Did you personally prepare the box, label it,  
 4 put the contents in the box and send it to  
 5 Arnold & Porter?  
 6 A. I put the contents in the box, I sealed the  
 7 box, and at the FedEx office the label was  
 8 printed out and put on it in front of me.  
 9 Q. Okay. Did you send the materials directly to  
 10 Arnold & Porter or to a vendor before you  
 11 sent them to Arnold & Porter?  
 12 A. I sent them directly to Arnold Porter.  
 13 Q. Did you ever send the materials to a -- a  
 14 vendor?  
 15 A. No.  
 16 Q. Turning to the -- it's marked Number 4 in  
 17 Exhibit Number 2.  
 18 A. Okay.  
 19 Q. You have that in front of you?  
 20 A. I do.  
 21 Q. And it appears on Page Number 4 of Exhibit  
 22 Number 2 is a picture of a thumb drive. Do  
 23 you see that?  
 24 A. I do.  
 25 Q. And on that thumb drive there are some

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1 drawing -- a handwritten drawing on that  
 2 thumb drive. Do you recall what material was  
 3 contained in this thumb drive?  
 4 A. Are -- are you -- please clarify the -- the  
 5 handwriting being the A as opposed to the  
 6 label on the drive, which is etched into the  
 7 metal, I believe.  
 8 Q. Well, let me -- let me back up and ask you  
 9 this: Do you know -- on this document on the  
 10 fourth page there appears to be two  
 11 photographs. Both appear to reflect a thumb  
 12 drive. Do you know if these are two  
 13 different thumb drives or one thumb drive?  
 14 A. I believe that is the two opposite sides of  
 15 the same thumb drive.  
 16 Q. Do you know that for a fact or is that  
 17 just -- you're making an assumption?  
 18 A. I am making an assumption.  
 19 Q. Do you know if you in -- if you ever reviewed  
 20 the information that was on this thumb drive  
 21 that appears on Page 4 of Exhibit Number 2  
 22 that you sent to Arnold & Porter?  
 23 A. I know that I reviewed all of the drives that  
 24 I sent to -- to Arnold Porter. I do not  
 25 recall what was on which storage device.

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1 Q. Did you review all of the drives that you  
 2 sent to Arnold & Porter during the same day?  
 3 A. Yes. Yes. Maybe perhaps I had to take a  
 4 break overnight, but it was -- I -- I made  
 5 sure that I was not including anything that  
 6 was mine that wasn't, you know, related to  
 7 this at all, that I hadn't mistakenly mixed  
 8 anything in, that these were all just the  
 9 files and things that had come from my  
 10 father's apartment. So that -- that's about  
 11 the extent of it.  
 12 Q. So if I understand you, if you found  
 13 materials on the -- in any of these thumb  
 14 drives or drives that you thought were yours  
 15 or your personal information, you removed  
 16 that information before you sent it to  
 17 Arnold & Porter?  
 18 A. No.  
 19 MR. JONES: Objection. That  
 20 mischar --  
 21 THE WITNESS: Oh, I'm sorry.  
 22 MR. JONES: -- mischaracterizes the  
 23 testimony.  
 24 MS. SCULLY: I -- I believe --  
 25 MR. FARR: He asked -- she asked the

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1 question so she can answer it.  
 2 MR. SPEAS: Tom, how many people are  
 3 representing your side in this deposition?  
 4 MR. FARR: Three.  
 5 BY MS. SCULLY:  
 6 Q. I believe you testified earlier that when you  
 7 looked through the materials you took from  
 8 your father's room that you did find  
 9 information on those electronic files that  
 10 were personal to you, correct?  
 11 A. That is correct.  
 12 Q. Did you produce that personal information  
 13 when you sent the electronic materials to  
 14 Arnold & Porter?  
 15 A. Yes, I did.  
 16 Q. A moment ago when you said you looked through  
 17 the electronic files before you produced them  
 18 to Arnold & Porter to make sure that nothing  
 19 that related only to you or that wasn't  
 20 relevant -- you wanted to make sure that  
 21 wasn't being produced, what did you mean by  
 22 that?  
 23 A. That wasn't what I said. What I said is I  
 24 checked them to make sure that they were my  
 25 father's, that I hadn't mistakenly grabbed

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1 something from my own room, a storage device  
 2 that I would keep, use with my phone, with my  
 3 laptop, completely unrelated to this, never  
 4 having been touched by my father. That's  
 5 what I meant.

6 Q. Okay. Thank you for that clarification. How  
 7 many hours did it take you to go through and  
 8 review the entire contents of the materials  
 9 that you provided to Arnold & Porter?

10 A. And please -- I would like to clarify that I  
 11 did not open every file. I merely observed  
 12 that this was the media that I thought it was  
 13 when I arrived at my home. So it was, oh,  
 14 two, three hours, I think, making sure. Some  
 15 of them, you know, I -- they didn't light up  
 16 at first. I had to put them in the other USB  
 17 drive, reseat the connectors. Some -- some  
 18 of them took -- some of them were slower than  
 19 others to open, but I would say that I had  
 20 made sure that -- done that last check before  
 21 putting it in the mail that I knew what I was  
 22 sending and that it was all what I was  
 23 asserting it was, and I think that process  
 24 took, yeah, maybe about two or three hours.

25 Q. Do you know how many files you opened during

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1 those two to three hours?

2 A. During those two to three hours I didn't open  
 3 any of the files. I merely looked in the  
 4 basic root folders on each to confirm what it  
 5 was and that it had belonged to my father  
 6 really was the point. The files on all of  
 7 these that were mine specifically as in  
 8 photographs I took, letters I wrote, those I  
 9 had looked at early on. My interest in these  
 10 drives initially was only for those. I  
 11 ignored everything else for a period of time.

12 Q. When you took these files from your father's  
 13 room and spoke to your mother about it,  
 14 you -- in that conversation with your mother  
 15 you told her you were taking the files  
 16 because you wanted to look through the files  
 17 to find personal things related to you,  
 18 photographs that may be on the files,  
 19 correct?

20 A. That's correct.

21 Q. And with that understanding your mother gave  
 22 you permission to take the files, correct?

23 A. I did not feel that my mother's permission  
 24 for me to have these was conditional on  
 25 anything. When she gave me permission to

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1 take them, it was -- maybe I mentioned that I  
 2 was excited about the possibility that there  
 3 would be pictures of my children, but she  
 4 said, they're yours. Take them. I don't  
 5 have any use for them.

6 Q. And when you had that initial conversation  
 7 with your mother, you had no discussions with  
 8 her and expressed no interest in looking  
 9 through to find any of your father's business  
 10 records or materials he may have created in  
 11 connection with his work as -- as an expert  
 12 in other litigations, correct?

13 A. Correct. As a matter of fact, I went to the  
 14 point of making sure that I asked my mother  
 15 that all of his specifically work-related  
 16 material had already been collected. I  
 17 didn't wish to assert myself in -- in --  
 18 in -- into the business intentionally.

19 Q. At some point you say when you were -- well,  
 20 when you first took the -- the files, did  
 21 you -- you didn't know what was on these  
 22 files when you first took them, correct?

23 A. Some of them I didn't. The backups that I  
 24 recognized from my parents' home PC back in  
 25 Alexandria -- I was at least vaguely familiar

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1 with what had been on my parents' home PC  
 2 when I was there, so those were pretty much  
 3 as I expected them. And then I -- my thought  
 4 was that I would at least look at everything  
 5 and see what it was.

6 Q. Now, you said you went to your mother's home.  
 7 It was sometime in October 2018. Do you know  
 8 specifically when you were -- went to your  
 9 mother's home and took these files?

10 A. October 11th.

11 Q. And how do you know it was October 11th?

12 A. I have had to recount the details of my  
 13 arrival at my mother's house several times  
 14 over the past few months, so it's become  
 15 pretty -- pretty normal.

16 Q. Do you have any documents that reflect when  
 17 you were in North Carolina?

18 A. Documents. I don't think so, no.

19 Q. Did you go to any restaurants, make any  
 20 credit card charges, purchase gasoline near  
 21 your mother's apartment, any type of document  
 22 that would indicate the time period when you  
 23 were visiting with your mother?

24 A. I believe that receipts would reflect that I  
 25 was in Raleigh during certain days.

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1 2?  
 2 A. Not specifically that one, no. None of them  
 3 specifically. They all seem to have sort of  
 4 a -- a mix -- a mixture of -- of different  
 5 kinds of data on different matters. All of  
 6 them were mingle -- mingled.  
 7 Q. Turning to Page 9, do you know what that is a  
 8 picture of?  
 9 A. Once again, it appears to be a picture of --  
 10 of one of the external drives.  
 11 Q. I take it similar to the drive that we saw in  
 12 the picture immediately before that you have  
 13 no specific recollection of what material is  
 14 contained on this drive, correct?  
 15 A. That's correct.  
 16 Q. Is it fair to say that you do not have any  
 17 specific recollection of what information is  
 18 contained on any of the hard drives or the  
 19 thumb drives that are photographed that  
 20 appear in Exhibit 2?  
 21 A. Well, it's very similar with all of them was  
 22 my impression. So it was -- it would be very  
 23 difficult to say what was on which. I mean,  
 24 I don't know offhand -- like there were  
 25 two -- for example, there were two drives

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1 that were identical in appearance, but they  
 2 seemed to be backups of the same hard drive  
 3 but at different times. So that would be  
 4 very hard for me to say which was the 2011  
 5 set and which was the 2013 set, for example.  
 6 Q. You testified earlier when -- under your  
 7 examination with plaintiffs' counsel that you  
 8 recognized one of the hard drives because of  
 9 the blue rubber band that was around it.  
 10 A. No, the blue cover.  
 11 Q. Blue cover. Turning your attention to Page  
 12 15 of Exhibit 2, is that the blue -- is that  
 13 a picture of the blue cover you were  
 14 referring to when you testified earlier?  
 15 A. It -- it -- I would assume that it is the  
 16 cover that I was referring to.  
 17 Q. And what did -- what is it about that cover  
 18 that stood out in your mind?  
 19 A. You know, this -- it wasn't an effort at  
 20 precision. I just remembered that this was a  
 21 cover that went typically with a brand and  
 22 type of external storage device that my  
 23 father liked to use. And I had a hunch -- I  
 24 was hoping that it would be what it turned  
 25 out to be and that is a backup of the -- my

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1 parents' personal computer, which would  
 2 contain the files that I was looking for of  
 3 mine.  
 4 Q. In the subpoena that you received from  
 5 Arnold & Porter there was a specific request  
 6 looking for materials relating to the 2011 or  
 7 the 2017 North Carolina redistricting. You  
 8 understood that, correct?  
 9 A. Yes, I -- yes.  
 10 Q. Did you undertake any efforts to limit the  
 11 materials that you were turning over to  
 12 Arnold & Porter in response to the subpoena  
 13 to only documents that related to the 2011 or  
 14 2017 North Carolina redistricting?  
 15 MR. JONES: I'll -- I'll -- I'll  
 16 object. I think it mischaracterizes the  
 17 scope of the face of the subpoena.  
 18 MR. SPARKS: Go ahead and answer.  
 19 A. The request was for any and all materials  
 20 that might, so I -- since there appeared to  
 21 be relevant -- relevant data, I -- I think I  
 22 already answered this question. I think the  
 23 idea was that it was going to be preserved  
 24 and that I would not be deciding which files  
 25 would go and which files wouldn't.

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1 Q. I take it from your answer that you did not  
 2 review each hard drive and each thumb drive  
 3 to confirm that each hard drive and each  
 4 thumb drive, in fact, had any information  
 5 with respect to the 2011 or 2017 North  
 6 Carolina redistricting; instead, you just  
 7 turned it over in its entirety --  
 8 A. I was answering the subpoena --  
 9 MR. SPARKS: Let her finish.  
 10 THE WITNESS: Sorry.  
 11 BY MR. SPARKS:  
 12 Q. -- to Arnold & Porter, correct?  
 13 A. Yes. Yes.  
 14 Q. You testified earlier when you took the  
 15 electronic hard drives and thumb drives from  
 16 your father's home you said you were so  
 17 thrilled to have precious data of yours. You  
 18 said mine, but -- what precious data were you  
 19 referring to?  
 20 A. Pictures of me and my infant children,  
 21 pictures of me on my property in West  
 22 Virginia, pictures of dead friends, music  
 23 recorded years ago by me and a friend who had  
 24 a band together, letters that I had written  
 25 to friends, letters that I wrote to my

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1 father, documents that I might have otherwise  
 2 possession of if it weren't for first a house  
 3 fire that destroyed everything I owned in  
 4 2013 and also a divorce in which everything  
 5 else that I had pretty much was, you know,  
 6 left in the hands of -- of someone I didn't  
 7 really feel like communicating with.  
 8 Q. You didn't consider the records relating to  
 9 your father's work -- redistricting work to  
 10 be your data, correct?  
 11 A. The hard drives were given to me by my -- by  
 12 my mother, so I would say that I considered  
 13 everything on those hard drives that my  
 14 father had left in his room that my mother  
 15 gave to me unconditionally -- I considered  
 16 all of it mine at that point when it was  
 17 given to me by my deceased father's wife.  
 18 Q. Even if the material related to your father's  
 19 business with another business partner, you  
 20 considered it your material, your --  
 21 A. I considered the stor- --  
 22 MR. JONES: Ob- -- objection. It's  
 23 been asked and answered.  
 24 MR. SPARKS: Go ahead and answer.  
 25 A. I considered everything that my mother gave

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1 me that had previously belonged to my father  
 2 who was now dead mine, yes.  
 3 Q. Did your father have a will?  
 4 A. Yes.  
 5 Q. Do you know if in the will there was any  
 6 provision with respect to his personal  
 7 property and who the personal property would  
 8 be left to?  
 9 A. My understanding, not being an estate  
 10 attorney, is my mother was the beneficiary.  
 11 Q. Have you seen a copy of the will?  
 12 A. Yes.  
 13 Q. Did you -- did your father make any direct  
 14 gifts to you in the will?  
 15 A. I don't believe he did, no.  
 16 Q. Did your father in the will address anything  
 17 related to his -- his business records,  
 18 business files?  
 19 A. I don't recall.  
 20 Q. Prior to turning over the electronic files to  
 21 Arnold & Porter you said you spent two to  
 22 three hours immediately before turning them  
 23 over to Arnold & Porter. I would like to  
 24 understand how much time in total you spent  
 25 reviewing the materials at any point in time

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1 before you gave them to Arnold & Porter.  
 2 A. That would be difficult. Do you mean -- you  
 3 know, I -- for example, I printed out copies  
 4 of pictures of me and my children. Do you  
 5 consider me putting those on my wall time  
 6 reviewing the materials?  
 7 Q. No. Time spent looking through the  
 8 electronic files on a computer.  
 9 A. That would be very difficult to determine. I  
 10 mean, I don't know. How much time do you  
 11 spend looking at pictures of your children?  
 12 Q. Putting aside the amount -- well --  
 13 A. I didn't spend a lot of time looking at my  
 14 father's work files if that's what you're  
 15 driving at. No, I didn't.  
 16 Q. So let's focus on that point. Putting aside  
 17 the time you spent looking through files that  
 18 related to you or photographs related to you  
 19 or issues that were personal to you, putting  
 20 all of those personal materials aside, how  
 21 much time would you estimate you spent  
 22 reviewing files that related to your father,  
 23 his redistricting work, his business records,  
 24 any expert documents he may have created,  
 25 those materials?

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1 A. Well, it's also hard because there were  
 2 certain situations in some of those backups  
 3 where there were folders that contained a  
 4 multitude of mixed documents. In certain  
 5 cases I would open something thinking that it  
 6 was one thing and find that it was something  
 7 different. So there were -- there were both  
 8 situations where -- for example, news  
 9 articles that he had in a folder of -- I  
 10 believe there were a lot of -- of news  
 11 articles that I actually read through that he  
 12 had saved, maybe articles even that mentioned  
 13 him specifically and, of course, I was  
 14 interested in preserving that. Of course, I  
 15 wanted, you know, a scrapbook of my father  
 16 and so -- also, there were -- just looking at  
 17 the file extensions and having a basic  
 18 familiarity with my father's work, I knew a  
 19 lot of them would be file extensions that I  
 20 wouldn't even be able to open considering  
 21 that I didn't have the right proprietary  
 22 software. So -- wow. I really -- it would  
 23 be very difficult for me to give an estimate.  
 24 I don't really understand. Maybe -- I mean,  
 25 not -- not to be snide, but what -- what --

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1 Q. You have had more than one text communication  
 2 with Mr. Speas, correct?  
 3 A. I think there were may- -- I think there were  
 4 two, one in advance of -- of -- of two phone  
 5 calls, two, you know, are you going to be  
 6 available at such and such a time sort of  
 7 thing.  
 8 Q. After you communicated in response to  
 9 Mr. Speas's first text where you said, yes,  
 10 willing to talk to you, when was the next  
 11 time you spoke with Mr. Speas?  
 12 A. I think that that was about a week or so. It  
 13 was -- you know, it was starting to get close  
 14 to the holidays so, you know, there was time  
 15 between communiques. If -- if, you know,  
 16 research needed to be done or references  
 17 or -- or questions asked, it -- everything  
 18 was starting to take a lot longer because it  
 19 was the holiday season.  
 20 Q. The next time you spoke with Mr. Speas, was  
 21 that a telephone communication?  
 22 A. Yes.  
 23 Q. Did you initiate the call?  
 24 A. I don't know. I really don't remember. It  
 25 was -- we -- the idea being follow-up

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1 questions need to be asked on our end and --  
 2 and it -- the -- the discussion continued as  
 3 to whether or not there was -- I don't know.  
 4 I think I -- I don't know how to -- to  
 5 explain it any differently than I've already  
 6 explained it, frankly.  
 7 Q. On the first telephone call that you had with  
 8 Mr. Speas, was there anyone else on the call  
 9 as far as you know?  
 10 A. No.  
 11 Q. So just you and Mr. Speas on the first  
 12 telephone call?  
 13 A. That's how I remember it.  
 14 Q. And that's all I can ask you for is the best  
 15 of your recollection --  
 16 A. Yeah.  
 17 Q. -- today. Approximately how long did the  
 18 first telephone call between you and  
 19 Mr. Speas last?  
 20 A. Maybe ten minutes, again, just -- there was  
 21 not a lot of detail --  
 22 Q. Tell me --  
 23 A. -- discussed. It was really more just a  
 24 friendly business-style conversation.  
 25 Q. Tell me as -- to the best of your

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1 recollection what you said and what Mr. Speas  
 2 said on that first telephone call.  
 3 A. I said that I had -- I said that I had  
 4 material that might be relevant to the case.  
 5 Q. Did you explain in any further detail what  
 6 material you had?  
 7 A. Vague detail, external storage devices  
 8 that -- I don't know whether or not I  
 9 mentioned -- I -- I don't think I  
 10 specifically said backups. I just said  
 11 external storage devices.  
 12 Q. What do you recall Mr. Speas saying in  
 13 response to that?  
 14 A. I believe that he did even in that first  
 15 phone call want to clarify that these were --  
 16 that -- that these had been given to me.  
 17 Q. What specifically did Mr. Speas ask you about  
 18 the hard drives?  
 19 A. The -- I think if they'd been given to me.  
 20 Q. And so your recollection is Mr. Speas said,  
 21 have these been given to you?  
 22 A. I don't know what his exact words were. The  
 23 gist of it was, are they yours, and I said  
 24 that they had, indeed, been given to me.  
 25 Q. Did you tell him the circumstances under

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1 which you had obtained them?  
 2 A. More or less, that along with things that  
 3 literally belonged to me and things that I  
 4 took to mean from my father that he wanted me  
 5 to have, I had -- I had asked for these, you  
 6 know, and as I said, I asked my mother if I  
 7 could take my jewelry box, too, even though,  
 8 of course, the answer would have been yes and  
 9 many -- many would say that if it was  
 10 something that I left with my father of mine  
 11 specifically with the intent that he would  
 12 hold it for me, that when I came to his  
 13 apartment after his death, that anything that  
 14 had belonged to me up till the point of his  
 15 death was already mine, but I still went to  
 16 the extra effort to make sure because, you  
 17 know, I -- I didn't want to -- I didn't want  
 18 to give anyone the impression that I was  
 19 there to -- to pick over the corpse.  
 20 Q. Just to clarify, your -- your father never  
 21 told you he wanted you to have his external  
 22 hard drives or these thumb drives, correct?  
 23 A. He said that he wanted -- that he would keep  
 24 the data that I had stored on his computer.  
 25 With that I took to mean -- we didn't really

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# **EXHIBIT B**



STATE OF NORTH CAROLINA  
COUNTY OF WAKE

IN THE GENERAL COURT OF  
JUSTICE  
SUPERIOR COURT DIVISION  
FILE NO.: 18 CVS 014001

COMMON CAUSE, *et al.*,

Plaintiffs,

v.

DAVID LEWIS, IN HIS OFFICIAL  
CAPACITY AS SENIOR CHAIRMAN  
OF THE HOUSE SELECT  
COMMITTEE ON REDISTRICTING, *et*  
*al.*,

Defendants.

**EXPERT REPORT OF THOMAS BRUNELL, Ph.D.**

Pursuant to the North Carolina Rules of Civil Procedure and the Case Management Orders of the Court in the above-captioned matter, I, Thomas Brunell, provide the following written report:

I am a Professor of Political Science at the University of Texas at Dallas. I received a Ph.D. in political science from the University of California, Irvine in 1997. I have published a book and dozens of refereed journal articles on redistricting, elections, and representation. My research has been published in, among other outlets, the *American Political Science Review*, the *Journal of Politics*, *Electoral Studies*, *Election Law Journal*, and *Legislative Studies Quarterly*. A copy of my curriculum vitae, which lists my publications in the last ten years, is attached.

Over the past seven years, I have provided testimony in the following cases: *Dickson v. Rucho* (NC), *Guy v. Miller* (NV), *Egolf v. Duran* (NM), *Backus*

is a far cry from maximizing compactness. Thus, the goals in the simulated maps and the enacted maps are not aligned and this presents problems for making comparisons.

The same caveat applies to Prof. Chen's treatment of splitting voting tabulation districts (VTDs). His computer program tried to minimize these while the legislature was instructed to "make reasonable efforts to draw legislative districts in the 2017 House and Senate plans that split fewer precincts than the current legislative redistricting plans" (Ex 37). By instructing the computer to split the minimum number of VTDs this may have affected the overall results of Prof. Chen's comparison maps.

Prof. Chen argues that his method allows him to draw conclusions about the intent of the map-makers. More specifically he believes that his outlier analysis is able to prove that "an overriding partisan intent" rather than "follow[ing] non-partisan districting criteria" (page 10) underlies the motivations of the person or persons who drew the boundaries. Divining the intent of the map-maker is extraordinarily difficult because the process of redistricting is complex. There are a multitude of competing demands at work when lines are being drawn – districts have to be nearly equally populated; districts need to be compact and contiguous; incumbents' districts can be preserved; city and county splits need to be minimized; North Carolina's county grouping rules must be complied with, and so on. Beyond these requirements there can be various other factors that affect where the boundaries are placed. Incumbents regularly make requests with regard to their district including preserving their core constituency and more. For instance,

legislators may ask that their parents' house, or children's house be included in their district. Or they might ask that a specific business, or park, or landmark be drawn inside their district. Changes in one district can require adjustments to nearby districts if the initial changes affect the population totals. The complex process of redistricting makes drawing conclusions about the intent of the map-maker through statistical analyses incredibly difficult.

North Carolina's redistricting process is one of the most constrained in the nation due to the county groupings requirements. This additional requirement significantly restricts the universe of possible districts. Further, the county groupings rules appear to advantage the Republican Party because the vast majority of Democratic voters in the state reside in the most heavily populated counties, while Republicans are advantaged in rural counties. Table 1 contains the Democratic margin of victory in the 2016 presidential election for the seven most populated counties in North Carolina. Hillary Clinton's margin of victory ranges from 10.37 percent to 59.5 percent in these counties. If the county groupings rules did not exist, more Democratic leaning districts could be drawn by using Democratic population in heavily populated districts mixed in with more rural areas in contiguous districts. So Democrats are disadvantaged by these rules as it limits the number of Democratic leaning districts that are theoretically possible.

# **EXHIBIT C**

STATE OF NORTH CAROLINA  
COUNTY OF WAKE

IN THE GENERAL COURT OF JUSTICE  
SUPERIOR COURT DIVISION  
Case No. 18 CVS 014001

COMMON CAUSE, *et al.*

*Plaintiffs,*

v.

DAVID R. LEWIS, *et al.*

*Defendants.*

**Expert Report of Dr. M.V. Hood III.**

Pursuant to the North Carolina Rules of Civil Procedure and the Case Management Orders of the Court in the above-captioned matter, I, M.V. (Trey) Hood III, provide the following written report:

**I. INTRODUCTION AND BACKGROUND**

My name is M.V. (Trey) Hood III, and I am a tenured professor at the University of Georgia with an appointment in the Department of Political Science. I have been a faculty member at the University of Georgia since 1999. I also serve as the Director of the School of Public and International Affairs Survey Research Center. I am an expert in American politics, specifically in the areas of electoral politics, racial politics, election administration, and Southern politics. I teach courses on American politics, Southern politics, and research methods and have taught graduate seminars on the topics of election administration and Southern politics.

I have received research grants from the National Science Foundation and the Pew Charitable Trust. I have also published peer-reviewed journal articles specifically in the areas of redistricting and vote dilution. My academic publications are detailed in a copy of my vita that is attached to the end of this document. Currently, I serve on the editorial boards for *Social Science Quarterly* and *Election Law Journal*. The latter is a peer-reviewed academic journal focused on the area of election administration.

During the preceding four years, I have offered expert testimony (through deposition or at trial) in fourteen cases around the United States: *United States v. North Carolina*, 1:13-cv-861 (M.D. N.C.), *Bethune-Hill v. Virginia State Board of Elections*, 3:14-cv-00852 (E.D. Va.), *The Ohio Democratic Party v. Husted*, 2:15-cv-1802 (S.D. Ohio), *The Northeast Ohio Coalition v. Husted*, 2:06-cv-00896 (S.D. Ohio), *One Wisconsin Institute v. Nichol*, 3:15-cv-324 (W.D. Wis.), *Covington v. North Carolina*, 1:15-cv-00399 (M.D.N.C.), *Green Party of Tennessee v. Hargett*, 3:11-cv-00692 (M.D. Tenn.), *Vesilind v. Virginia State Board of Elections*, CL15003886-00 (Richmond Circuit Court), *Common Cause v. Rucho*, 1:16-cv-1026 (M.D.N.C.), *Greater*

greater number of Republican incumbents paired in the Senate plan under which the election was held—a total of eight compared to only two Democrats.

To summarize, in both the House and Senate plans, the goal of limiting the number of incumbent pairings of either party was clearly achieved.

Table 5. Incumbent Pairings. 2018

Pairings	House		Senate	
	2017 Enacted	2018 Elections	2017 Enacted	2018 Elections
D, R	0.8% [1]	0.8% [1]	2.0% [1]	4.0% [2]
D, D	0.0% [0]	0.8% [1]	0.0% [0]	0.0% [0]
R, R	0.8% [1]	0.8% [1]	6.0% [3]	6.0% [3]
Open	1.7% [2]	2.5% [3]	8.0% [4]	10.0% [5]
Unpaired	96.7% [116]	95.0% [114]	84.0% [42]	80.0% [40]
Total Seats	120	120	50	50

#### D. Summary

The 2017 House and Senate plans met the goals stated in the adopted redistricting criteria. Compared to the 2011 plans, the 2017 plan saw measurable gains in terms of district compactness and reducing VTD splits as compared to the 2011 plans. The simulations prepared by Professor Chen that were designed to maximize these criteria perform only marginally better on these factors. In addition, the goal of protecting incumbents specified in the criteria was also met as very few House and Senate incumbent members, of either party, were paired in 2017. These factors, combined with the successful implementation of the county grouping system and the condition permitting only a single internal traverse, also meant respect for county boundaries was paramount in the plan’s creation. In addition, all House and Senate districts are contiguous and meet the equal population standard as defined by the criteria. These goals, in my opinion, are certainly not partisan in nature. In using a different set of criteria from that adopted by the General Assembly, Professor Chen infers that any deviation from maximization of these factors is an indication of improper partisan motives. In my opinion, imputing motives based on the application of a different set of criteria in no ways proves the General Assembly was engaged in an effort to engage in extreme partisan gerrymander. As indicated in my discussion of the legislative redistricting in North

Carolina, the process is quite constrained, which greatly limits the ability of map drawers to create districts where partisan motives predominate.

# **EXHIBIT D**



STATE OF NORTH CAROLINA  
COUNTY OF WAKE

IN THE GENERAL COURT OF JUSTICE  
SUPERIOR COURT DIVISION  
Case No. 18 CVS 014001

COMMON CAUSE, *et al.*

*Plaintiffs,*

v.

DAVID R. LEWIS, *et al.*

*Defendants.*

**Expert Report of Douglas Johnson, Ph.D.**

Pursuant to the North Carolina Rules of Civil Procedure and the Case Management Orders of the Court in the above-captioned matter, I, Douglas Johnson, provide the following written report:

switching from “Safe Democratic” districts to “Safe Republican” two districts in Mecklenburg County and one each in Forsyth and Buncombe counties.

29. While I have drawn the “Maximum Republican” Senate map for the illustrative purposes of this report, a “Maximum Republican” House map would similarly provide significantly more Republican districts in the State House than the 2017 Adopted Map provides.

30. This test map proves that the “county groupings” requirement significantly limits the legislature’s ability to draw lines based exclusively on partisanship.

31. Reflecting the direct influence of the “county groupings” requirement, the “Maximum Republican” test map bears significantly more resemblance in the odd shapes and partisan focus of the 2001 Senate map than it does to the 2017 Adopted. The 2001 Senate map is the map that was never used in an election because of the *Stevenson* ruling on the interpretation of the “county groupings” provision of the state constitution:

# **EXHIBIT E**

STATE OF NORTH CAROLINA  
IN THE GENERAL COURT OF JUSTICE  
SUPERIOR COURT DIVISION  
COUNTY OF WAKE

Common Cause, et al.,	)	
	)	
Plaintiffs,	)	
	)	
v.	)	Docket No. 18 CVS 014001
	)	
Representative David R. Lewis, et al.,	)	
	)	
Defendants.	)	

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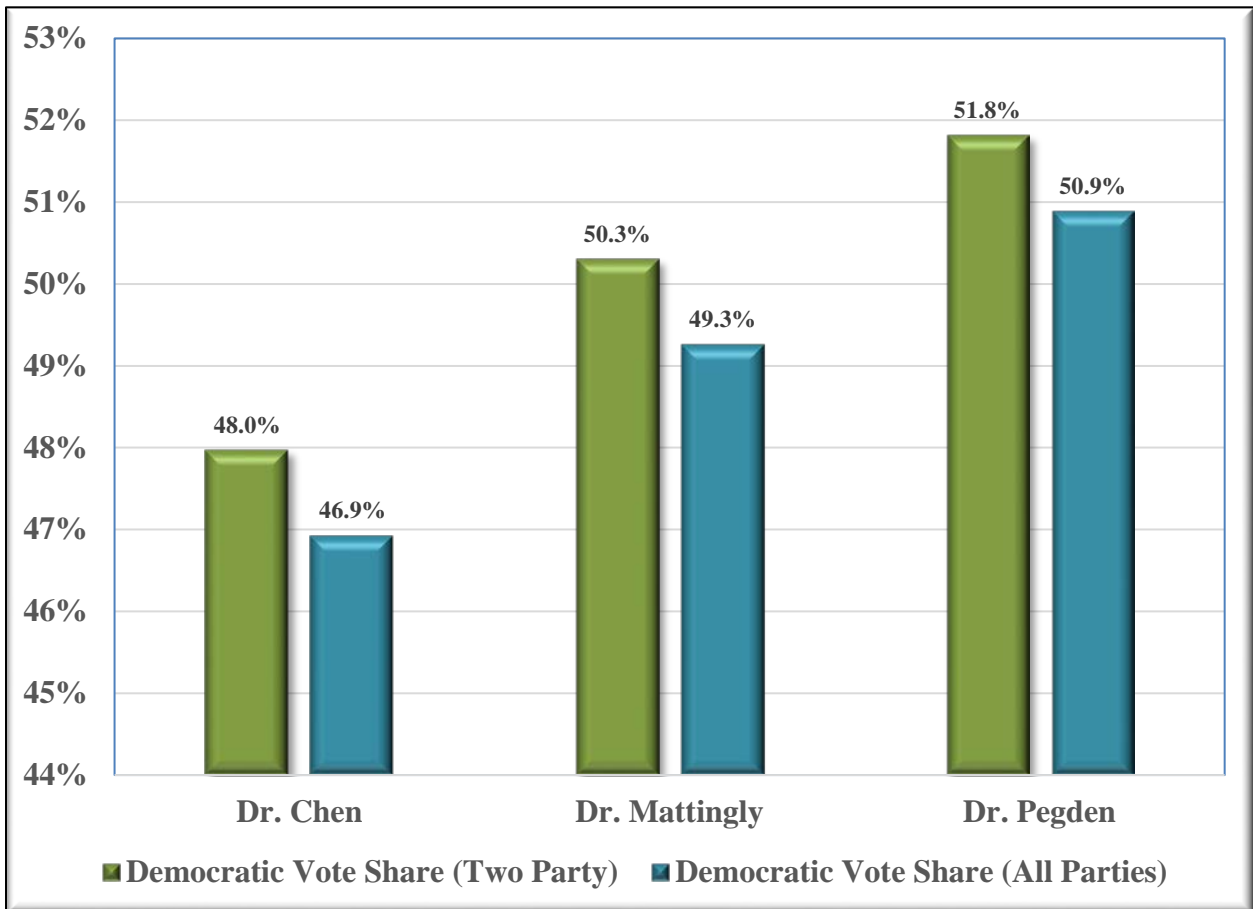
**AFFIDAVIT OF JANET R. THORNTON, Ph.D.**

<b>STATE OF FLORIDA</b>	)	
	)	ss.
<b>COUNTY OF LEON</b>	)	

Dr. Janet R. Thornton, affiant, affirms under oath as follows:

1. I am a Managing Director at Berkeley Research Group (BRG), a consulting firm specializing in the application of economic, econometric, and statistical analysis to litigation, regulatory compliance, and risk assessment matters, among other specialties. BRG experts have analyzed data for matters involving firms in many sectors, government entities, as well as institutions of higher education and research. My fields of special interest include computer analysis of large databases, applied econometrics and statistical analysis.
  
2. I received doctoral and master's degrees in economics from The Florida State University, and a bachelor's degree from the University of Central Florida in economics and political science.
  
3. I am a member of the American Economic Association and the National Association of Forensic Economics.

**Figure 1—Average Democratic Vote Share Among Statewide Elections Included by Each Expert Preparing Simulations**



**III. Assumptions/Criteria Utilized by the Three Plaintiffs’ Experts Deviate from the Actual Criteria Relied Upon for the 2017 Enacted Map**

31. Each of the three Plaintiffs’ experts deviate from the criteria utilized when constructing the 2017 enacted map. As a consequence, one should not expect that their simulations would contain a map identical to the enacted map or even be “close” to the enacted map. If the simulations had used the exact criteria of the 2017 enacted map, then we would anticipate that if the space of compliant maps was properly sampled, the enacted map or something close to it would have been among the simulations. Only then can one properly evaluate the simulated maps

compared to the enacted map. The results of the simulations are not informative because the premise of their simulated maps is incomplete and inaccurate. Each expert has added error to his results by not following the actual criteria used in constructing the enacted map.

32. The following summarizes the actual criteria utilized by the legislature in constructing the enacted map:<sup>8</sup>

**Equal Population.** The Committees shall use the 2010 federal decennial census data as the sole basis of population for drawing legislative districts in the 2017 House and Senate plans. The number of persons in each legislative district shall comply with the +/- 5 percent population deviation standard established by *Stephenson v. Bartlett*, 355 N.C. 354, 562 S.E. 2d 377 (2002).

**Contiguity.** Legislative districts shall be comprised of contiguous territory. Contiguity by water is sufficient.

**County Groupings and Traversals.** The Committees shall draw legislative districts within county groupings as required by *Stephenson v. Bartlett*, 355 N.C. 354, 562 S.E. 2d 377 (2002) (*Stephenson I*), *Stephenson v. Bartlett*, 357 N.C. 301, 582 S.E.2d 247 (2003) (*Stephenson II*), *Dickson v. Rucho*, 367 N.C. 542, 766 S.E.2d 238 (2014) (*Dickson I*) and *Dickson v. Rucho*, 368 N.C. 481, 781 S.E.2d 460 (2015) (*Dickson II*). Within county groupings, county lines shall not be traversed except as authorized by *Stephenson I*, *Stephenson II*, *Dickson I*, and *Dickson II*.

**Compactness.** The Committees shall make reasonable efforts to draw legislative districts in the 2017 House and Senate plans that improve the compactness of the current districts. In doing so, the Committees may use as a guide the minimum Reock (“dispersion”) and Polsby-Popper (“perimeter”) scores identified by Richard H. Pildes and Richard G. Neimi in *Expressive Harms, "Bizarre Districts," and Voting Rights: Evaluating Election-District Appearances After Shaw v. Reno*, 92 Mich. L. Rev. 483 (1993).

**Fewer Split Precincts.** The Committees shall make reasonable efforts to draw legislative districts in the 2017 House and Senate plans that split fewer precincts than the current legislative redistricting plans.

**Municipal Boundaries.** The Committees may consider municipal boundaries when drawing legislative districts in the 2017 House and Senate plans.

**Incumbency Protection.** Reasonable efforts and political considerations may be used to avoid pairing incumbent members of the House or Senate with another incumbent in legislative districts drawn in the 2017 House and Senate plans. The

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<sup>8</sup> Bates Number LDNC1883.

Committees may make reasonable efforts to ensure voters have a reasonable opportunity to elect non-paired incumbents of either party to a district in the 2017 House and Senate plans.

**Election Data.** Political considerations and election results data may be used in the drawing of legislative districts in the 2017 House and Senate plans.

**No Consideration of Racial Data.** Data identifying the race of individuals or voters shall not be used in the drawing of legislative districts in the 2017 House and Senate plans.

*Dr. Pegden's Deviations from the Actual Criteria:*

33. Dr. Pegden deviates from the population and compactness guidelines established for the 2017 enacted map. Rather than requiring a district to meet the  $\pm 5\%$  population deviation, Dr. Pegden applies a less clear requirement: "I require comparison districtings to have district populations within the same range as the enacted House or Senate plan, respectively."<sup>9</sup> In addition, Dr. Pegden does not apply the guide of the minimum Reock ("dispersion") score and Polsby-Popper score ("perimeter") that was used as a minimum threshold for the enacted map. Instead, Dr. Pegden requires the simulated maps to be at least as compact as the enacted map up to an error of 5%.<sup>10</sup> A review of Dr. Pegden's simulation code suggests that in reality, he did not actually apply a compactness criterion. Thus, Dr. Pegden could accept simulated maps that do not meet the minimum thresholds of the enacted map and could have failed to include simulated maps that meet these minimum thresholds.

34. As a consequence of these deviations, Dr. Pegden will accept and reject simulated maps that do not meet the same criteria as the enacted map, resulting in yet another apples and oranges comparison.

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<sup>9</sup> Pegden Report, page 7.

<sup>10</sup> Pegden Report, page 8.

35. Dr. Pegden also does not adjust for incumbency protection in accordance to the enacted plan. Thus, he does not apply a weight for the party of the incumbents, which would change his partisanship outcomes.

36. With respect to the simulations prepared by each of Plaintiffs' experts, none follow the guidelines used to construct the 2017 enacted map. As a consequence, the set of maps resulting from the simulations that are used to compare the Democratic Districts to that of the enacted map are faulty because, in each case, the foundation of the comparison is not the same as the enacted map.

***Dr. Chen's Deviations from the Actual Criteria:***

37. With respect to compactness the guidelines state, "The Committees shall make reasonable efforts to draw legislative districts in the 2017 House and Senate plans that improve the compactness of the current districts. In doing so, the Committees may use as a guide the minimum Reock ("dispersion") and Polsby-Popper ("perimeter") scores identified by Richard H. Pildes and Richard G. Neimi."<sup>11</sup> The minimum dispersion or Reock score is 0.15 and the minimum perimeter or Polsby-Popper score is 0.05 according to this article.<sup>12</sup>

38. Dr. Chen did not apply the compactness guidelines as they were described in the legislative record. Instead, Dr. Chen applies more stringent compactness criteria to accept maps by essentially keeping only those simulated maps with a better score. Thus, it is not surprising that he writes that all of his simulated maps have a higher Reock and Polsby-Popper score than the enacted map.<sup>13</sup>

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<sup>11</sup> Richard H. Pildes and Richard G. Neimi in *Expressive Harms, "Bizarre Districts," and Voting Rights: Evaluating Election-District Appearances After Shaw v. Reno*, 92 Mich. L. Rev. 483 (1993).

<sup>12</sup> Richard H. Pildes and Richard G. Neimi in *Expressive Harms, "Bizarre Districts," and Voting Rights: Evaluating Election-District Appearances After Shaw v. Reno*, 92 Mich. L. Rev. 483 (1993), Table 3 and cited in *Cromartie v. Hunt*, 133 F.Supp. 2d 407 (2000), at 415.

<sup>13</sup> Chen Report, page 16.



39. Dr. Chen's code for acceptance of a map states, "save this plan if it has the lowest t-score."<sup>14</sup> The t-score is only a mathematically convenient criterion introduced by Dr. Chen to generate his maps.

40. In addition to including compactness to construct the t-score, Dr. Chen also included a measure for the splitting of precincts and municipalities as part of the score. The criteria established for the 2017 enacted plan do not state that the goal is to avoid the splitting of precincts and municipalities. Instead, the 2017 enacted plan was constructed to have fewer precinct splits than the prior plan in the districts that were to be redrawn and stated that municipal boundaries could be taken into consideration.

41. A t-score evaluation was not among the actual criteria relied upon for the creation of the 2017 enacted map. To create the t-score that he uses to evaluate a map, Dr. Chen subtracts the Reock and Polsby-Popper scores from 1.75. Dr. Chen does not explain why he decided to use 1.75, but were he to change the 1.75 to another number, he would derive a different t-score by which to evaluate each simulated map. As a consequence, Dr. Chen is able to influence the simulated maps that he accepts and rejects.

42. If Dr. Chen had applied the actual criteria utilized by those who constructed the enacted map, he presumably would have generated a different set of maps. The resulting maps would have been the more relevant simulations to compare to the enacted map to assess partisan bias. Dr. Chen's modification of the actual criteria results in making apples and oranges

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<sup>14</sup> See for example code from Dr. Chen's file, NCU\_BASE\_SET1.JAVA:  
**double t\_score = (1+tmcdfrags-ALLmcds.size()+ tvtdfrags-ALLvtlds.size()) \* (new Double(1.75)-reock-polsby); //lower is better**  
if(t\_score<low\_score){ low\_score=t\_score; Dpcts=makeCopy(districts, t\_Dpcts);  
Dpops=(int[])t\_Dpops.clone(); } **//save this plan if it has the lowest t\_score**  
System.out.println("tctyfrags: "+tctyfrags+" tmcdfrags: "+tmcdfrags+" tvtdfrags: "+tvtdfrags+" reock:  
"+reock+" polsby: "+polsby+" t\_score: "+t\_score+" try: "+t);  
System.out.println("====="); break; //System.exit(0);

comparisons. It should not be surprising to have maps with “better” scores, although only slightly better based on a review of Tables 5 and 6 of his report, compared to the enacted map. To properly evaluate the enacted map would require using the same, not modified, criteria. Dr. Chen could have accepted maps with the same or fewer splits as the enacted map.

43. Dr. Chen’s Set 2 simulations are an attempt to include incumbency protection among his criteria. He states that he prepared another set of simulations “that intentionally protect exactly as many incumbents as is mathematically possible within each county grouping while otherwise adhering to the same traditional districting criteria.”<sup>15</sup> This approach appears to focus on the first criterion used to prepare the enacted plan, that “Reasonable efforts and political considerations may be used to avoid pairing incumbent members of the House or Senate with another incumbent in legislative districts drawn in the 2017 House and Senate plans.”<sup>16</sup>

44. However, Dr. Chen does not take into account the additional criterion used with respect to incumbency protection: “The Committees may make reasonable efforts to ensure voters have a reasonable opportunity to elect non-paired incumbents of either party to a district in the 2017 House and Senate plans.”<sup>17</sup> Dr. Chen ignores this piece of the 2017 enacted map criteria which was to allow for incumbents to win, not to just consider the pairing. He could have modified his criterion to weight the vote share for the political party of the incumbent, but chose not to.

45. A review of the current political party representation in districts that are not frozen and in which non-incumbents were elected reveals a higher proportion of Democratic Party House and Senate members elected to these seats.<sup>18</sup>

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<sup>15</sup> Chen Report, page 43.

<sup>16</sup> Bates Number LDNC1883.

<sup>17</sup> Bates Number LDNC1883.

<sup>18</sup> Among the frozen House Districts, half of the Districts (or 9 of 18) were Democratic Party candidates. Among the frozen Senate Districts, one-third (or 7 of 21) were Democratic Party candidates. See the North Carolina House of Representatives website, <https://www.ncleg.gov/House>, and the North Carolina Senate website, <https://www.ncleg.gov/Senate>.

# **EXHIBIT F**

**[CORRECTED] RESPONSE REPORT OF JOWEI CHEN, Ph.D.**

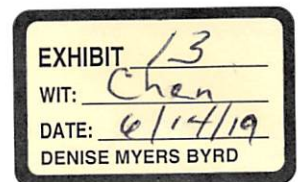
**June 7, 2019**

**Response to Dr. Hood's and Dr. Thornton's claims that the General Assembly Followed the 2017 House and Senate Plans Criteria:**

In their rebuttal reports, Dr. Hood and Dr. Thornton claim that in drawing the 2017 House Plan and the 2017 Senate Plan, the General Assembly followed the 2017 House and Senate Plans Criteria adopted by the House and Senate Redistricting Committees on August 10, 2017 (hereinafter: "The Adopted Criteria"). Specifically, Dr. Hood argues that "Taking into account all the criteria discussed [in the Adopted Criteria], a map drawer creating district boundary lines within a county group is quite constrained as to the amount of discretion they may exercise" (p. 2-3, Hood report of April 30, 2019). Dr. Hood further conducts an analysis to purportedly demonstrate that the 2017 Plans comply with the Adopted Criteria, and he concludes that "[t]he 2017 House and Senate plans met the goals stated in the adopted redistricting criteria." (p. 9 of Hood report of April 30, 2019). Similar to Dr. Hood, Dr. Thornton asserts that the Adopted Criteria reflect "the actual criteria utilized by those who constructed the enacted [2017] map," and Dr. Thornton bases much of the analysis in her report upon this assumption (Para. 32, 33-56, 80-86, Thornton report of May 7, 2019).

I have two responses to this claim by Dr. Hood and Dr. Thornton. My first response is that Dr. Hofeller logically could not have been following the 2017 Adopted Criteria in June 2017, which is when he drafted much of the General Assembly's eventually enacted House and Senate districts. My second response to Dr. Hood's and Dr. Thornton's argument is that at all times in drawing the 2017 Plans, including after the 2017 Adopted Criteria were passed on August 10, 2017, Dr. Hofeller appeared to violate the Adopted Criteria's prohibition against any "consideration of racial data" (2017 House and Senate Plans Criteria, August 10, 2017). I explain both of these findings in detail below.

***Dr. Hofeller Could Not Have Followed the Adopted Criteria When He Drafted the House and Senate Districts During June 2017:*** As detailed above, Dr. Hood and Dr. Thornton argue that the General Assembly followed the 2017 Adopted Criteria in producing the 2017



House and Senate Plans. In response to this argument by these experts, I examined and analyzed draft maps prepared by Dr. Thomas Hofeller, who was responsible for drawing the General Assembly's enacted 2017 House and Senate Plans. I found that many of the new districts that the General Assembly enacted in the 2017 Plans are identical or nearly identical to drafts of those districts that Dr. Hofeller had drawn by June 2017—approximately 1.5 months before the House and Senate Redistricting Committees passed the Adopted Criteria on August 10, 2017, and before Legislative Defendants have claimed that there was any redistricting activity occurring at all. Thus, Dr. Hofeller logically could not have been following the Adopted Criteria when he drafted these House and Senate districts during June 2017.

In reaching these findings, I examined and analyzed draft House and Senate maps prepared by Dr. Hofeller during June 2017, which I understand Plaintiffs' counsel received through a subpoena to Dr. Hofeller's daughter. I received the files containing Dr. Hofeller's draft maps directly from Plaintiffs' forensic vendor, Stroz Friedberg.\*

These draft maps were prepared by Dr. Hofeller using Maptitude for Redistricting software and saved in electronic format. I compared the individual districts in Dr. Hofeller's draft maps to the final August 2017 maps that the General Assembly passed in House Bill 927 and Senate Bill 691. I found that many of the districts in the General Assembly's enacted maps were identical or nearly identical to districts appearing in Dr. Hofeller's draft maps last modified during June 2017.

In other words, Dr. Hofeller had already completed drafting the vast majority of the House Bill 927 and Senate Bill 691 plans by late June 2017. As explained below, in a June 28, 2017 draft House map, Dr. Hofeller had already finished assigning 90.9% of North Carolina's census blocks (containing 88.2% of the state's population) into their final districts. Subsequent changes made after Dr. Hofeller's June 28 draft map and prior to the final House Bill 927 map affected only 9.1% of the census blocks (containing 11.8% of the state's population). Similarly, in a June 24, 2017 draft Senate map, Dr. Hofeller had already finished assigning 95.6% of North Carolina's census blocks (containing 97.6% of the state's population) into their final districts. Subsequent changes made after Dr. Hofeller's June 24 draft map and prior to the final Senate Bill 691 map affected only 4.4% of the census blocks (containing 2.4% of the state's population).

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\* Plaintiffs' consulting expert, Blake Esselstyn, also received Dr. Hofeller's draft maps directly from Plaintiffs' vendor, and assisted me in exporting shapesfiles of the two draft maps analyzed in this section. Mr. Esselstyn also assisted me in preparing the screenshots presented in Figures 25-29.

### **Dr. Hofeller's Draft House Map of June 28, 2017:**

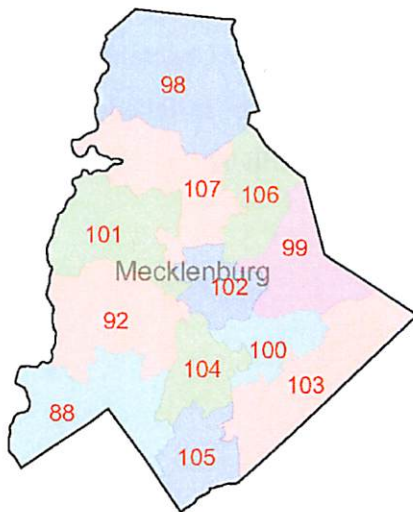
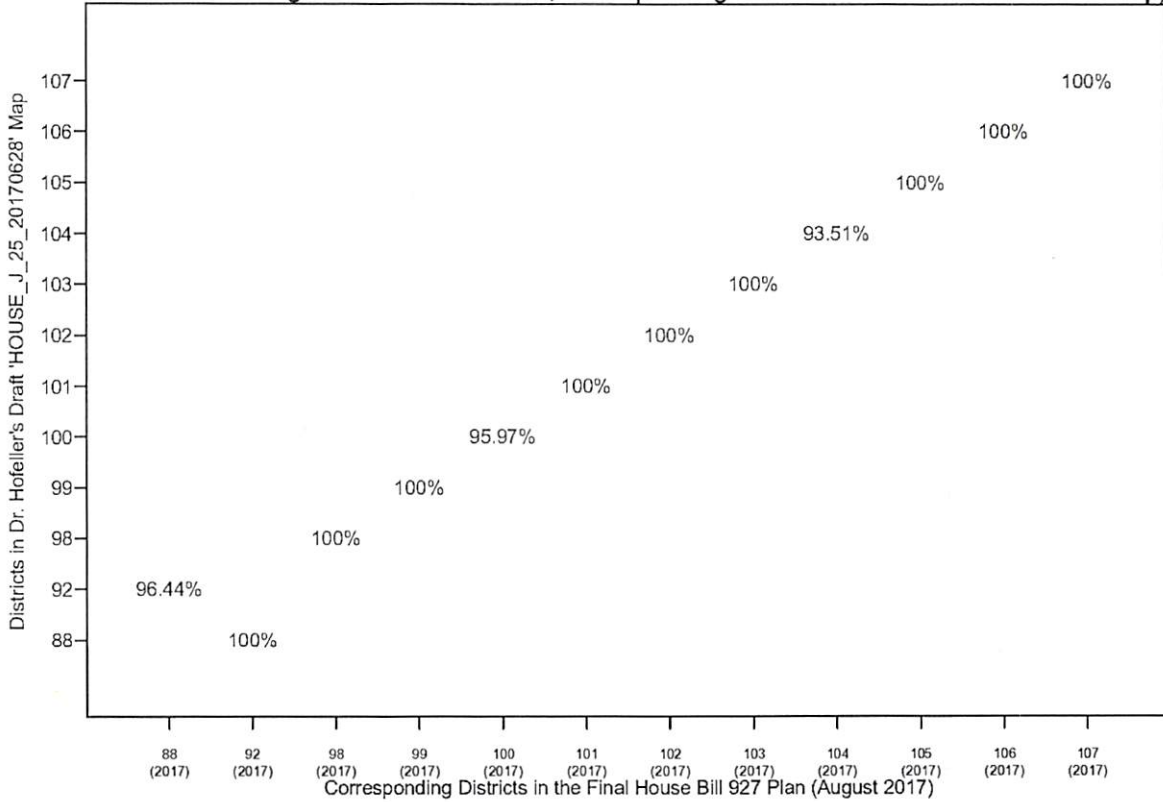
In a folder named "NC House J-25003.bak.zip",<sup>1</sup> Dr. Hofeller saved a draft House map that was last modified on June 28, 2017 (hereinafter: "the draft House map"). This draft House map contained numerous redrawn districts that are identical or nearly identical to the final districts in the General Assembly's House Bill 927. In other words, these districts were changed from the previous 2011 House Plan, and Dr. Hofeller had already drawn the General Assembly's final version or a near-final version of these districts in his June 28, 2017 draft House map. Below, I describe these districts by county grouping:

***The Mecklenburg County Grouping:*** As detailed in Figure 1, all 12 districts in this county grouping in Dr. Hofeller's draft House map are identical or nearly identical to their corresponding final districts in the General Assembly's House Bill 927. Specifically, 100% of the population in each of 9 districts (Districts 88, 98, 99, 101, 102, 103, 105, 106, and 107) in Dr. Hofeller's draft House map is also assigned to its respective corresponding district in the General Assembly's House Bill 927. District 88 in Dr. Hofeller's draft map was later renamed as HD-92 in House Bill 927, but the boundaries of these two districts are perfectly identical. Meanwhile, 96.44% of the population of District 92 in Dr. Hofeller's draft House map is also assigned to SD-88 in the General Assembly's House Bill 927. Additionally, 95.97% of the population of District 100 in Dr. Hofeller's draft House map is also assigned to HD-100 in the General Assembly's House Bill 927. Finally, 93.51% of the population of District 104 in Dr. Hofeller's draft House map is also assigned to HD-104 in the General Assembly's House Bill 927.

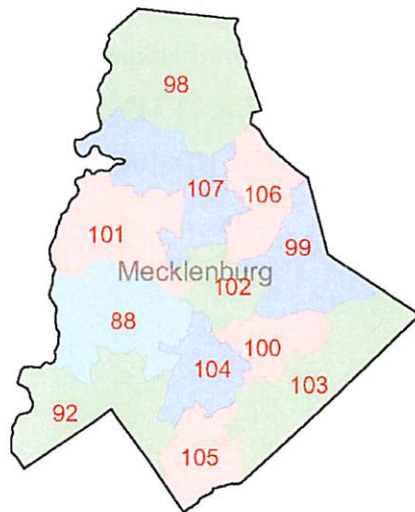
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<sup>1</sup> The full filepath of this folder's location is: C:\Seagate Dashboard 2.0\TOSHIBA-PC\toshiba\Backup\f7bc3748-d314-4cc2-a86b-ea77894bb5b2\20170628\_120524\_toshibaInc2724\C\MPRwork\NCPlans\NC House J-25 Backups\NC House J-25003.bak.zip

**Figure 1:**  
**Mecklenburg County Grouping**  
 (Numbers indicate the percentage of population in each of Dr. Hofeller's draft 'J\_25' districts that was also assigned to its most similar, corresponding district in the final House Bill 927 map)

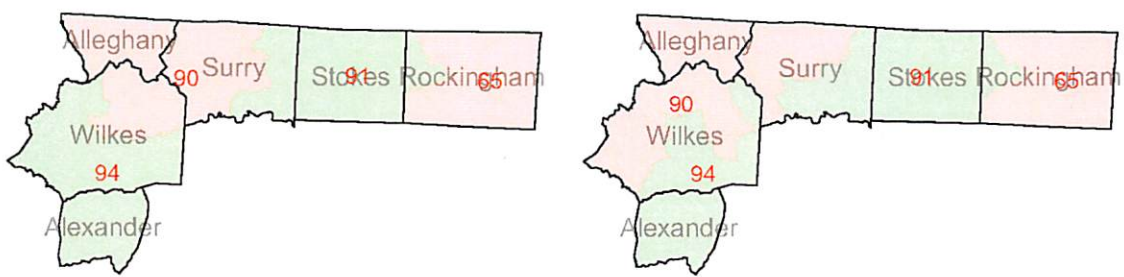
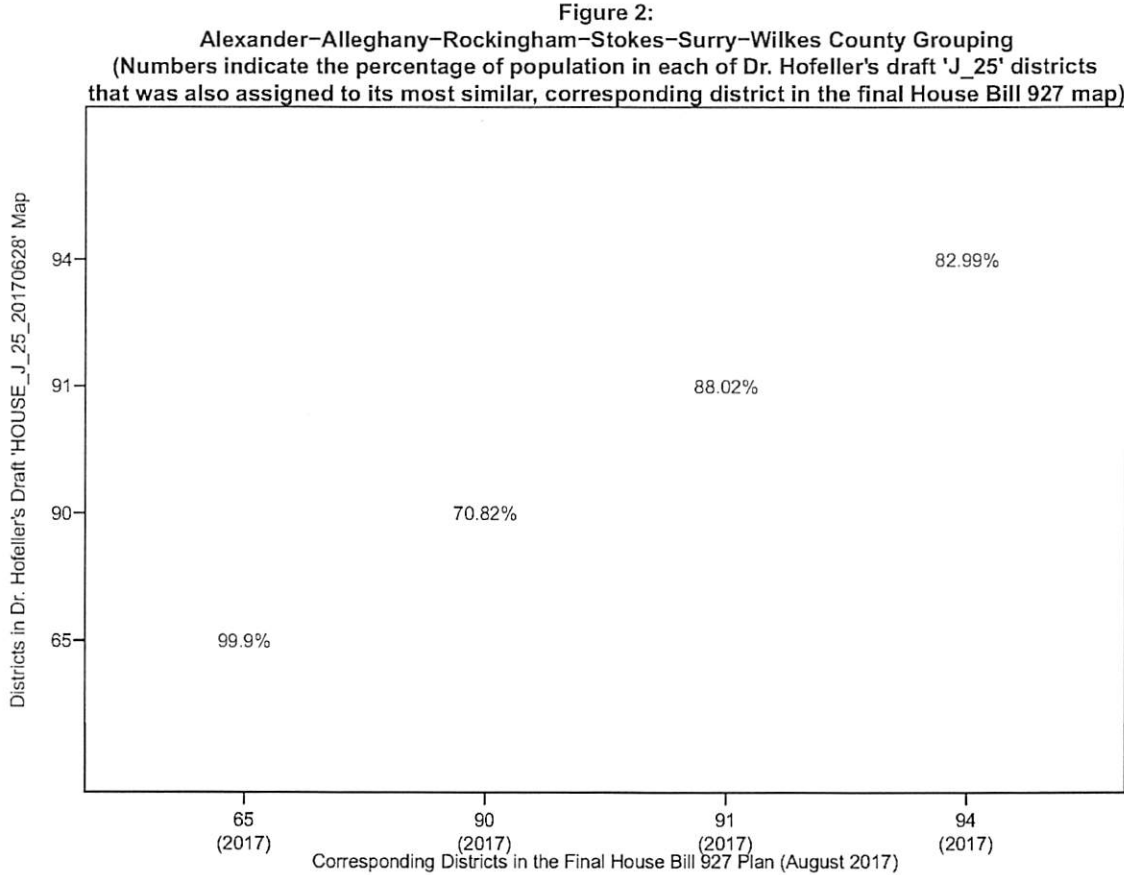


HOUSE\_J\_25\_20170628.shp (Hofeller)



House Bill 927 Plan (12 Districts)

*The Alexander–Alleghany–Rockingham–Stokes–Surry–Wilkes County Grouping:* As detailed in Figure 2, 99.9% of the population in District 65 in Dr. Hofeller's draft House map is also assigned to HD-65 in the General Assembly's House Bill 927.



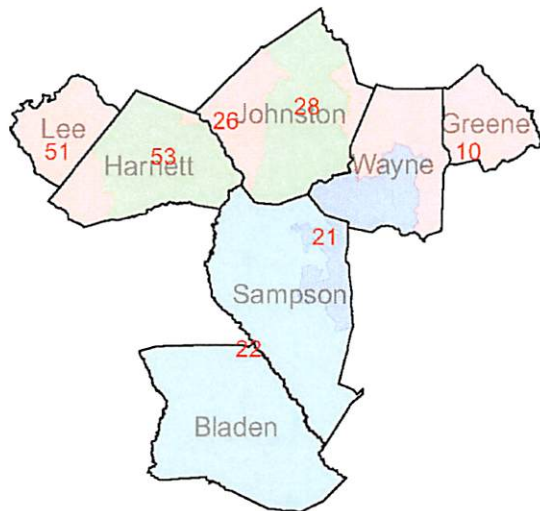
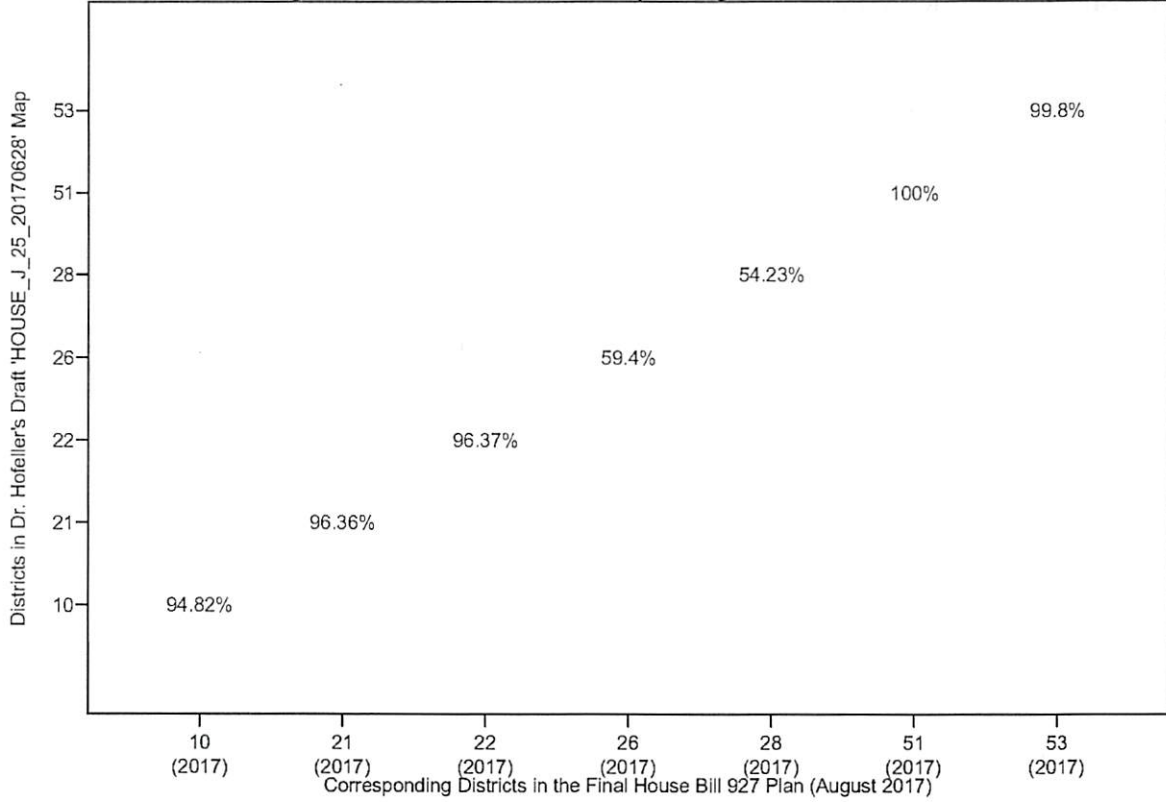
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House Bill 927 Plan (4 Districts)

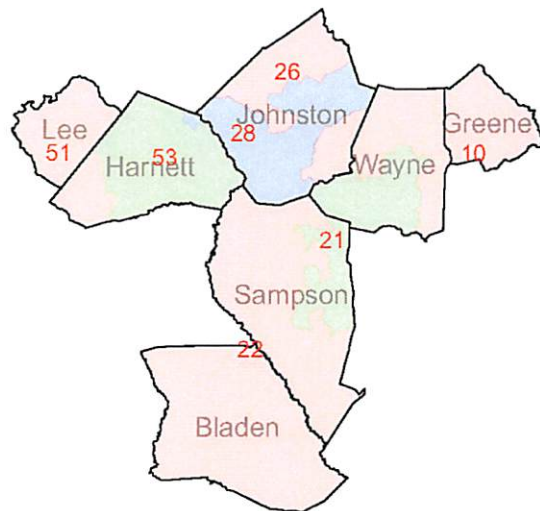


***Bladen-Greene-Harnett-Johnston-Lee-Sampson-Wayne County Grouping:*** As detailed in Figure 3, most of the districts in Dr. Hofeller's draft House map in this county grouping are identical or nearly identical to districts in the General Assembly's House Bill 927. District 51 in Dr. Hofeller's draft House map is perfectly identical to HD-51 in the General Assembly's House Bill 927. Districts 10, 21, 22, and 53 each overlap by over 94% with the same-numbered district in the General Assembly's House Bill 927.

**Figure 3:**  
**Bladen-Greene-Harnett-Johnston-Lee-Sampson-Wayne County Grouping**  
 (Numbers indicate the percentage of population in each of Dr. Hofeller's draft 'J\_25' districts that was also assigned to its most similar, corresponding district in the final House Bill 927 map)



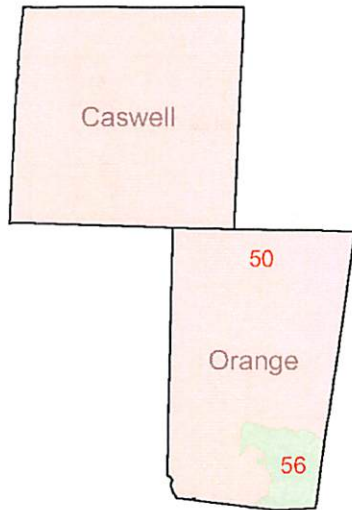
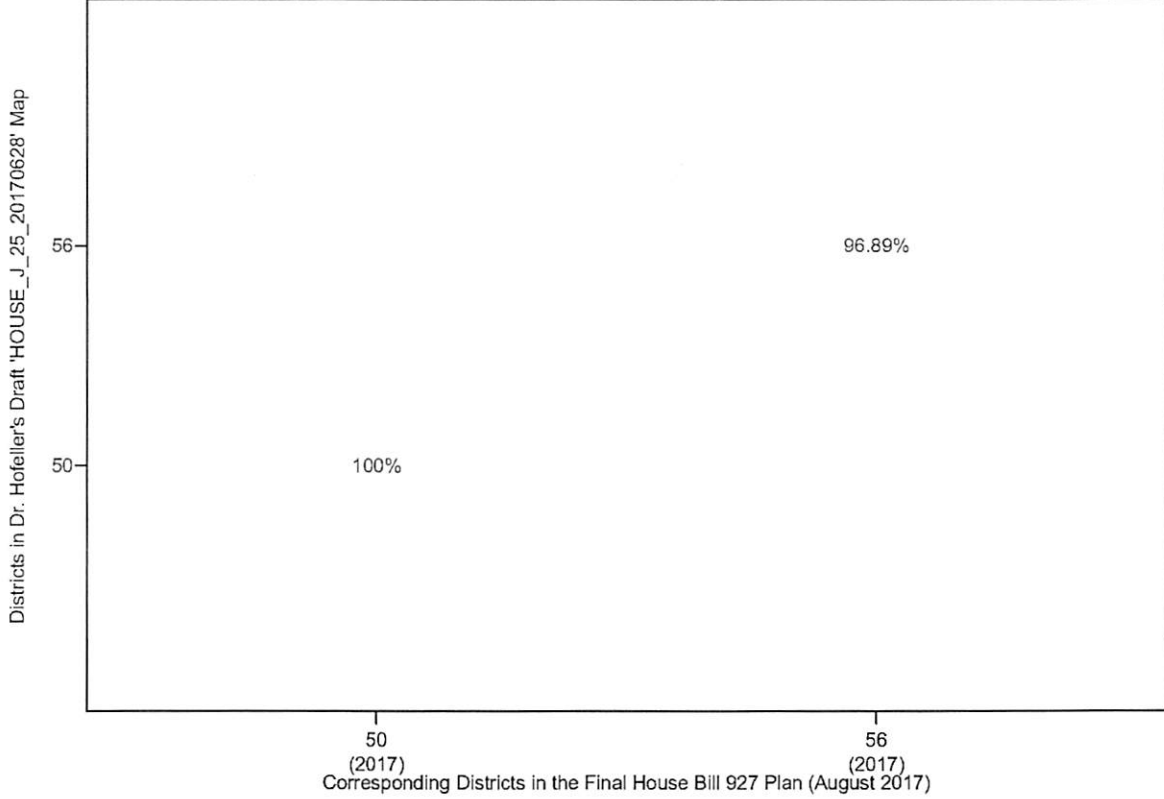
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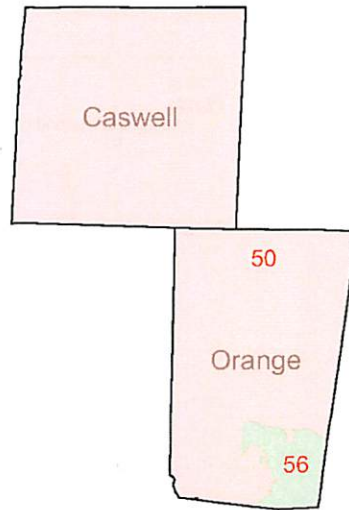
House Bill 927 Plan (7 Districts)

***Caswell-Orange County Grouping:*** As detailed in Figure 4, this county grouping contains two districts (HD-50 and HD-56), and both districts in Dr. Hofeller's map are nearly identical to these two districts in the General Assembly's House Bill 927. Specifically, 100% of the population of District 50 in Dr. Hofeller's draft House map is also assigned to HD-50 in the General Assembly's House Bill 927. Meanwhile, 96.89% of the population of District 56 in Dr. Hofeller's draft House map is also assigned to HD-56 in the General Assembly's House Bill 927. The only difference between the draft House map's version and the General Assembly's final version of these districts is that a small neighborhood in the northwestern portion of Chapel Hill (containing Homestead Park) was shifted from District 56 in the draft House map to HD-50 of the General Assembly's House Bill 927.

**Figure 4:**  
**Caswell-Orange County Grouping**  
 (Numbers indicate the percentage of population in each of Dr. Hofeller's draft 'J\_25' districts that was also assigned to its most similar, corresponding district in the final House Bill 927 map)

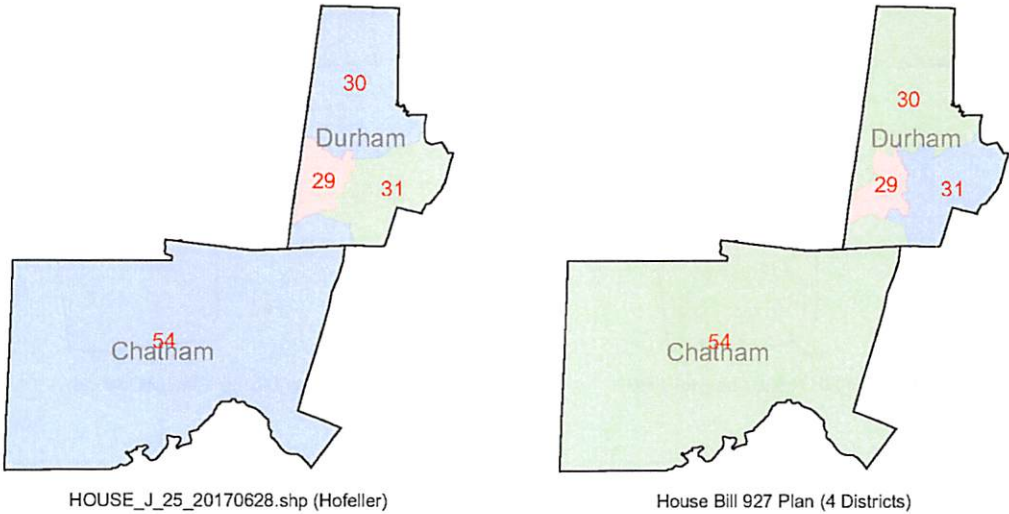
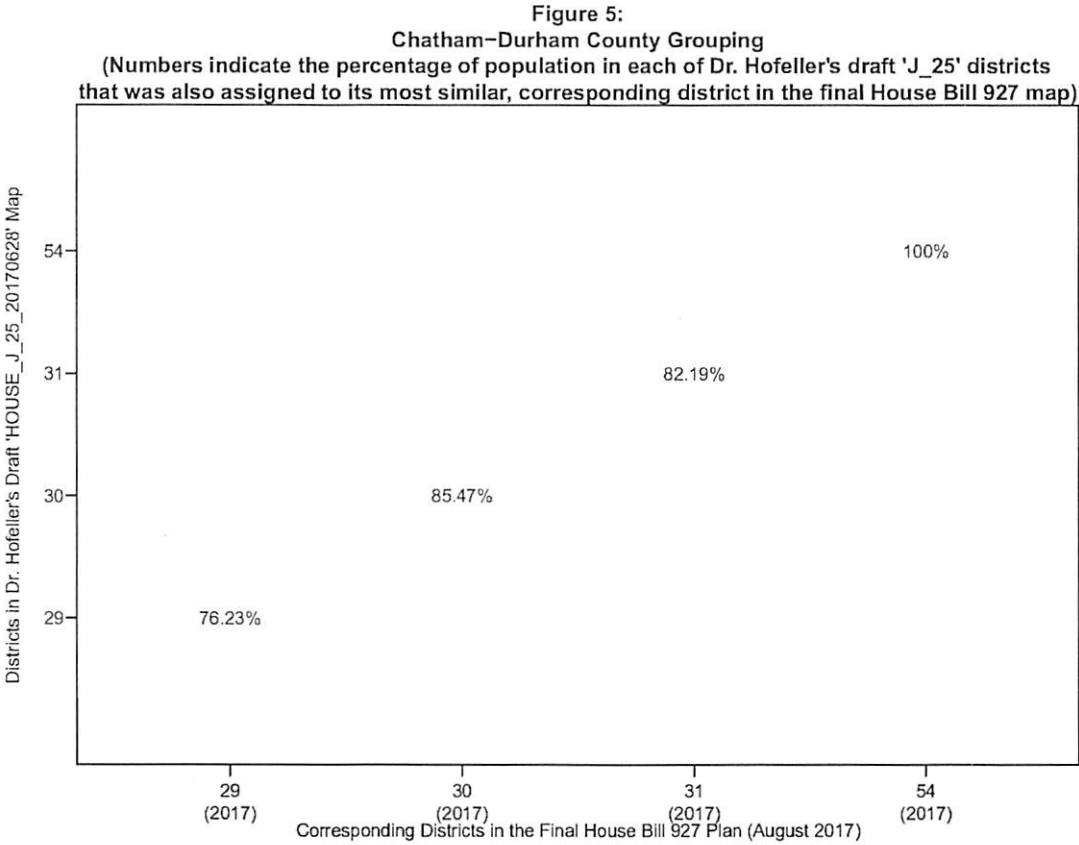


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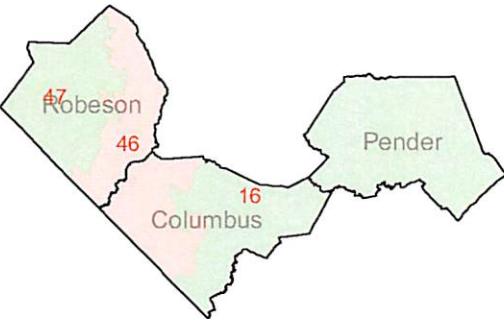
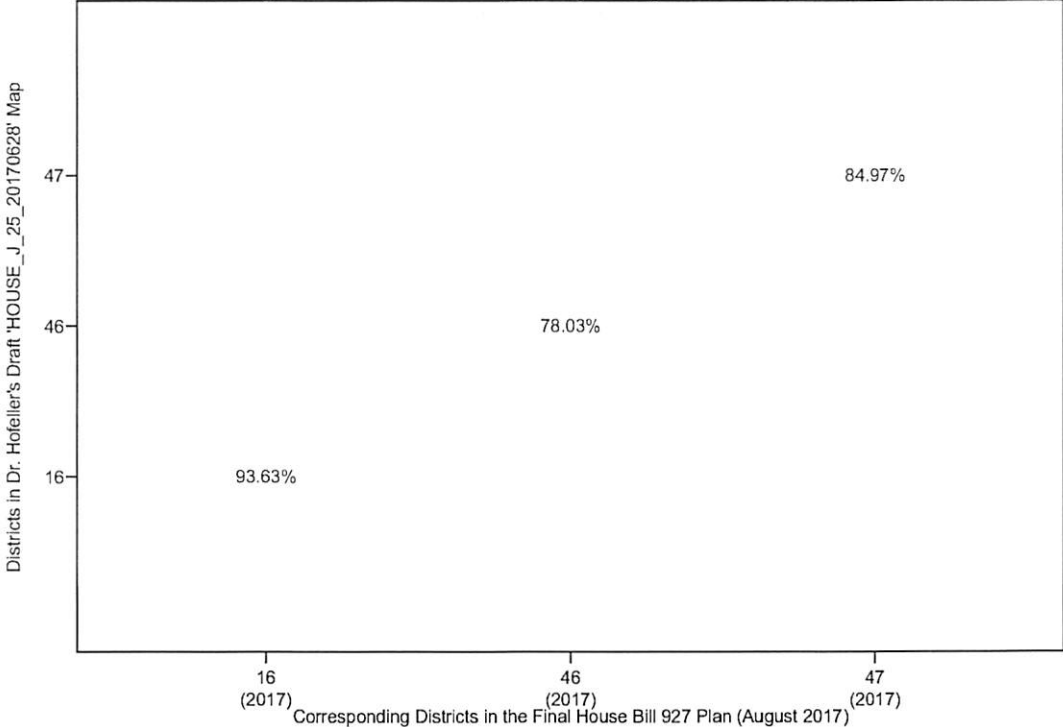
House Bill 927 Plan (2 Districts)

**Chatham-Durham County Grouping:** As detailed in Figure 5, District 54 in the draft House map is perfectly identical to HD-54 in the General Assembly's House Bill 927. That is, 100% of the population of District 54 in Dr. Hofeller's draft House map is also assigned to HD-54 in the General Assembly's House Bill 927.

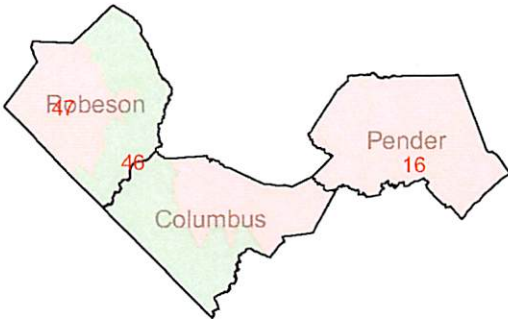


**Columbus-Pender-Robeson County Grouping:** As detailed in Figure 6, District 16 in the draft House map is nearly identical to HD-16 in the General Assembly's House Bill 927. Specifically, 93.63% of the population of District 16 in Dr. Hofeller's draft map is also assigned to HD-16 in the General Assembly's House Bill 927.

**Figure 6:**  
**Columbus-Pender-Robeson County Grouping**  
 (Numbers indicate the percentage of population in each of Dr. Hofeller's draft 'J\_25' districts that was also assigned to its most similar, corresponding district in the final House Bill 927 map)



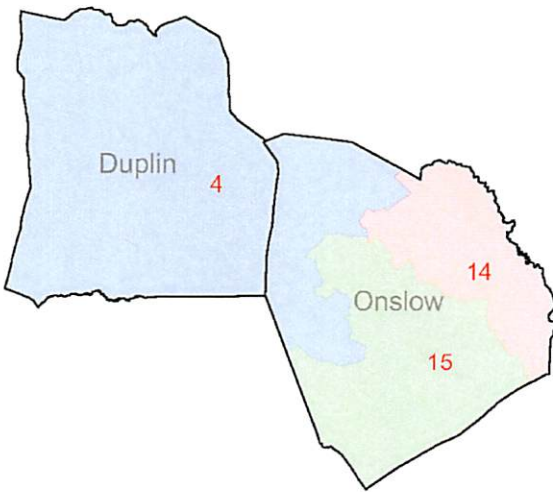
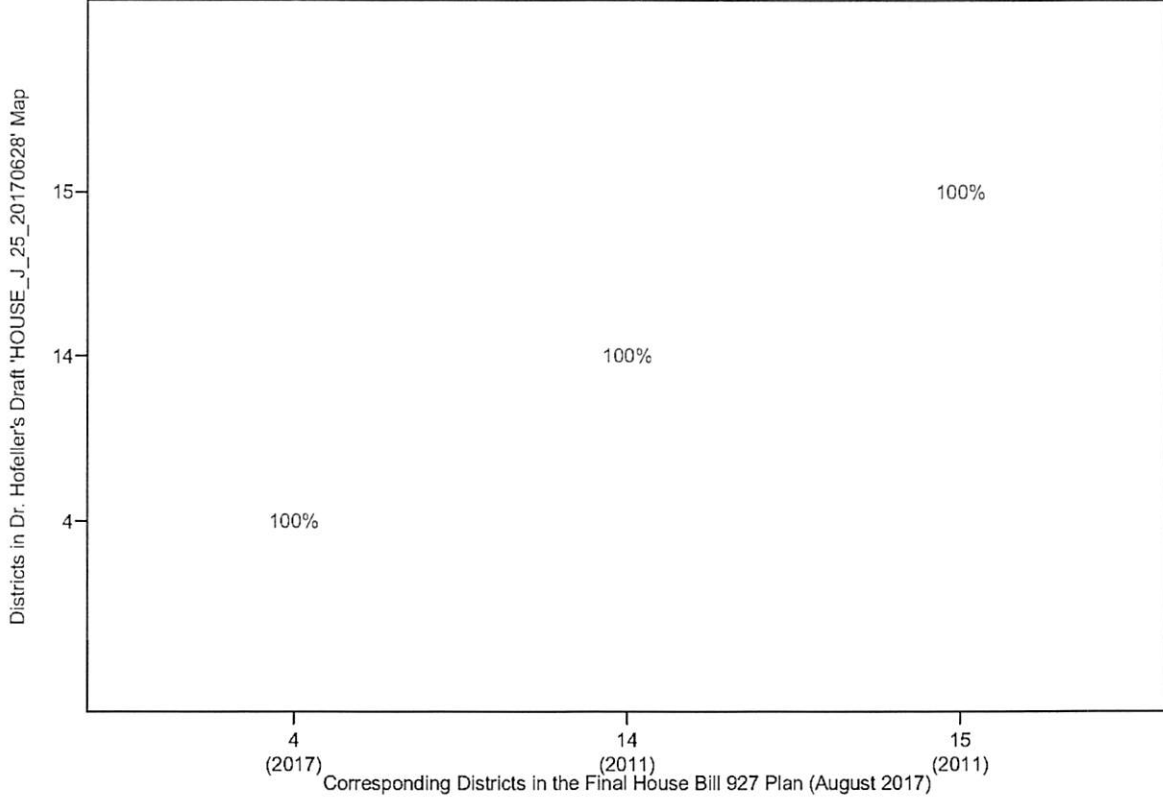
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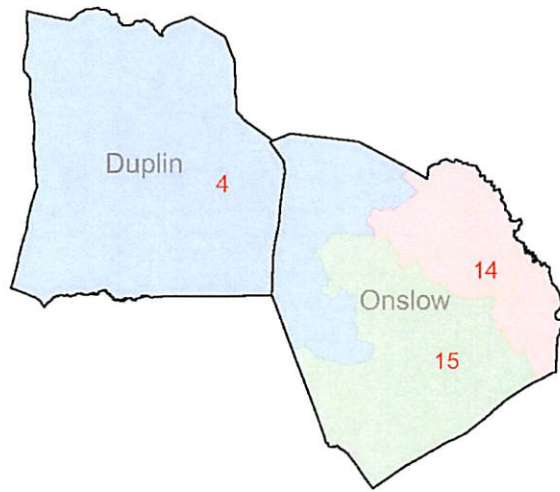
House Bill 927 Plan (3 Districts)

***Duplin-Onslow County Grouping:*** As detailed in Figure 7, this county grouping contains three districts (HD-4, HD-14, and HD-15), and all three districts in Dr. Hofeller's map for this county grouping are virtually identical to these three districts in the General Assembly's House Bill 927. Specifically, 100% of the population in District 4 in Dr. Hofeller's draft House map is also assigned to HD-4 in the General Assembly's House Bill 927, 100% of the population of District 14 in Dr. Hofeller's draft House map is also assigned to HD-14 in the General Assembly's House Bill 927, and 100% of the population of District 15 in Dr. Hofeller's draft House map is also assigned to HD-15 in the General Assembly's House Bill 927. The only difference between the draft House map's version and the General Assembly's final version of these districts is that a small, unpopulated portion of District 15 in Dr. Hofeller's draft House map was shifted to HD-14 of the General Assembly's House Bill 927.

**Figure 7:**  
**Duplin-Onslow County Grouping**  
 (Numbers indicate the percentage of population in each of Dr. Hofeller's draft 'J\_25' districts that was also assigned to its most similar, corresponding district in the final House Bill 927 map)



HOUSE\_J\_25\_20170628.shp (Hofeller)

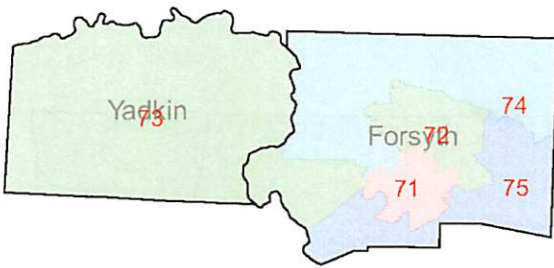
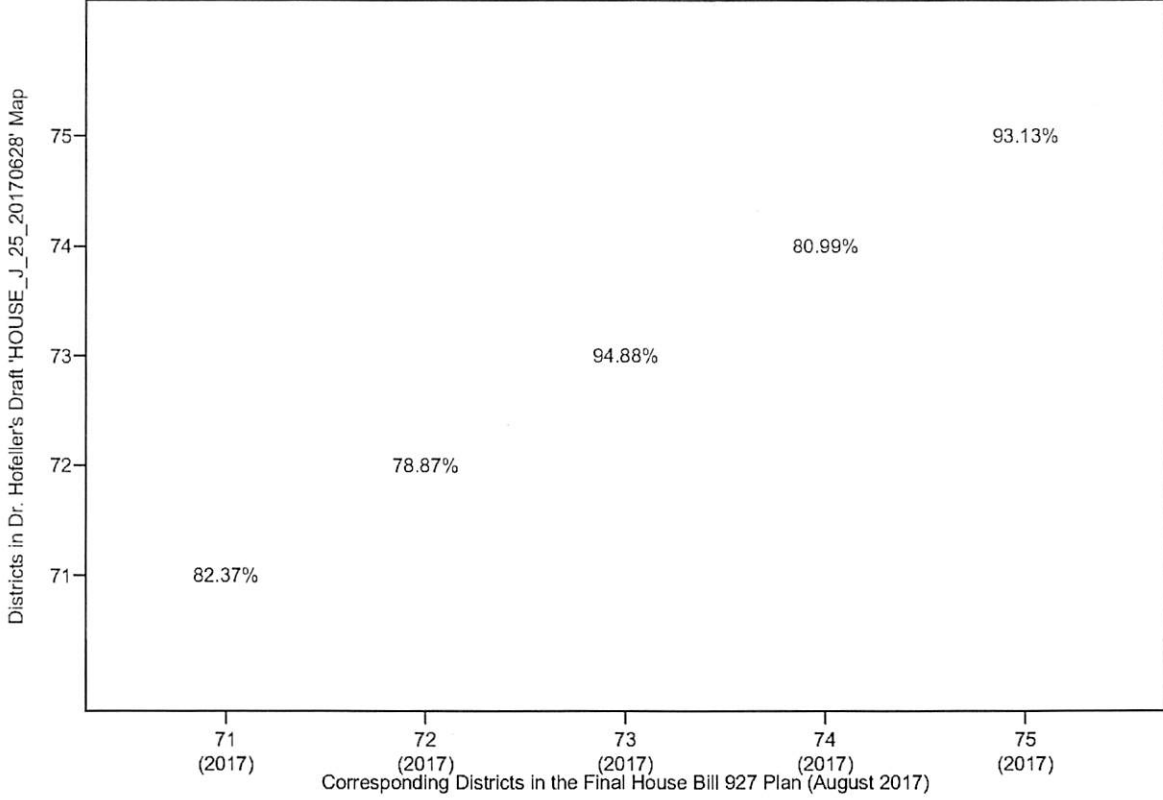


House Bill 927 Plan (3 Districts)

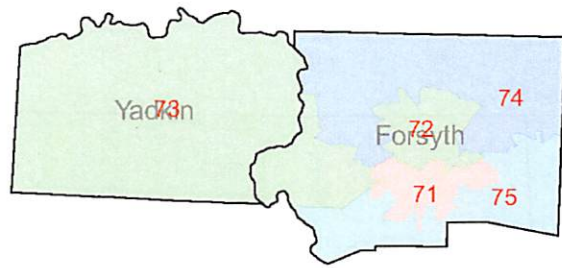


***Forsyth-Yadkin County Grouping:*** As detailed in Figure 8, two of the districts in Dr. Hofeller's draft House map in this county grouping are nearly identical to two districts in the General Assembly's House Bill 927. Specifically, 94.88% of the population of District 73 in Dr. Hofeller's draft House map is also assigned to HD-73 in the General Assembly's House Bill 927. Meanwhile, 93.13% of the population of District 75 in Dr. Hofeller's draft House map is also assigned to HD-75 in the General Assembly's House Bill 927.

**Figure 8:**  
**Forsyth–Yadkin County Grouping**  
 (Numbers indicate the percentage of population in each of Dr. Hofeller's draft 'J\_25' districts that was also assigned to its most similar, corresponding district in the final House Bill 927 map)



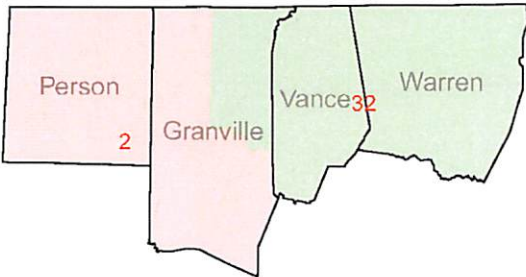
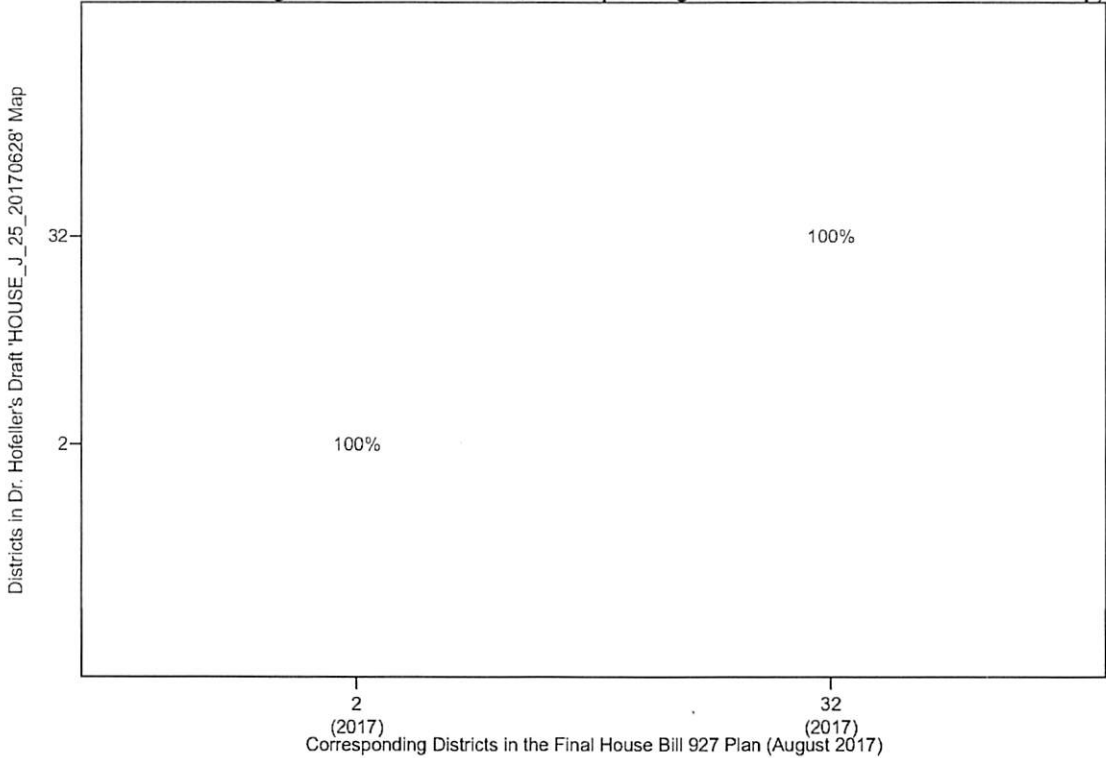
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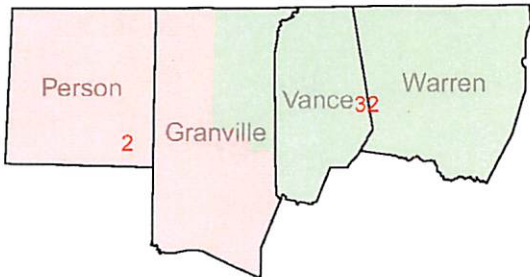
House Bill 927 Plan (5 Districts)

*The Granville-Person-Vance-Warren County Grouping:* As detailed in Figure 9, both of the districts in Dr. Hofeller's map for this county grouping are perfectly identical to HD-2 and HD-32 in the General Assembly's House Bill 927.

**Figure 9:**  
**Granville-Person-Vance-Warren County Grouping**  
 (Numbers indicate the percentage of population in each of Dr. Hofeller's draft 'J\_25' districts that was also assigned to its most similar, corresponding district in the final House Bill 927 map)



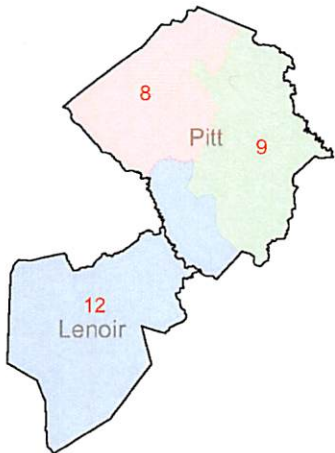
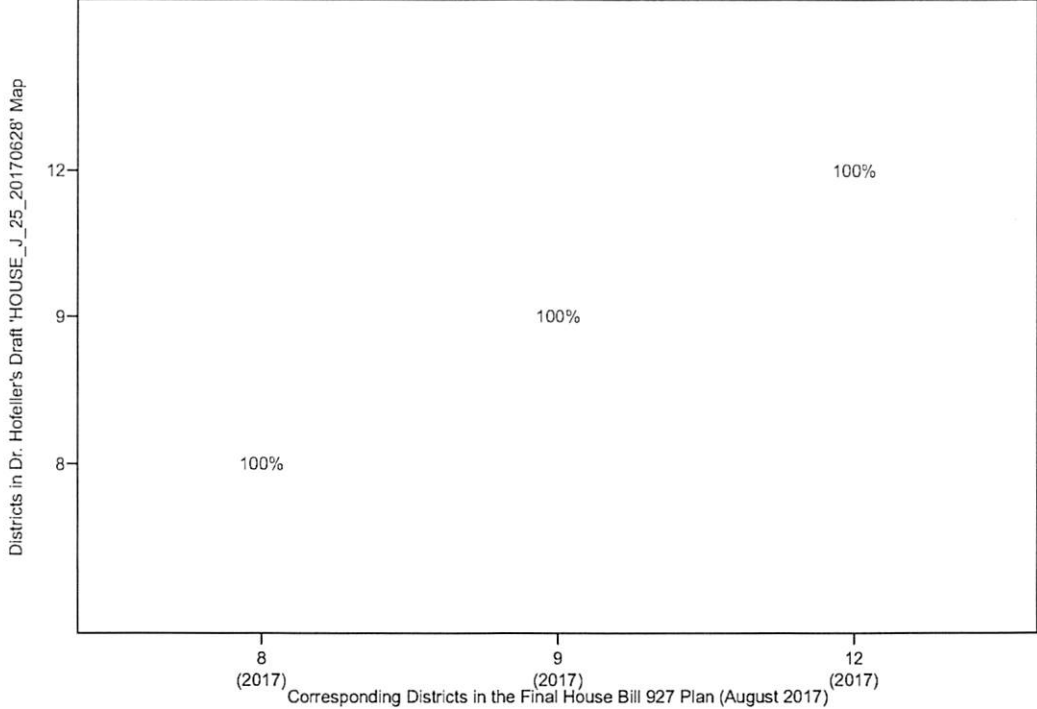
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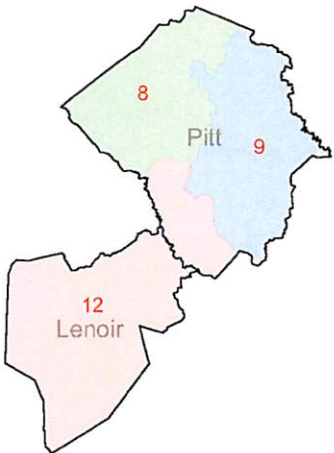
House Bill 927 Plan (2 Districts)

**Lenoir-Pitt County Grouping:** As detailed in Figure 10, this county grouping contains three districts (HD-8, HD-9, and HD-12), and all three districts in Dr. Hofeller's map for this county grouping are perfectly identical to these three districts in the General Assembly's House Bill 927.

**Figure 10:**  
**Lenoir-Pitt County Grouping**  
 (Numbers indicate the percentage of population in each of Dr. Hofeller's draft 'J\_25' districts that was also assigned to its most similar, corresponding district in the final House Bill 927 map)



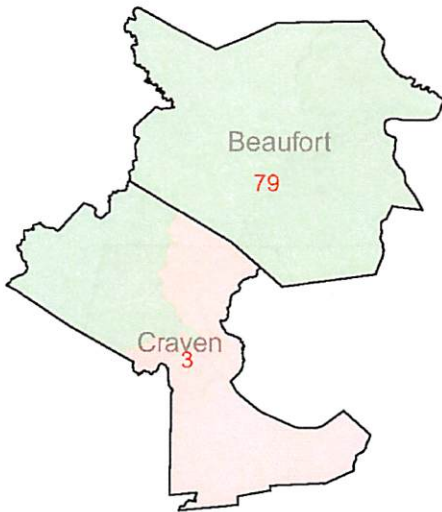
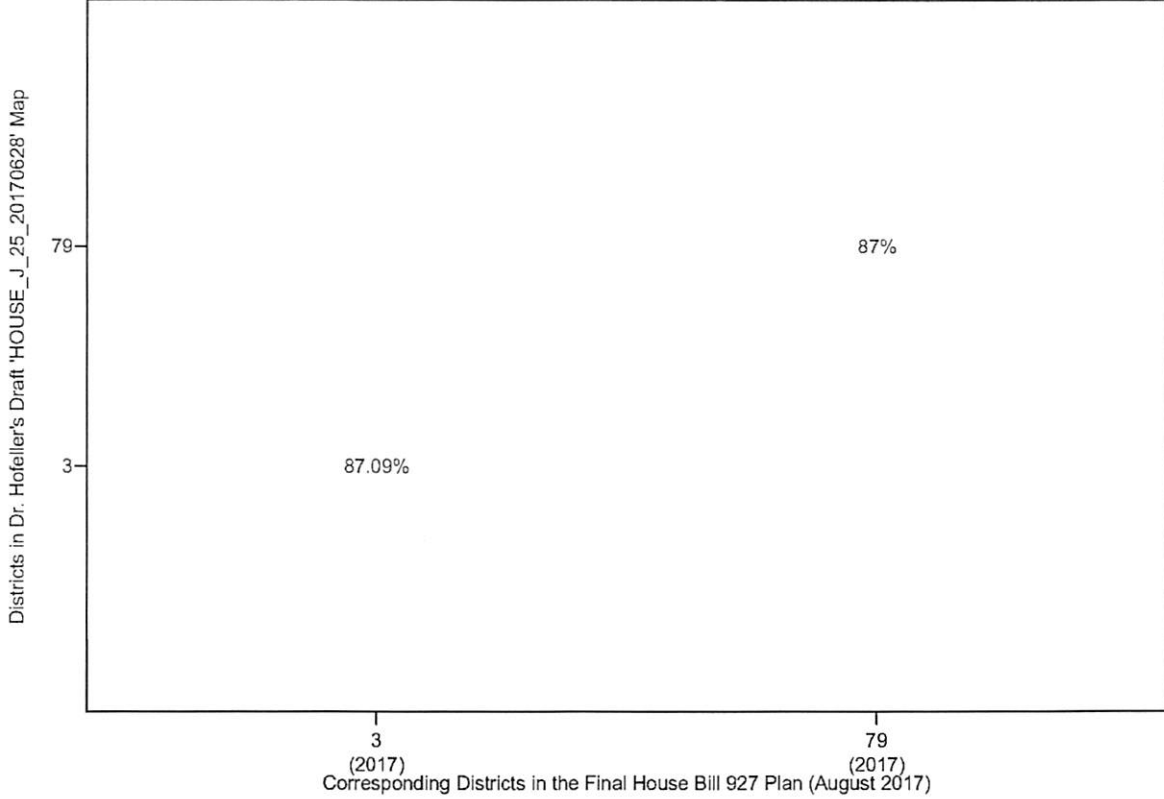
HOUSE\_J\_25\_20170628.shp (Hofeller)



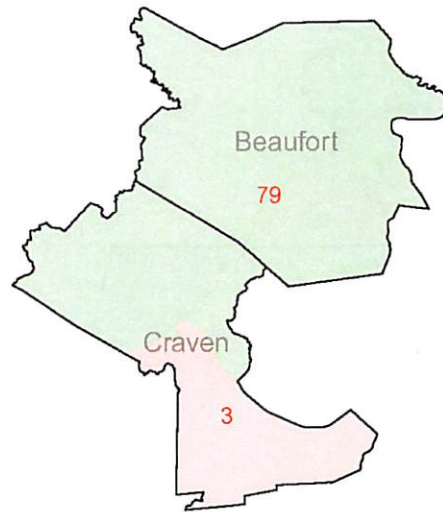
House Bill 927 Plan (3 Districts)

Figures 11-16 below show the remaining House county groupings that were changed in 2017 and contain more than one district. As can be seen, these groupings also contain districts that substantially overlap with the final versions of those districts.

**Figure 11:**  
**Beaufort-Craven County Grouping**  
 (Numbers indicate the percentage of population in each of Dr. Hofeller's draft 'J\_25' districts that was also assigned to its most similar, corresponding district in the final House Bill 927 map)

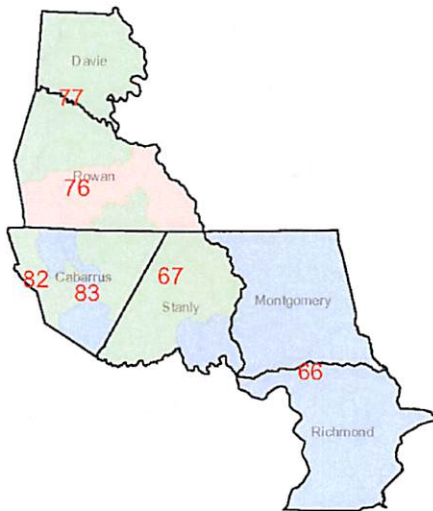
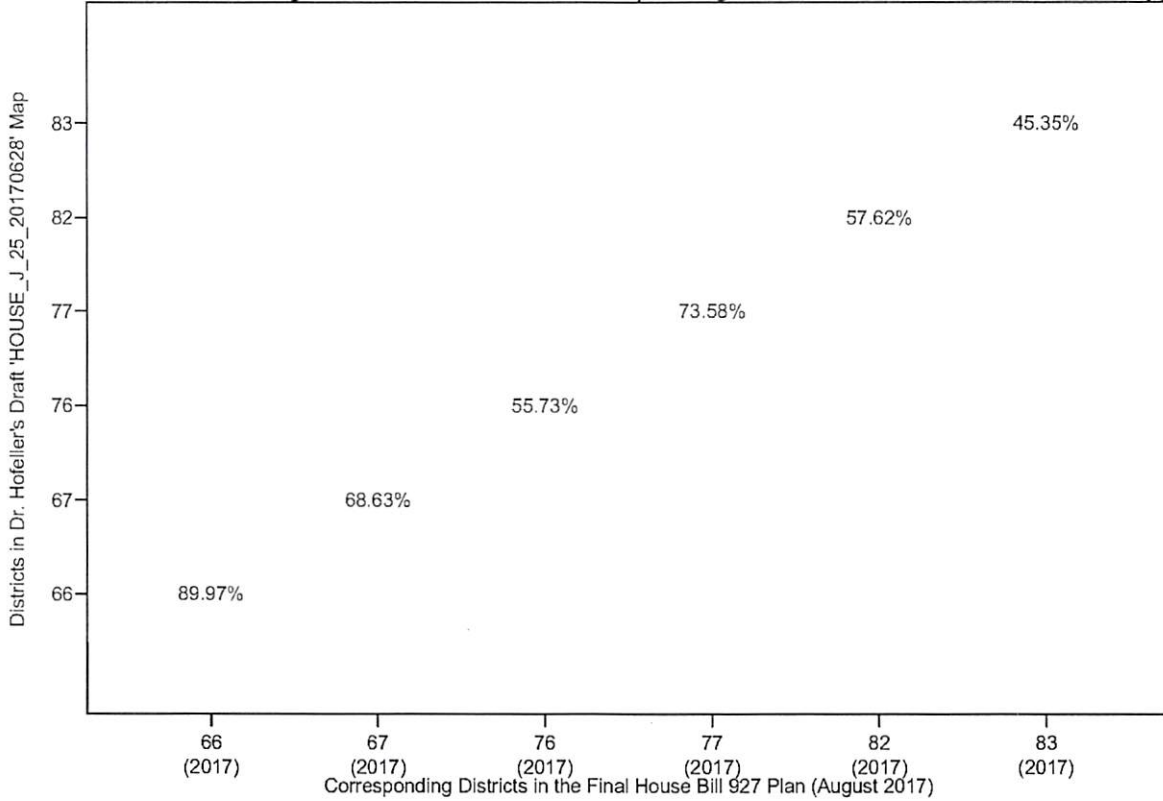


HOUSE\_J\_25\_20170628.shp (Hofeller)

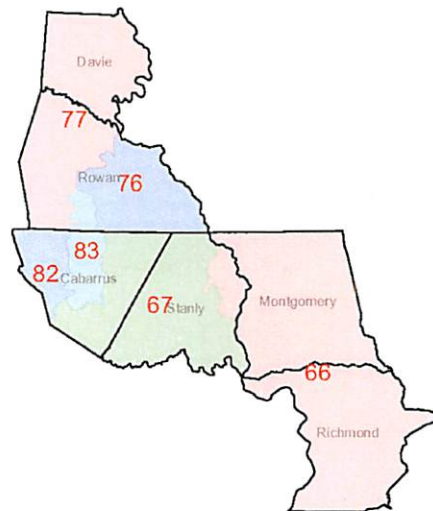


House Bill 927 Plan (2 Districts)

**Figure 12:**  
**Cabarrus–Davie–Montgomery–Richmond–Rowan–Stanly County Grouping**  
 (Numbers indicate the percentage of population in each of Dr. Hofeller's draft 'J\_25' districts that was also assigned to its most similar, corresponding district in the final House Bill 927 map)

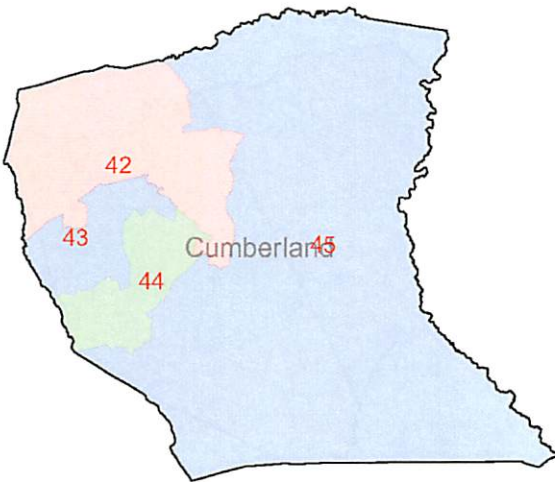
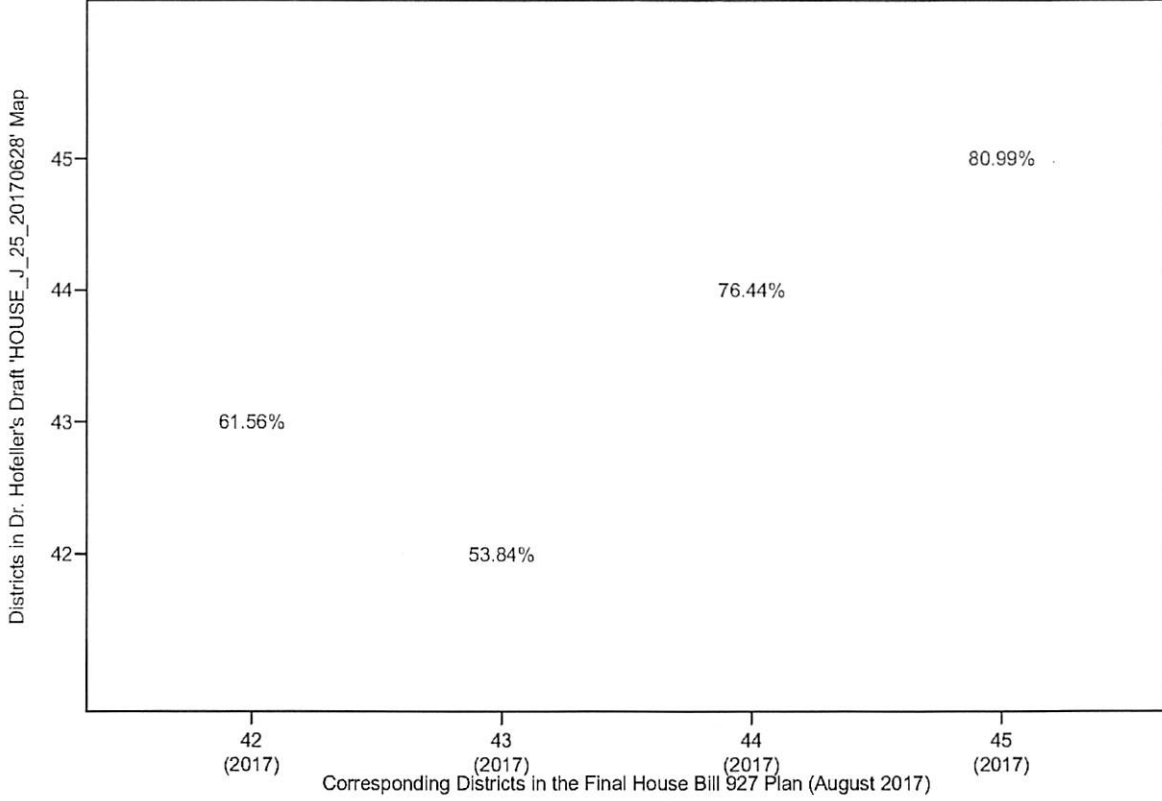


HOUSE\_J\_25\_20170628.shp (Hofeller)

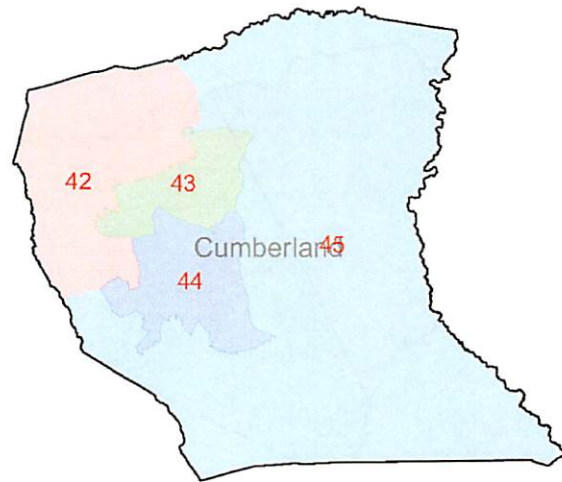


House Bill 927 Plan (6 Districts)

**Figure 13:**  
**Cumberland County Grouping**  
 (Numbers indicate the percentage of population in each of Dr. Hofeller's draft 'J\_25' districts that was also assigned to its most similar, corresponding district in the final House Bill 927 map)



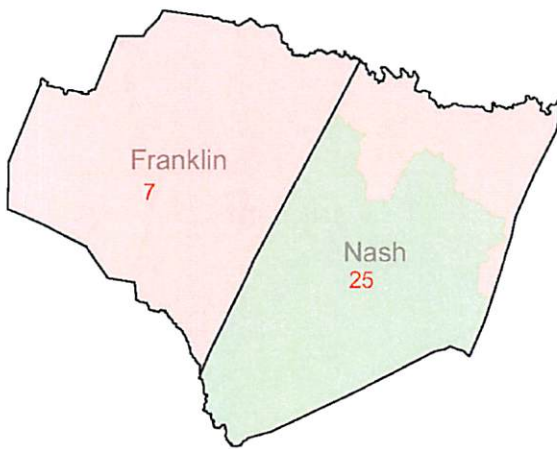
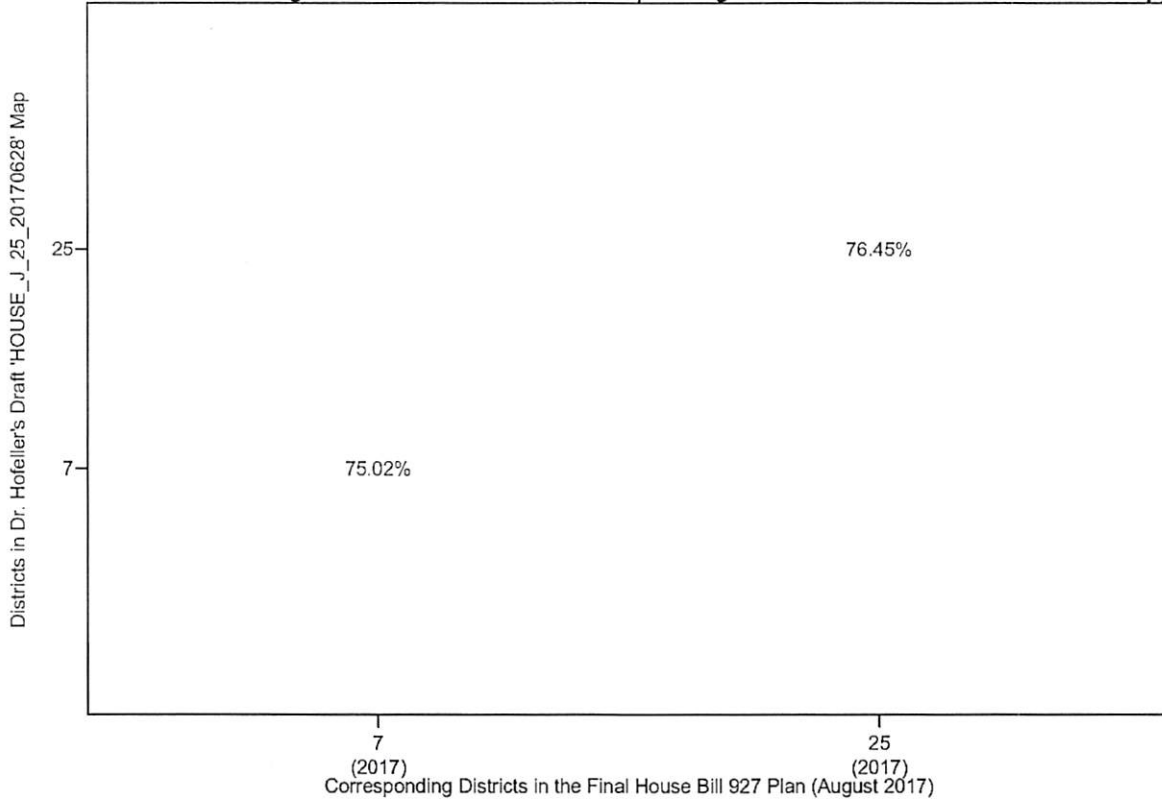
HOUSE\_J\_25\_20170628.shp (Hofeller)



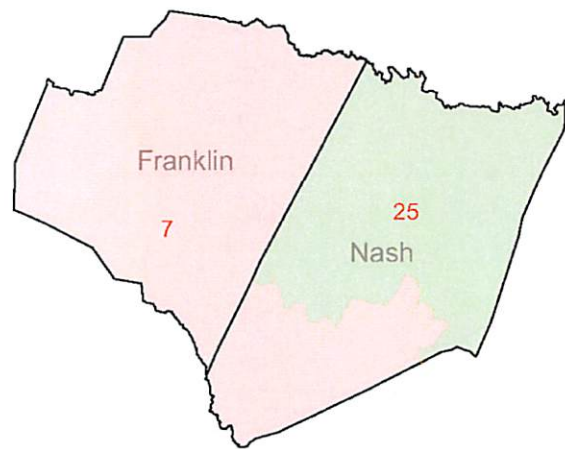
House Bill 927 Plan (4 Districts)



**Figure 14:**  
**Franklin-Nash County Grouping**  
 (Numbers indicate the percentage of population in each of Dr. Hofeller's draft 'J\_25' districts that was also assigned to its most similar, corresponding district in the final House Bill 927 map)

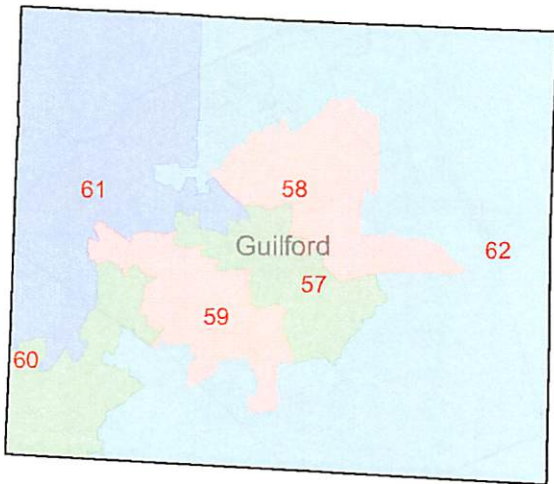
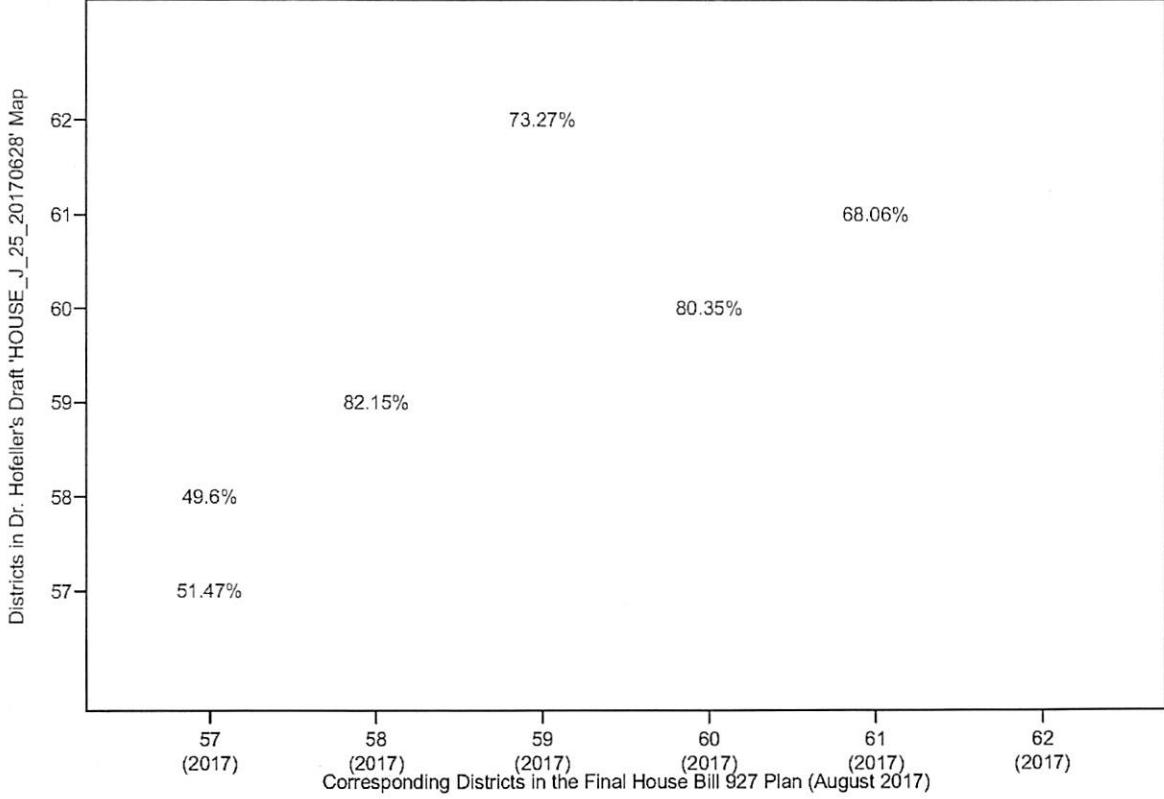


HOUSE\_J\_25\_20170628.shp (Hofeller)

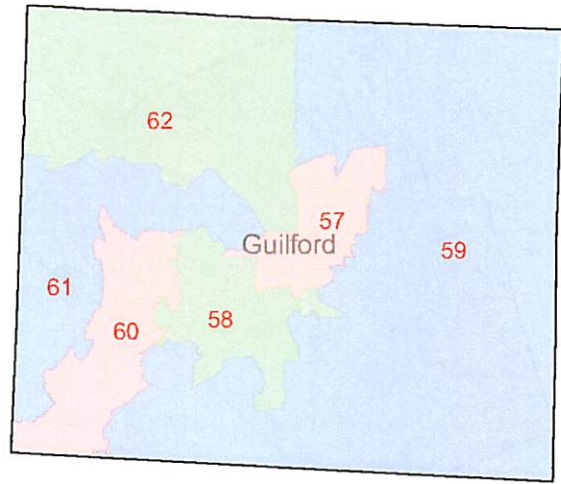


House Bill 927 Plan (2 Districts)

**Figure 15:**  
**Guilford County Grouping**  
 (Numbers indicate the percentage of population in each of Dr. Hofeller's draft 'J\_25' districts that was also assigned to its most similar, corresponding district in the final House Bill 927 map)

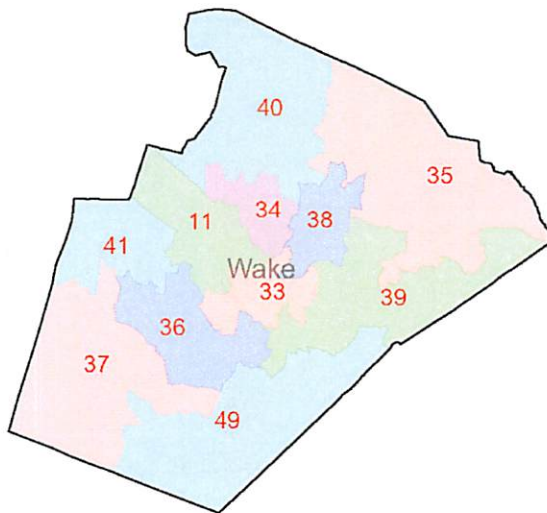
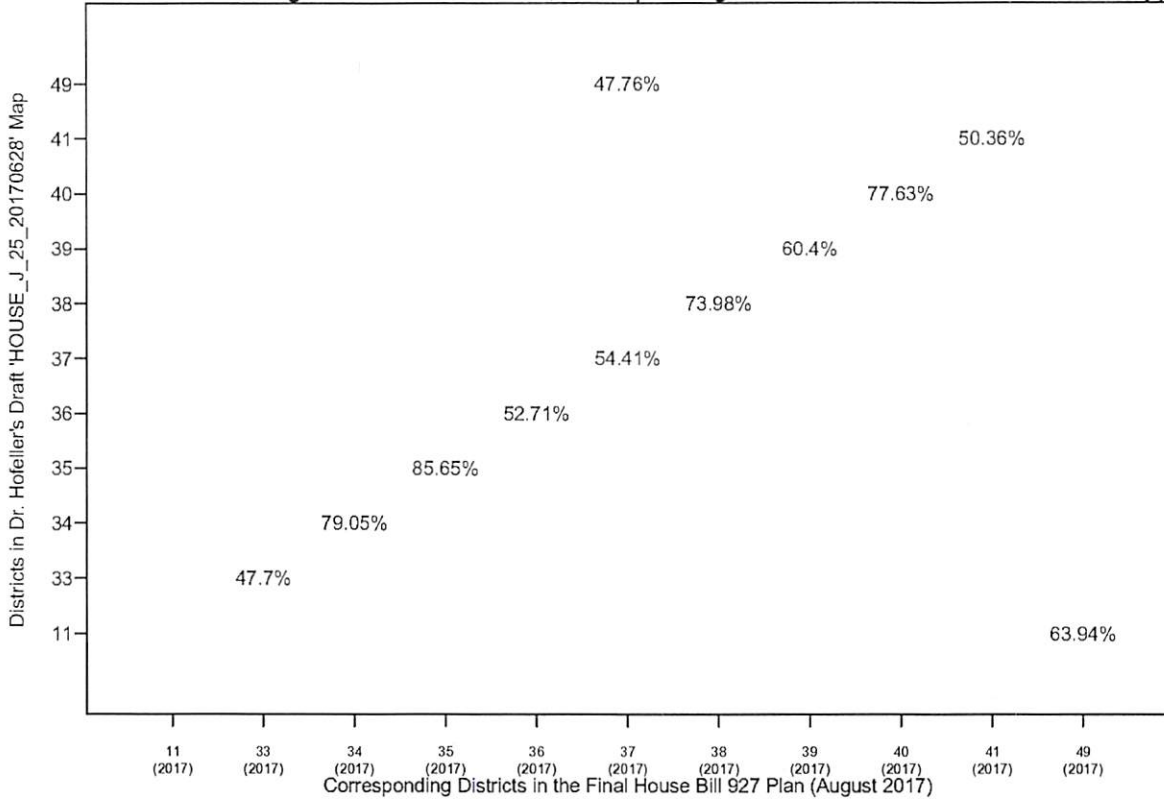


HOUSE\_J\_25\_20170628.shp (Hofeller)

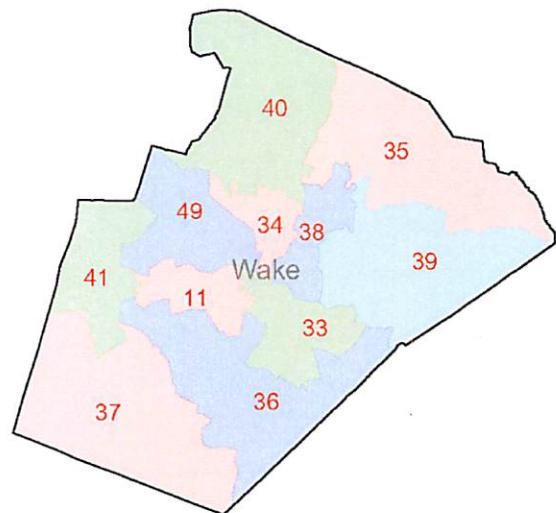


House Bill 927 Plan (6 Districts)

**Figure 16:**  
**Wake County Grouping**  
 (Numbers indicate the percentage of population in each of Dr. Hofeller's draft 'J\_25' districts that was also assigned to its most similar, corresponding district in the final House Bill 927 map)



HOUSE\_J\_25\_20170628.shp (Hofeller)



House Bill 927 Plan (11 Districts)

### **Dr. Hofeller's Draft Senate Map of June 24, 2017**

In a folder named "NC Senate J-24001.bak.zip",<sup>2</sup> Dr. Hofeller saved a draft Senate map that was last modified on June 24, 2017 (hereinafter: "the draft Senate map"). This draft Senate map contained numerous redrawn districts that are identical or nearly identical to the final districts in the General Assembly's Senate Bill 691. In other words, these districts were changed from the previous 2011 Senate Plan, and Dr. Hofeller had already drawn the General Assembly's final version or a near-final version of these districts in his June 24, 2017 draft Senate map.

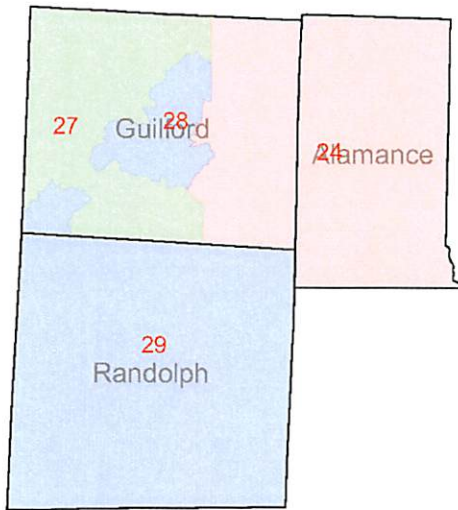
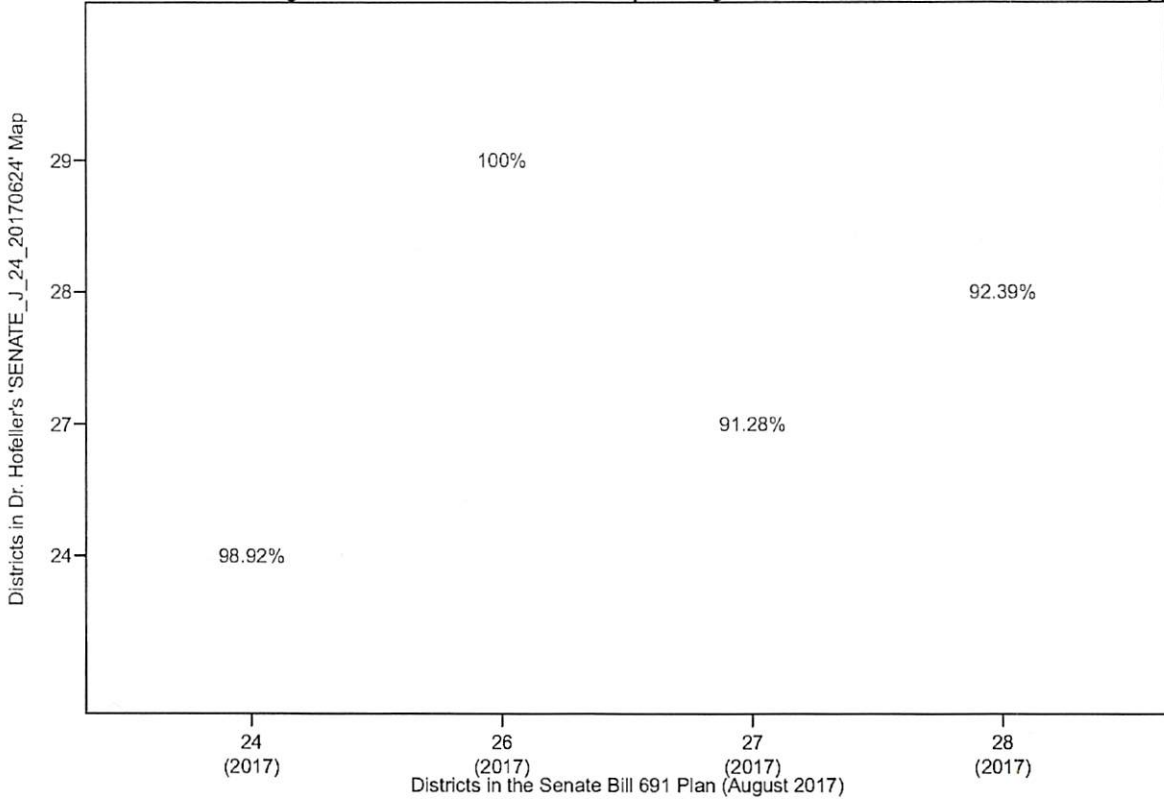
Below, I describe these districts by county grouping:

***The Alamance–Guilford–Randolph County Grouping:*** As detailed in Figure 17, all four of the districts in Dr. Hofeller's draft Senate map in this county grouping are identical or nearly identical to districts in the General Assembly's Senate Bill 691. District 29 in Dr. Hofeller's draft Senate map is perfectly identical to SD-26 in the General Assembly's Senate Bill 691. Districts 24, 27, and 28 in the draft Senate map each overlap by over 91% with the same-numbered district in the General Assembly's Senate Bill 691.

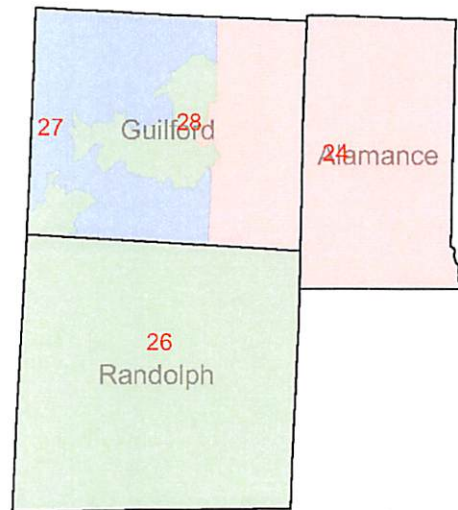
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<sup>2</sup> The full filepath of this folder's location is: " ES0007C\C\Seagate Dashboard 2.0\TOSHIBA-PC\toshiba\Backup\f7bc3748-d314-4cc2-a86b-ea77894bb5b2\20170624\_093938\_toshibaInc2590\C\MPRwork\NCP\plans\NC Senate J-24 Backups\NC Senate J-24001.bak.zip"

Figure 17  
 Alamance–Guilford–Randolph County Grouping  
 (Numbers indicate the percentage of population in each of Dr. Hofeller's draft 'J\_24' districts that was also assigned to its most similar, corresponding district in the final Senate Bill 691 map)



SENATE\_J\_24\_20170624.shp (Hofeller)

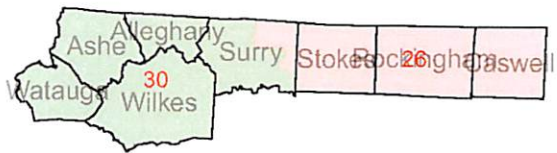
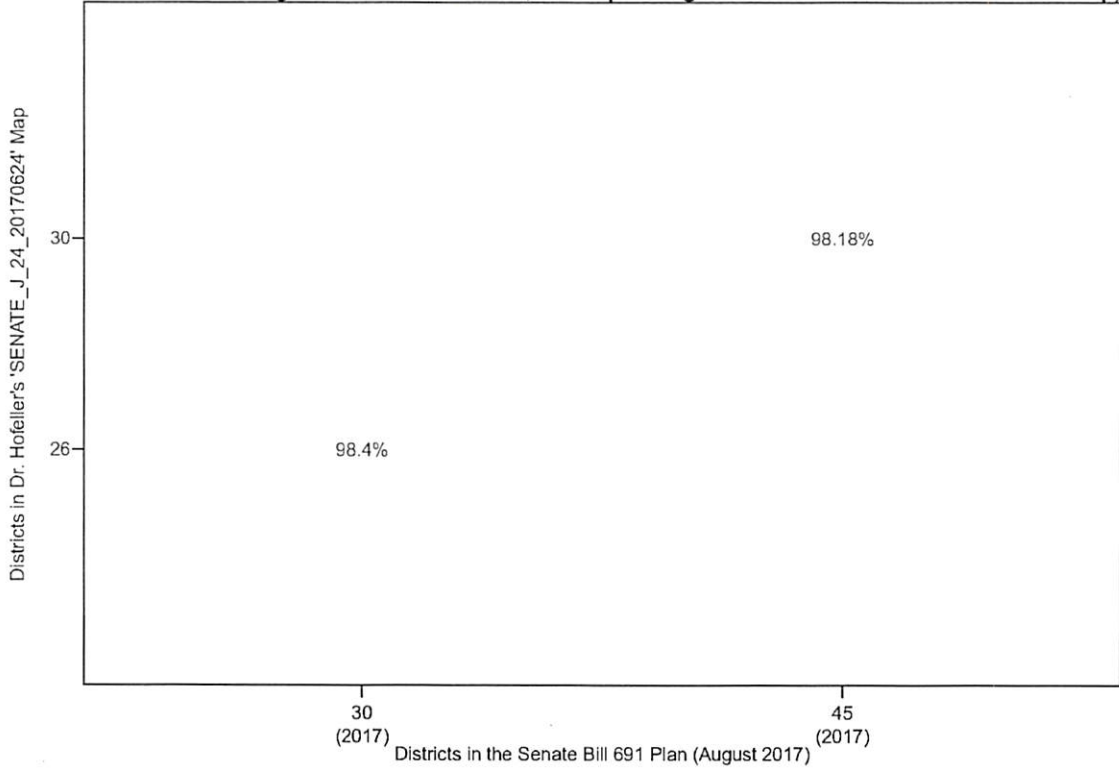


Senate Bill 691 Plan (4 Districts)

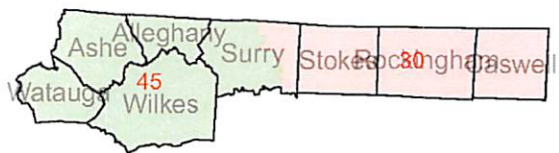
***Alleghany–Ashe–Caswell–Rockingham–Stokes–Surry–Watauga–Wilkes County Grouping:***

In this county grouping, as detailed in Figure 18, the two districts in Dr. Hofeller's draft Senate map are nearly identical to two districts in the General Assembly's Senate Bill 691. Specifically, 94.4% of the population of District 26 in Dr. Hofeller's draft Senate map is also assigned to SD-30 in the General Assembly's Senate Bill 691. Meanwhile, 98.18% of the population of District 30 in Dr. Hofeller's draft Senate map is also assigned to SD-45 in the General Assembly's Senate Bill 691.

Figure 18  
**Alleghany-Ashe-Caswell-Rockingham-Stokes-Surry-Watauga-Wilkes County Grouping**  
 (Numbers indicate the percentage of population in each of Dr. Hofeller's draft 'J\_24' districts that was also assigned to its most similar, corresponding district in the final Senate Bill 691 map)



SENATE\_J\_24\_20170624.shp (Hofeller)

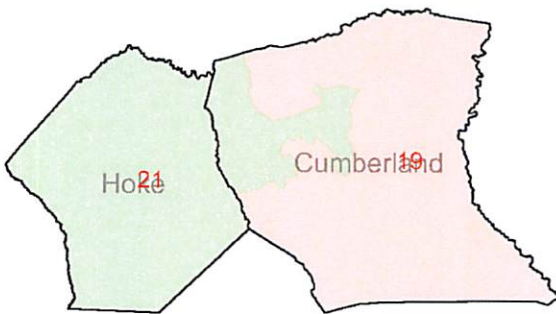
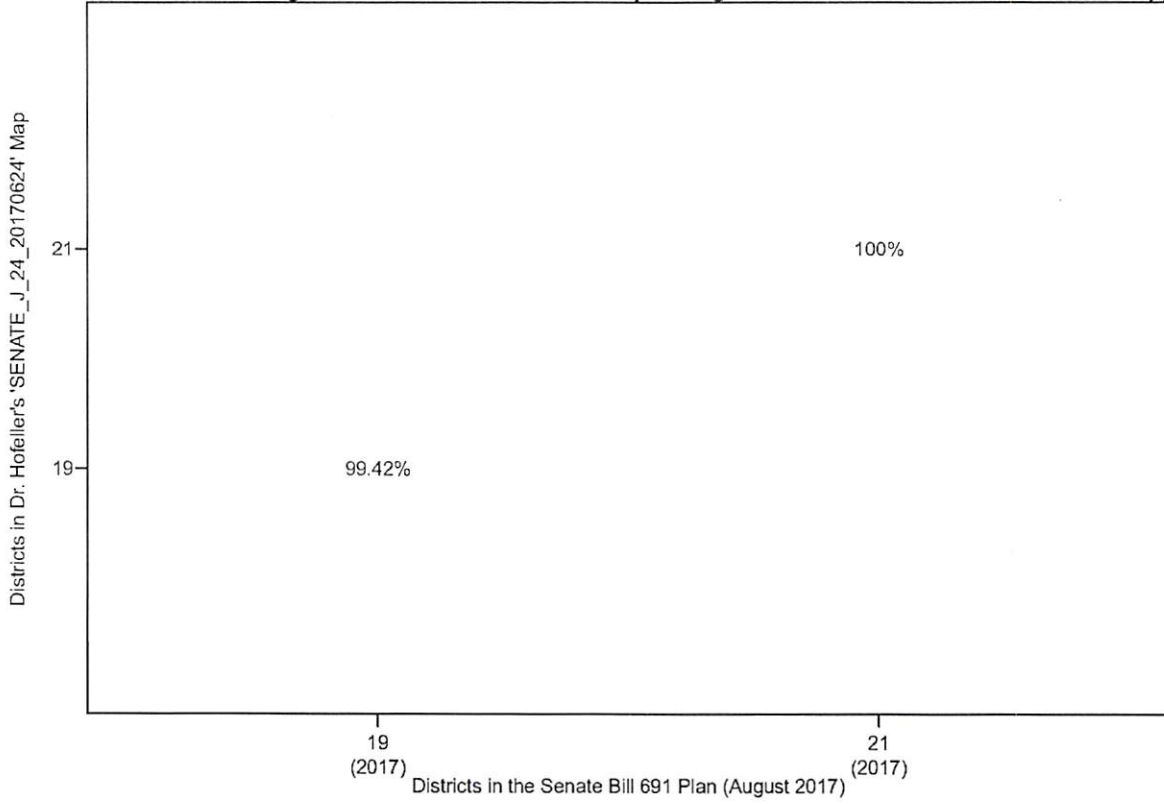


Senate Bill 691 Plan (2 Districts)

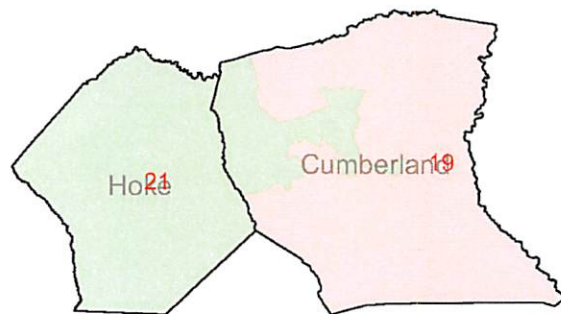
***Cumberland–Hoke County Grouping:*** As detailed in Figure 19, this county grouping contains two districts (SD-19 and SD-21), and both districts in Dr. Hofeller's map are essentially identical to these two districts in the General Assembly's Senate Bill 691. Specifically, 100% of the population of District 21 in Dr. Hofeller's draft Senate map is also assigned to SD-21 in the General Assembly's Senate Bill 691. Meanwhile, 99.42% of the population of District 19 in Dr. Hofeller's draft Senate map is also assigned to SD-19 in the General Assembly's Senate Bill 691. The small, remaining portion of District 19 in Dr. Hofeller's draft Senate map is assigned to SD-21 in the General Assembly's Senate Bill 691. However, after the passage of Senate Bill 691, both SD-19 and SD-21 were later redrawn by Special Master Nathaniel Persily.



**Figure 19**  
**Cumberland-Hoke County Grouping**  
 (Numbers indicate the percentage of population in each of Dr. Hofeller's draft 'J\_24' districts that was also assigned to its most similar, corresponding district in the final Senate Bill 691 map)



SENATE\_J\_24\_20170624.shp (Hofeller)



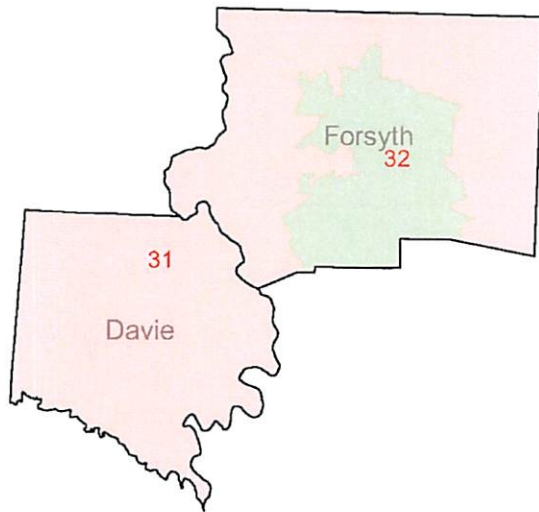
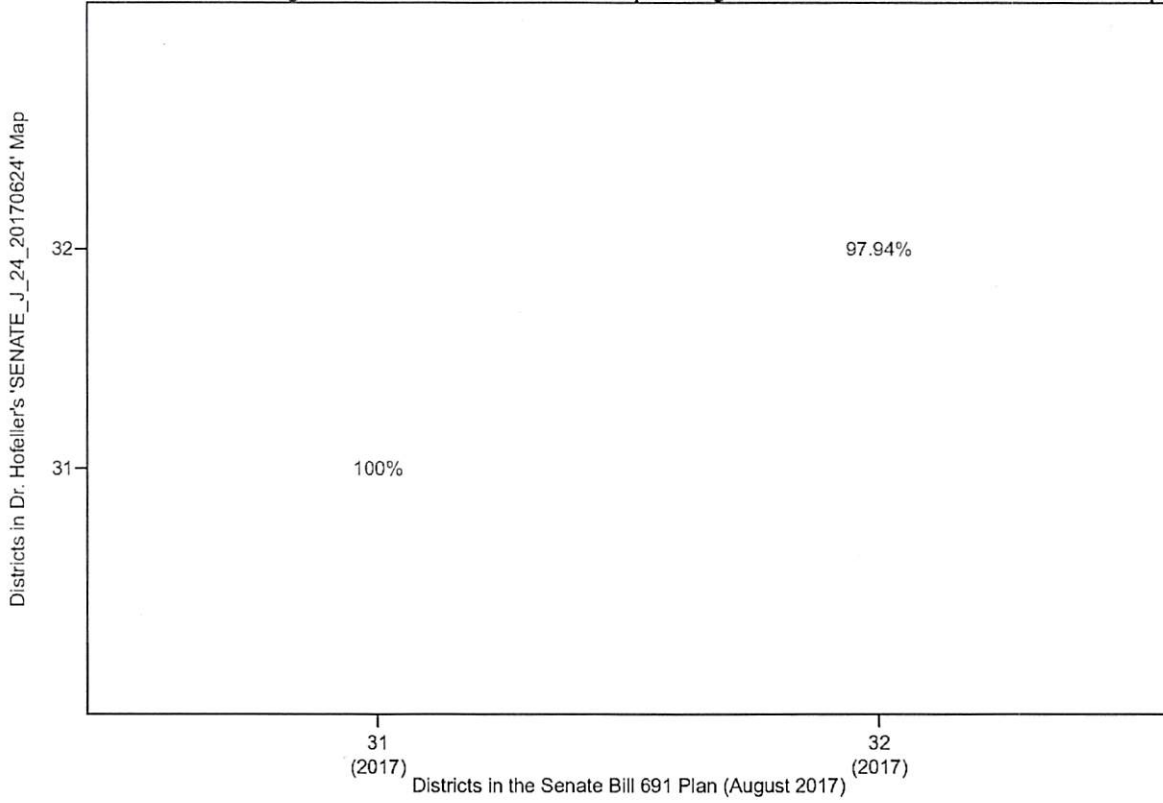
Senate Bill 691 Plan (2 Districts)

***Davie–Forsyth County Grouping:*** As detailed in Figure 20, this county grouping contains two districts (SD-31 and SD-32), and both districts in Dr. Hofeller's map are identical or nearly identical to these two districts in the General Assembly's Senate Bill 691. Specifically, 100% of the population of District 31 in Dr. Hofeller's draft Senate map is also assigned to SD-31 in the General Assembly's Senate Bill 691. Meanwhile, 97.94% of the population of District 32 in Dr. Hofeller's draft Senate map is also assigned to SD-32 in the General Assembly's Senate Bill 691. The small, remaining portion of District 32 in Dr. Hofeller's draft Senate map is assigned to SD-31 in the General Assembly's Senate Bill 691.

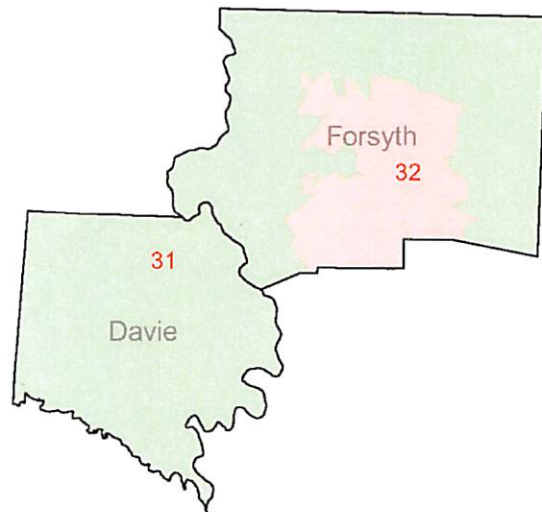
Figure 20

Davie-Forsyth County Grouping

(Numbers indicate the percentage of population in each of Dr. Hofeller's draft 'J\_24' districts that was also assigned to its most similar, corresponding district in the final Senate Bill 691 map)



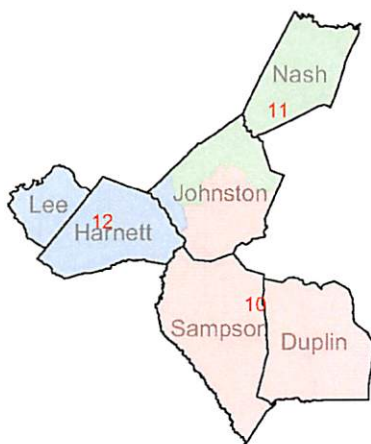
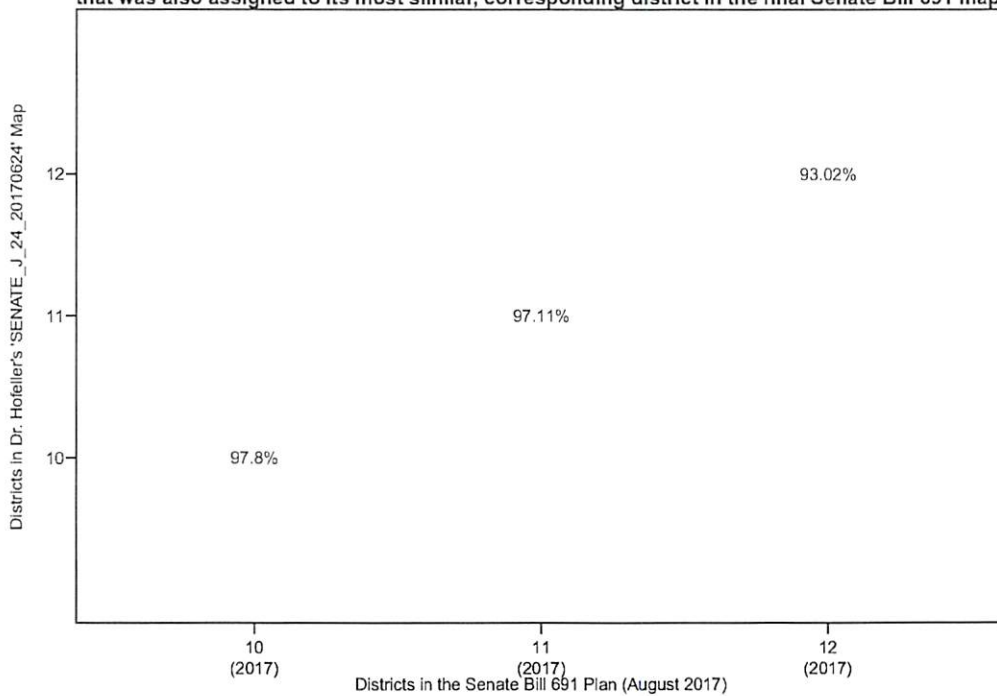
SENATE\_J\_24\_20170624.shp (Hofeller)



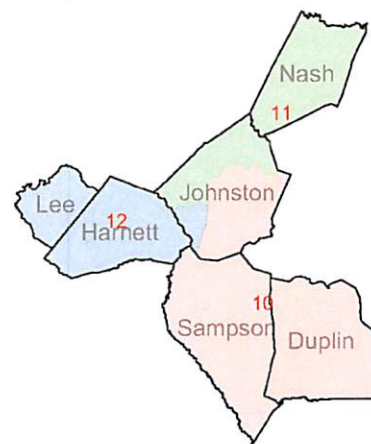
Senate Bill 691 Plan (2 Districts)

**Duplin–Harnett–Johnston–Lee–Nash–Sampson County Grouping:** In this county grouping, as detailed in Figure 21, the three districts in Dr. Hofeller's draft Senate map are nearly identical to the three districts in the General Assembly's Senate Bill 691. Specifically, Districts 10, 11, and 12 each overlap by 97.8%, 97.11%, and 93.02%, respectively, with the same-numbered district in the General Assembly's Senate Bill 691.

**Figure 21**  
**Duplin–Harnett–Johnston–Lee–Nash–Sampson County Grouping**  
 (Numbers indicate the percentage of population in each of Dr. Hofeller's draft 'J\_24' districts that was also assigned to its most similar, corresponding district in the final Senate Bill 691 map)

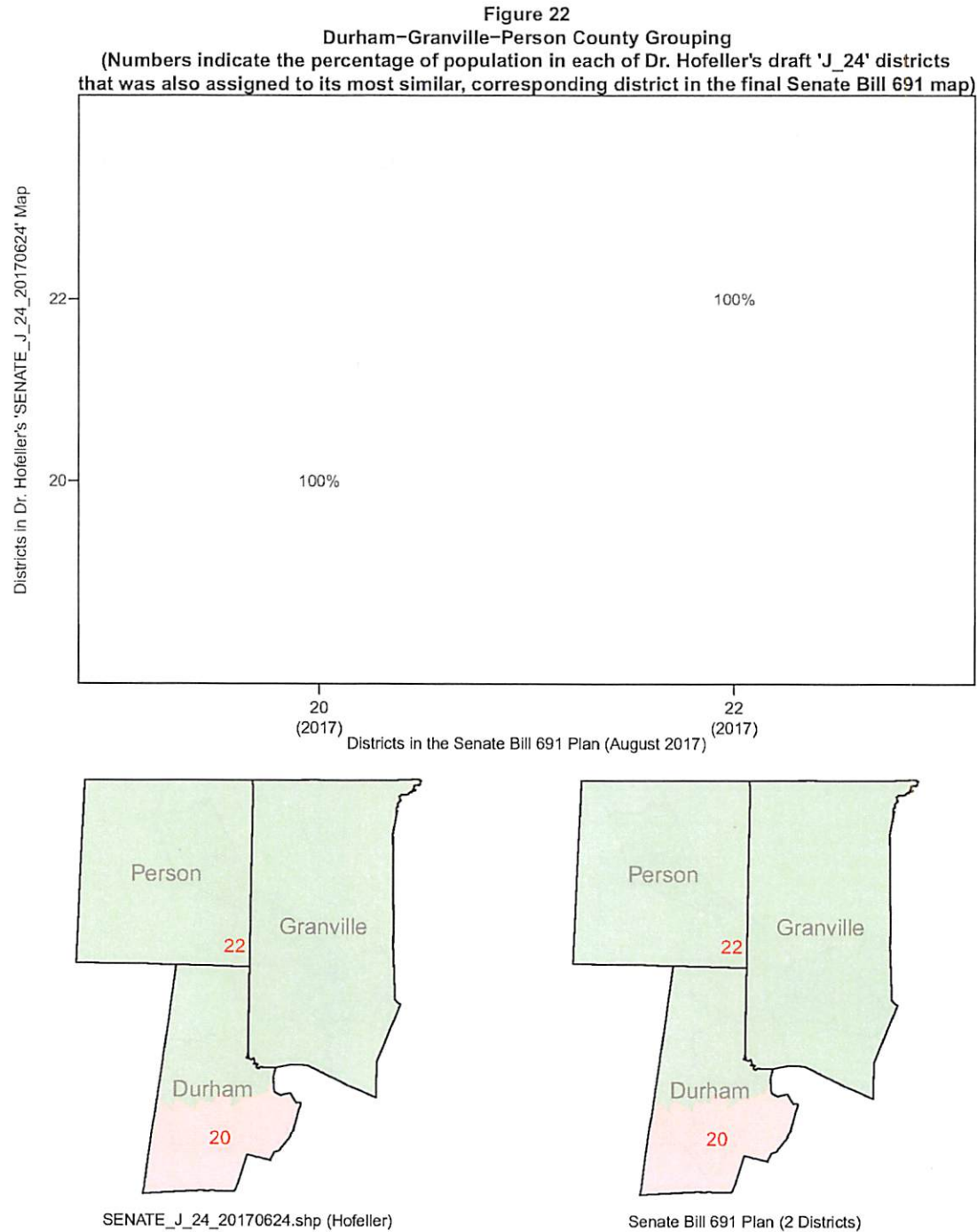


SENATE\_J\_24\_20170624.shp (Hofeller)



Senate Bill 691 Plan (3 Districts)

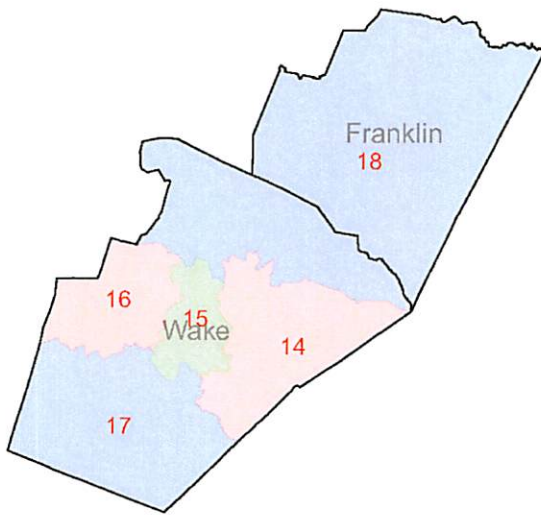
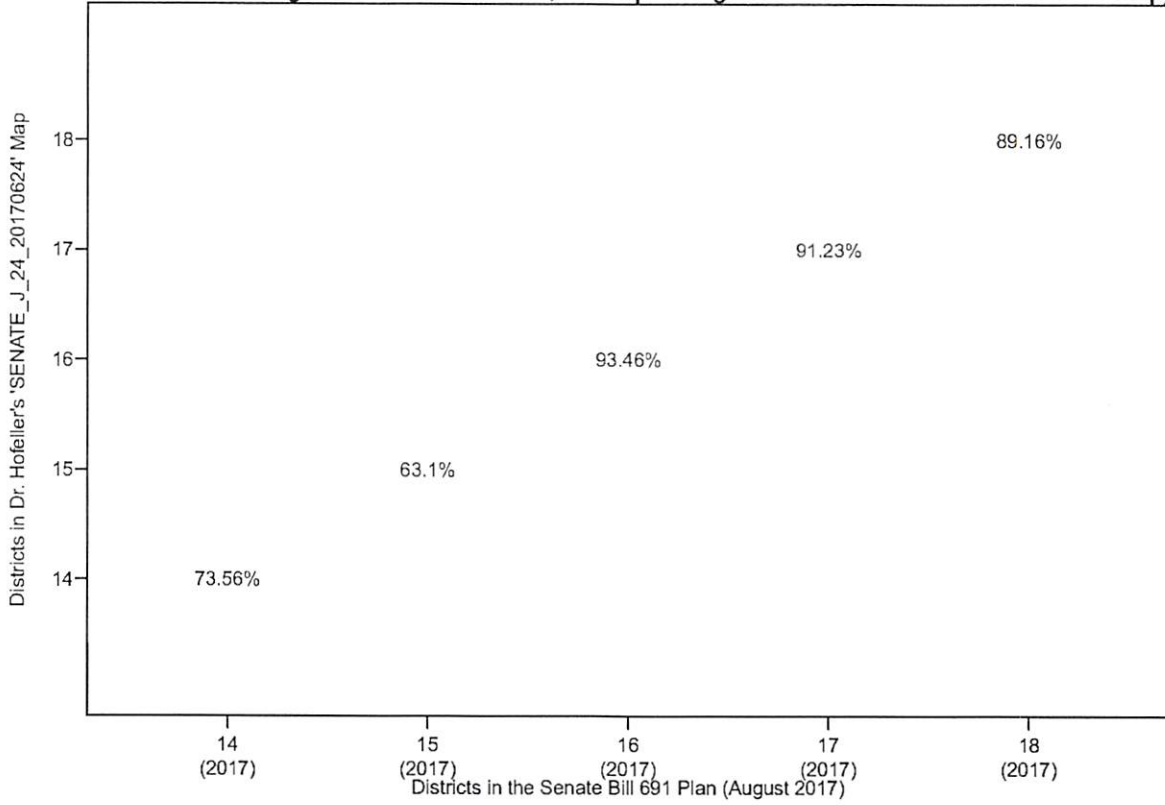
**Durham–Granville–Person County Grouping:** As detailed in Figure 22, this county grouping contains two districts (SD-20 and SD-22), and both districts in Dr. Hofeller's draft Senate map are 100% identical to these two districts in the General Assembly's Senate Bill 691.



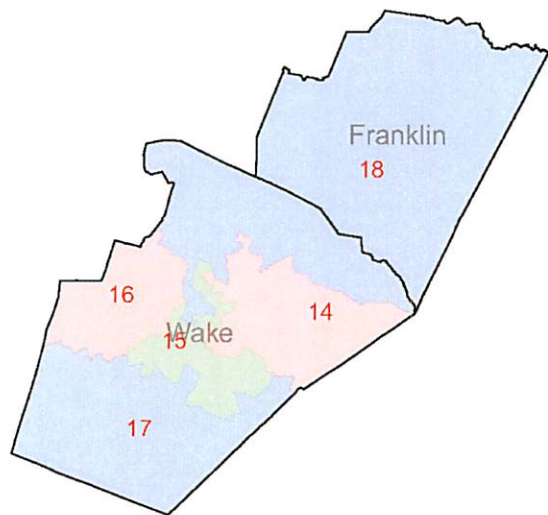
***Franklin–Wake County Grouping:*** As detailed in Figure 23, this county grouping contains two districts in Dr. Hofeller's draft Senate map that are nearly identical to two of the final districts in the General Assembly's Senate Bill 691. Specifically, 93.46% of the population of District 16 in Dr. Hofeller's draft Senate map is also assigned to SD-16 in the General Assembly's Senate Bill 691. Meanwhile, 91.23% of the population of District 17 in Dr. Hofeller's draft Senate map is also assigned to SD-17 in the General Assembly's Senate Bill 691.

**Figure 23**  
**Franklin-Wake County Grouping**

(Numbers indicate the percentage of population in each of Dr. Hofeller's draft 'J\_24' districts that was also assigned to its most similar, corresponding district in the final Senate Bill 691 map)



SENATE\_J\_24\_20170624.shp (Hofeller)

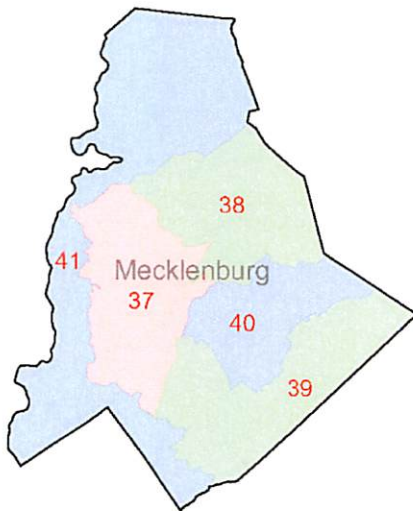
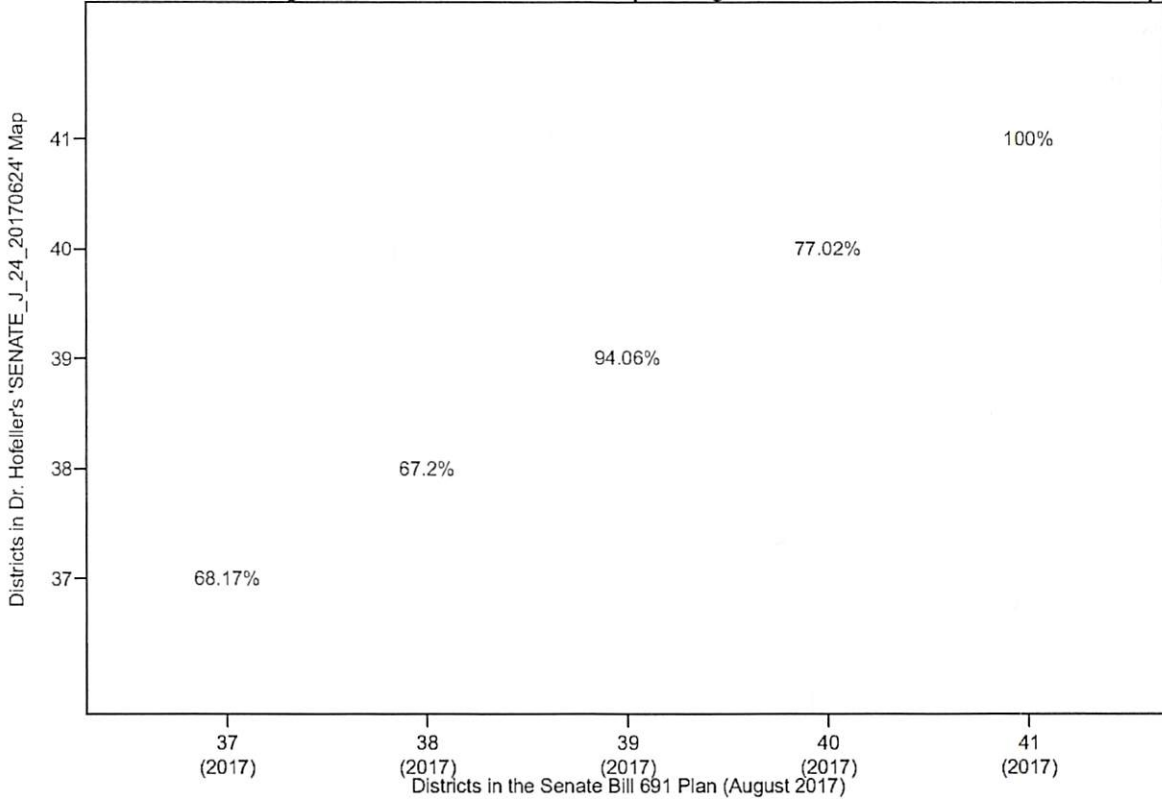


Senate Bill 691 Plan (5 Districts)

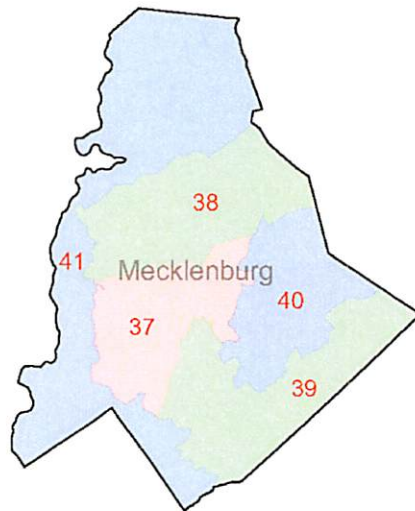
***Mecklenburg County Grouping:*** As detailed in Figure 24, this county grouping contains two districts in Dr. Hofeller's draft Senate map that are identical or nearly identical to two of the final districts in the General Assembly's Senate Bill 691. Specifically, 100% of the population of District 41 in Dr. Hofeller's draft Senate map is also assigned to SD-41 in the General Assembly's Senate Bill 691; the only differences between District 41 in Dr. Hofeller's draft Senate map and SD-41 in the General Assembly's Senate Bill 691 involve a small, unpopulated area. Meanwhile, 94.06% of the population of District 39 in Dr. Hofeller's draft Senate map is also assigned to SD-39 in the General Assembly's Senate Bill 691.



**Figure 24**  
**Mecklenburg County Grouping**  
 (Numbers indicate the percentage of population in each of Dr. Hofeller's draft 'J\_24' districts that was also assigned to its most similar, corresponding district in the final Senate Bill 691 map)



SENATE\_J\_24\_20170624.shp (Hofeller)



Senate Bill 691 Plan (5 Districts)

**Dr. Hofeller Had Racial Data for His Draft Districts, Including after the Adopted Criteria's Passage:**

As detailed above, Dr. Hood and Dr. Thornton argue in their rebuttal reports that the General Assembly followed the 2017 Adopted Criteria in producing the 2017 House and Senate Plans. One of the 2017 Adopted Criteria includes the following discussion of racial data:

"No Consideration of Racial Data. Data identifying the race of individuals or voters shall not be used in the drawing of legislative districts in the 2017 House and Senate plans." (2017 House and Senate Plans Criteria, August 10, 2017).

Subsequent statements by Senator Ralph Hise clarified this criterion. During an August 24, 2017 hearing of the Senate Redistricting Committee, Senator Hise claimed that, pursuant to this criterion, Dr. Hofeller did not have any racial data on any of the draft districts when drafting the 2017 House and Senate Plans:

"Dr. Hofeller was given the criteria of this Committee...and from the criteria, drew maps that did not include race. Race was not part of the database. It could not be calculated on the system that is done." (p. 102, August 24, 2017 Transcript, Senate Redistricting Committee Hearing).

Legislative Defendants said the same in a September 22, 2017 court filing, asserting that "data regarding the race of voters was not . . . even loaded into the computer used by the map drawer to construct the districts." *Covington v. North Carolina*, ECF No. 192 at 28.

However, analysis of Dr. Hofeller's Maptitude backup folders reveals that district-level racial calculations were clearly contained within Dr. Hofeller's draft House and Senate maps, including drafts produced after the August 10, 2017 passage of the Adopted Criteria. "[T]he computer used by the map draw" certainly had racial data on the new districts, and Dr. Hofeller clearly used his Maptitude "database" to calculate the racial characteristics of his draft districts. In fact, Dr. Hofeller even sorted the districts in two of his draft maps from highest to lowest BVAP, and for at least one of them, went so far as to label the districts on the map he was displaying on his screen to prominently show the racial characteristics of each district.

An example of these race calculations and racial demographic district labels appears in Dr. Hofeller's draft House plan titled "NC House J-25003.bak.zip",<sup>3</sup> which was last modified and backed up on August 14, 2017.<sup>4</sup> I examined this draft House plan in Maptitude for Redistricting,

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<sup>3</sup> The full filepath of this Maptitude draft plan on Dr. Hofeller's hard drive is:  
"ES0007C\C\Seagate Dashboard 2.0\TOSHIBA-PC\toshiba\Backup\7bc3748-d314-4cc2-a86b-ea77894bb5b2\  
20170814\_071931\_toshibaInc3051\C\MPRwork\NCPlans\NC House J-25 Backups\NC House J-25003.bak.zip "

<sup>4</sup> I previously analyzed a version of this House map last modified on June 28, 2017.

and I observed the following: First, as illustrated in the district-level "Dataview" displaying the Dr. Hofeller's 120 draft House districts, Dr. Hofeller created a summary field titled "% 18+\_AP\_Bl", which calculates each district's Any-Part African-American share of total Voting Age Population. Second, the "Dataview" window lists Dr. Hofeller's 120 draft House districts ordered from highest to lowest percent Black VAP. The sorting of districts by African-American population is not an automatic setting; Dr. Hofeller clearly had to purposefully instruct the "Dataview" window to sort all 120 districts according to their African-American proportions. Figure 25 contains a full screenshot showing how Dr. Hofeller's "Dataview" window displayed the racial demographics of his draft plan's districts. Figure 26 contains a portion of this same screenshot, zoomed in to focus on the first nine columns of the "Dataview" window, including the seventh column ("% 18+\_AP\_Bl") reporting each district's African-American VAP.

Moreover, Maptitude for Redistricting allows the mapdrawer to label a district map using any "Formula Field" specified by the mapdrawer. As the screenshot in Figure 27 reveals, for his "NC House J-25003.bak.zip" draft House plan, Dr. Hofeller used the "Formula" window to create labels for his draft districts containing two pieces of information: The district's number and the district's Any-Part African-American share of the district's Voting Age Population (which is labeled as "% 18+\_AP\_Bl" in Dr. Hofeller's draft plan). In other words, not only did Dr. Hofeller calculate the racial characteristics of his draft districts, he also prominently marked his map of his draft districts with labels reporting each district's African-American VAP.

Dr. Hofeller made these labels with racial data for all districts across this entire draft Maptitude plan, as illustrated in the screenshot in Figure 28. This screenshot also reveals that the "Pending Changes" window in Dr. Hofeller's draft Maptitude plan, which dynamically updates and reports the characteristics of the selected district or districts that the mapdrawer is actively editing, includes the racial characteristics of the district being edited. In other words, when editing his draft districts, Dr. Hofeller would have been able to immediately observe how small changes to a particular district's boundaries affected the African-American VAP of that district.



Figure 25:  
 Screenshot of Dataview Window For Dr. Hofler's "NC House J-25003.bak.zip" Draft Plan (August 14, 2017)

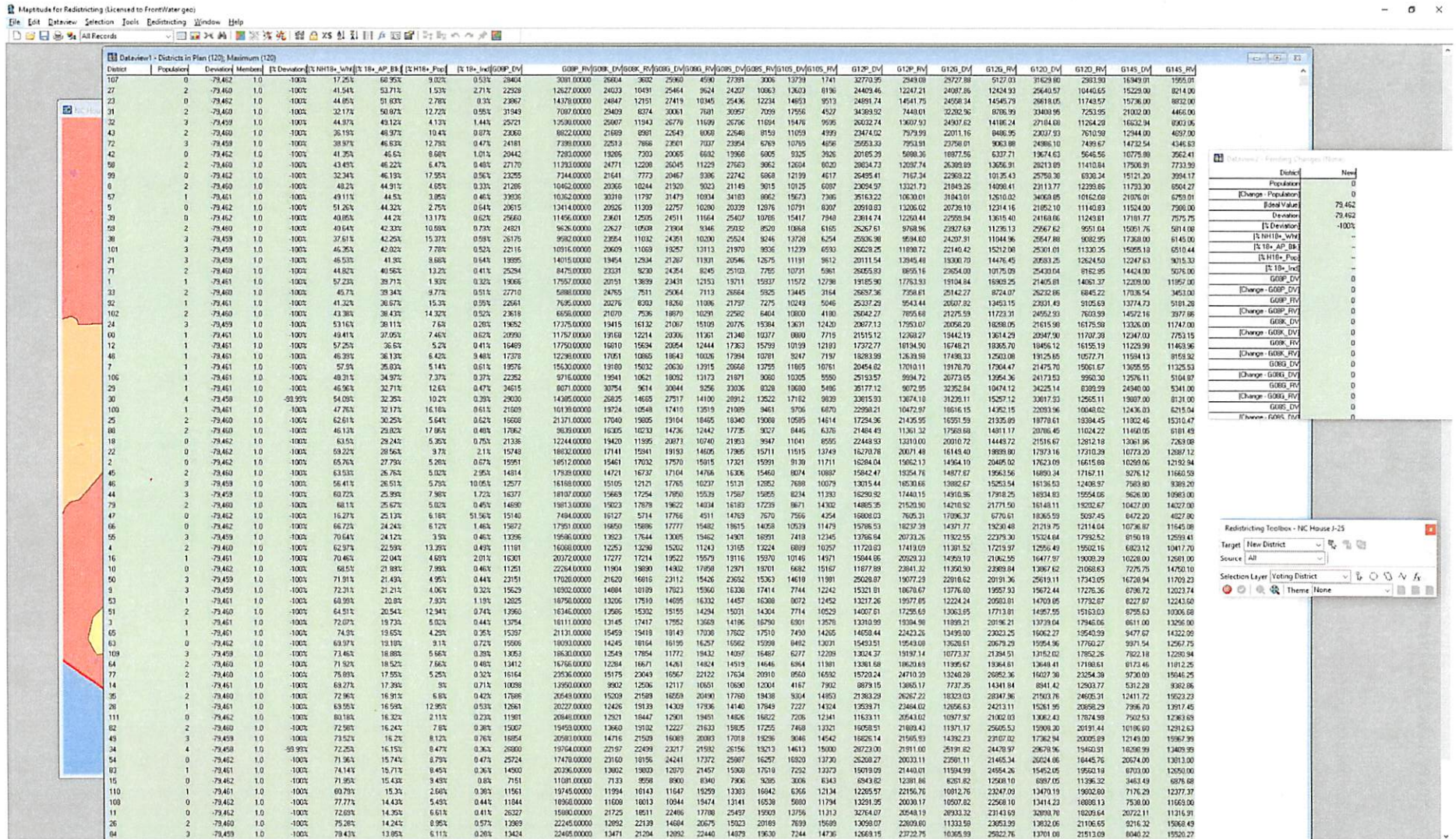




Figure 26: Screenshot of Dataview Window For Dr. Hofeller's "NC House J-25003.bak.zip" Draft Plan (August 14, 2017)

Maptitude for Redistricting (Licensed to FrontWater geo)

File Edit Dataview Selection Tools Redistricting Window Help

All Records

Dataview1 - Districts in Plan (120); Maximum (120)

District	Population	Deviation	Members	[% Deviation]	[% NH18+_Wht]	[% 18+_AP_Blkl]	[% H18+_Pop]	[% 18+_Ind]
107	0	-79,462	1.0	-100%	17.25%	68.95%	9.02%	0.53%
27	2	-79,460	1.0	-100%	41.54%	53.71%	1.53%	2.71%
23	0	-79,462	1.0	-100%	44.85%	51.83%	2.78%	0.3%
31	2	-79,460	1.0	-100%	32.17%	50.87%	12.72%	0.55%
32	3	-79,459	1.0	-100%	44.97%	49.12%	4.13%	1.44%
43	2	-79,460	1.0	-100%	36.19%	48.97%	10.4%	0.87%
72	3	-79,459	1.0	-100%	38.97%	46.63%	12.79%	0.47%
42	0	-79,462	1.0	-100%	41.35%	46.6%	8.68%	1.01%
58	2	-79,460	1.0	-100%	43.49%	46.22%	6.47%	0.48%
99	0	-79,462	1.0	-100%	32.34%	46.19%	17.55%	0.56%
8	2	-79,460	1.0	-100%	48.2%	44.91%	4.65%	0.33%
57	1	-79,461	1.0	-100%	49.11%	44.5%	3.85%	0.46%
5	0	-79,462	1.0	-100%	51.26%	44.32%	2.75%	0.64%
39	0	-79,462	1.0	-100%	40.85%	44.2%	13.17%	0.62%
59	2	-79,460	1.0	-100%	40.64%	42.33%	10.59%	0.73%
38	3	-79,459	1.0	-100%	37.61%	42.25%	15.37%	0.59%
101	3	-79,459	1.0	-100%	46.35%	42.02%	7.78%	0.52%
21	3	-79,459	1.0	-100%	46.53%	41.9%	9.68%	0.64%
71	2	-79,460	1.0	-100%	44.82%	40.56%	13.2%	0.41%
1	1	-79,461	1.0	-100%	57.23%	39.71%	1.93%	0.32%
33	2	-79,460	1.0	-100%	45.7%	39.34%	9.77%	0.51%
92	1	-79,461	1.0	-100%	41.32%	38.67%	15.3%	0.55%
102	2	-79,460	1.0	-100%	43.38%	38.43%	14.32%	0.52%
24	3	-79,459	1.0	-100%	53.16%	38.11%	7.6%	0.28%
60	1	-79,461	1.0	-100%	49.41%	37.05%	7.46%	0.62%
12	1	-79,461	1.0	-100%	57.25%	36.6%	5.2%	0.41%
48	1	-79,461	1.0	-100%	46.39%	36.13%	6.42%	9.48%
7	1	-79,461	1.0	-100%	57.9%	35.83%	5.14%	0.61%
106	1	-79,461	1.0	-100%	48.31%	34.97%	7.37%	0.37%
29	1	-79,461	1.0	-100%	46.96%	32.71%	12.6%	0.47%
30	4	-79,458	1.0	-99.99%	54.09%	32.35%	10.2%	0.39%
100	1	-79,461	1.0	-100%	47.76%	32.17%	16.18%	0.61%
25	2	-79,460	1.0	-100%	62.61%	30.25%	5.64%	0.62%
88	2	-79,460	1.0	-100%	46.13%	29.82%	17.86%	0.48%
18	0	-79,462	1.0	-100%	63.5%	29.24%	5.35%	0.75%
22	0	-79,462	1.0	-100%	59.22%	28.56%	9.7%	2.1%
2	0	-79,462	1.0	-100%	65.76%	27.79%	5.28%	0.67%
45	2	-79,460	1.0	-100%	63.53%	26.76%	5.02%	2.95%
46	3	-79,459	1.0	-100%	56.41%	26.51%	5.79%	10.05%
44	3	-79,459	1.0	-100%	60.72%	25.99%	7.98%	1.72%
79	2	-79,460	1.0	-100%	68.1%	25.67%	5.02%	0.45%
47	0	-79,462	1.0	-100%	16.27%	25.13%	6.18%	51.56%
66	0	-79,462	1.0	-100%	66.72%	24.24%	6.12%	1.46%
55	3	-79,459	1.0	-100%	70.64%	24.12%	3.9%	0.46%
4	2	-79,460	1.0	-100%	62.97%	22.59%	13.39%	0.49%
16	1	-79,461	1.0	-100%	70.46%	22.04%	4.69%	2.01%



Figure 27:  
 Screenshot of "Formula" Window and District Labels For Dr. Hofeller's "NC House J-25003.bak.zip" Draft Plan (August 14, 2017)

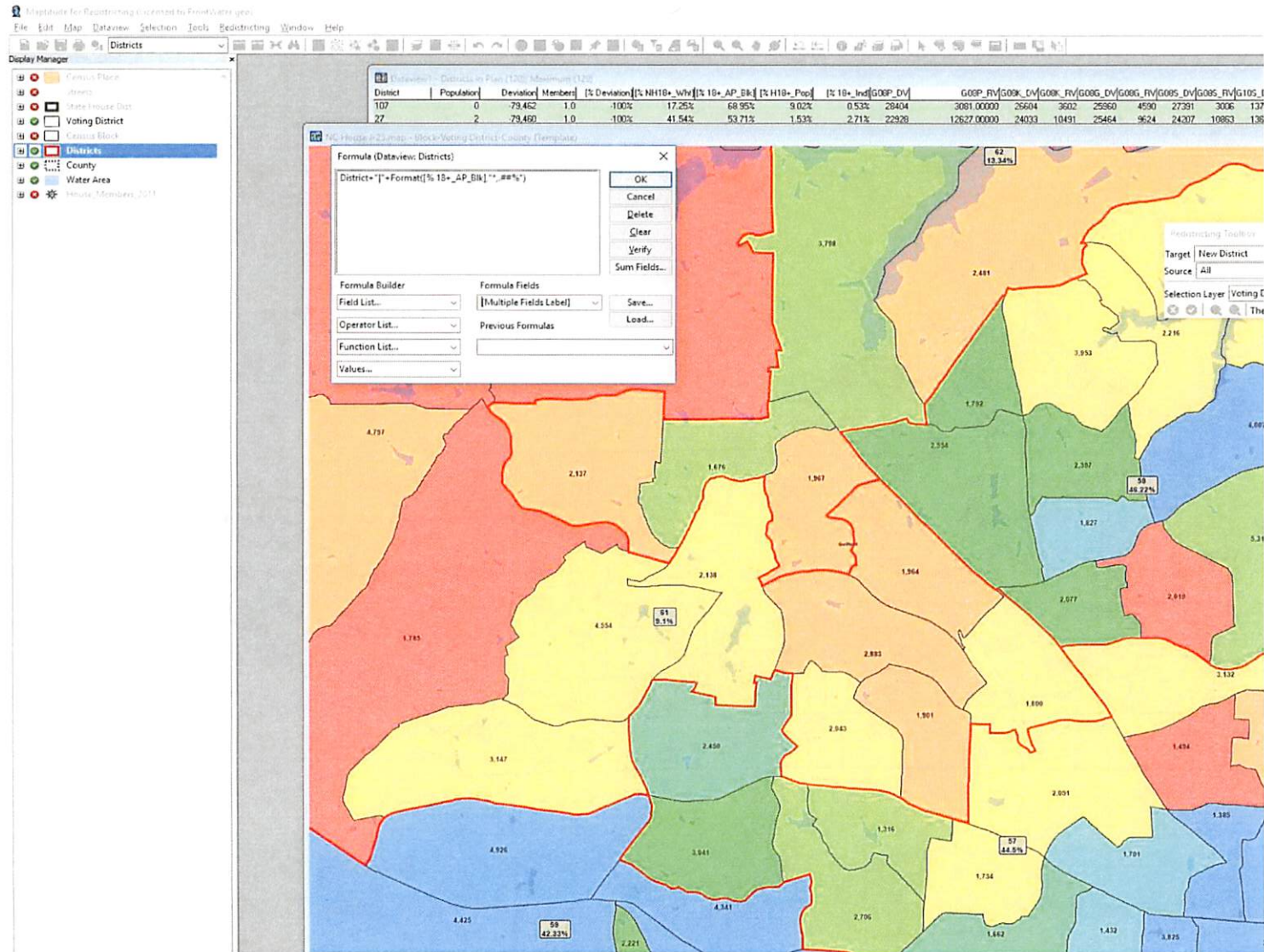
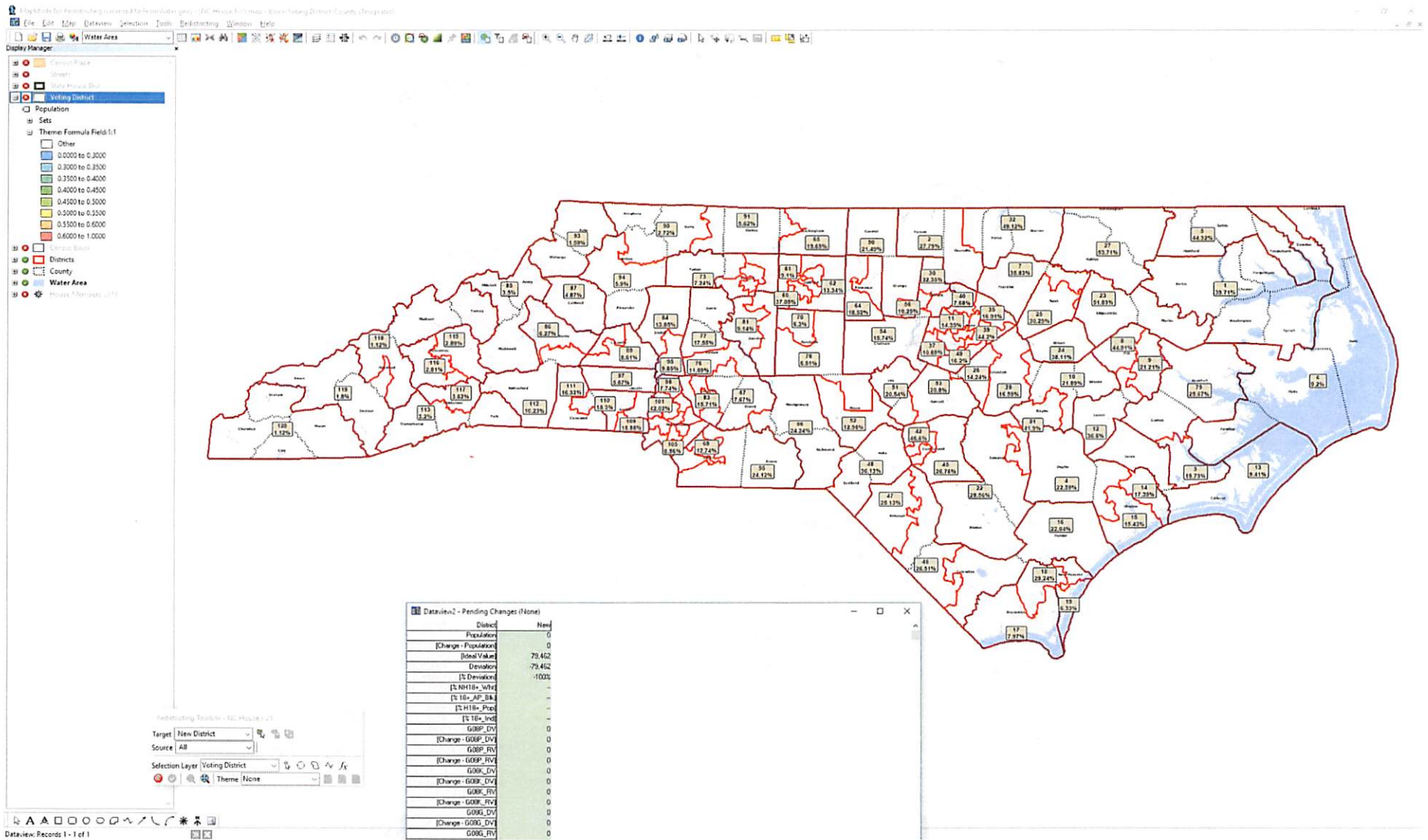


Figure 28:  
 Screenshot of District Labels Reporting Racial Characteristics of Dr. Hofeller's "NC House J-25003.bak.zip" Draft Plan (August 14, 2017)



In summary, Dr. Hofeller's "NC House J-25003.bak.zip" draft House plan was last modified and backed up on August 14, 2017—four days after the House and Senate Redistricting Committees passed the Adopted Criteria on August 10, 2017. In this August 14 draft House plan, Dr. Hofeller clearly imported racial data and calculated each draft district's African-American VAP, and he used this data to align the districts in his "Dataview" window according to the districts' Black VAP, to label his draft districts on his displayed map, and to monitor racial changes in his draft districts in the "Pending Changes" window. Clearly, Dr. Hofeller did not follow the Adopted Criteria's prohibition on having racial data on the new districtings being developed, and Senator Hise's August 24, 2017 assertion that racial data was not available to the General Assembly's mapdrawer appears to be inaccurate. Thus, I conclude that Dr. Hood's and Dr. Thornton's rebuttal reports were again wrong to claim that the General Assembly's mapdrawer followed the Adopted Criteria.

Similar evidence regarding racial data appears in Dr. Hofeller's "NC Senate J-23005.bak.zip"<sup>5</sup> draft Senate plan, which was last modified and backed up on August 13, 2017. I examined this draft House plan in Maptitude for Redistricting, and I similarly observed that Dr. Hofeller imported racial data and calculated each district's Any-Part African-American share of Voting Age Population (denoted as "% 18+\_AP\_Bl"), as illustrated in the screenshot in Figure 29. Additionally, Dr. Hofeller again purposefully sorted the 50 draft Senate districts according to their racial composition in the Maptitude "Dataview" window, as illustrated in the Figure 29 screenshot.

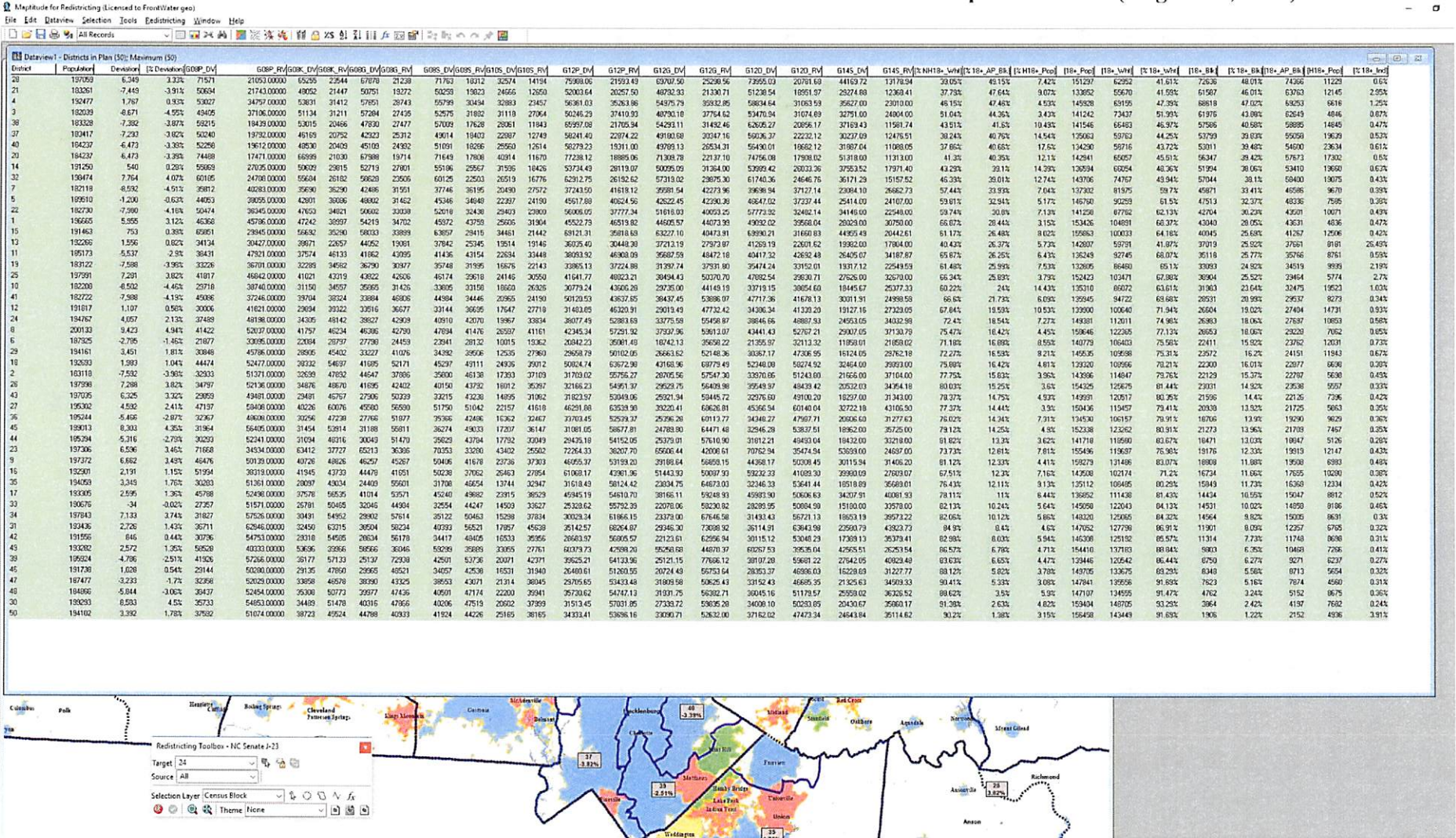
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<sup>5</sup> The full filepath of this Maptitude draft plan on Dr. Hofeller's hard drive is:  
"ES0007C\CSeagate Dashboard 2.0\TOSHIBA-PC\toshiba\Backup\f7bc3748-d314-4cc2-a86b-  
ea77894bb5b2\20170813\_172720\_toshibaInc3047\C\MPRwork\NCPlans\NC Senate J-23 Backups\NC Senate J-  
23005.bak.zip"



Figure 29:

Screenshot of Dataview Window For Dr. Hofeller's "NC Senate J-23005.bak.zip" Draft Plan (August 13, 2017)



In addition to two draft plans described above, I also reviewed several of Dr. Hofeller's other draft plans in Maptitude for Redistricting. For the four draft plans listed below, I found similar evidence in each Maptitude backup folder that Dr. Hofeller imported racial data, which he then used to create a summary field titled "% 18+\_AP\_Blk", calculating each of his draft district's Any-Part African-American share of total Voting Age Population:

- 1) "NC House A-1001.bak.zip" (Draft House map; Last modified on August 11, 2017)<sup>6</sup>
- 2) "NC House J-3003.bak.zip " (Draft House map; Last modified on August 14, 2017)<sup>7</sup>
- 3) "NC Senate J-24001.bak.zip" (Draft House map; Last modified on June 24, 2017)<sup>8</sup>
- 4) "NC Senate J-24005.bak.zip" (Draft House map; Last modified on July 12, 2017)<sup>9</sup>

These files are Maptitude files that I have personally reviewed; I have not reviewed any Maptitude files from Dr. Hofeller in this time period that did not have racial data on the new districts being created.

In addition to having racial data in his Maptitude files, Dr. Hofeller also created Excel spreadsheets with racial data on his draft districts. For instance, in an Excel spreadsheet titled "Senate County Groups" (Last modified on August 3, 2017), Dr. Hofeller he listed all of the county groupings in the Senate Plan. For each county grouping, Dr. Hofeller also calculated the grouping's Any-Part Black Voting Age Population (Column I and J), among other racial breakdowns.

In summary, the above Maptitude and Excel files reveal that Dr. Hofeller had racial data and calculated and displayed district-level racial demographics, both in his draft plans prior to and after the August 10, 2017 passage of the 2017 Adopted Criteria. Clearly, contrary to the

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<sup>6</sup> The full filepath of this Maptitude draft plan on Dr. Hofeller's hard drive is:  
"ES0007C\C\Seagate Dashboard 2.0\TOSHIBA-PC\toshiba\Backup\f7bc3748-d314-4cc2-a86b-  
ea77894bb5b2\20170811\_083948\_toshibaInc3039\C\MPRwork\NCPlans\NC House A-1 Backups\NC House A-  
1001.bak.zip"

<sup>7</sup> The full filepath of this Maptitude draft plan on Dr. Hofeller's hard drive is:  
"ES0007C\C\Seagate Dashboard 2.0\TOSHIBA-PC\toshiba\Backup\f7bc3748-d314-4cc2-a86b-  
ea77894bb5b2\20170814\_203114\_toshibaInc3065\C\MPRwork\NCPlans\NC House J-3 Backups\NC House J-  
3003.bak.zip"

<sup>8</sup> The full filepath of this Maptitude draft plan on Dr. Hofeller's hard drive is:  
"ES0007C\C\Seagate Dashboard 2.0\TOSHIBA-PC\toshiba\Backup\f7bc3748-d314-4cc2-a86b-  
ea77894bb5b2\20170624\_093938\_toshibaInc2590\C\MPRwork\NCPlans\NC Senate J-24 Backups\NC Senate J-  
24001.bak.zip"

<sup>9</sup> The full filepath of this Maptitude draft plan on Dr. Hofeller's hard drive is:  
"ES0007C\C\Seagate Dashboard 2.0\TOSHIBA-PC\toshiba\Backup\f7bc3748-d314-4cc2-a86b-  
ea77894bb5b2\20170712\_151351\_toshibaInc2792\C\MPRwork\NCPlans\NC Senate J-24 Backups\NC Senate J-  
24005.bak.zip"

assertions of Dr. Hood and Dr. Thornton that the 2017 Plans strictly adhered to the 2017 Adopted Criteria, Dr. Hofeller did not follow the Adopted Criteria's prohibition on having racial data on the new districts being developed.

**Response to Dr. Brunell's, Dr. Hood's, and Dr. Johnson's Claims Regarding Partisan Intent:**

In their rebuttal reports, Dr. Hood and Dr. Johnson claim that the role of partisan motives in the drawing of the 2017 House and Senate Plans was significantly limited. Specifically, Dr. Hood argues that the General Assembly's redistricting process was "quite constrained, which greatly limits the ability of map drawers to create districts where partisan motives predominate" (p. 9-10, Hood report of April 30, 2019). Similarly, Dr. Johnson argues that the "county groupings' requirement significantly limits the legislature's ability to draw lines based exclusively on partisanship" (Para. 30, Johnson report of April 30, 2019).

Furthermore, Dr. Brunell and Dr. Hood both claim that it is simply difficult to prove whether the General Assembly had partisan intent when drawing the 2017 House and Senate Plans. Dr. Hood argues that the enacted plans' deviations from non-partisan districting criteria "in no ways proves the General Assembly was engaged in an effort to engage in extreme partisan gerrymander" (p. 9, Hood report of April 30, 2019). More generally, Dr. Brunell asserts that "Divining the intent of the map-maker is extraordinarily difficult because the process of redistricting is complex" (p. 7, Brunell report of April 30, 2019).

In response to these arguments by Dr. Brunell, Dr. Hood, and Dr. Johnson, I examined and analyzed draft House and Senate maps prepared by Dr. Hofeller, as well as several associated files in which Dr. Hofeller analyzed the characteristics of his various draft maps. Again, I understand that Plaintiffs received these files through a subpoena to Dr. Hofeller's daughter, and I received these files directly from Plaintiffs' forensic vendor, Stroz Friedberg.

These associated files, most of which were saved as Microsoft Excel spreadsheets, reveal Dr. Hofeller's near-singular focus on the partisan characteristics of the districts while producing his various draft maps. As described below, Dr. Hofeller's various spreadsheets employed three different election formulas for measuring the partisanship of districts in his draft maps. The draft districts followed the county groupings boundaries and population deviation requirements, but the spreadsheets otherwise contain no evidence that Dr. Hofeller focused on other non-partisan

criteria, such as geographic compactness and avoiding municipal, precinct, or VTD splits. Therefore, Dr. Hofeller's spreadsheets are strong evidence that partisan considerations predominated over non-partisan redistricting criteria in Dr. Hofeller's process of drafting the General Assembly's 2017 House and Senate Plans.

Below, I describe the files associated with Dr. Hofeller's draft maps that I analyzed, and I describe my findings from examining Dr. Hofeller's files:

**1) Dr. Hofeller's "Avg R" Election Formula:** Dr. Hofeller's first partisanship measure is described in detail in his document named "FORMULA FOR POLITICAL ANALYSIS OF LEGISLATIVE DISTRICTS.docx" (Last modified: November 7, 2016). Figure 30 contains a screenshot of the entirety of this document. This partisan measure aggregates together the results of nine statewide election in North Carolina during 2008-2014. These elections are the 2008 US President, Governor, US Senate, and Commissioner of Insurance elections, the 2010 US Senate election, the 2012 US President, Governor, and Commissioner of Labor elections, and the 2014 US Senate election. Votes from these nine elections are weighted equally, and Dr. Hofeller's formula calculates the Republican share of the total two-party votes summed across the nine elections.

Dr. Hofeller's Excel spreadsheet named "NC House Plan June 7.xls" (Last modified: June 7, 2017) contains an example of his use of this formula. Figure 31 contains a screenshot of this spreadsheet. In this spreadsheet, Dr. Hofeller describes the partisan characteristics of the 120 districts in a draft plan he referred to as "NC\_House\_Plan\_June\_7". For each district in this draft plan, Dr. Hofeller calculated the total number of votes received by Republican candidates in these nine elections (column B), as well as the total number of two-party votes in these elections. Dr. Hofeller then calculated each district's Republican share of the two-part votes across in these elections. Finally, Dr. Hofeller ranked the districts from most to least Republican in this spreadsheet, allowing him to compare the relative partisanship of the 120 districts in his draft plan. Figure 31 contains a screenshot of this Excel spreadsheet, illustrating how Dr. Hofeller calculated the Republican vote share of each draft district using the 2008-2014 statewide elections in the fourth column of the spreadsheet; he then sorted all of the districts in this draft map from most to least Republican, allowing him to compare the relative Republican strength of each district.



Figure 30:

Dr. Hofeller's "FORMULA FOR POLITICAL ANALYSIS OF LEGISLATIVE DISTRICTS.doc"

**FORMULA FOR POLITICAL ANALYSIS OF LEGISLATIVE DISTRICTS  
USING 2-PARTY VOTE**

$$\frac{(G08P\_RV+G08G\_RV+G08S\_RV+G08K\_RV+G12P\_RV+G12G\_RV+G12O\_RV+G10S\_RV+G14S\_RV)}{(G08P\_DV+G08P\_RV+G08G\_DV+G08G\_RV+G08S\_DV+G08S\_RV+G08K\_DV+G08K\_RV+G12P\_DV+G12P\_RV+G12G\_DV+G12G\_RV+G12O\_DV+G12O\_RV+G10S\_DV+G10S\_RV+G14S\_DV+G14S\_RV)}$$

2008 President  
2008 Governor  
2008 U. S. Senate  
2008 insurance Commissioner  
2010 U. S. Senate  
2012 President  
2012 Governor  
2012 Commissioner of Labor  
2014 U. S. Senate

**Note:** The full filepath location of this file is:  
"C:\Seagate Dashboard 2.0\TOSHIBA-PC\toshiba\Backup\f7bc3748-d314-4cc2-a86b-  
ea77894bb5b2\20161025\_151544\_toshibaInc1350\C\Users\toshiba\Documents\Tom\2017  
Redistricting\FORMULA FOR POLITICAL ANALYSIS OF LEGISLATIVE  
DISTRICTS.docx"



Dr. Hofeller then labeled this district-level measure of Republican vote share as "Avg R" in several of his Excel spreadsheets analyzing the districts in his various draft maps. Specifically, for this section of this report, I analyzed a number of Dr. Hofeller's Excel spreadsheets analyzing his various House draft plans and Senate draft plans.

Each of these spreadsheets contains a list of all districts in one of Dr. Hofeller's draft plans, along with the "Avg R" Republican vote share of the district using Dr. Hofeller's 2008-2014 election formula. Dr. Hofeller then shaded each of the districts with a multi-color shading scheme, ranging from blue (for districts with a "Avg R" under 45%) to dark red (for districts with a "Avg R" over 65%). Images of these files are reproduced further below. Figures 32 to 44 contain screenshots of these spreadsheets on depicting Dr. Hofeller's various draft districts.

2) ***Dr. Hofeller's "PPI Indicator" Formula:*** Dr. Hofeller's second partisanship measure is described in detail in his Excel spreadsheet named "PPI Indicator Votes for New 2017 Legislative Districts.xlsx" (Last modified on June 24, 2017). Figure 45 contains a screenshot of this spreadsheet. This partisan measure aggregates together the results of ten statewide elections in North Carolina during 2010-2016.<sup>10</sup> These ten elections match the elections that Representative David Lewis announced at the August 10, 2017 meeting of the Joint Select Committee on Redistricting would be used in drawing new House and Senate districts. As detailed in Dr. Hofeller's Excel spreadsheet, votes from these ten elections are weighted equally, and Dr. Hofeller's formula calculates the Republican share of the total two-party votes summed across the ten elections.

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<sup>10</sup> These elections are: The 2010 US Senate election, the 2012 US President, Governor, and Lieutenant Governor elections, the 2014 US Senate election, and the 2016 US President, US Senate, Governor, Lieutenant Governor, and Attorney General elections.



Figure 32:

Dr. Hofeller's Draft Plan File: "House Minimum-Partisan-Members D.xlsx" (December 6, 2016)

	Group Type	Dist	Avg R	Off Year	Incumbent	Pty	Note	Old Avg.	New - Old Avg
3	New	1	44.49%	50.90%	Steinburg	R	##	56.77%	-12.28%
4	Gra-Per-Van-War	2	52.41%	55.17%	Yarborough	R		51.84%	0.57%
5	New	3	59.57%	65.68%	Speciale	R		56.36%	3.21%
6	New	4	55.22%	60.24%	Dixon	R		61.60%	-6.38%
7	New	5	37.17%	42.20%	Hunter	D			
8	New	6	57.79%	62.46%	Boswell	R		54.96%	2.83%
9	Fran-Nash	7	43.21%	45.77%	Richardson	D	##	38.61%	4.60%
10	New	8	34.79%	37.03%	Vacant	D	#		
11	New	9	54.96%	59.58%	Murphy	R		53.89%	1.07%
12	New	10	62.11%	66.57%	Bell	R		62.82%	-0.71%
13	Wake	11	40.34%	39.63%	Hall/Ball	D-D	#		
14	New	12	47.60%	51.58%	Graham	D		40.79%	6.81%
15	Old	13	64.27%	68.75%	McElraft	R		64.27%	0.00%
16	Old	14	58.00%	64.58%	Cleveland	R		58.00%	0.00%
17	Old	15	60.31%	67.14%	Shepard	R		60.31%	0.00%
18	New	16	52.95%	57.51%	Millis	R		59.57%	-6.62%
19	Old	17	60.83%	64.70%	Iler	R		60.83%	0.00%
20	Old	18	37.12%	39.63%	Hamilton	D			
21	Old	19	58.04%	60.71%	Davis	R		58.04%	0.00%
22	Old	20	58.55%	61.15%	Grange	R		58.55%	0.00%
23	New	21	38.92%	42.84%	Bell	D			
24	New	22	54.03%	57.09%	Brison	D	##	52.47%	1.56%
25	Old	23	34.23%	37.64%	Willingham	D			
26	New	24	45.20%	47.27%	Martin/Butterfield	R-D	#	53.20%	-8.00%
27	Fran-Nash	25	54.99%	58.12%	Collins	R	##	59.22%	-4.23%
28	New	26	62.42%	65.30%	While	R		58.67%	3.75%
29	Old	27	32.28%	36.27%	Wray	D			
30	New	28	60.67%	64.85%	Strickland	R		52.47%	8.20%
31	New	29	15.07%	14.99%	Hall	D			
32	New	30	34.76%	34.44%	Lehman	D			
33	New	31	22.26%	21.17%	Michaux	D			
34	Gra-Per-Van-War	32	33.08%	36.55%	Garrison	D			
35	Wake	33	20.83%	17.84%	Gill	D			
36	Wake	34	45.21%	46.34%	Martin	D		37.99%	7.22%
37	Wake	35	55.97%	58.19%	Malone	R		54.92%	1.05%
38	Wake	36	53.02%	53.44%	Dollar	R		54.94%	-1.92%
39	Wake	37	53.64%	55.11%	Williams	R		56.45%	-2.81%
40	Wake	38	28.48%	28.51%	Holley	D			
41	Wake	39	32.72%	32.10%	Jackson	D			
42	Wake	40	57.05%	58.19%	John	D	##	54.63%	2.42%
43	Wake	41	45.86%	45.97%	Adcock	D		50.53%	-4.67%
44	Cumb	42	32.06%	34.49%	Lucas	D			
45	Cumb	43	26.77%	41.98%	Floyd	D			

Full filepath: "ES0007C\C\Seagate Dashboard 2.0\TOSHIBA-PC\toshiba\Backup\f7bc3748-d314-4cc2-a86b-ea77894bb5b2\20161201\_112948\_toshibaInc1350\C\Users\toshiba\Documents\Tom\2017 Redistricting\House Minimum-Partisan-Members D.xlsx"



Figure 33:

Dr. Hofeller's Draft Plan File: "House Minimum-Partisan-Members.xlsx" (December 3, 2016)

Group Type	Dist	Avg R	Off Year	Incumbent	Pty	Note	Old Avg.	New - Old Avg
New	1	44.49%	50.90%	Steinburg	R	##	56.77%	-12.28%
Gra-Per-Van-War	2	52.41%	55.17%	Yarborough	R		51.84%	0.57%
New	3	54.37%	61.02%	Speciale	R		56.36%	-1.99%
New	4	54.77%	59.69%	Dixon	R		61.60%	-6.83%
New	5	37.17%	42.20%	Hunter	D			
New	6	57.79%	62.46%	Boswell	R		54.96%	2.83%
Fran-Nash	7	51.17%	56.15%	Richardson	D	##	38.61%	12.56%
New	8	35.06%	37.15%	Vacant	D	#		
New	9	53.40%	57.78%	Murphy	R		53.89%	-0.49%
New	10	62.11%	66.57%	Bell	R		62.82%	-0.71%
Wake	11	40.34%	39.63%	Hall/Ball	D-D	#		
New	12	48.98%	53.19%	Graham	D		40.79%	8.19%
Old	13	64.27%	68.75%	McElraft	R		64.27%	0.00%
Old	14	58.00%	64.41%	Cleveland	R		58.00%	0.00%
Old	15	60.31%	67.92%	Shepard	R		60.31%	0.00%
New	16	53.53%	58.08%	Millis	R		59.57%	-6.04%
Old	17	60.83%	64.70%	Iler	R		60.83%	0.00%
Old	18	37.12%	39.63%	Hamilton	D			
Old	19	58.04%	60.71%	Davis	R		58.04%	0.00%
Old	20	58.55%	61.15%	Grange	R		58.55%	0.00%
New	21	38.93%	42.84%	Bell	D			
New	22	54.02%	57.09%	Brison	D	##	52.47%	1.55%
Old	23	34.23%	37.64%	Willingham	D			
New	24	45.20%	47.27%	Martin/Butterfield	R-D	#	53.20%	-8.00%
Fran-Nash	25	47.17%	48.30%	Collins	R	##	59.22%	-12.05%
New	26	62.42%	65.30%	While	R		58.67%	3.75%
Old	27	32.28%	36.27%	Wray	D			
New	28	60.67%	64.85%	Strickland	R		52.47%	8.20%
New	29	11.36%	14.99%	Hall	D			
New	30	37.17%	34.44%	Lehman	D			
New	31	23.18%	21.17%	Michaux	D			
Gra-Per-Van-War	32	33.08%	36.55%	Garrison	D			
Wake	33	20.83%	17.84%	Gill	D			
Wake	34	45.21%	46.34%	Martin	D		37.99%	7.22%
Wake	35	55.97%	58.19%	Malone	R		54.92%	1.05%
Wake	36	53.08%	53.44%	Dollar	R		54.94%	-1.86%
Wake	37	53.63%	55.11%	Williams	R		56.45%	-2.82%
Wake	38	28.48%	28.51%	Holley	D			
Wake	39	32.72%	32.10%	Jackson	D			
Wake	40	57.05%	58.19%	John	D	##	54.63%	2.42%
Wake	41	45.85%	45.97%	Adcock	D		50.53%	-4.68%
Cumb	42	32.49%	34.61%	Lucas	D			

Full filepath: ES0007C\C\Seagate Dashboard 2.0\TOSHIBA-PC\toshiba\Backup\f7bc3748-d314-4cc2-a86b-ea77894bb5b2\20161201\_112948\_toshibaInc1350\C\Users\toshiba\Documents\Tom\2017 Redistricting\ House Minimum-Partisan-Members.xlsx

**Figure 36:**  
**Dr. Hofeller's Draft Plan File: "House Minimum-Partisan-Members D.xlsx" (June 12, 2017)**

	Group Type	Dist	Avg R	Off Year	Incumbent	Pty	Note	Old Avg.	New - Old Avg
1	New 2016 House Plan - June 12								
2									
3	New	1	44.49%	50.90%	Steinburg	R	##	56.77%	-12.28%
4	Gra-Per-Van-War	2	52.41%	55.17%	Yarborough	R		51.84%	0.57%
5	New	3	59.57%	65.68%	Speciale	R		56.36%	3.21%
6	New	4	55.22%	60.24%	Dixon	R		61.60%	-6.38%
7	New	5	37.17%	42.20%	Hunter	D			
8	New	6	57.79%	62.46%	Boswell	R		54.96%	2.83%
9	Fran-Nash	7	43.21%	45.77%	Richardson	D	##	38.61%	4.60%
10	New	8	34.79%	37.03%	Vacant	D	#		
11	New	9	54.96%	59.58%	Murphy	R		53.89%	1.07%
12	New	10	64.66%	69.67%	Bell	R		62.82%	1.84%
13	Wake	11	40.34%	39.63%	Hall/Ball	D-D	#		
14	New	12	47.60%	51.58%	Graham	D		40.79%	6.81%
15	Old	13	64.27%	68.75%	McElraft	R		64.27%	0.00%
16	Old	14	58.00%	64.58%	Cleveland	R		58.00%	0.00%
17	Old	15	60.31%	67.14%	Shepard	R		60.31%	0.00%
18	New	16	52.95%	57.51%	Millis	R		59.57%	-6.62%
19	Old	17	60.83%	64.70%	Iler	R		60.83%	0.00%
20	Old	18	37.12%	39.63%	Hamilton	D			
21	Old	19	58.04%	60.71%	Davis	R		58.04%	0.00%
22	Old	20	58.55%	61.15%	Grange	R		58.55%	0.00%
23	New	21	44.04%	47.83%	Bell	D			
24	New	22	44.04%	47.83%	Brison	D		52.47%	-8.43%
25	Old	23	34.23%	37.64%	Willingham	D			
26	New	24	45.20%	47.27%	Martin/Butterfield	R-D	#	53.20%	-8.00%
27	Fran-Nash	25	54.99%	58.12%	Collins	R	##	59.22%	-4.23%
28	New	26	62.42%	65.30%	White	R		58.67%	3.75%
29	Old	27	32.28%	36.27%	Wray	D			
30	New	28	60.67%	64.85%	Strickland	R		52.47%	8.20%
31	New	29	15.07%	14.99%	Hall	D			
32	New	30	34.76%	34.44%	Lehman	D			
33	New	31	22.26%	21.17%	Michaux	D			
34	Gra-Per-Van-War	32	33.08%	36.55%	Garrison	D			
35	Wake	33	20.83%	17.84%	Gill	D			
36	Wake	34	45.21%	46.34%	Martin	D		37.99%	7.22%
37	Wake	35	55.97%	58.19%	Malone	R		54.92%	1.05%
38	Wake	36	53.02%	53.44%	Dollar	R		54.94%	-1.92%
39	Wake	37	53.64%	55.11%	Williams	R		56.45%	-2.81%
40	Wake	38	28.48%	28.51%	Holley	D			
41	Wake	39	32.72%	32.10%	Jackson	D			
42	Wake	40	57.05%	58.19%	John	D	##	54.63%	2.42%
43	Wake	41	45.86%	45.97%	Adcock	D		50.53%	-4.67%
44	Cumb	42	32.06%	34.49%	Lucas	D			
45	Cumb	43	26.70%	41.88%	Floyd	D			

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 House Minimum-Partisan-Members D.xlsx



**Figure 39:**  
**Dr. Hofeller's Draft Plan File: "NC Senate Minimum Partisan J-2" (June 13, 2017)**

New 2016 Senate Plan								
Group Type	Dist	Avg R	14 Sen%	Incumbent	Pty	Note	Old Ave R	11 ti 17
New	1	47.94%	52.31%	Cook	R		53.54%	-5.60%
Old	2	60.16%	63.13%	Sanderson	R		60.16%	0.00%
New	3	40.10%	43.10%	Smith-Ingram	D		34.18%	5.93%
New	4	37.39%	39.24%	Horner	R	##	31.88%	5.51%
New	5	45.94%	48.68%	Davis	D		36.80%	9.15%
Old	6	59.16%	64.83%	Brown	R		59.16%	0.00%
New	7	50.94%	53.60%	Pate	R		59.37%	-8.43%
Old	8	54.69%	56.14%	Rabon	R		54.69%	0.00%
Old	9	53.05%	51.05%	Lee	R		53.05%	0.00%
New	10	54.75%	57.91%	Jackson	R		57.13%	-2.38%
New	11	54.47%	56.42%	Bryant	D	##	57.61%	-3.13%
New	12	57.19%	58.83%	Rabin	R		57.19%	0.00%
Old	13	41.09%	47.12%	Britt	R	##	41.09%	0.00%
Wake-Franklin	14	25.37%	22.89%	Blue	D		25.54%	-0.17%
Wake-Franklin	15	53.04%	49.97%	Alexander	R		53.32%	-0.28%
Wake-Franklin	16	39.77%	35.22%	Chaudhuri	D		38.80%	0.97%
Wake-Franklin	17	54.36%	51.52%	Barringer	R		53.45%	0.91%
Wake-Franklin	18	52.57%	53.26%	Barefoot	R		52.76%	-0.19%
Cumberland	19	50.79%	53.27%	Meredith	R		49.30%	1.48%
New	20	20.93%	18.06%	McKissick	D		24.15%	-3.23%
Cumberland	21	29.52%	29.98%	Clark	D		30.53%	-1.01%
New	22	40.57%	39.77%	Woodard	D		37.71%	2.86%
Old	23	34.84%	31.50%	Foushee	D		34.84%	0.00%
New	24	56.91%	58.10%	Gunn	R		59.06%	-2.14%
New	25	51.51%	54.18%	McInnis	R		55.19%	-3.68%
New	26	59.18%	62.59%	Berger	R		57.51%	1.67%
New	27	57.95%	56.89%	Wade	R		55.06%	2.90%
New	28	22.97%	22.18%	Robinson	D		18.65%	4.32%
New	29	60.90%	64.77%	Tillman	R		67.04%	-6.14%
New	30	60.87%	63.71%	Randleman,Ballard	R,R	#	66.15%	-5.28%
New	31	64.87%	65.07%	Brock, Krawiec	R,R	#	62.71%	2.16%
New	32	30.42%	29.53%	Lowe	D		31.20%	-0.78%
Old	33	65.39%	68.87%	Dunn	R		65.39%	0.00%
New	34	66.29%	67.96%	Vacant	R	#	63.53%	2.76%
Old	35	65.63%	65.84%	Tucker	R		65.36%	0.27%
Old	36	61.81%	60.28%	Newton	R		62.18%	-0.38%
Mecklenburg	37	31.35%	29.21%	Vacant	D	#	37.87%	-6.52%
Mecklenburg	38	28.06%	23.76%	Jackson	D		23.36%	4.70%
Mecklenburg	39	63.96%	59.63%	Bishop	R		61.93%	2.03%
Mecklenburg	40	29.05%	25.80%	Waddell	D		20.96%	8.09%
Mecklenburg	41	49.59%	45.44%	Ford, Tarte	D,R	###	57.53%	-7.94%
Old	42	65.81%	67.05%	Wells	R		65.81%	0.00%
New	43	62.82%	63.14%	Jarromgtpm	R		62.82%	0.00%

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 Senate Minimun-Partisan J-2.xlsx.

**Figure 40:**  
**Dr. Hofeller's Draft Plan File: "House Minimum-Partisan-Members J-2.xlsx" (June 14, 2017)**

New 2016 House Plan - June 17-2								
Using 08 and 12 President Plus Other Statewide Races								
Group Type	Dist	Avg R	Off Year	Incumbent	Pty	Note	Old Avg.	New - Old Avg
New	1	44.49%	49.27%	Steinburg	R	##	56.77%	-12.28%
Gra-Per-Van-War	2	52.41%	54.23%	Yarborough	R		51.84%	0.57%
New	3	60.04%	63.52%	Speciale	R		56.36%	3.68%
New	4	55.22%	60.42%	Dixon	R		61.60%	-6.38%
New	5	37.17%	40.94%	Hunter	D		32.23%	
New	6	57.79%	60.48%	Boswell	R		54.96%	2.83%
Fran-Nash	7	43.21%	44.65%	Richardson	D		38.61%	4.60%
New	8	34.82%	35.83%	Vacant	D	#	53.20%	
New	9	54.66%	57.45%	Murphy	R		53.89%	0.77%
New	10	55.52%	59.45%	Vacant	R		62.82%	-7.30%
Wake	11	40.34%	35.32%	Hall/Ball	D-D	#	39.02%	
New	12	47.66%	49.85%	Graham	D		40.79%	6.88%
Old	13	64.27%	66.75%	McElraft	R		64.27%	0.00%
Old	14	58.00%	63.85%	Cleveland	R		58.00%	0.00%
Old	15	60.31%	66.50%	Shepard	R		60.31%	0.00%
New	16	53.01%	55.35%	Millis	R		59.57%	-6.56%
Old	17	60.83%	61.69%	Iler	R		60.83%	0.00%
Old	18	37.12%	35.75%	Hamilton	D		37.12%	
Old	19	58.04%	55.14%	Davis	R		58.04%	0.00%
Old	20	58.55%	56.63%	Grange	R		58.55%	0.00%
New	21	54.71%	57.18%	Bell	D	##	34.18%	20.52%
New	22	45.15%	47.83%	Brison/Bell	D-D		52.47%	-7.32%
Old	23	34.23%	35.95%	Willingham	D		34.23%	
New	24	45.20%	46.85%	Martin/Butterfield	R-D	#	27.25%	17.95%
Fran-Nash	25	54.99%	57.48%	Collins	R	##	59.22%	-4.23%
New	26	62.42%	63.41%	White	R		58.67%	3.75%
Old	27	32.28%	35.04%	Wray	D		32.28%	
New	28	60.67%	63.28%	Strickland	R		64.55%	-3.88%
New	29	21.23%	17.64%	Hall	D		14.84%	
New	30	31.91%	29.02%	Lehman	D		30.09%	
New	31	19.37%	17.54%	Michaux	D		18.28%	
Gra-Per-Van-War	32	33.08%	34.86%	Garrison	D		33.37%	
Wake	33	20.83%	16.85%	Gill	D		19.72%	
Wake	34	45.21%	42.30%	Martin	D		37.99%	7.23%
Wake	35	56.07%	55.57%	Malone	R		54.94%	1.13%
Wake	36	53.02%	49.02%	Dollar	R		54.92%	-1.90%
Wake	37	53.64%	51.33%	Williams	R		56.45%	-2.81%
Wake	38	28.48%	26.13%	Holley	D		23.36%	
Wake	39	32.87%	30.60%	Jackson	D		44.88%	
Wake	40	57.09%	53.97%	John	D	##	54.63%	2.46%
Wake	41	45.86%	41.15%	Adcock	D		50.53%	-4.68%
Cumb	42	27.35%	26.64%	Lucas	D		27.32%	

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Figure 41:

Dr. Hofeller's Draft Plan File: "House Minimum-Partisan-Members J-2.xlsx" (June 14, 2017)

	Group Type	Dist	Avg R	Off Year	Incumbent	Pty	Note	Old Avg	New - Old Avg
1	New 2016 House Plan - June 17-2								
2	Using 08 and 12 President Plus Other Statewide Races								
4									
5	New	1	44.49%	49.27%	Steinburg	R	##	56.77%	-12.28%
6	Gra-Per-Van-War	2	52.41%	54.23%	Yarborough	R		51.84%	0.57%
7	New	3	60.04%	63.52%	Speciale	R		56.36%	3.68%
8	New	4	55.22%	60.42%	Dixon	R		61.60%	-6.38%
9	New	5	37.17%	40.94%	Hunter	D		32.23%	
10	New	6	57.79%	60.48%	Boswell	R		54.96%	2.83%
11	Fran-Nash	7	43.21%	44.65%	Richardson	D		38.61%	4.60%
12	New	8	34.82%	35.83%	Vacant	D	#	53.20%	
13	New	9	54.66%	57.45%	Murphy	R		53.89%	0.77%
14	New	10	55.52%	59.45%	Vacant	R		62.82%	-7.30%
15	Wake	11	40.34%	35.32%	Hall/Ball	D-D	#	39.02%	
16	New	12	47.66%	49.85%	Graham	D		40.79%	6.88%
17	Old	13	64.27%	66.75%	McElraft	R		64.27%	0.00%
18	Old	14	58.00%	63.85%	Cleveland	R		58.00%	0.00%
19	Old	15	60.31%	66.50%	Shepard	R		60.31%	0.00%
20	New	16	53.01%	55.35%	Millis	R		59.57%	-6.56%
21	Old	17	60.83%	61.69%	Iler	R		60.83%	0.00%
22	Old	18	37.12%	35.75%	Hamilton	D		37.12%	
23	Old	19	58.04%	55.14%	Davis	R		58.04%	0.00%
24	Old	20	58.55%	56.63%	Grange	R		58.55%	0.00%
25	New	21	54.71%	57.18%	Bell	D	##	34.18%	20.52%
26	New	22	45.15%	47.83%	Brison/Bell	D-D		52.47%	-7.32%
27	Old	23	34.23%	35.95%	Willingham	D		34.23%	
28	New	24	45.20%	46.85%	Martin/Butterfield	R-D	#	27.25%	17.95%
29	Fran-Nash	25	54.99%	57.48%	Collins	R	##	59.22%	-4.23%
30	New	26	62.42%	63.41%	While	R		58.67%	3.75%
31	Old	27	32.28%	35.04%	Wray	D		32.28%	
32	New	28	60.67%	63.29%	Strickland	R		64.55%	-3.88%
33	New	29	21.23%	17.64%	Hall	D		14.84%	
34	New	30	31.91%	29.02%	Lehman	D		30.09%	
35	New	31	19.37%	17.54%	Michaux	D		18.28%	
36	Gra-Per-Van-War	32	33.08%	34.86%	Garrison	D		33.37%	
37	Wake	33	20.83%	16.85%	Gill	D		19.72%	
38	Wake	34	45.21%	42.30%	Martin	D		37.99%	7.23%
39	Wake	35	56.07%	55.57%	Malone	R		54.94%	1.13%
40	Wake	36	53.02%	49.02%	Dollar	R		54.92%	-1.90%
41	Wake	37	53.64%	51.33%	Williams	R		56.45%	-2.81%
42	Wake	38	28.48%	26.13%	Holley	D		23.36%	
43	Wake	39	32.87%	30.60%	Jackson	D		44.88%	
44	Wake	40	57.09%	53.97%	John	D	##	54.63%	2.46%
45	Wake	41	45.86%	41.15%	Adcock	D		50.53%	-4.68%
46	Cumb	42	27.35%	26.64%	Lucas	D		27.32%	

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House Minimum-Partisan-Members J-2.xlsx

Figure 42:  
 Dr. Hofeller's Draft Plan File: "NC Senate Minimum-Partisan J-2.xlsx" (June 13, 2017)

Group Type	Dist	Avg R	14 Sen%	Incumbent	Pty	Note	Old Ave R	11 ti 17
New	1	52.70%		Cook	R			
Old	2	60.16%		Sanderson	R			
New	3	35.11%		Smith-Ingram	D			
New	4	37.39%		Horner	R	##		
New	5	45.94%		Davis	D			
Old	6	59.16%		Brown	R			
New	7	50.94%		Pate	R			
Old	8	54.69%		Rabon	R			
Old	9	53.05%		Lee	R			
New	10	55.32%		Jackson	R			
New	11	54.35%		Bryant	D	##		
New	12	56.83%		Rabin	R			
Old	13	41.09%		Britt	R	##		
Wake-Franklin	14	24.66%		Blue	D			
Wake-Franklin	15	52.46%		Alexander	R			
Wake-Franklin	16	40.50%		Chaudhuri	D			
Wake-Franklin	17	54.36%		Barringer	R			
Wake-Franklin	18	52.70%		Barefoot	R			
Cumberland	19	50.64%		Meredith	R			
New	20	27.50%		McKissick	D			
Cumberland	21	29.64%		Clark	D			
New	22	33.39%		Woodard	D			
Old	23	34.84%		Foushee	D			
New	24	56.91%		Gunn	R			
New	25	51.51%		McInnis	R			
New	26	59.18%		Berger	R			
New	27	58.05%		Wade	R			
New	28	23.67%		Robinson	D			
New	29	60.90%		Tillman	R			
New	30	60.87%		Randleman, Ballard	R, R	#		
New	31	64.87%		Brock, Krawiec	R, R	#		
New	32	30.42%		Lowe	D			
Old	33	65.39%		Dunn	R			
New	34	66.29%		Vacant	R	#		
Old	35	65.63%		Tucker	R			
Old	36	61.81%		Newton	R			
Mecklenburg	37	32.84%		Vacant	D	#		
Mecklenburg	38	26.55%		Jackson	D			
Mecklenburg	39	63.97%		Bishop	R			
Mecklenburg	40	28.50%		Waddell	D			
Mecklenburg	41	49.66%		Ford, Tarte	D, R	###		
Old	42	65.81%		Wells	R			
New	43	62.82%		Jarromgtpm	R			

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 Senate Minimum-Partisan-Members J-2.xlsx



Figure 43:

Dr. Hofeller's Draft Plan File: "Senate Minimum-Partisan-Members.xlsx" (November 26, 2016)

	Group Type	Dist	Avg R	Incumbent	Pty	Note	Old Ave R
4	New	1	52.70%	Cook	R		
5	Old	2	60.16%	Sanderson	R		
6	New	3	35.11%	Smith-Ingram	D		
7	New	4	37.39%	Horner	R	##	
8	New	5	45.94%	Davis	D		
9	Old	6	59.16%	Brown	R		
10	New	7	50.94%	Pate	R		
11	Old	8	54.69%	Rabon	R		
12	Old	9	53.05%	Lee	R		
13	New	10	55.32%	Jackson	R		
14	New	11	54.35%	Bryant	D	##	
15	New	12	56.83%	Rabin	R		
16	Old	13	41.09%	Britt	R	##	
17	Wake-Franklin	14	24.66%	Blue	D		
18	Wake-Franklin	15	52.46%	Alexander	R		
19	Wake-Franklin	16	40.50%	Chaudhuri	D		
20	Wake-Franklin	17	54.36%	Barringer	R		
21	Wake-Franklin	18	52.70%	Barefoot	R		
22	Cumberland	19	50.64%	Meredith	R		
23	New	20	27.50%	McKissick	D		
24	Cumberland	21	29.64%	Clark	D		
25	New	22	33.39%	Woodard	D		
26	Old	23	34.84%	Foushee	D		
27	New	24	56.91%	Gunn	R		
28	New	25	51.51%	McInnis	R		
29	New	26	59.18%	Berger	R		
30	New	27	58.05%	Wade	R		
31	New	28	23.67%	Robinson	D		
32	New	29	60.90%	Tillman	R		
33	New	30	60.87%	Randleman, Ballard	R,R	#	
34	New	31	64.87%	Brock, Krawiec	R,R	#	
35	New	32	30.42%	Lowe	D		
36	Old	33	65.39%	Dunn	R		
37	New	34	66.29%	Vacant	R	#	
38	Old	35	65.63%	Tucker	R		
39	Old	36	61.81%	Newton	R		
40	Mecklenburg	37	32.84%	Vacant	D	#	
41	Mecklenburg	38	26.55%	Jackson	D		
42	Mecklenburg	39	63.97%	Bishop	R		
43	Mecklenburg	40	28.50%	Waddell	D		
44	Mecklenburg	41	49.66%	Ford, Tarte	D,R	###	
45	Old	42	65.81%	Wells	R		
46	New	43	62.82%	Jarromgtpm	R		

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**Figure 44:**  
**Dr. Hofeller's Draft Plan File: "Senate Minimum-Partisan-Members J-2.xlsx " (June 13, 2017)**

	Group Type	Dist	Avg R	14 Sen%	Incumbent	Pty	Note	Old Ave R	11 ti 17
3									
4	New	1	52.70%		Cook	R			
5	Old	2	60.16%		Sanderson	R			
6	New	3	35.11%		Smith-Ingram	D			
7	New	4	37.39%		Horner	R	##		
8	New	5	45.94%		Davis	D			
9	Old	6	59.16%		Brown	R			
10	New	7	50.94%		Pate	R			
11	Old	8	54.69%		Rabon	R			
12	Old	9	53.05%		Lee	R			
13	New	10	55.32%		Jackson	R			
14	New	11	54.35%		Bryant	D	##		
15	New	12	56.83%		Rabin	R			
16	Old	13	41.09%		Britt	R	##		
17	Wake-Franklin	14	24.66%		Blue	D			
18	Wake-Franklin	15	52.46%		Alexander	R			
19	Wake-Franklin	16	40.50%		Chaudhuri	D			
20	Wake-Franklin	17	54.36%		Barringer	R			
21	Wake-Franklin	18	52.70%		Barefoot	R			
22	Cumberland	19	50.64%		Meredith	R			
23	New	20	27.50%		McKissick	D			
24	Cumberland	21	29.64%		Clark	D			
25	New	22	33.39%		Woodard	D			
26	Old	23	34.84%		Foushee	D			
27	New	24	56.91%		Gunn	R			
28	New	25	51.51%		Mcinnis	R			
29	New	26	59.18%		Berger	R			
30	New	27	58.05%		Wade	R			
31	New	28	23.67%		Robinson	D			
32	New	29	60.90%		Tillman	R			
33	New	30	60.87%		Randleman,Ballard	R,R	#		
34	New	31	64.87%		Brock, Krawiec	R,R	#		
35	New	32	30.42%		Lowe	D			
36	Old	33	65.39%		Dunn	R			
37	New	34	66.29%		Vacant	R	#		
38	Old	35	65.63%		Tucker	R			
39	Old	36	61.81%		Newton	R			
40	Mecklenburg	37	32.84%		Vacant	D	#		
41	Mecklenburg	38	26.55%		Jackson	D			
42	Mecklenburg	39	63.97%		Bishop	R			
43	Mecklenburg	40	28.50%		Waddell	D			
44	Mecklenburg	41	49.66%		Ford, Tarte	D,R	###		
45	Old	42	65.81%		Wells	R			
46	New	43	62.82%		Jarromtgm	R			

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 Senate Minimum-Partisan-Members J-2.xlsx



**Figure 45:**  
**Dr. Hofeller's Draft Plan File: "PPI Indicator Votes for New 2017 Legislative Districts.xlsx" (June 24, 2017).**

**STATE OF NORTH CAROLINA**  
**Key Statewide Office Indicator Votes for 2010 - 2016 (PPI)**

Year	Office	Democrat	% 2 Party	Republican	% 2 Party	Lib.	Tot. 2-Pty	Rep. + Lib.	% R. + L.	TVCO	TVC	Rolloff
2010	U. S. Senate	1,145,074	43.99%	1,458,046	56.01%	55,687	2,603,120	1,513,733	56.93%	2,658,808	2,700,383	1.54%
2012	President	2,178,391	48.97%	2,270,395	51.03%	44,515	4,448,786	2,314,910	51.52%	4,493,302	4,542,488	1.08%
2012	Governor	1,931,580	44.18%	2,440,707	55.82%	94,652	4,372,287	2,535,359	56.76%	4,466,940	4,542,488	1.66%
2012	Lt. Governor	2,180,087	49.91%	2,187,728	50.09%	-	4,367,815	2,187,728	50.09%	4,367,816	4,542,488	3.85%
2014	U. S. Senate	1,377,651	49.19%	1,423,251	50.81%	109,100	2,800,902	1,532,351	52.66%	2,910,003	2,939,767	1.01%
2016	President	2,189,316	48.10%	2,362,631	51.90%	130,126	4,551,947	2,492,757	53.24%	4,682,074	4,769,640	1.84%
2016	U. S. Senate	2,128,165	47.05%	2,395,376	52.95%	167,592	4,523,541	2,562,968	54.63%	4,691,134	4,769,640	1.65%
2016	Governor	2,309,157	50.11%	2,298,880	49.89%	102,977	4,608,037	2,401,857	50.98%	4,711,015	4,769,640	1.23%
2016	Lt. Governor	2,093,375	46.66%	2,393,375	53.34%	132,641	4,486,750	2,526,016	54.68%	4,619,392	4,769,640	3.15%
2016	Atty. Gen.	2,303,619	50.27%	2,279,006	49.73%	-	4,582,625	2,279,006	49.73%	4,582,626	4,769,640	3.92%
All	All Votes	19,836,415		21,509,395		837,290	41,345,810	22,346,685		42,183,110	43,115,814	2.16%
All	Average Vt.	1,983,642	47.98%	2,150,940	52.02%	104,661	4,134,581	2,255,601	53.47%	4,218,311	4,311,581	2.16%

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**3) Dr. Hofeller's "Off Year" Election Formula:** Dr. Hofeller used a third measure of partisanship, which he referred to in various Excel spreadsheets as "Off Year". Although there is no single document explaining his motivations for using this measure, various Excel spreadsheets clearly illustrate how Dr. Hofeller calculated his "Off Year" partisan measure, and the "Off Year" label for this measure makes Dr. Hofeller's motivation for using this measure quite intuitively obvious.

Dr. Hofeller's "Off Year" measure is clearly illustrated in an Excel spreadsheet named "House Minimum Renumbered.xls" (Last modified on January 3, 2017). Figure 45b contains a screenshot of this Excel spreadsheet. This spreadsheet describes the 120 districts in a draft plan that Dr. Hofeller referred to as "House\_Minimum\_Renumbered". For each district in this draft plan, Dr. Hofeller calculated the total number of votes for the Republican candidates in the 2010 and 2014 US Senate elections in North Carolina (column G). He also calculated the total number of two-party votes in these two elections (column H). He then calculated, for each district, the Republican share of the two-party votes in these two elections (column B), yielding a Republican vote percentage between 0% and 100%. Dr. Hofeller then copied these district-level Republican vote percentages into another Excel spreadsheet named "House Minimum-Partisan-Members.xlsx", in which he labeled these Republican vote percentages as "Off Year".

Based on my expertise, it is intuitively obvious why Dr. Hofeller developed and analyzed his "Off Year" measure of district partisanship. Among all of the 2008-2016 statewide elections whose results Dr. Hofeller used in analyzing his various draft plans, only the 2010 and 2014 US Senate election contests occurred during non-presidential election years. Such contests are sometimes colloquially referred to as "Off-Year" elections. It appears that Dr. Hofeller sought to estimate the partisan performance of his draft districts during non-presidential, or "Off Year", elections, and Dr. Hofeller did so by measuring the Republican partisanship of each district's electorate during recent, past non-presidential election contests.



Dr. Hoteller's Draft Plan File: "House Minimum Renumbered.xls" (December 3, 2016).

1	District	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
49	46																										
48	47																										
47	46																										
46	45																										
45	44																										
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7	6																										
6	5																										
5	4																										
4	3																										
3	2																										
2	1																										
1	District	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z

Figure 45b:

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I identified and analyzed six of Dr. Hofeller's Excel spreadsheets in which he used this same "Off Year" measure of partisanship to analyze the Republican vote share of districts in various draft maps.<sup>11</sup> In two of Dr. Hofeller's later Excel spreadsheets that were last modified in June 2017,<sup>12</sup> he appears to have slightly altered his "Off Year" formula to include only the results of the 2014 US Senate election, while excluding the 2010 US Senate election. Nevertheless, even in these later spreadsheets, Dr. Hofeller's overall use of the "Off Year" partisan measure appears to have remained the same. That is, Dr. Hofeller appeared to use "Off Year" as an alternative measure to evaluate the partisanship of his draft districts specifically during non-presidential election years.

**4) Dr. Hofeller's Partisan Comparisons of New Draft Districts to Existing Districts:** For each of several draft House and Senate maps, Dr. Hofeller created an Excel spreadsheet tracking the partisan characteristics of each district within the plan. In these spreadsheets, Dr. Hofeller used his "Avg R" measure of partisanship to compare each new draft district to the prior version of that district under the 2011 Plans. In each spreadsheet, column D reports the partisanship of the new draft districts and is labeled as "Avg R"; column I reports the partisanship of the districts under the 2011 Plans and is labeled as "Old Avg". Finally, in column J, Dr. Hofeller calculates the difference in Republican vote share between new draft districts and the existing plan's version of the districts. Dr. Hofeller labeled this column as "New - Old Avg", indicating that he was seeking to measure how his new draft districts differed from the 2011 plans' districts in terms of their Republican vote shares; higher, positive values in this column indicate that Dr. Hofeller's new draft version of a district is more heavily Republican than the existing, old version of the district, while lower, negative values indicate that the new draft district is more Democratic.

However, Dr. Hofeller did not perform these partisan comparisons of new-to-old districts for every single district in each draft plan. Instead, he calculated and displayed these partisan

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<sup>11</sup> These spreadsheets are: "House Minimum-Partisan-Members D.xlsx" (December 6, 2016), "House Minimum-Partisan-Members.xlsx" (December 3, 2016), "House Minimum-Partisan-Members D.xls" (May 31, 2017), "House Minimum-Partisan-Members D.xlsx" (June 8, 2017), "House Minimum-Partisan-Members D.xlsx" (June 12, 2017), "House Minimum-Partisan-Members.xlsx"(June 12, 2017).

<sup>12</sup> These spreadsheets are: "House Minimum-Partisan-Members J-2.xlsx" (June 13, 2017), "House Minimum-Partisan-Members J-2.xlsx" (June 14, 2017).

comparisons primarily for districts that contain a Republican incumbent and for districts that have a Republican vote share over 50% (either under the 2011 plan or in Dr. Hofeller's new draft map), as measured by Dr. Hofeller's "Avg R" formula for partisanship. In other words, Dr. Hofeller generally did not calculate and display these partisan comparisons for districts that affected only Democratic incumbents and that had Democratic-leaning electorates. Instead, Dr. Hofeller appeared to be primarily interested in these comparisons for districts that had a Republican incumbent and districts that were predicted by his "Avg R" formula to favor Republican candidates.

**5) Dr. Hofeller's Tallying of Republican Districts in Draft Plans:** In most of the Excel spreadsheets in which Dr. Hofeller calculates his "Avg R" measure of district partisanship for a draft map, he also produces a table tallying the total number of districts in the map that achieve particular levels of Republican partisanship. Most commonly, this table contains several rows reporting the number of districts in the draft map that contain a Republican vote share above the thresholds of 45%, 50%, 53%, 55%, 60%, and 65%, as measured using Dr. Hofeller's "Avg R" formula for district partisanship. The table also generally contains similar calculations using Dr. Hofeller's "Off Year" measure of partisanship.

These tables tallying the Republican districts in each draft map reveal Dr. Hofeller's motivation in developing his various formulas for measuring district partisanship: Dr. Hofeller carefully tracked the precise number of Republican districts in each plan, as well as districts rising above particular thresholds of Republican vote shares. As is apparent from the fact that these tables appear in most of the Excel spreadsheets containing district-level "Avg R" and "Off Year" calculations for a draft map, Dr. Hofeller clearly evaluated each of his various draft maps through this lens of counting the number of Republican districts in the plan.

**6) Dr. Hofeller's Particular Focus on Districts with Over 53% Republican Vote Share:** Among the various Republican vote share thresholds analyzed in his tables, Dr. Hofeller had a particular interest in analyzing whether his draft districts' Republican vote shares were above or below 53%. In his Excel spreadsheets, districts just below the 53% threshold were shaded in yellow, whereas districts just above the 53% threshold were shaded in light orange. Moreover, in some of his Excel spreadsheets analyzing the district-level "Avg R" partisanship measure for a

particular draft plan, Dr. Hofeller simply reported the number of draft districts that failed to reach the 53% threshold, in lieu of a full table tallying the districts at all of the various thresholds listed above. For example, Dr. Hofeller's "Senate Minimum-Partisan-Members.xlsx" (November 26, 2016) file, which analyzes the 50 districts in a draft Senate plan named "New 2016 Senate Plan", contains a note at the bottom of the spreadsheet that reads: "23 Under 53%." This note indicates Dr. Hofeller calculated that this particular draft Senate map contained 23 districts under 53% and 27 districts over 53% Republican vote share, as measured using his "Avg R" formula; Dr. Hofeller did not analyze the draft districts using any other Republican vote share threshold in this spreadsheet. A similar analysis and notation also appears at the bottom of Dr. Hofeller's "Senate Minimum-Partisan-Members J-2.xlsx" (June 13, 2017) file, which analyzes another of Dr. Hofeller's draft Senate maps.

**7) Dr. Hofeller's Analysis of "Pressure Points for GOP Incumbents":** In various Excel spreadsheets tracking the district-level partisan characteristics of draft maps, Dr. Hofeller included a section titled "Pressure Points for GOP Incumbents". In this section, Dr. Hofeller analyzes how various Republican incumbent legislators might experience "pressure points" under the draft map being analyzed. From Dr. Hofeller's comments in this section, it is apparent that "Pressure Points for GOP Incumbents" specifically refers to the potential electoral vulnerability of Republican incumbents who are placed into a non-Republican district or who are paired with another incumbent.

For example, Dr. Hofeller's Excel spreadsheet named "House Minimum-Partisan-Members D.xlsx" analyzes a draft House map entitled "New 2016 House Plan - December 5". In this spreadsheet, Dr. Hofeller makes note of several Republican incumbent House members who might experience "pressure points" under this draft House map. First, Dr. Hofeller notes that Republican incumbent Bob Steinberg "will be in a Democrat district." Later, Dr. Hofeller noted that another Republican incumbent, Jeffrey Collins, "will be in a leaning Republican district instead of a Republican district." Other "pressure points" are noted by Dr. Hofeller in districts where a Republican incumbent would be paired with another incumbent.

Notably, Dr. Hofeller's spreadsheets do not contain a similar discussion of "pressure points" for Democratic incumbents. Dr. Hofeller did not, for example, list all of the Democratic

incumbents who had been placed into Republican-leaning districts at the bottom of his spreadsheets, as he did for Republican incumbents. Instead, the "Pressure Points" section of his spreadsheets reveal a focus only on the Republican incumbents that Dr. Hofeller believed might be electorally vulnerable under each draft map.

***8) Dr. Hofeller Focused on Partisanship in Drawing Districts Within County***

***Groupings:*** Dr. Hofeller's draft districts were drawn following the various county groupings boundaries of the House and Senate maps. Within each county grouping, however, Dr. Hofeller's consideration and analysis of different district boundaries was clearly focused primarily on partisan considerations. This partisan focus is revealed by Dr. Hofeller's analysis in his various Excel spreadsheets. Aside from verifying that the districts adhere to county grouping boundaries, Dr. Hofeller's spreadsheets analyze only the partisan characteristics of each district and the identities and partisanship of the incumbents in each district.

A spreadsheet named "Johnston Senate Switch.xlsx" presents a clear illustration of Dr. Hofeller's singular focus on partisan considerations when drawing district lines *within* county groupings. Figure 46 contains a screenshot of this Excel spreadsheet. In this spreadsheet, Dr. Hofeller considered two possible versions of new draft districts within the Duplin-Harnett-Johnston-Lee-Nash-Sampson county grouping; Dr. Hofeller simply referred to this entire county grouping as "Johnston". Dr. Hofeller referred to his two different draft versions of the district boundaries in this grouping as "New Plan" and "New Plan Switch". The spreadsheet compares these two different draft plans solely on the basis of their districts' partisanship, as measured by Republican vote share in the 2008 US Presidential election. Thus, the spreadsheet makes clear that Dr. Hofeller was considering two different draft versions of the district boundaries in this county grouping, and Dr. Hofeller apparently compared the two draft maps exclusively on the basis of partisanship; there are no non-partisan criteria (such as geographic compactness, municipality splits, or precinct splits) mentioned in this spreadsheet.



Figure 46: Dr. Hofeller's Draft Plan File: "Johnston Senate Switch.xlsx" (December 11, 2016).

Johnston Senate Switch												
	2011 Enacted			New Plan				New Plan Switch				
10	30852	43836	58.69%	29718	38740	56.59%	-2.10%	30495	37897	55.41%	-3.28%	
11	34644	49995	59.07%	38421	47921	55.50%	-3.57%	37654	48764	56.43%	-2.64%	
12	30006	41821	58.22%	30006	41821	58.22%	0.00%	30006	41821	58.22%	0.00%	

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**9) Dr. Hofeller's Identified the Districts Draw by Campbell Law Students Most**

**Favorable for Republicans:** In 2017, Common Cause organized a simulation in which students from Campbell Law School drew a set of House and Senate plans. Dr. Hofeller created several Excel spreadsheets analyzing these Campbell Law students' plans. I examined these spreadsheets and found that Dr. Hofeller had analyzed the Republican partisanship of each of these districts. Dr. Hofeller then analyzed whether some of these Common Cause-drawn districts are optimal for Republicans, or whether a "better possible" version of these districts could be drawn in a manner more favorable to Republicans. Finally, I found that the four districts drawn by the Campbell Law students that match districts in the enacted 2017 Plans (HD-2, HD-7, HD-25, and HD-32) are in county groupings in which drawing an even more Republican-favorable set of districts would be implausible under a districting process adhering to the 2017 Adopted Criteria. In other words, after analyzing the partisanship of all of the Campbell Law students' districts and assessing whether it would be possible for Republicans to do better for each districts, the General Assembly enacted four districts that (a) match the Campbell Law students' districts, and for which (b) it would not have been possible for Republicans to draw districts in these county groupings more favorable for their party while adhering to the 2017 Adopted Criteria . I explain below how I reached these findings:

Dr. Hofeller created an Excel spreadsheet named "NC Senate CCNC Sample Plan - June 2017.xlsx" to calculate the district-level Republican vote shares of the Campbell Law students' Senate districts. Figure 47 contains a screenshot of this Excel spreadsheet. In this spreadsheet, Dr. Hofeller measured each district's Republican vote share using his "Avg R" election formula described above. A second spreadsheet named "NC Senate CCNC PPI.xlsx" contains a copy of these district-level Republican vote shares (Figure 48a and 48b provide screenshots of this second spreadsheet). This second spreadsheet also contains an additional column labeled "Better Poss." (column H). I examined this "Better Poss." column in relation to Dr. Hofeller's district-level partisan calculations. I found that Dr. Hofeller used this "Better Poss." column to indicate whether a "better possible" version of each district could be drawn in a manner more favorable to Republicans than the version drawn by the Campbell Law students. In this column, Dr. Hofeller wrote "Yes", "No", or "Little" for each district, indicating his assessment of whether a more Republican-favorable version of the Senate district was possible. For example, in any county grouping containing only a single Senate district, such as the Alexander-Catawba County

grouping, no alternative version of the district is possible, so Dr. Hofeller marked "No" for any districts in such county groupings. By contrast, Dr. Hofeller marked "Yes" for each the five districts in the Mecklenburg County grouping, indicating that a "better possible" version of the Mecklenburg districts could be drawn in a manner more favorable to Republicans.

Two spreadsheets named "NC House CCNC Sample Plan - June 2017.xlsx" and "NC House CCNC PPI.xlsx" reflect analysis by Dr. Hofeller of the Campbell Law students' House plan. As before, Dr. Hofeller appears to have used his "Avg R" election formula to measure the partisanship of the Campbell Law students' districts. Figure 49 contains a screenshot of this "NC House CCNC Sample Plan - June 2017.xlsx" spreadsheet.

The General Assembly's enacted House plan (House Bill 927) ultimately included four districts that match those drawn by the Campbell Law students: HD-2 and HD-32 (from the Granville-Person-Vance-Warren County grouping); and HD-7 and HD-25 (from the Franklin-Nash County grouping). These are both county groupings for which there are discrete, limited numbers of ways of drawing the districts in the groupings while adhering to the Whole County Rule. In my original April 8, 2019 expert report, I analyzed the partisanship of these four House districts in these two county groupings in Figures 30, 31, 45, and 46 (p. 95, 96, 110, and 111). In these two county groupings, these Figures illustrate that no computer-simulated plan created a more Republican-favorable set of districts than the 2017 House Plan's districts (which match the Campbell Law students' districts). More specifically, no computer-simulated plan ever created a more heavily-Republican district than each of these two county groupings' most Republican district in the 2017 House Plan.

From this analysis, it is apparent that: 1) Dr. Hofeller analyzed the partisanship of all of the Campbell Law students' districts; and 2) Dr. Hofeller then selectively kept and included in the enacted House Bill 927 map only those Campbell Law student-drawn districts where he believed it was not possible to draw even more favorable districts for the Republicans.





Figure 48a: Screenshot (Upper Half) of Dr. Hofeller's Draft Plan File: " NC Senate CCNC PPI" (July 8, 2017).

The screenshot shows an Excel spreadsheet with the following data table:

Dist.	Tpop	Dev.	% Dev	Tot al Rep.	Total 2 Party	Better Poss.	% Rep.	Incumbent(s)
1	196,665	5,955	3.12%	356,060	742,716	No	47.94%	Vacant (L.D.)
2	183,118	(7,592)	-3.98%	422,047	701,571	No	60.16%	Sanders (R.)
3	182,039	(8,671)	-4.55%	285,752	712,527	No	40.10%	Cook (R.)
4	192,477	1,767	0.93%	274,133	733,123	No	37.39%	Horner (R.)
5	189,510	(1,200)	-0.63%	309,100	672,801	No	45.94%	Davis (D)
6	187,925	(2,785)	-1.46%	258,556	437,069	No	59.16%	Brown (R.)
7	182,118	(8,592)	-4.51%	319,573	627,405	No	50.94%	Pate (R.)
8	199,397	8,687	4.56%	438,008	781,551	Little	56.04%	Rabon (R.)
9	198,108	7,398	3.88%	407,679	788,253	Little	51.72%	Lee (R.)
10	186,168	(4,542)	-2.38%	334,378	600,488	Little	55.68%	Jackson (R.)
11	185,809	(4,901)	-2.57%	382,427	707,621	Little	54.04%	Bryant (D)
12	187,221	(3,489)	-1.83%	330,956	582,353	Little	56.83%	Robin (R.)
13	192,266	1,556	0.82%	215,484	524,397	No	41.09%	Britt (R.)
14	188,986	(1,724)	-0.90%	245,023	689,714	Yes	35.53%	Blue (D)
15	190,212	(498)	-0.26%	297,349	819,109	Yes	36.30%	Chaudhuri (D)/Alexander (R.)
16	197,978	7,268	3.81%	392,898	829,182	Yes	47.38%	Barringer (R.)
17	193,237	2,527	1.33%	435,525	791,717	Yes	55.01%	Vacant (R.)
18	191,199	489	0.26%	424,763	791,586	Yes	53.66%	Barfoot (R.)
19	182,470	(8,240)	-4.32%	282,819	635,389	Yes	44.51%	Merideth (R.)
20	183,182	(7,528)	-3.95%	155,365	761,418	Yes	20.40%	McKissick (D)/Woodard (D)
21	183,913	(6,797)	-3.56%	172,280	500,226	Yes	34.44%	Clark (D)
22	183,785	(6,925)	-3.63%	295,874	716,173	Yes	41.31%	Vacant (D)
23	197,306	6,596	3.46%	308,217	884,598	No	34.84%	Foushee (D)
24	197,106	6,396	3.35%	401,980	723,281	Yes	55.58%	Gunn (R.)
25	197,991	7,281	3.82%	374,630	727,254	No	51.51%	McInnis (R.)
26	197,998	7,288	3.82%	416,552	703,860	Little	59.18%	Berger (R.)
27	197,286	6,576	3.45%	383,351	767,066	Yes	49.98%	Robinson (D)

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Figure 48b: Screenshot (Lower Half) of Dr. Hofeller's Draft Plan File: " NC Senate CCNC PPI" (July 8, 2017).

	A	B	C	D	E	F	G	H	I	J
34	28	197,917	7,207	3.78%	228,801	795,720	Yes	28.75%	Vacant (D)	
35	29	188,980	(1,730)	-0.91%	453,676	675,584	Yes	67.15%	Tillman (R.)	
36	30	199,293	8,583	4.50%	442,736	727,374	Little	60.87%	Ballard (R.)/Rendleman *	
37	31	191,778	1,068	0.56%	434,610	775,754	Yes	56.02%	Davis *	
38	32	200,132	9,422	4.94%	310,613	738,852	Yes	42.04%	Lowe (D)/Krawiec (R.)	
39	33	190,676	(34)	-0.02%	423,380	647,504	No	65.39%	Dunn(R.)	
40	34	197,843	7,133	3.74%	484,196	730,391	No	66.29%	Vacant (R.)	
41	35	197,197	6,487	3.40%	458,688	695,459	No	65.95%	Tucker (R.)	
42	36	182,106	(8,604)	-4.51%	403,831	657,791	No	61.39%	Newton (R.)	
43	37	183,195	(7,515)	-3.94%	191,909	602,729	Yes	31.84%	Ford (D)	
44	38	188,399	(2,311)	-1.21%	217,917	658,158	Yes	33.11%	Jackson (D)/Bishop (R.)	
45	39	183,574	(7,136)	-3.74%	444,757	754,873	Yes	58.92%	Vacant (R.)	
46	40	182,572	(8,138)	-4.27%	260,436	638,637	Yes	40.78%	Wadell (D)	
47	41	181,888	(8,822)	-4.63%	293,905	690,861	Yes	42.54%	Tarte (R.)	
48	42	191,556	846	0.44%	458,067	696,077	No	65.81%	Wells (R.)	
49	43	189,586	(1,124)	-0.59%	392,125	627,739	Little	62.47%	Harrington (R.)	
50	44	192,843	2,133	1.12%	443,154	702,031	Little	63.12%	Curtis (R.)	
51	45	199,013	8,303	4.35%	464,022	719,888	No	64.46%	Vacant (R.)	
52	46	191,738	1,028	0.54%	407,367	637,986	No	63.85%	Daniel (R.)	
53	47	187,477	(3,233)	-1.70%	408,302	688,768	No	59.28%	Hise (R.)	
54	48	190,126	(584)	-0.31%	447,235	762,284	Little	58.67%	Edwards (R.)	
55	49	188,022	(2,688)	-1.41%	322,431	794,686	Little	40.57%	Van Dyne (D)	
56	50	194,102	3,392	1.78%	408,838	726,260	No	56.29%	Davis (R.)	

% Range	Num.	Cumm.
60-100	12	12
55-60	12	24
53-55	2	26
50-53	3	29
45-50	4	33
40-45	8	41
0-40	9	50

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***10) The Predominance of Partisan Considerations Over Non-Partisan Redistricting***

**Criteria:** Dr. Hofeller's backup devices that Plaintiffs obtained through a subpoena to his daughter contain two folders titled "NC 2017 redistricting" and "2017 redistricting." All of the Excel spreadsheets analyzed above come from these two folders. I have reviewed the entire contents of these two folders, and they revealed a near-singular focus on partisan considerations. In some spreadsheets, Dr. Hofeller verified that his draft districts' populations adhered to the 5% population deviation threshold while falling within the appropriate county grouping boundaries for the House and Senate plans. There are a few files among the hundreds of files in these folders that report on VTD and county splits in Dr. Hofeller's draft maps.

But beyond these few files, Dr. Hofeller's analyses of his draft maps in his own Excel spreadsheets make no mention of non-partisan districting criteria, such as geographic compactness, split precincts, or split municipalities. Instead, Dr. Hofeller's spreadsheet files overwhelmingly focused on each party's share of the electorate within draft districts, as well as the identities and the partisan affiliations of incumbents residing within each district. Therefore, these spreadsheets strongly suggest that Dr. Hofeller's partisan considerations predominated over non-partisan redistricting criteria in Dr. Hofeller's process of drafting the General Assembly's 2017 House and Senate Plans.

## **Response to Dr. Lewis' Expert Report:**

In Tables 2, 3, and 4 of his April 30, 2019 expert report, Dr. Jeffrey Lewis reports his own estimates of the African-American share of Citizen Voting Age Population (hereinafter: "Black CVAP") necessary for African-American-preferred candidates to have "an even chance of winning" in various primary elections (Table 2) and various general elections (Table 3 and 4) in certain House and Senate county groupings and individual counties. Because Dr. Lewis analyzes different general and primary elections separately, he produces several different Black CVAP threshold estimates for the same counties or county groupings. For example, in his Table 2, Dr. Lewis estimates that Guilford County would require a 30% Black CVAP for African-Americans to elect their preferred candidate in the 2018 Sheriff Democratic primary election, but only a 5% Black CVAP for African-Americans to elect their preferred candidate in the 2016 Commissioner of Labor Democratic primary election.

Because Dr. Lewis produces multiple Black CVAP threshold estimates for individual counties and county groupings, I treat each one of Dr. Lewis' Black CVAP threshold estimates separately. Specifically, I performed analyses to answer the following eight questions:

- 1) For each Black CVAP threshold estimate that Dr. Lewis produced for a specific House or Senate Plan county grouping, how many districts in the enacted 2017 House or Senate Plan in that grouping satisfy Dr. Lewis' Black CVAP threshold within this county grouping?
- 2) Among the computer-simulated House or Senate plans from my original April 8, 2019 report, how many computer-simulated plans also contain at least as many districts within each county grouping that satisfy Dr. Lewis' estimated Black CVAP threshold?
- 3) When I analyze only these computer-simulated plans that match or exceed the 2017 House Plan's or Senate Plan's number of districts satisfying Dr. Lewis' Black CVAP thresholds, are the 2017 House or Senate Plan districts in each county grouping statistical outliers (compared to the simulated plans) in terms of their district-level partisanship?



- 4) How many computer-simulated plans for a particular county grouping contain *more* districts that satisfy Dr. Lewis' Black CVAP threshold than the 2017 House or Senate Plan does in that county grouping?
- 5) For each Black CVAP threshold estimate that Dr. Lewis produced for a specific county (as opposed to county grouping), how many districts in the enacted 2017 House or Senate Plan are wholly contained within this county and satisfy Dr. Lewis' Black CVAP threshold within this county grouping?
- 6) Within each county (as opposed to county grouping), how many computer-simulated plans also contain at least as many districts as the 2017 House or Senate Plan that are wholly within that county and satisfy Dr. Lewis' estimated Black CVAP threshold for that county?
- 7) Within each county, how many computer-simulated plans contain more districts as the 2017 House Plan or Senate Plan that satisfy Dr. Lewis' estimated Black CVAP threshold for that county?
- 8) Within the Nash-Franklin county grouping in the House Plan and within the Davie-Forsyth county grouping in the Senate plan, is it possible to create a single district of at least 50% Black Voting Age Population (BVAP) while still adhering to the equal population, contiguity, and compactness criteria listed in the 2017 Adopted Criteria?
- 9) Among the county groupings not analyzed by Dr. Lewis, in which county groupings does the most heavily African-American district have a significantly higher black proportion under the simulated plans than under the enacted plan?

I describe my findings regarding these eight questions below. Notably, I do not analyze or evaluate the reliability of Dr. Lewis estimates for the minimum Black CVAP needed for an African-American preferred candidate to succeed; I simply analyze the subset of my simulations

that produce at least as many (or more) districts as the enacted plan with a BVAP above Dr. Lewis' estimates, for the relevant county or county grouping.

***Black VAP and Black CVAP of 2017 House Plan Districts and 2017 Senate Plan***

***Districts:*** First, I calculate and report the racial demographics of each district in the 2017 House and Senate Plans. In Table 3, I report the Black Voting Age Population (BVAP) and the Black Citizen Voting Age Population (Black CVAP) of each district in the 2017 House Plan. In Table 4, I report the BVAP and Black CVAP of each district in the 2017 Senate Plan.

The BVAP calculations are based on 2010 Decennial Census population counts, and BVAP is calculated as the Any-Part-Black share of each district's total Voting Age Population; individuals who are Any Part Black include those who are multi-racial and identify as partly African-American. The Black CVAP calculations are based upon the 2013-2017 American Community Survey (ACS) 5-year Estimates of Citizen Voting Age Population. Specifically, Black CVAP includes individuals who identify as single-race Black, as part-Black and part-White, or as part-Black and part-American Indian (The ACS CVAP data do not include estimates for other part-Black, mixed-race combinations). To calculate the Black CVAP of each district, I begin with the blockgroup-level estimates of CVAP racial breakdowns.<sup>13</sup> I disaggregate these estimates to the Census block level using 2010 Voting Age Population. I then aggregate these block-level estimates up to the legislative district level to calculate the Black CVAP of the 2017 House and Senate Plan districts as well as districts in the computer-simulated House and Senate plans.

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<sup>13</sup> Downloaded from: <https://www.census.gov/programs-surveys/decennial-census/about/voting-rights/cvap.html>

**Table 3: African-American Population of 2017 House Plan Districts**

<b>2017 House Plan District</b>	<b>Population (2010 Census)</b>	<b>Black Voting Age Population</b>	<b>Black Citizen Voting Age Population</b>	<b>County Grouping</b>
1	77,143	39.71%	39.55%	Bertie-Camden-Chowan-Perquimans-Tyrrell-Washington
2	82,634	27.79%	26.92%	Granville-Person-Vance-Warren
3	75,726	21.24%	21.34%	Beaufort-Craven
4	81,905	22.59%	24.18%	Duplin-Onslow
5	77,527	44.32%	44.58%	Gates-Hertford-Pasquotank
6	76,421	9.20%	9.09%	Currituck-Dare-Hyde-Pamlico
7	78,432	25.20%	25.69%	Franklin-Nash
8	75,926	44.85%	46.02%	Lenoir-Pitt
9	75,794	20.45%	23.21%	Lenoir-Pitt
10	83,434	21.44%	23.65%	Bladen-Greene-Harnett-Johnston-Lee-Sampson-Wayne
11	83,266	14.32%	15.86%	Wake
12	75,923	37.40%	39.20%	Lenoir-Pitt
13	76,622	9.41%	9.30%	Carteret-Jones
14	77,065	17.39%	17.84%	Duplin-Onslow
15	77,307	15.43%	13.83%	Duplin-Onslow
16	81,425	23.06%	22.07%	Columbus-Pender-Robeson
17	77,263	7.97%	7.26%	Brunswick-New Hanover
18	77,681	29.24%	26.66%	Brunswick-New Hanover
19	76,666	6.33%	7.34%	Brunswick-New Hanover
20	78,488	8.24%	9.06%	Brunswick-New Hanover
21	83,431	39%	41.41%	Bladen-Greene-Harnett-Johnston-Lee-Sampson-Wayne
22	83,437	31.49%	33.36%	Bladen-Greene-Harnett-Johnston-Lee-Sampson-Wayne
23	81,057	51.83%	53.67%	Edgecombe-Martin
24	81,234	38.11%	41.53%	Wilson
25	78,027	40.73%	44.63%	Franklin-Nash
26	83,432	14.79%	16.41%	Bladen-Greene-Harnett-Johnston-Lee-Sampson-Wayne
27	76,790	53.71%	53.95%	Halifax-Northampton
28	83,431	16.52%	17.46%	Bladen-Greene-Harnett-Johnston-Lee-Sampson-Wayne
29	82,735	37.49%	41.26%	Sampson-Wayne
30	83,272	28.74%	33.35%	Chatham-Durham
31	82,773	49.56%	53.57%	Chatham-Durham
32	83,140	49.12%	51.05%	Chatham-Durham
33	82,644	44.18%	47.91%	Granville-Person-Vance-Warren
34	77,948	15.83%	15.59%	Wake
35	82,728	15.57%	18.26%	Wake
36	81,926	9.25%	11.73%	Wake
37	81,952	14.34%	13.34%	Wake

38	83,061	48.30%	49.61%	Wake
39	83,055	35.45%	37.99%	Wake
40	80,675	7.74%	7.75%	Wake
41	80,739	8.05%	9.20%	Wake
42	81,439	42.23%	39.85%	Cumberland
43	77,725	49.96%	50.76%	Cumberland
44	80,973	31.78%	33.84%	Cumberland
45	79,294	24.16%	24.35%	Cumberland
46	80,440	24.71%	26.14%	Columbus-Pender-Robeson
47	82,618	25.84%	26.29%	Columbus-Pender-Robeson
48	83,109	36.13%	37.97%	Hoke-Scotland
49	82,999	12.82%	12.86%	Wake
50	80,866	21.15%	20.95%	Caswell-Orange
51	83,434	20.54%	21.78%	Bladen-Greene-Harnett-Johnston-Lee-Sampson-Wayne
52	76,894	12.96%	13.01%	Moore-Randolph
53	83,429	20.79%	22.83%	Bladen-Greene-Harnett-Johnston-Lee-Sampson-Wayne
54	82,312	15.74%	15.77%	Chatham-Durham
55	75,792	24.12%	24.88%	Anson-Union
56	76,654	10.30%	11.16%	Caswell-Orange
57	83,303	38.36%	40.40%	Guilford
58	82,137	42.66%	46.75%	Guilford
59	79,457	18.80%	23.06%	Guilford
60	81,856	40.06%	44.90%	Guilford
61	79,754	40.33%	40.22%	Guilford
62	81,899	11.45%	13.44%	Guilford
63	75,550	19.18%	21.54%	Alamance
64	75,581	18.52%	19.57%	Alamance
65	83,430	19.63%	20.25%	Alexander-Alleghany-Rockingham-Stokes-Surry-Wilkes
66	83,032	24.86%	26.32%	Cabarrus-Davie-Montgomery-Richmond-Rowan-Stanly
67	82,583	8.42%	9.08%	Cabarrus-Davie-Montgomery-Richmond-Rowan-Stanly
68	76,067	11.70%	11.59%	Anson-Union
69	76,381	12.74%	13.37%	Anson-Union
70	76,125	6.30%	7.48%	Moore-Randolph
71	75,793	36.56%	37.96%	Forsyth-Yadkin
72	76,245	47.51%	52.24%	Forsyth-Yadkin
73	78,189	7.20%	7.90%	Forsyth-Yadkin
74	79,963	13.44%	14.43%	Forsyth-Yadkin
75	78,886	14.47%	16.60%	Forsyth-Yadkin
76	81,908	20.05%	20.49%	Cabarrus-Davie-Montgomery-Richmond-Rowan-Stanly
77	82,918	8.72%	9.17%	Cabarrus-Davie-Montgomery-Richmond-Rowan-Stanly

78	76,980	6.51%	6.22%	Moore-Randolph
79	75,538	24.26%	24.32%	Beaufort-Craven
80	81,522	8.41%	9.03%	Davidson
81	81,356	9.14%	10.04%	Davidson
82	81,088	14.11%	17.16%	Cabarrus-Davie-Montgomery-Richmond- Rowan-Stanly
83	81,172	16.81%	19.98%	Cabarrus-Davie-Montgomery-Richmond- Rowan-Stanly
84	77,282	13.85%	15.10%	Iredell
85	78,372	3.50%	3.60%	Avery-McDowell-Mitchell
86	79,175	6.27%	6.75%	Burke-Rutherford
87	83,029	4.87%	4.94%	Caldwell
88	76,022	38.42%	41.01%	Mecklenburg
89	77,838	8.61%	9.32%	Catawba
90	82,779	3.43%	3.84%	Alexander-Alleghany-Rockingham-Stokes- Surry-Wilkes
91	82,843	5.07%	5.35%	Alexander-Alleghany-Rockingham-Stokes- Surry-Wilkes
92	77,172	30.16%	37.69%	Mecklenburg
93	78,360	1.59%	1.63%	Ashe-Watauga
94	83,358	5.74%	5.56%	Alexander-Alleghany-Rockingham-Stokes- Surry-Wilkes
95	82,155	9.85%	9.54%	Iredell
96	76,520	8.42%	8.98%	Catawba
97	78,265	5.67%	5.84%	Lincoln
98	75,602	7.74%	9.45%	Mecklenburg
99	77,141	49.54%	57.56%	Mecklenburg
100	75,589	32.11%	37.49%	Mecklenburg
101	79,876	50.82%	53.08%	Mecklenburg
102	77,391	43.89%	44.18%	Mecklenburg
103	76,381	7.73%	8.44%	Mecklenburg
104	76,869	6.22%	5.64%	Mecklenburg
105	75,967	8.25%	10.34%	Mecklenburg
106	75,762	38%	48.66%	Mecklenburg
107	75,856	49.39%	56.07%	Mecklenburg
108	76,926	14.43%	15.96%	Cleveland-Gaston
109	75,517	18.88%	19.25%	Cleveland-Gaston
110	75,573	15.30%	17.41%	Cleveland-Gaston
111	76,148	16.32%	16.67%	Cleveland-Gaston
112	79,547	10.23%	9.51%	Burke-Rutherford
113	81,089	3.20%	3.55%	Henderson-Polk-Transylvania
114	82,902	12.57%	12.96%	Buncombe
115	79,883	2.71%	3.09%	Buncombe
116	75,533	3.03%	2.94%	Buncombe
117	79,251	3.62%	3.88%	Henderson-Polk-Transylvania
118	76,322	1.12%	1.40%	Haywood-Jackson-Madison-Swain-Yancey
119	75,548	1.80%	1.86%	Haywood-Jackson-Madison-Swain-Yancey

120

80,814

1.12%

1.27%

Cherokee-Clay-Graham-Macon

**Note:** Black Voting Age Population is calculated using 2010 Decennial Census population counts. Black Voting Age Population includes individuals 18 years or older who identify as Any Part Black. Black Citizen Voting Age Population is calculated using 2013-2017 American Community Survey (ACS) 5-year Estimates of Citizen Voting Age Population. Black Citizen Voting Age Population includes individuals who identify as single-race Black, as part-Black and part-White, or as part-Black and part-American Indian.

**Table 4: African-American Population of 2017 Senate Plan Districts**

<b>2017 Senate Plan District</b>	<b>Population (2010 Census)</b>	<b>Black Voting Age Population</b>	<b>Black Citizen Voting Age Population</b>	<b>County Grouping</b>
1	196,665	28.44%	28.16%	Camden-Chowan-Currituck-Dare-Gates-Hertford- Hyde-Pasquotank-Perquimans-Tyrrell- Washington
2	183,118	15.83%	15.56%	Carteret-Craven-Pamlico
3	182,039	44.36%	45.12%	Beaufort-Bertie-Martin-Northampton-Vance- Warren
4	192,477	47.46%	49.70%	Edgecombe-Halifax-Wilson
5	189,510	32.94%	35.03%	Greene-Pitt
6	187,925	16.88%	16.13%	Jones-Onslow
7	182,118	33.93%	35.82%	Lenoir-Wayne
8	200,133	18.42%	17.16%	Bladen-Brunswick-New Hanover-Pender
9	197,372	12.33%	12.58%	Bladen-Brunswick-New Hanover-Pender
10	183,566	24.06%	26.32%	Duplin-Harnett-Johnston-Lee-Nash-Sampson
11	193,194	25.43%	27.34%	Duplin-Harnett-Johnston-Lee-Nash-Sampson
12	182,438	20.09%	21.46%	Duplin-Harnett-Johnston-Lee-Nash-Sampson
13	192,266	26.37%	27.14%	Columbus-Robeson
14	194,087	38.85%	40.53%	Franklin-Wake
15	195,003	26.81%	29.81%	Franklin-Wake
16	197,303	11.74%	12.25%	Franklin-Wake
17	182,304	11.42%	12.14%	Franklin-Wake
18	192,915	15.60%	16.19%	Franklin-Wake
19	182,869	31.69%	32.48%	Cumberland-Hoke
20	184,237	40.35%	43.46%	Durham-Granville-Person
21	183,514	42.15%	41.72%	Cumberland-Hoke
22	182,730	30.80%	33.15%	Durham-Granville-Person
23	197,306	12.81%	13.32%	Chatham-Orange
24	197,106	19.63%	22.26%	Alamance-Guilford-Randolph
25	197,991	25.89%	26.31%	Anson-Moore-Richmond-Scotland
26	196,115	16.66%	18.51%	Alamance-Guilford-Randolph
27	189,954	18.34%	20.88%	Alamance-Guilford-Randolph
28	198,114	43.64%	45.54%	Alamance-Guilford-Randolph
29	190,676	10.24%	11.02%	Davidson-Montgomery
30	198,458	15.22%	15.28%	Alleghany-Ashe-Caswell-Rockingham-Stokes- Surry-Watauga-Wilkes
31	197,532	8.86%	9.45%	Davie-Forsyth
32	194,378	39.18%	42.63%	Davie-Forsyth
33	199,013	14.25%	15.03%	Rowan-Stanly
34	197,843	10.12%	10.68%	Iredell-Yadkin
35	189,794	12.31%	12.85%	Cabarrus-Union
36	189,509	14.10%	16.42%	Cabarrus-Union
37	185,257	42.73%	44.54%	Mecklenburg
38	182,674	48.46%	55.42%	Mecklenburg

39	184,099	6.62%	7.09%	Mecklenburg
40	183,426	38.88%	45.53%	Mecklenburg
41	184,172	14.25%	18.70%	Mecklenburg
42	191,556	8.03%	8.58%	Alexander-Catawba
43	197,035	14.75%	16.32%	Cleveland-Gaston-Lincoln
44	185,394	13.30%	13.46%	Cleveland-Gaston-Lincoln
45	198,833	2.64%	2.80%	Alleghany-Ashe-Caswell-Rockingham-Stokes-Surry-Watauga-Wilkes
46	191,738	5.82%	5.80%	Avery-Burke-Caldwell
47	187,477	5.33%	5.47%	McDowell-Madison-Mitchell-Polk-Rutherford-Yancey
48	184,866	3.50%	3.64%	Buncombe-Henderson-Transylvania
49	193,282	6.78%	7.06%	Buncombe-Henderson-Transylvania
50	194,102	1.38%	1.46%	Cherokee-Clay-Graham-Haywood-Jackson-Macon-Swain

**Note:** Black Voting Age Population is calculated using 2010 Decennial Census population counts. Black Voting Age Population includes individuals 18 years or older who identify as Any Part Black. Black Citizen Voting Age Population is calculated using 2013-2017 American Community Survey (ACS) 5-year Estimates of Citizen Voting Age Population. Black Citizen Voting Age Population includes individuals who identify as single-race Black, as part-Black and part-White, or as part-Black and part-American Indian.



***Dr. Lewis' Black CVAP Threshold Estimates for House Plan County Groupings:*** For each Black CVAP threshold estimate that Dr. Lewis produced for a specific House Plan county grouping, I first analyzed the number of enacted 2017 House Plan districts in this county grouping that satisfy Dr. Lewis' Black CVAP threshold. Next, I analyze the 2,000 computer-simulated House plans from my original April 8, 2019 report, and I analyze how many of these computer-simulated House plans also contain at least as many districts within this county grouping that satisfy Dr. Lewis' Black CVAP threshold.

Table 5 describes my findings for each of the House county groupings that Dr. Lewis analyzed, and Table 6 describes my findings for each of the Senate county groupings that Dr. Lewis analyzed. Each row in these Tables describes one of the county groupings for which Dr. Lewis produced a Black CVAP threshold estimate. Many groupings appear multiple times because Dr. Lewis produced different estimates for the county grouping using results from different elections.

The first row of Table 5, for example, describes the Bladen-Greene-Harnett-Johnston-Lee-Sampson-Wayne county grouping, in which Dr. Lewis estimated a Black CVAP of 21% was necessary for an African-American candidate to win the 2016 Democratic Attorney General Primary, as reported in the third column. The fourth column reports that the 2017 House Plan contains 5 districts (HDs 10, 21, 22, 51, and 53) that satisfy this Black CVAP threshold. The fifth column reports that 95.4% of the computer-simulated plans in House Simulation Set 1 from my original report also contain at least 5 or more districts satisfying this Black CVAP threshold of 21%. Similarly, the seventh column reports that 91.5% of the plans in House Simulation Set 2 from my original report also contain at least 5 or more districts satisfying this Black CVAP threshold. The sixth column reports that 37 (3.7%) of the computer-simulated plans in Simulation Set 1 contain *more* than 5 districts satisfying the 21% Black CVAP threshold, and the eighth column reports that 10 (1%) of the computer-simulated plans Simulation Set 2 contain more than 5 districts satisfying the 21% Black CVAP threshold. Hence, not only do almost all of the computer-simulated plans match the 2017 House Plan's number of districts satisfying Dr. Lewis' 21% Black CVAP threshold, it is actually possible to create more such districts than the 2017 House Plan contains.

**Table 5: House Computer-Simulated Districts Achieving Dr. Lewis' Estimated Black CVAP Thresholds**

<b>House County Grouping (# of Districts):</b>	<b>Election for Which Dr. Lewis Estimates Black CVAP Threshold</b>	<b>Dr. Lewis' Black CVAP Threshold:</b>	<b>Number of Enacted 2017 House Plan Districts Satisfying Dr. Lewis' Black CVAP Threshold:</b>	<b>House Simulation Set 1 Plans With At Least As Many Black CVAP Threshold Districts As 2017 House Plan:</b>	<b>House Simulation Set 1 Plans With More Black CVAP Threshold Districts Than The 2017 House Plan:</b>	<b>House Simulation Set 2 Plans With At Least As Many Black CVAP Threshold Districts As 2017 House Plan:</b>	<b>House Simulation Set 2 Plans With More Black CVAP Threshold Districts Than The 2017 House Plan:</b>
Bladen; Greene; Harnett; Johnston; Lee; Sampson; Wayne (7)	Attorney General, Primary (2016)	21%	5 (HD-10, 21, 22, 51, 53)	954 (95.4%) (HD-21 and 22 frozen)	37 (3.7%)	915 (91.5%) (HD-21 and 22 frozen)	10 (1%)
Bladen; Greene; Harnett; Johnston; Lee; Sampson; Wayne (7)	Hypothetical State House (2016)	41%	1 (HD-21)	1,000 (100%) (HD-21 frozen)	0 (0%)	1,000 (100%) (HD-21 frozen)	0 (0%)
Columbus; Pender; Robeson (3)	Attorney General, Primary (2016)	4%	3 (HD 16, 46 and 47)	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Columbus; Pender; Robeson (3)	Hypothetical State House (2016)	26%	2 (HD 46 and 47)	565 (56.5%)	0 (0%)	250 (25%)	0 (0%)
Cumberland (4)	Attorney General, Primary (2016)	13%	4 (HD 42, 43, 44, 45)	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Cumberland (4)	Hypothetical State House (2016)	34%	2 (HD 42 and 43) (HD-44 barely misses at 33.84%)	1,000 (100%)	701 (70.1%)	1,000 (100%)	872 (87.2%)

Cumberland (4)	Commissioner of Labor, Primary (2016)	65%	0	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Forsyth; Yadkin (5)	Hypothetical State House (2016)	41%	1 (HD-72)	961 (96.1%)	120 (12%)	754 (75.4%)	13 (1.3%)
Forsyth; Yadkin (5)	Attorney General, Primary (2016)	42%	1 (HD-72)	927 (92.7%)	66 (6.6%)	705 (70.5%)	8 (0.8%)
Franklin; Nash (2)	Lt. Gov, Primary (2016)	12%	2 (HD-7, 25)	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Franklin; Nash (2)	Hypothetical State House (2016)	40%	1 (HD-25)	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Granville; Person; Vance; Warren (2)	Hypothetical State House (2016)	32%	1 (HD-32)	1,000 (100%)	115 (11.5%)	1,000 (100%)	32 (3.2%)
Granville; Person; Vance; Warren (2)	Attorney General, Primary (2016)	34%	1 (HD-32)	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Guilford (6)	Commissioner of Labor, Primary (2016)	5%	6 (HD-57, 58, 59, 60, 61, 62)	1,000 (100%) (HD-57, 61, and 62 frozen)	0 (0%)	1,000 (100%) (HD-57, 61, and 62 frozen)	0 (0%)
Guilford (6)	Sheriff, Primary (2014)	23%	5 (HD-57, 58, 59, 60, 61)	1,000 (100%) (HD-57 and 61 frozen)	0 (0%)	1,000 (100%) (HD-57 and 61 frozen)	0 (0%)
Guilford (6)	Attorney General, Primary (2016)	26%	4 (HD-57, 58, 60, 61)	1,000 (100%) (HD-57 and 61 frozen)	1000 (100%)	1,000 (100%) (HD-57 and 61 frozen)	1000 (100%)
Guilford (6)	Sheriff, Primary (2018)	30%	4 (HD-57, 58, 60, 61)	1,000 (100%) (HD-57 and 61 frozen)	72 (7.2%)	1,000 (100%) (HD-57 and 61 frozen)	179 (17.9%)
Guilford (6)	Sheriff, General (2018)	31%	4 (HD-57, 58, 60, 61)	1,000 (100%) (HD-57 and 61 frozen)	72 (7.2%)	1,000 (100%) (HD-57 and 61 frozen)	164 (16.4%)

Guilford (6)	Hypothetical State House (2016)	40%	4 (HD-57, 58, 60, 61)	994 (99.4%) (HD-57 and 61 frozen)	0 (0%)	905 (90.5%) (HD-57 and 61 frozen)	0 (0%)
Guilford (6)	Sheriff, General (2014)	43%	2 (HD-58, 60)	0 (0%)	0 (0%)	1 (0.1%)	0 (0%)
Lenoir; Pitt (3)	Attorney General, Primary (2016)	18%	3 (HD-8, 9, 12)	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Lenoir; Pitt (3)	Hypothetical State House (2016)	38%	2 (HD-8, 12)	134 (13.4%)	0 (0%)	270 (27%)	0 (0%)

Overall, Table 5 illustrates that for almost all of Dr. Lewis' various Black CVAP thresholds, a significant number of the computer-simulated House plans matches or exceeds the 2017 House Plan's number of districts in each grouping satisfying Dr. Lewis' Black CVAP thresholds. Among the following House county groupings that Dr. Lewis analyzes, nearly all of the computer-simulated plans in both House Simulation Set 1 and Set 2 either match or exceed the 2017 House Plan's number of districts satisfying most of Dr. Lewis' Black CVAP thresholds:

- 1) The Bladen-Greene-Harnett-Johnston-Lee-Sampson-Wayne county grouping;
- 2) The Columbus-Pender-Robeson county grouping;
- 3) The Cumberland county grouping;
- 4) The Forsyth-Yadkin county grouping;
- 5) The Franklin-Nash county grouping;
- 6) The Granville-Person-Vance-Warren county grouping;
- 7) The Guilford county grouping.

In fact, as reported in Table 5, some of the computer-simulated House plans demonstrate that it is possible to exceed the 2017 House Plan's number of districts satisfying Dr. Lewis' Black CVAP thresholds in the following county groupings:

- 1) The Bladen-Greene-Harnett-Johnston-Lee-Sampson-Wayne county grouping;
- 2) The Cumberland county grouping;
- 3) The Forsyth-Yadkin county grouping;
- 4) The Granville-Person-Vance-Warren county grouping;
- 5) The Guilford county grouping.

***Partisan Comparisons of 2017 House Plan to Simulated House Plans Satisfying Black CVAP Thresholds:*** For each county grouping that both Dr. Lewis analyzes in his report and that I analyzed in my opening report, I then analyze the partisan characteristics of the subset of simulated plans in my House Simulation Set 1 and House Simulation Set 2 that have at least as many districts above Dr. Lewis' Black CVAP threshold estimates as the enacted 2017 House Plan.

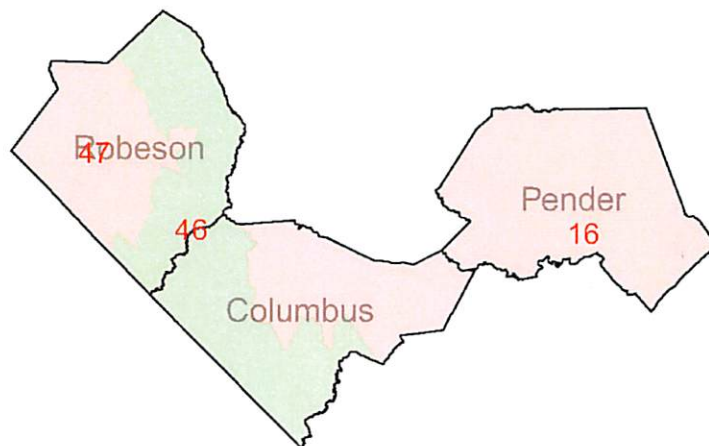
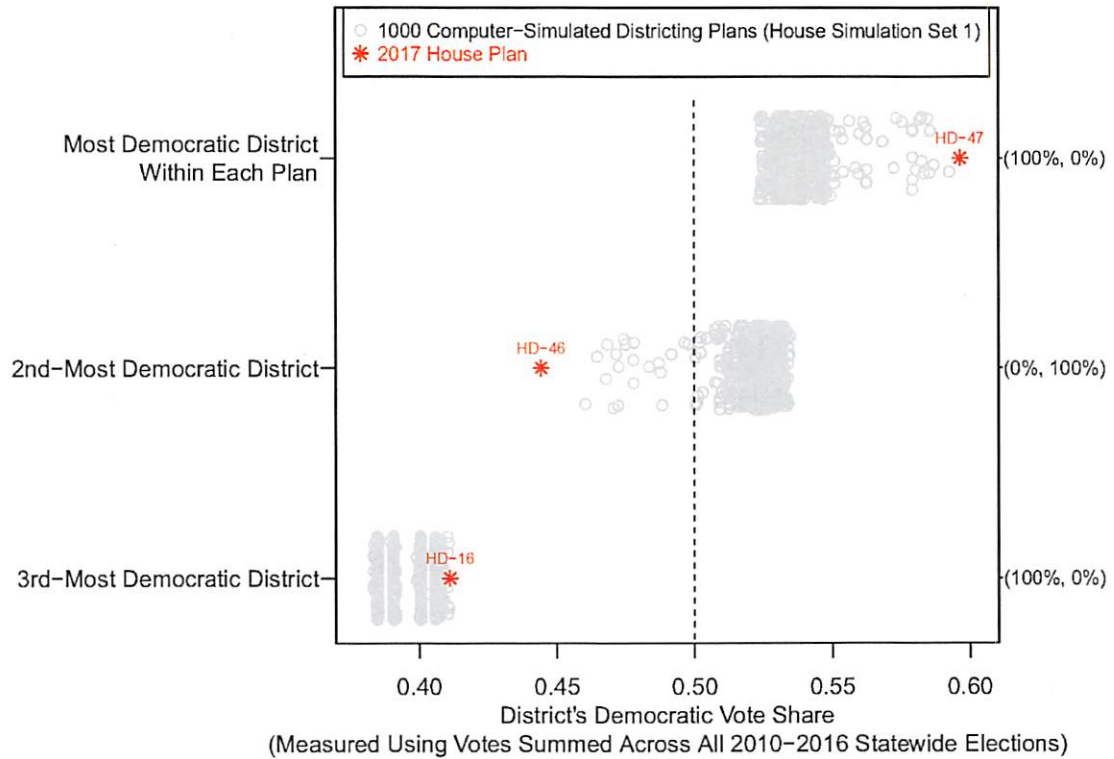
For example, for the Forsyth-Yadkin county grouping, Dr. Lewis offered a Black CVAP threshold estimate of 41%, so I identified the 961 House Simulation Set 1 plans and 754 House Simulation Set 2 plans that match or exceed the 2017 House Plan's one district that satisfies this

41% Black CVAP threshold. I then compare the partisanship of the individual districts in the 2017 House Plan to these 961 House Simulation Set 1 plans and 754 House Simulation Set 2 plans. Figures 101 and 123 display these partisanship comparisons. Specifically, as I did in my original expert report, I align each plan's districts within this grouping from least to most Democratic. The top row compares the most Democratic enacted district to the most Democratic district in each simulated plan, the second row compares the second-most Democratic districts in the 2017 House Plan and to the second-most Democratic districts in each simulated plan, and so on.

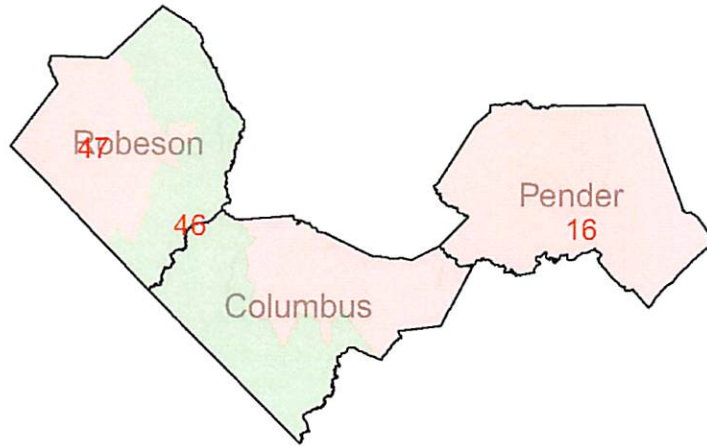
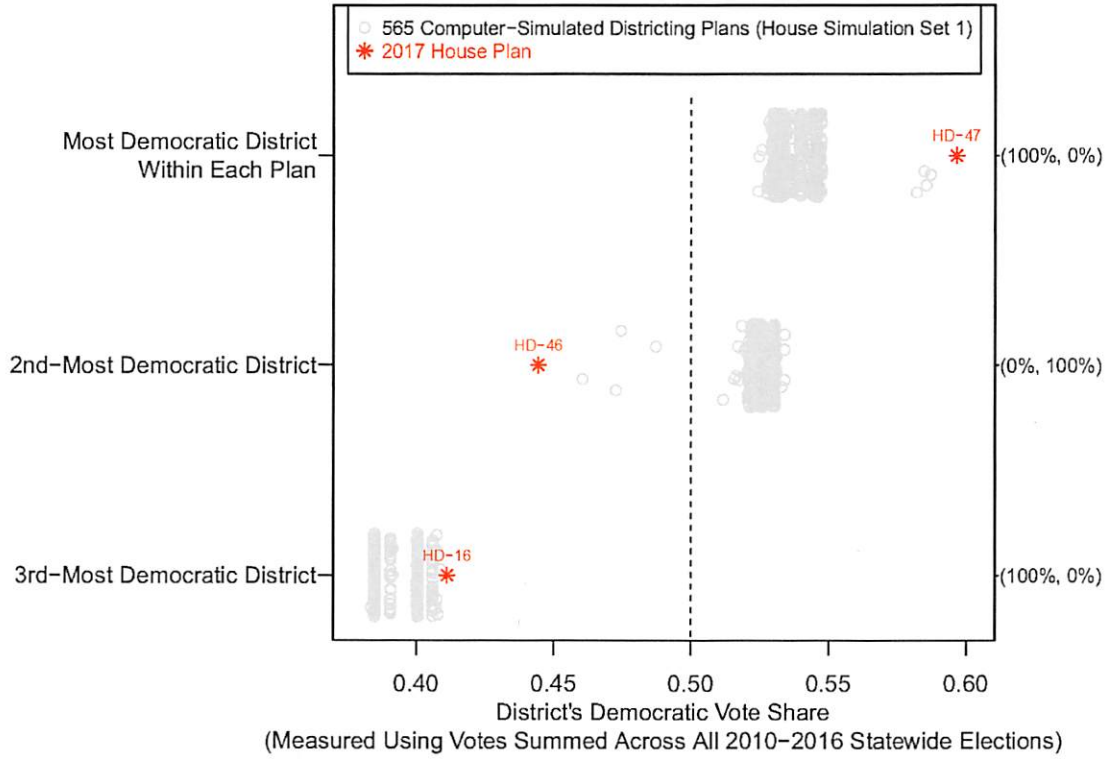
Overall, Figures 101 to 120 compare the 2017 House Plan districts to the House Simulation Set 1 districts within individual county groupings for which Dr. Lewis' estimated a Black CVAP threshold and that I analyzed in my opening report. Figures 123 to 142 present similar comparisons of the 2017 House Plan districts to the House Simulation Set 2 districts. Each of these Figures focuses on a different Black CVAP threshold that Dr. Lewis estimated for a particular county grouping. These Figures reveal that when I analyze only the simulated House plans that match or exceed the 2017 House Plan's number of districts satisfying Dr. Lewis' Black CVAP thresholds, the 2017 House Plan contains districts that are partisan outliers, compared to the computer-simulated districts, in all of the county groupings for which Dr. Lewis' estimated a Black CVAP threshold and that I analyzed in my opening report.



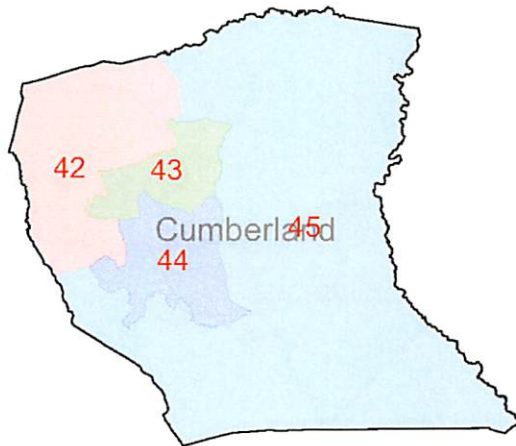
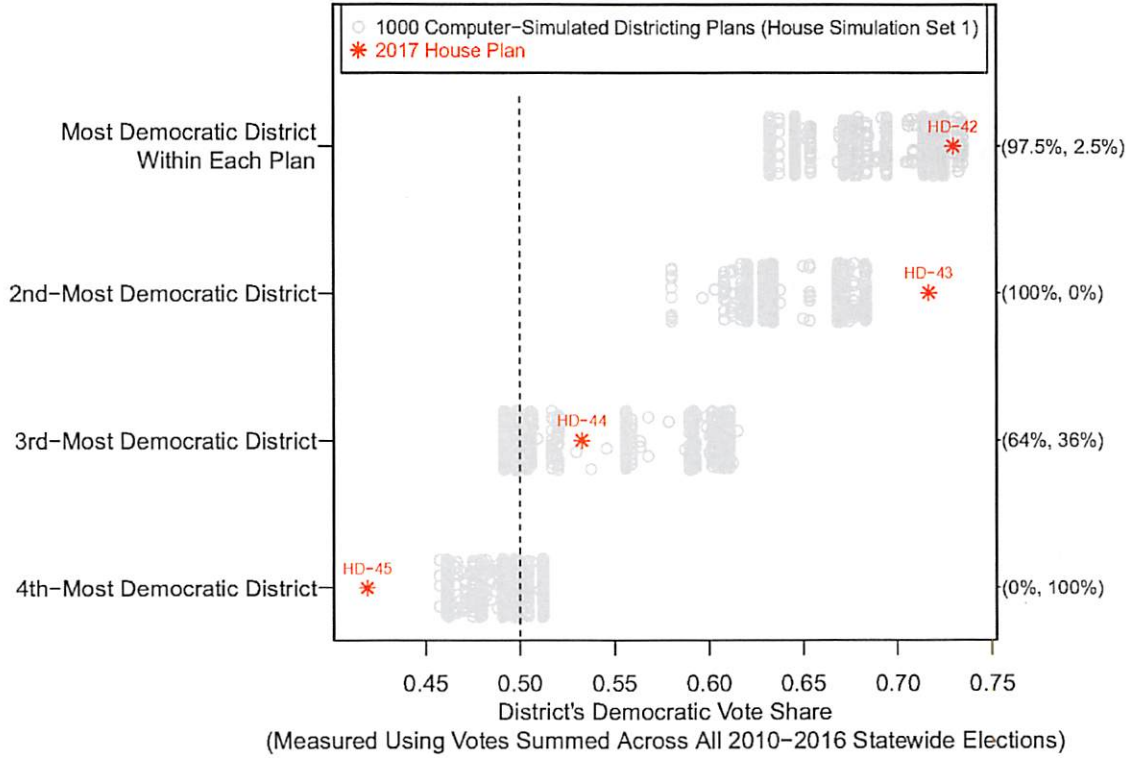
**Figure 101: House Simulation Set 1:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Columbus-Pender-Robeson County Grouping  
(Among the 1000 Simulated Plans With 3 or More Districts of At Least 4% Black CVAP)**



**Figure 102: House Simulation Set 1:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Columbus-Pender-Robeson County Grouping  
(Among the 565 Simulated Plans With 2 or More Districts of At Least 26% Black CVAP)**

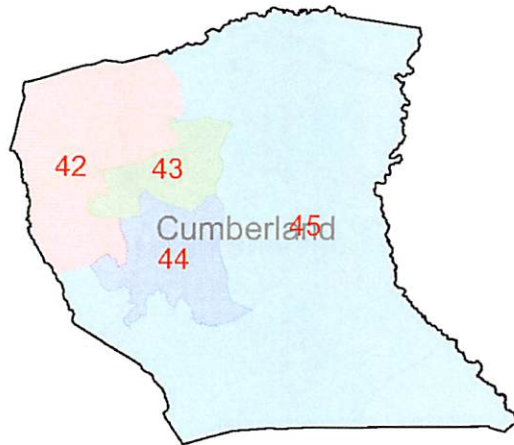
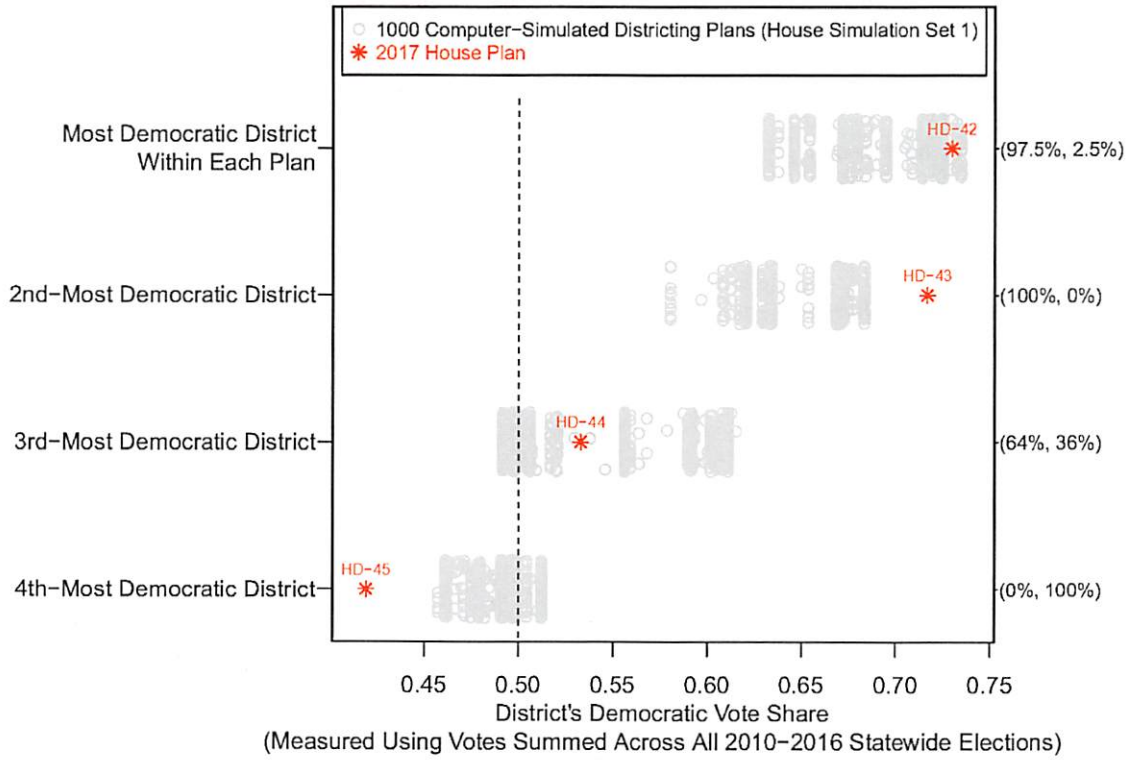


**Figure 103: House Simulation Set 1:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Cumberland County Grouping  
(Among the 1000 Simulated Plans With 4 or More Districts of At Least 13% Black CVAP)**



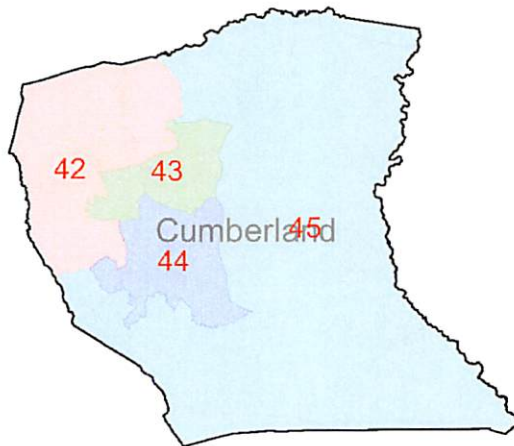
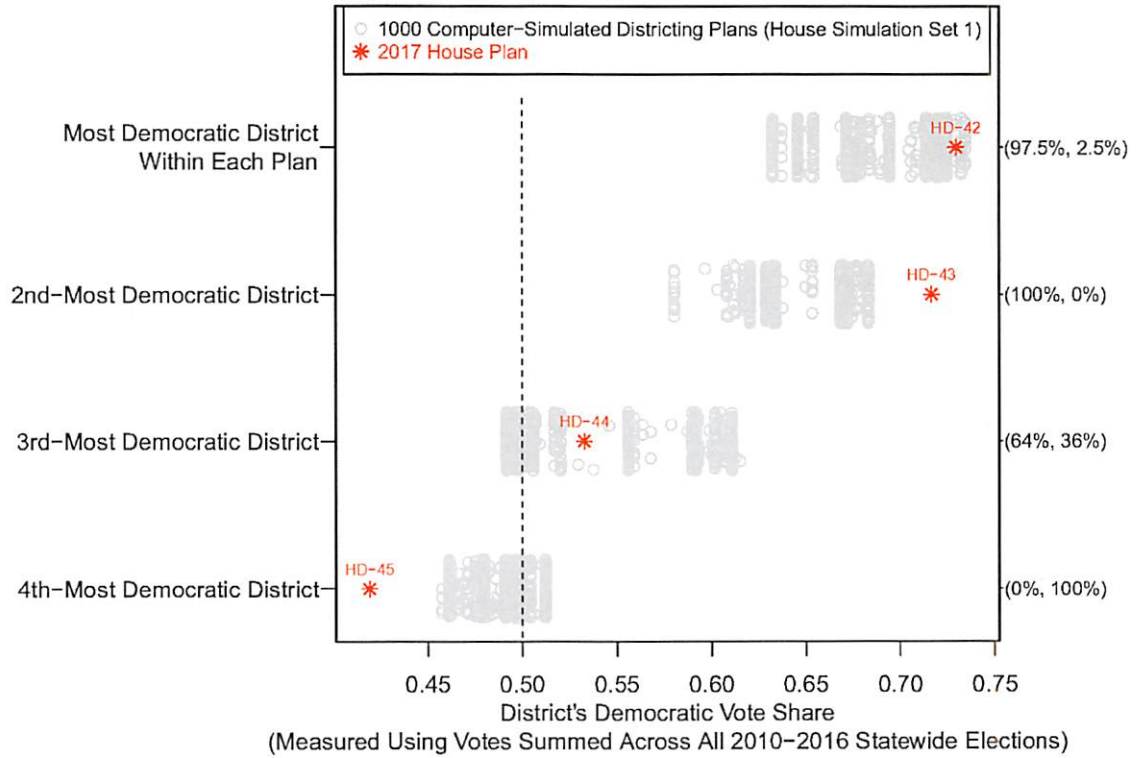
2017 Enacted House Plan Districts (4 Districts)

**Figure 104: House Simulation Set 1:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Cumberland County Grouping  
(Among the 1000 Simulated Plans With 2 or More Districts of At Least 34% Black CVAP)**



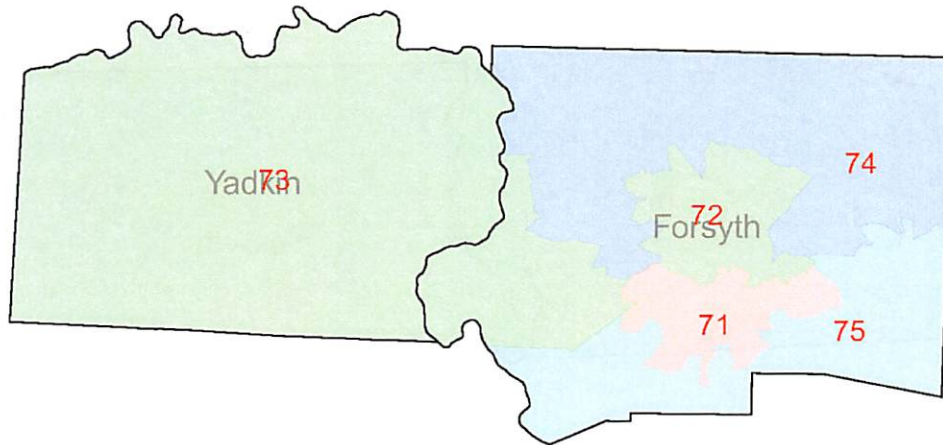
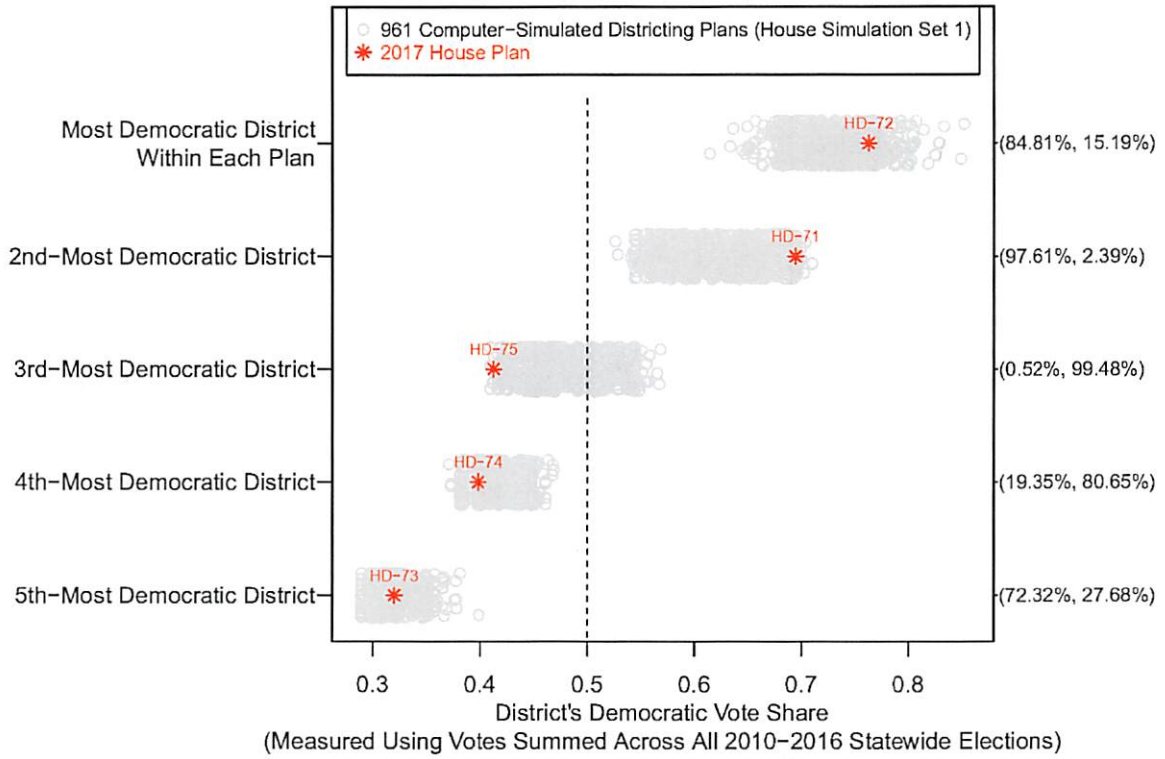
2017 Enacted House Plan Districts (4 Districts)

**Figure 105: House Simulation Set 1:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Cumberland County Grouping  
(Among the 1000 Simulated Plans With 0 or More Districts of At Least 65% Black CVAP)**



2017 Enacted House Plan Districts (4 Districts)

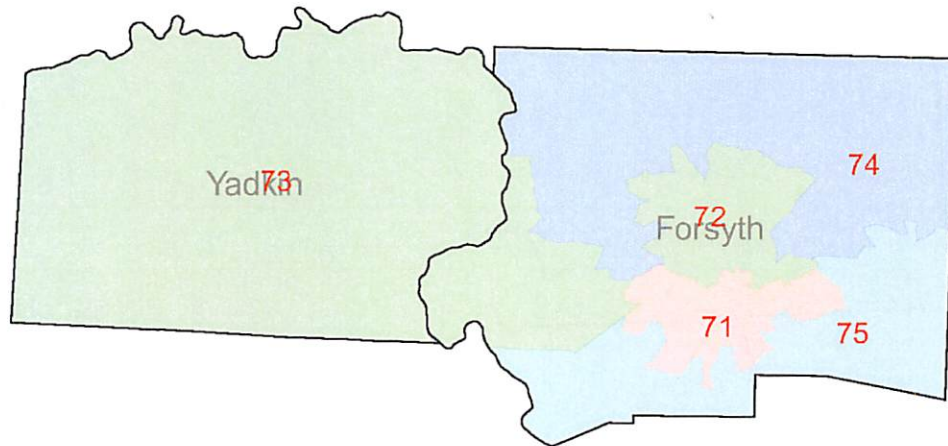
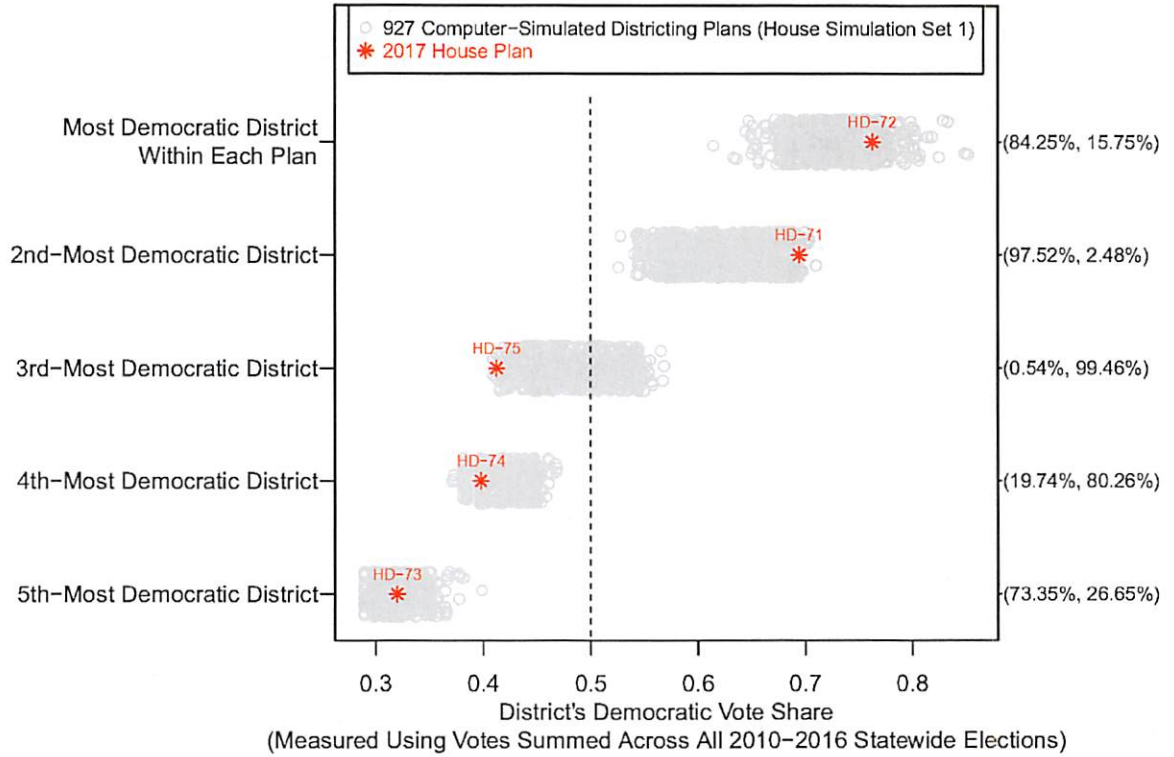
**Figure 106: House Simulation Set 1:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Forsyth-Yadkin County Grouping  
(Among the 961 Simulated Plans With 1 or More Districts of At Least 41% Black CVAP)**



2017 Enacted House Plan Districts (5 Districts)

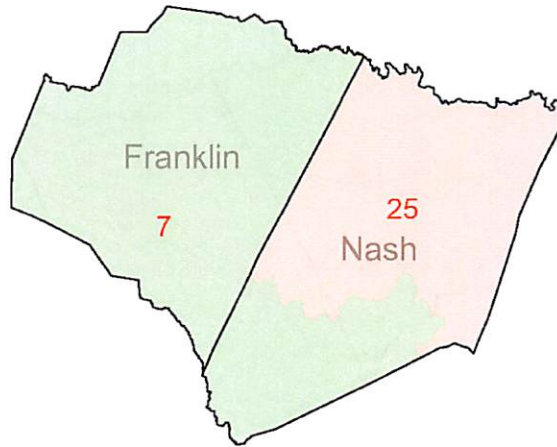
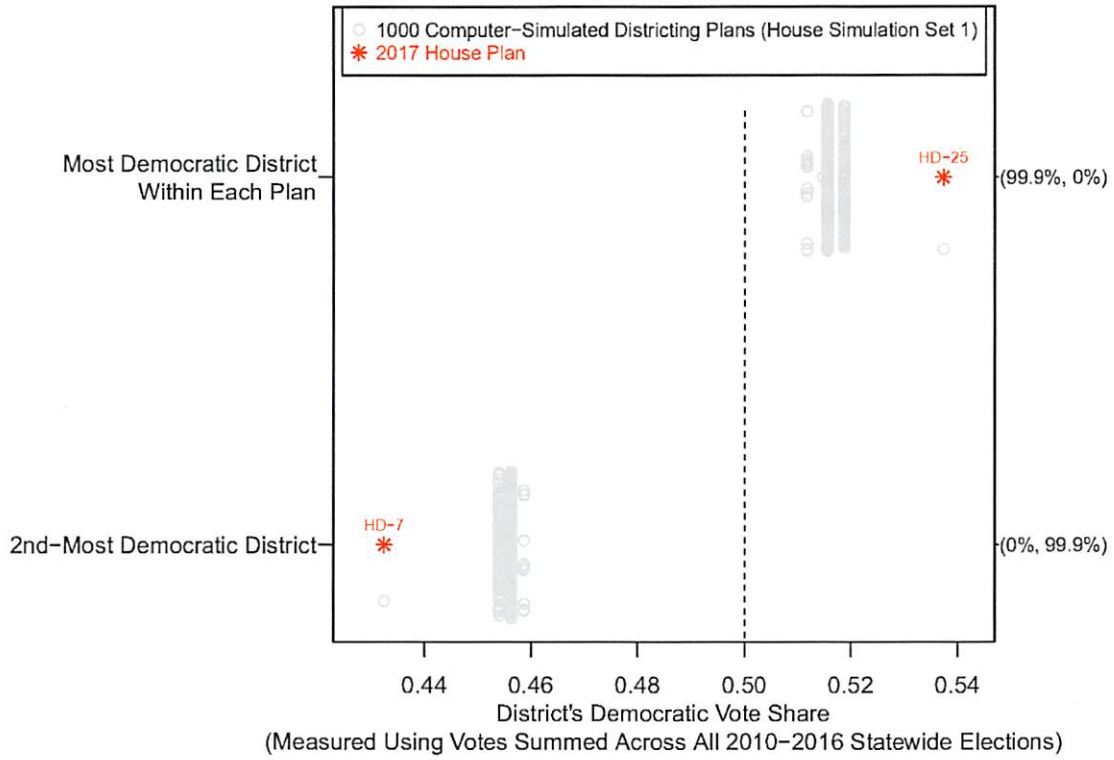


**Figure 107: House Simulation Set 1:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Forsyth–Yadkin County Grouping  
(Among the 927 Simulated Plans With 1 or More Districts of At Least 42% Black CVAP)**



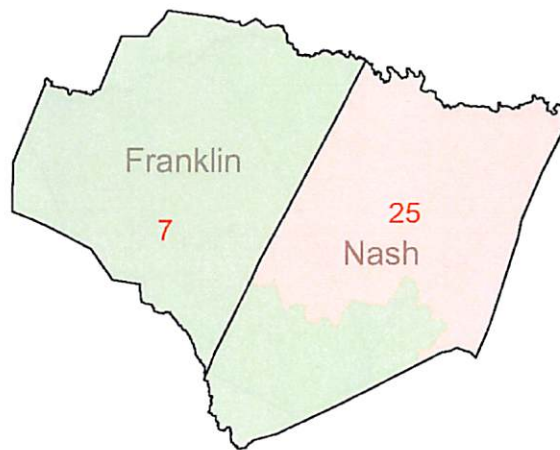
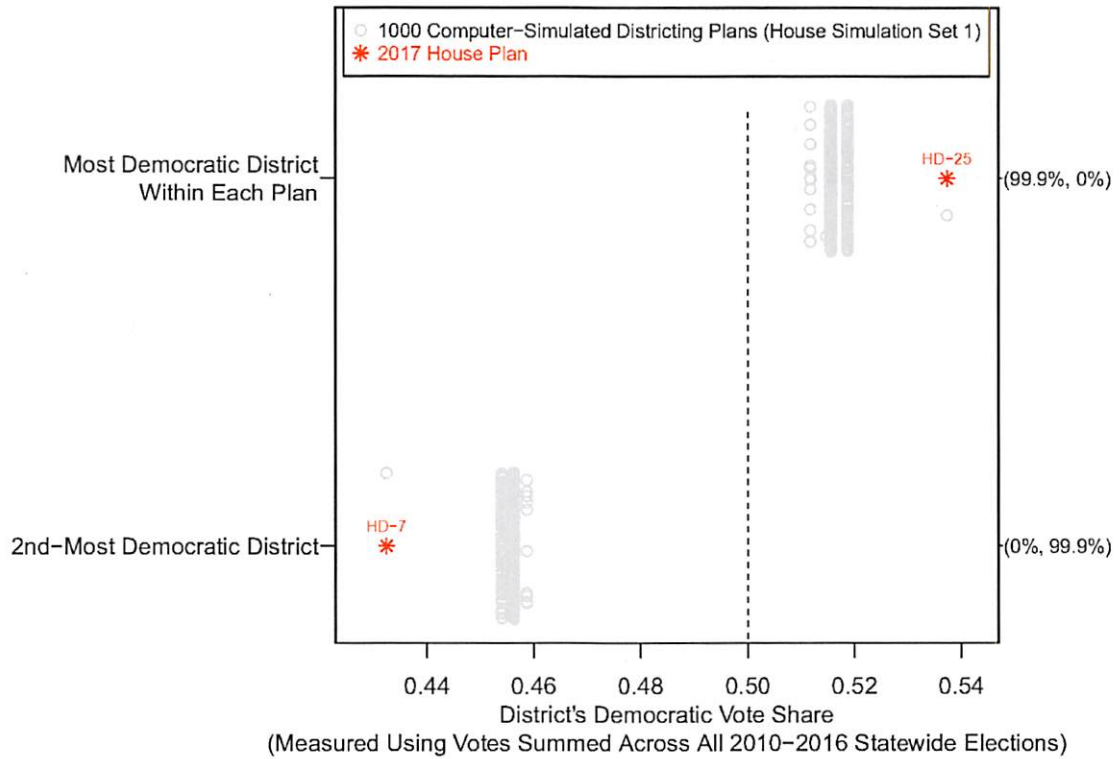
2017 Enacted House Plan Districts (5 Districts)

**Figure 108: House Simulation Set 1:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Franklin-Nash County Grouping  
(Among the 1000 Simulated Plans With 2 or More Districts of At Least 12% Black CVAP)**



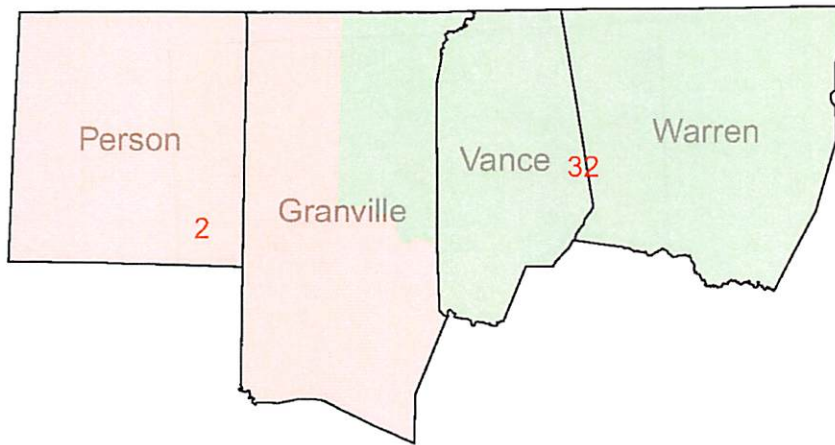
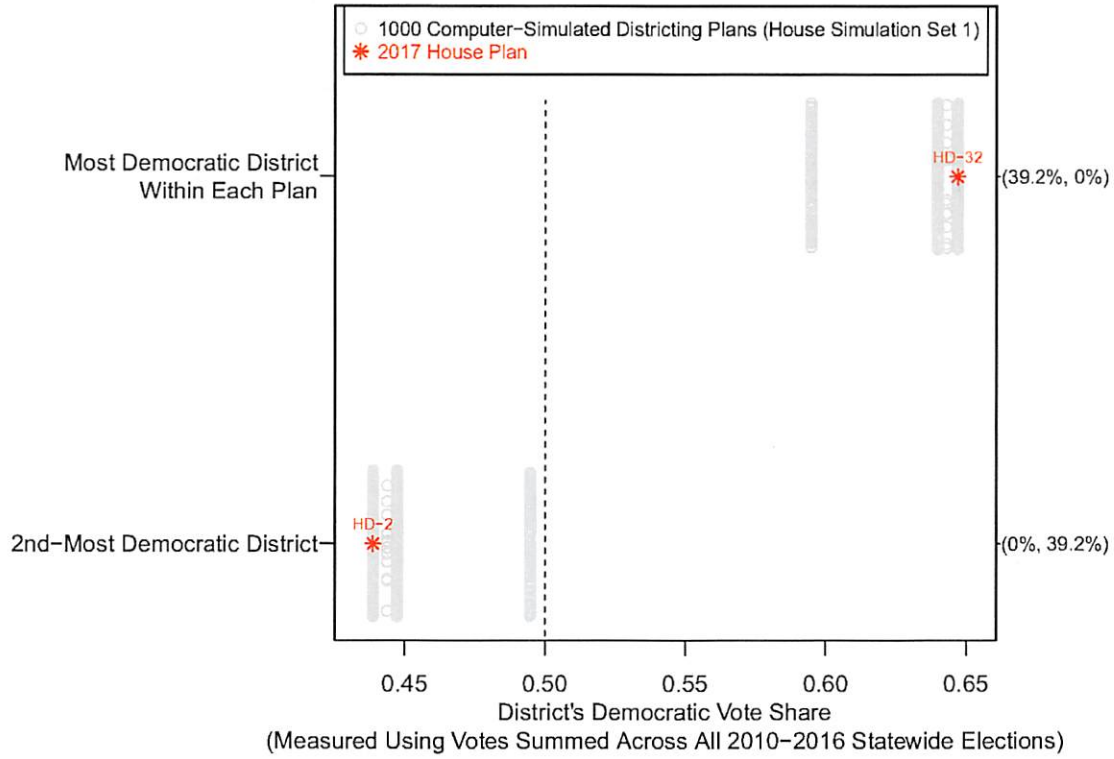
2017 Enacted House Plan Districts (2 Districts)

**Figure 109: House Simulation Set 1:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Franklin-Nash County Grouping  
(Among the 1000 Simulated Plans With 1 or More Districts of At Least 40% Black CVAP)**



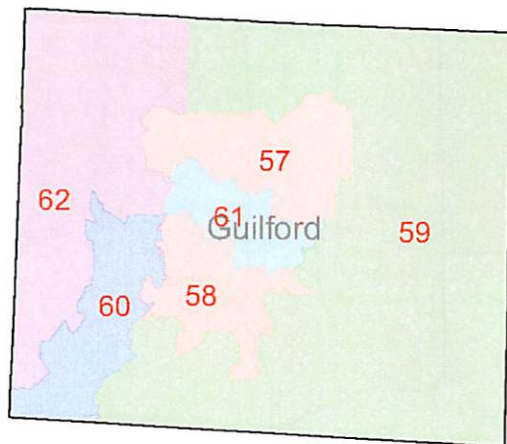
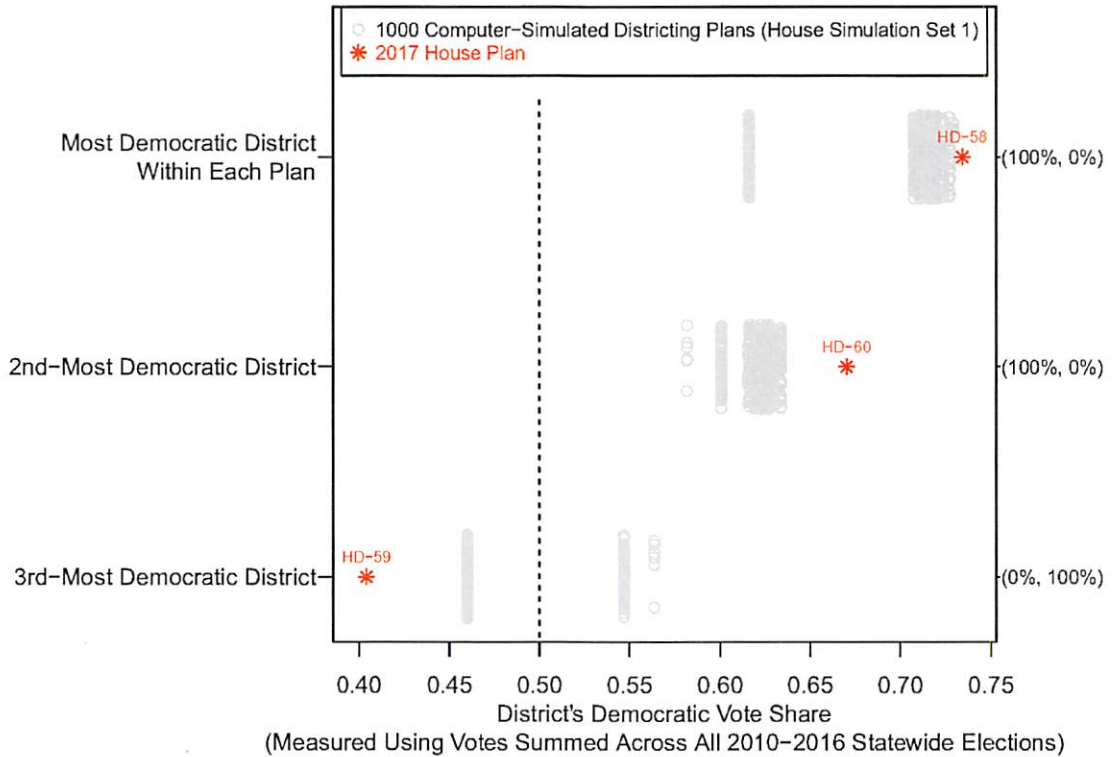
2017 Enacted House Plan Districts (2 Districts)

**Figure 110: House Simulation Set 1:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Granville-Person-Vance-Warren County Grouping  
(Among the 1000 Simulated Plans With 1 or More Districts of At Least 32% Black CVAP)**



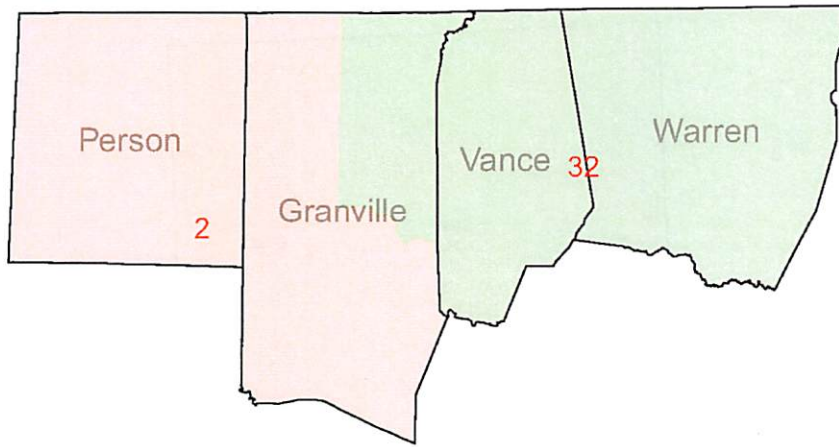
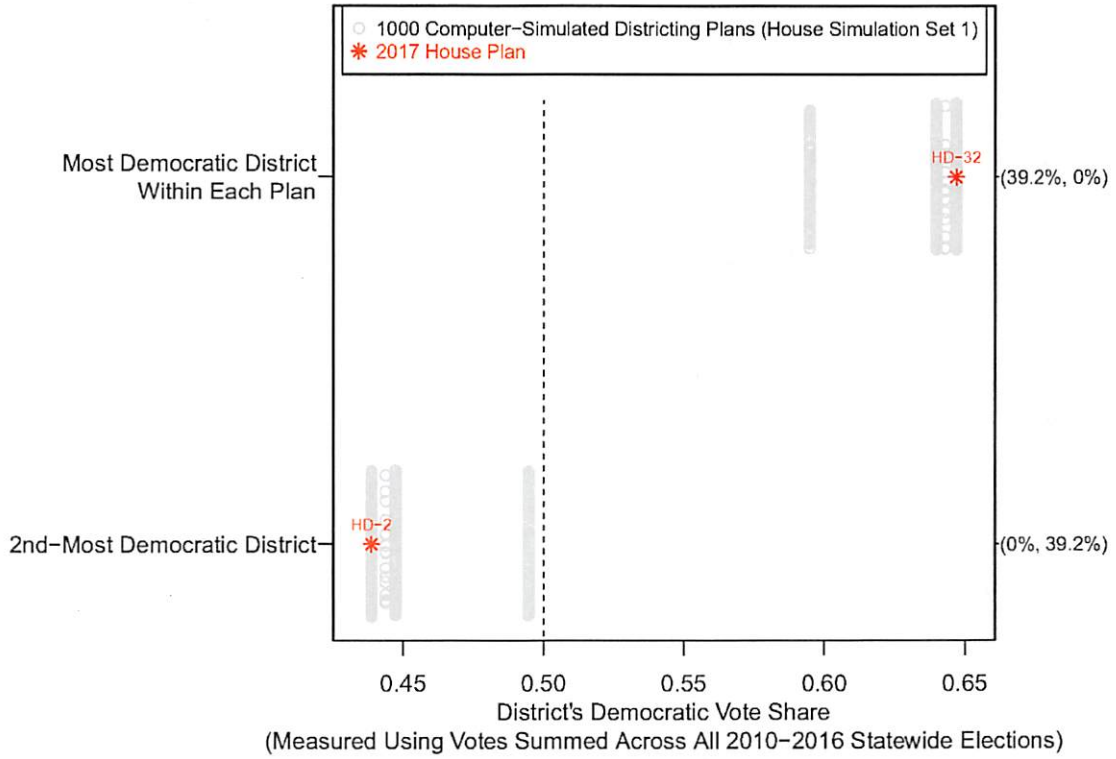
2017 Enacted House Plan Districts (2 Districts)

**Figure 112: House Simulation Set 1:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Guilford County Grouping  
(Among the 1000 Simulated Plans With 3 or More Districts of At Least 5% Black CVAP)**



**2017 Enacted House Plan Districts (6 Districts)**  
 (This county grouping includes 3 Special Master Districts (HD-57, HD-61, and HD-62) that are frozen in all simulated plans and not included in the above Figure)

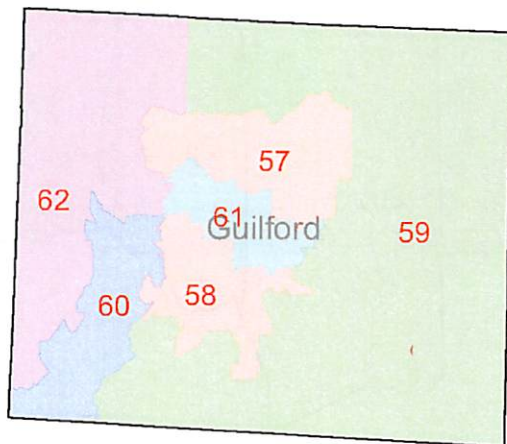
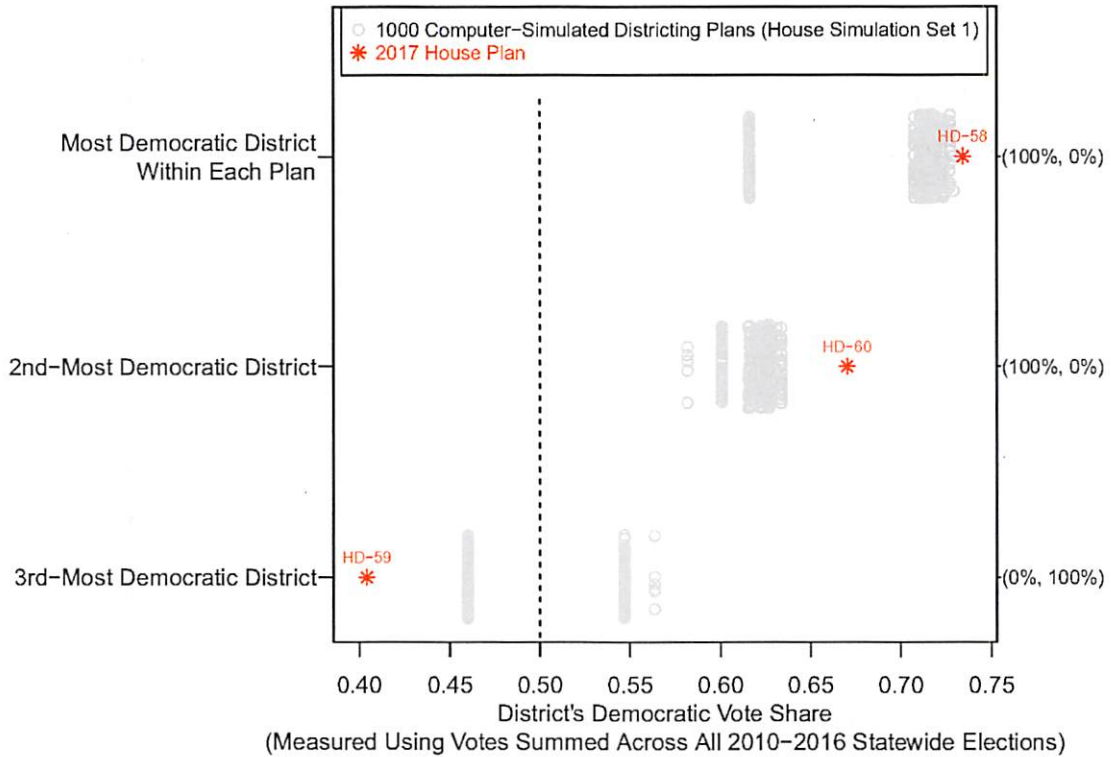
**Figure 111: House Simulation Set 1:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Granville-Person-Vance-Warren County Grouping  
(Among the 1000 Simulated Plans With 1 or More Districts of At Least 34% Black CVAP)**



2017 Enacted House Plan Districts (2 Districts)

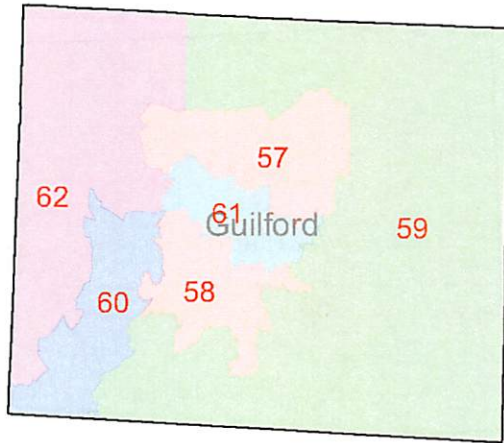
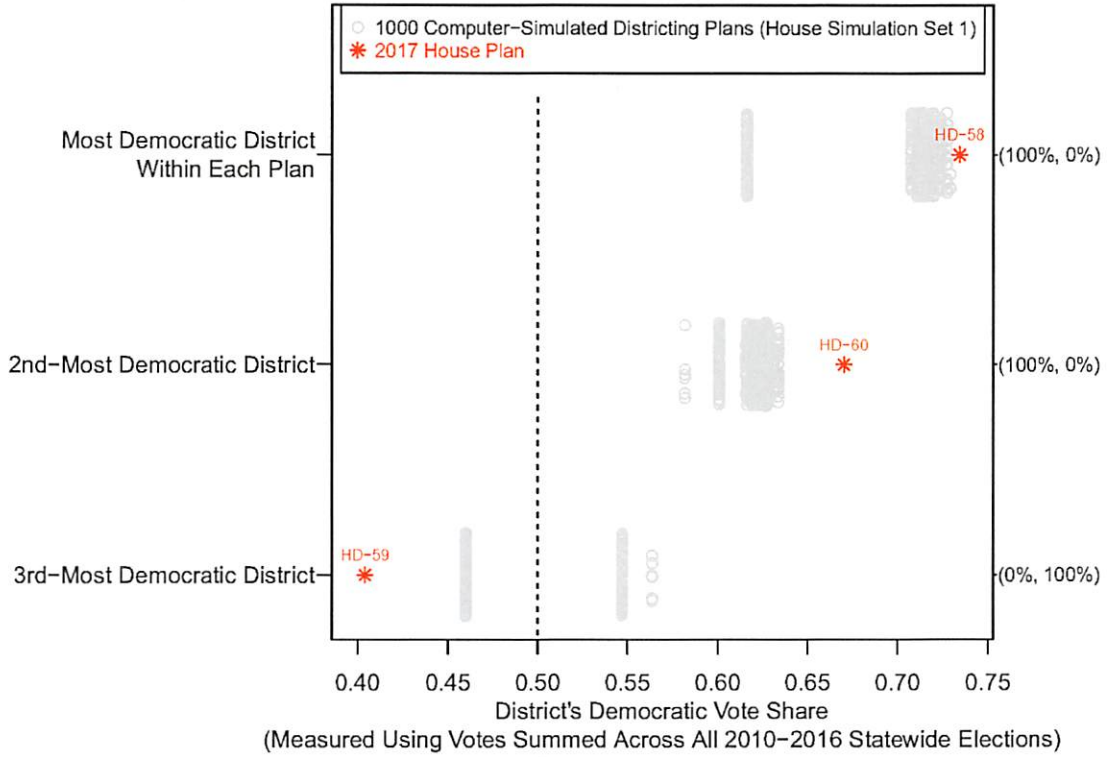


**Figure 113: House Simulation Set 1:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Guilford County Grouping  
(Among the 1000 Simulated Plans With 3 or More Districts of At Least 23% Black CVAP)**



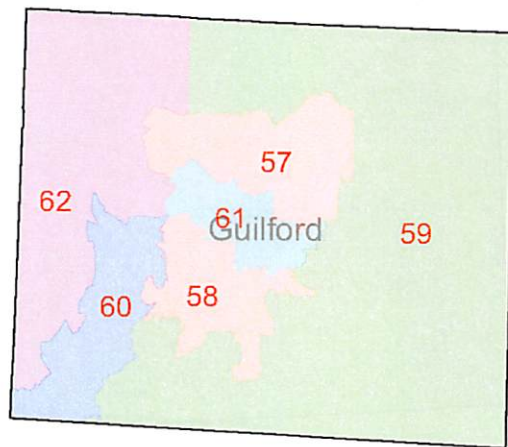
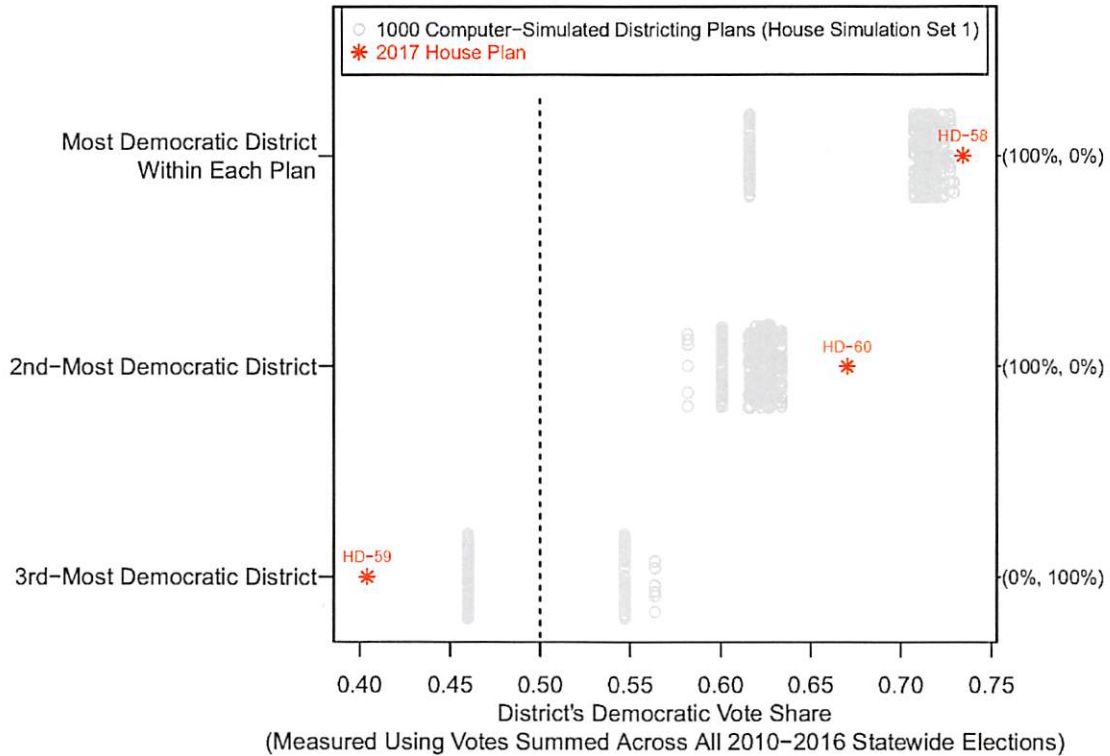
**2017 Enacted House Plan Districts (6 Districts)**  
 (This county grouping includes 3 Special Master Districts (HD-57, HD-61, and HD-62) that are frozen in all simulated plans and not included in the above Figure)

**Figure 114: House Simulation Set 1:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Guilford County Grouping  
(Among the 1000 Simulated Plans With 2 or More Districts of At Least 26% Black CVAP)**



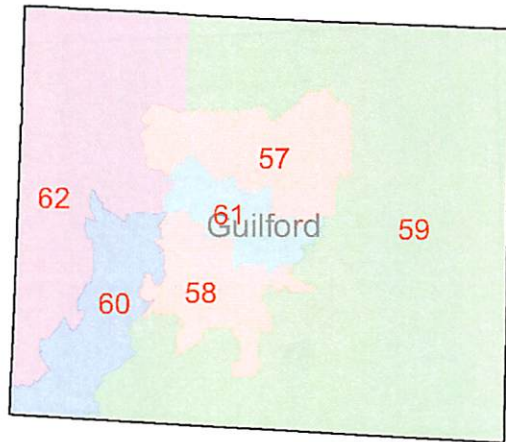
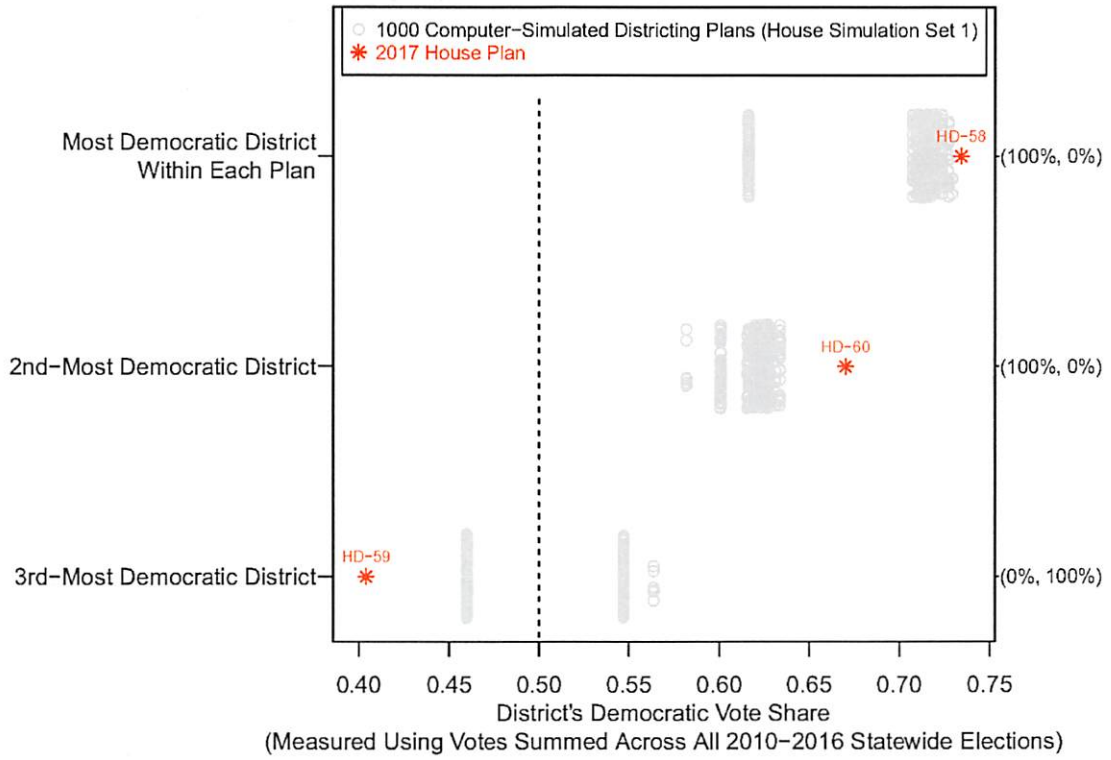
2017 Enacted House Plan Districts (6 Districts)  
 (This county grouping includes 3 Special Master Districts (HD-57, HD-61, and HD-62) that are frozen in all simulated plans and not included in the above Figure)

**Figure 115: House Simulation Set 1:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Guilford County Grouping  
(Among the 1000 Simulated Plans With 2 or More Districts of At Least 30% Black CVAP)**



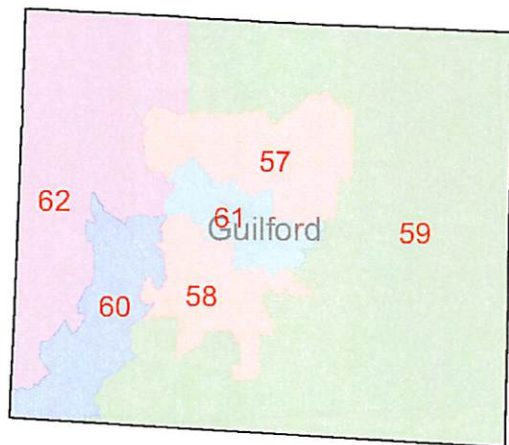
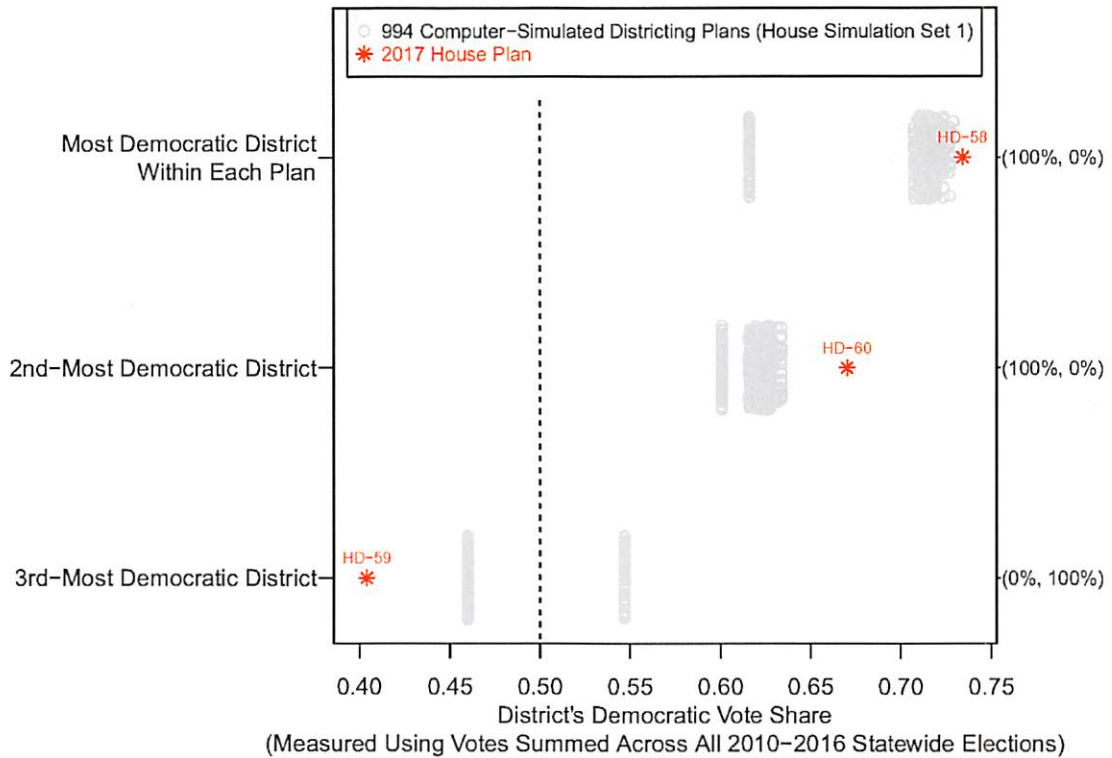
**2017 Enacted House Plan Districts (6 Districts)**  
 (This county grouping includes 3 Special Master Districts (HD-57, HD-61, and HD-62) that are frozen in all simulated plans and not included in the above Figure)

**Figure 116: House Simulation Set 1:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Guilford County Grouping  
(Among the 1000 Simulated Plans With 2 or More Districts of At Least 31% Black CVAP)**



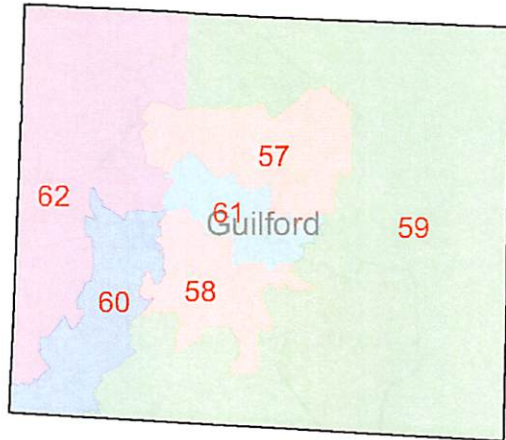
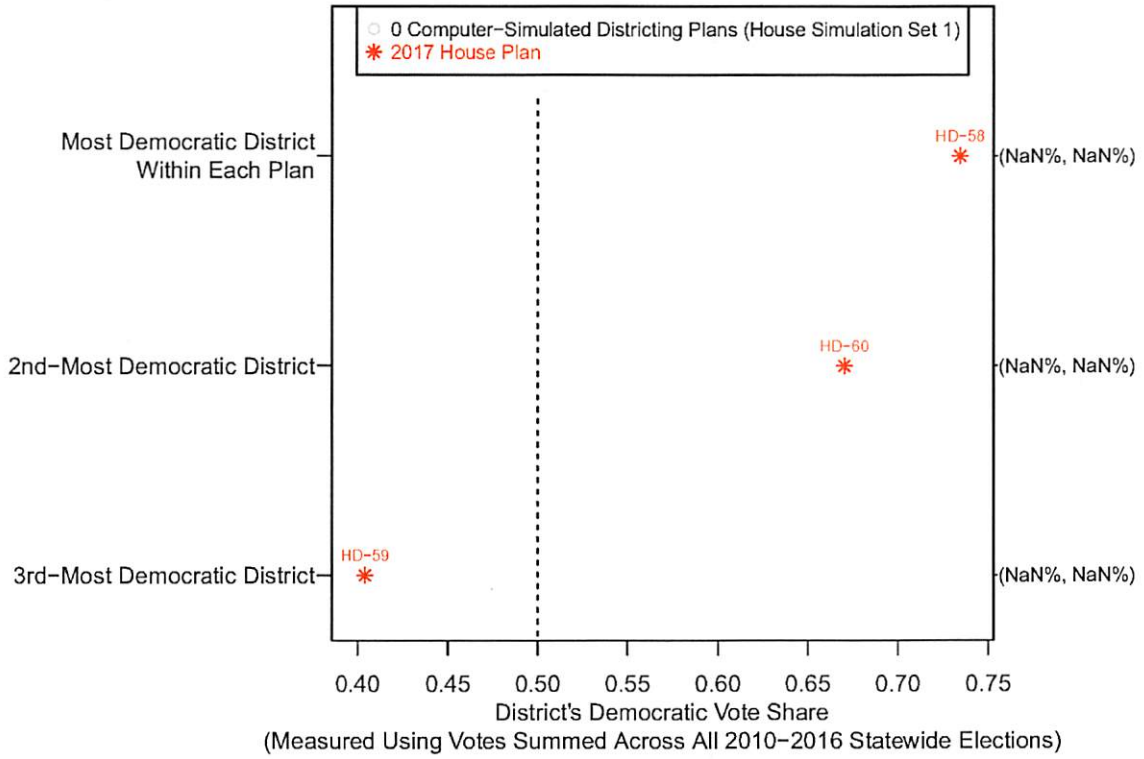
**2017 Enacted House Plan Districts (6 Districts)**  
 (This county grouping includes 3 Special Master Districts (HD-57, HD-61, and HD-62) that are frozen in all simulated plans and not included in the above Figure)

**Figure 117: House Simulation Set 1:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Guilford County Grouping  
(Among the 994 Simulated Plans With 2 or More Districts of At Least 40% Black CVAP)**



**2017 Enacted House Plan Districts (6 Districts)**  
(This county grouping includes 3 Special Master Districts (HD-57, HD-61, and HD-62) that are frozen in all simulated plans and not included in the above Figure)

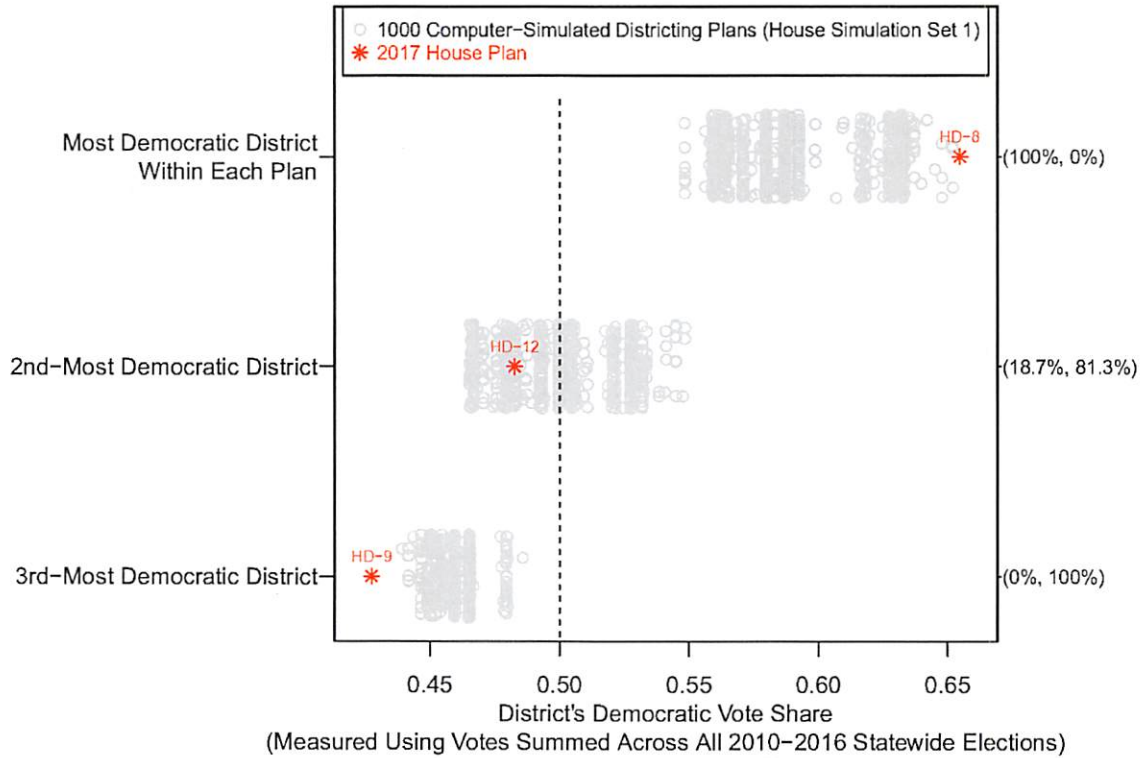
**Figure 118: House Simulation Set 1:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Guilford County Grouping  
(Among the 0 Simulated Plans With 2 or More Districts of At Least 43% Black CVAP)**



**2017 Enacted House Plan Districts (6 Districts)**  
(This county grouping includes 3 Special Master Districts (HD-57, HD-61, and HD-62) that are frozen in all simulated plans and not included in the above Figure)

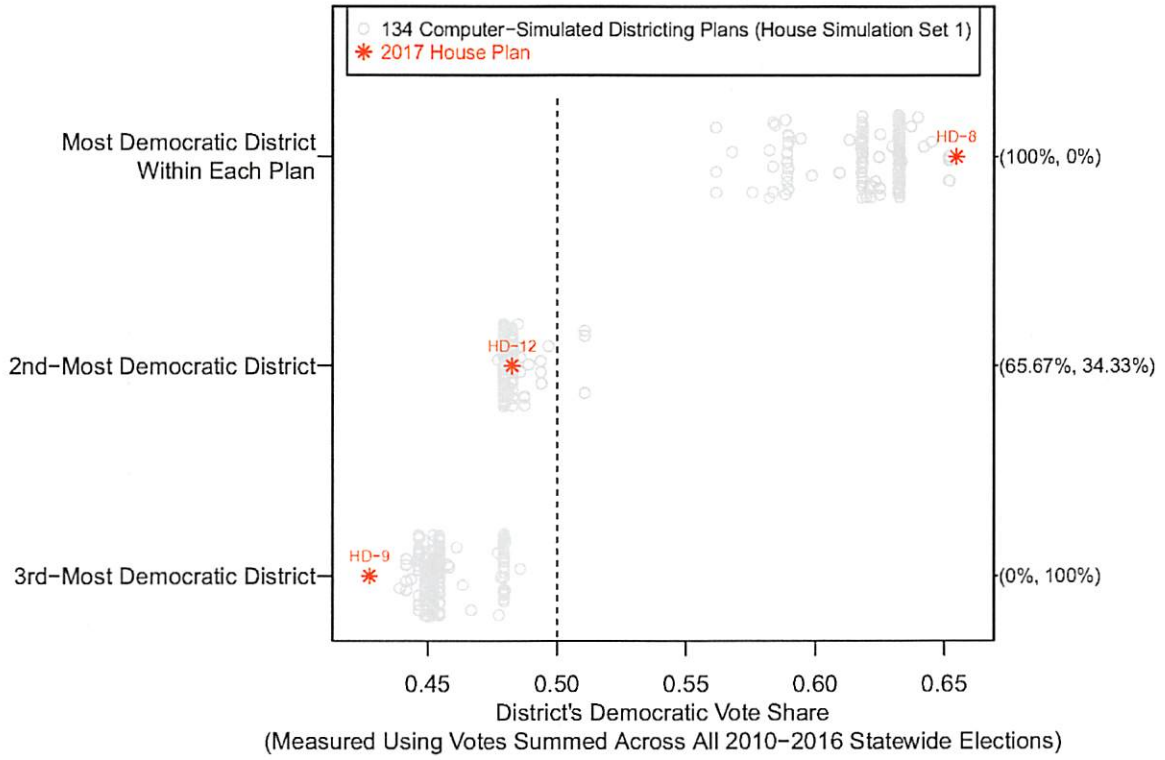


**Figure 119: House Simulation Set 1:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Lenoir-Pitt County Grouping  
(Among the 1000 Simulated Plans With 3 or More Districts of At Least 18% Black CVAP)**



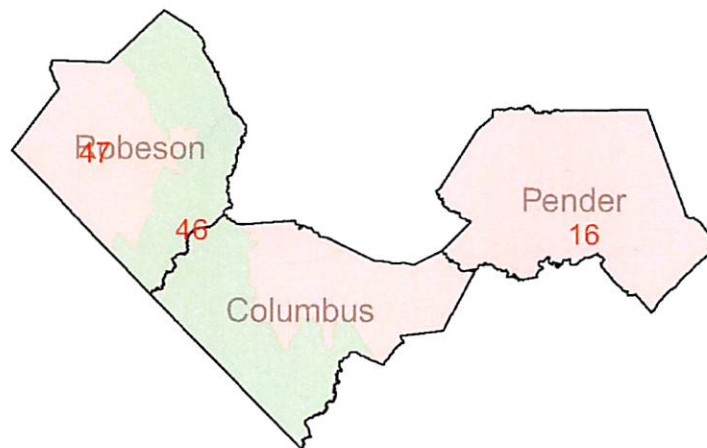
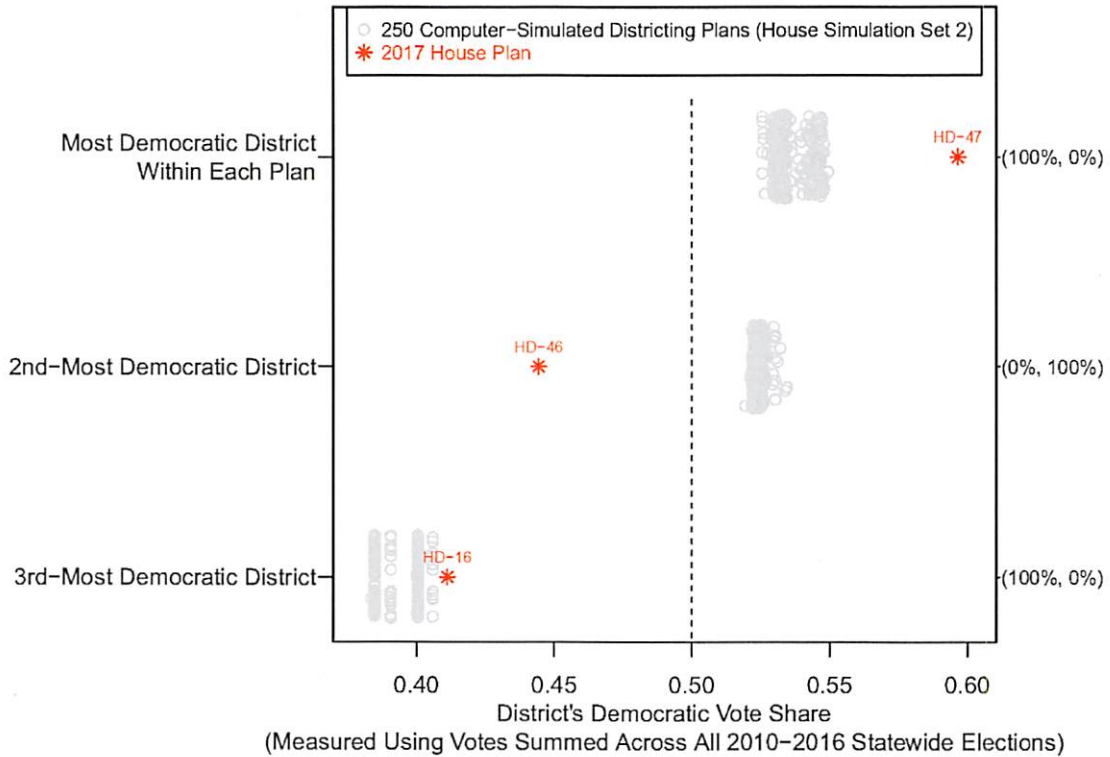
2017 Enacted House Plan Districts (3 Districts)

**Figure 120: House Simulation Set 1:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Lenoir-Pitt County Grouping  
(Among the 134 Simulated Plans With 2 or More Districts of At Least 38% Black CVAP)**

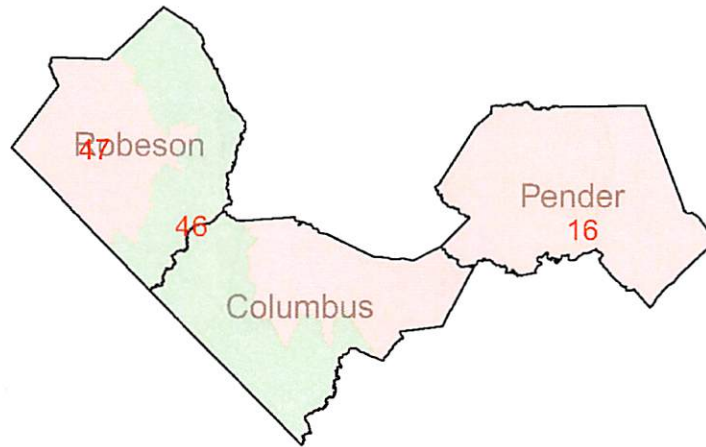
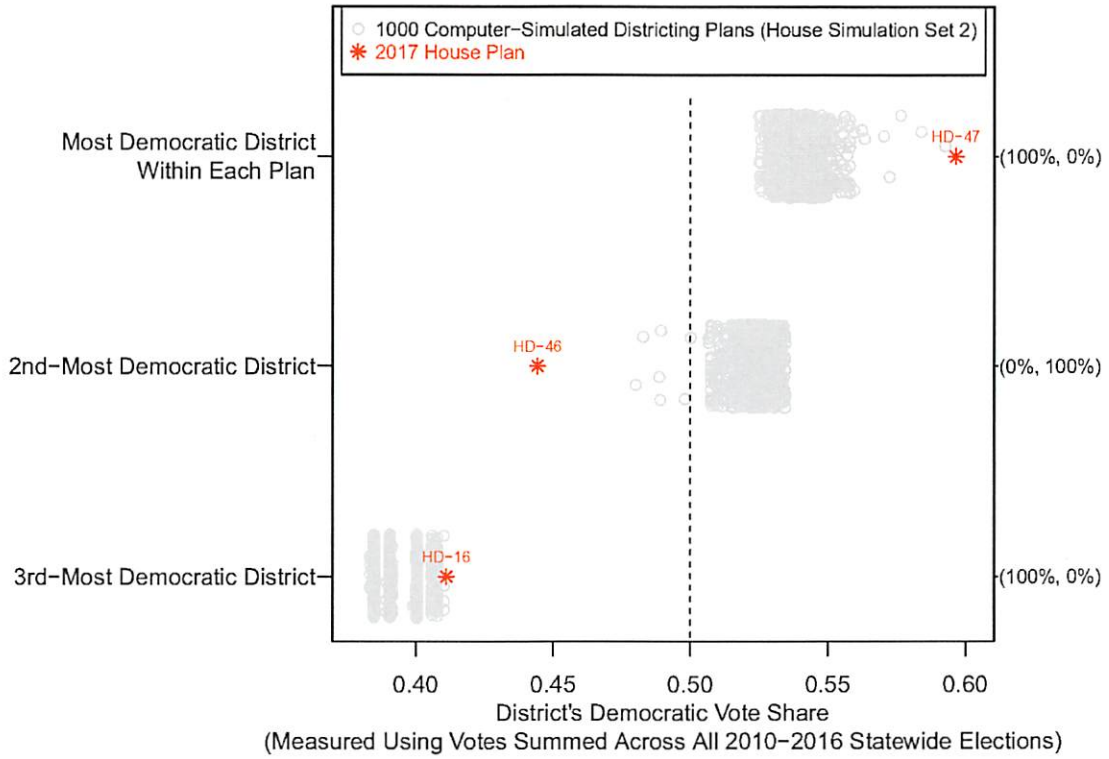


2017 Enacted House Plan Districts (3 Districts)

**Figure 124: House Simulation Set 2:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Columbus-Pender-Robeson County Grouping  
(Among the 250 Simulated Plans With 2 or More Districts of At Least 26% Black CVAP)**

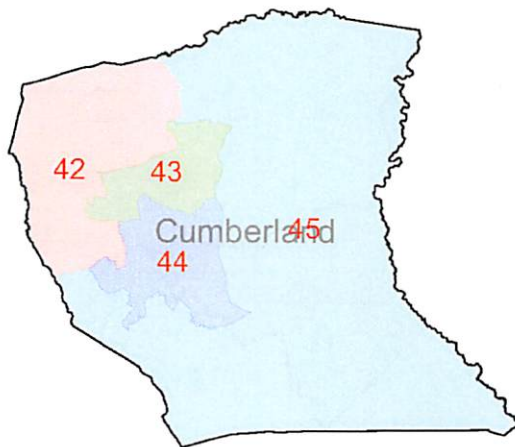
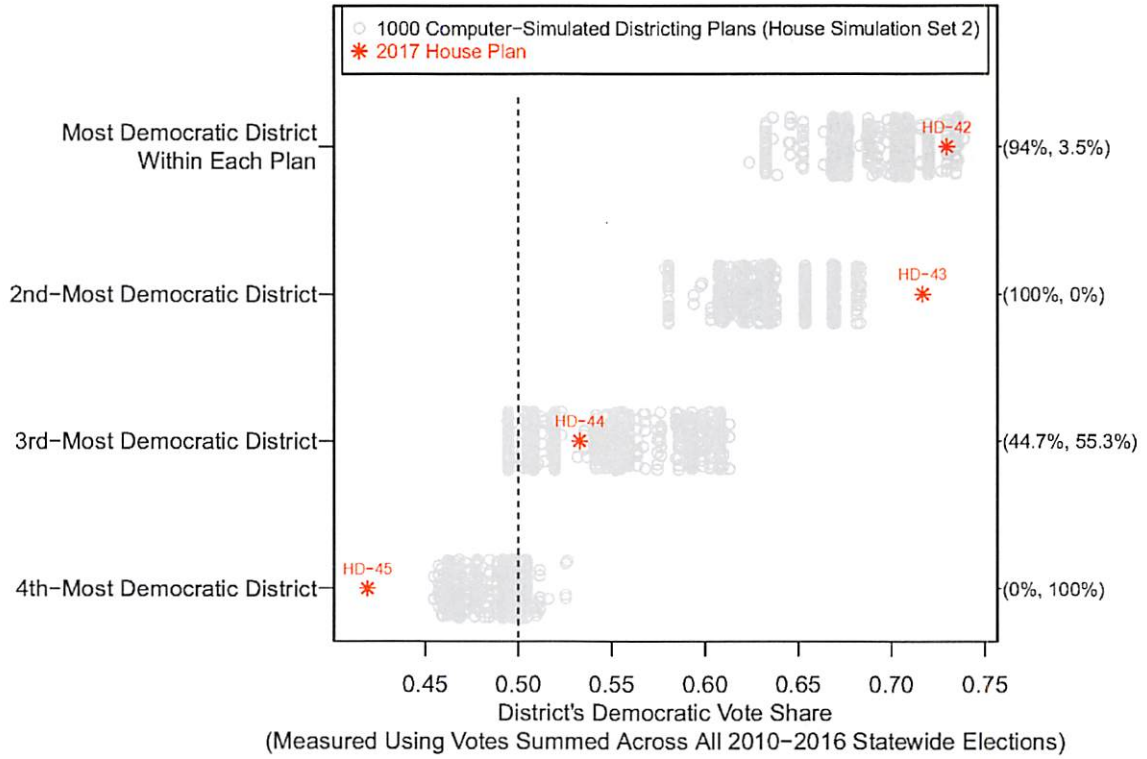


**Figure 123: House Simulation Set 2:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Columbus-Pender-Robeson County Grouping  
(Among the 1000 Simulated Plans With 3 or More Districts of At Least 4% Black CVAP)**



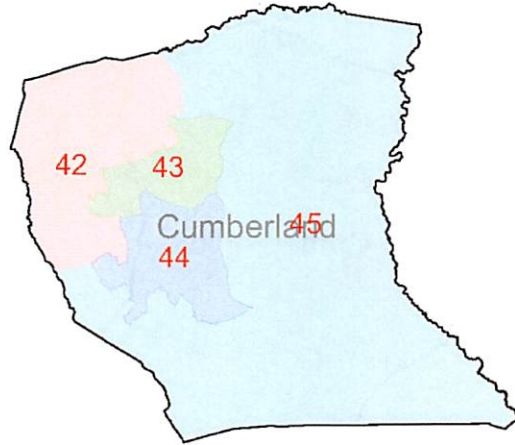
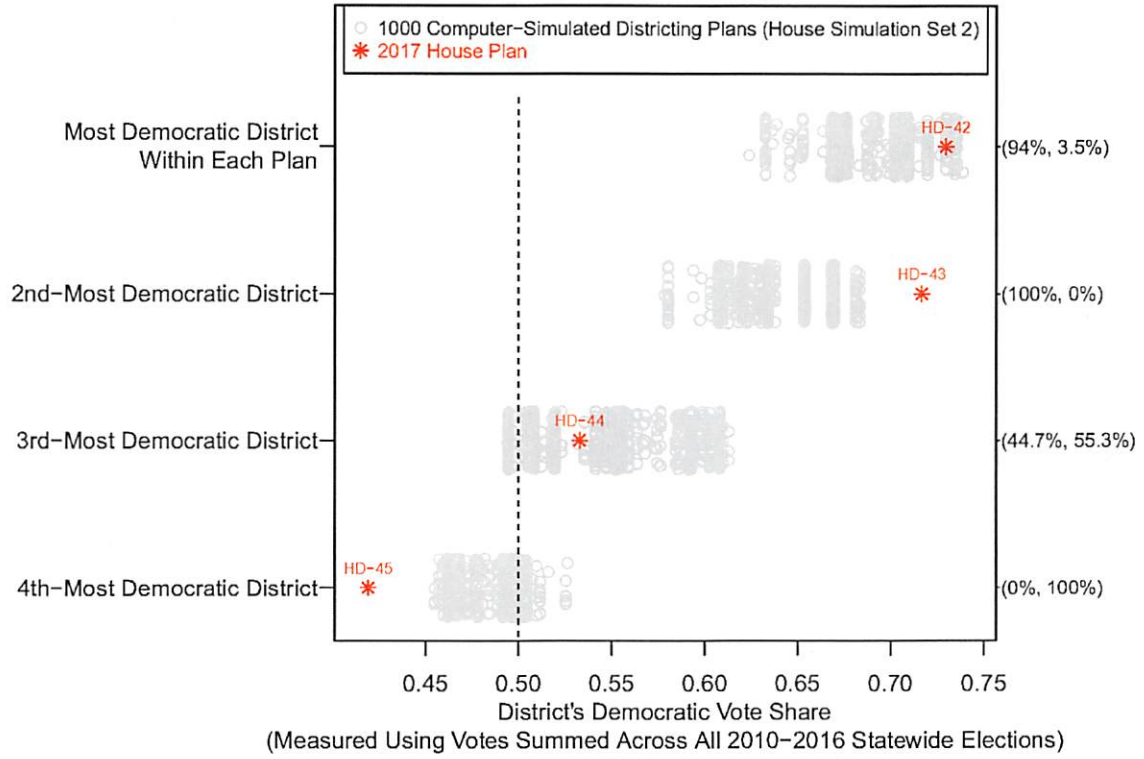
2017 Enacted House Plan Districts (3 Districts)

**Figure 125: House Simulation Set 2:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Cumberland County Grouping  
(Among the 1000 Simulated Plans With 4 or More Districts of At Least 13% Black CVAP)**



2017 Enacted House Plan Districts (4 Districts)

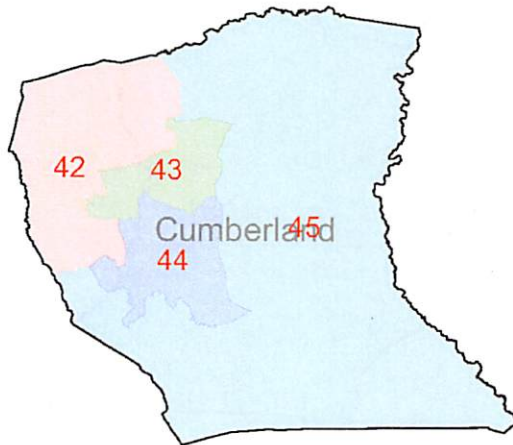
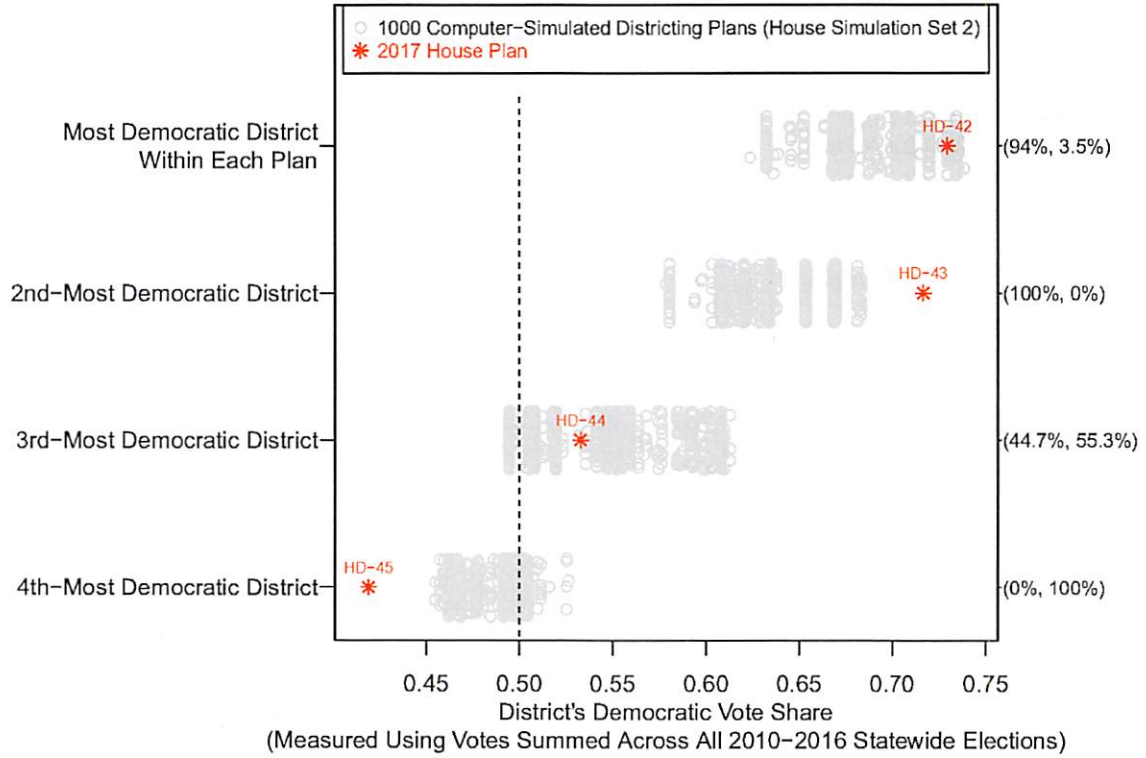
**Figure 126: House Simulation Set 2:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Cumberland County Grouping  
(Among the 1000 Simulated Plans With 2 or More Districts of At Least 34% Black CVAP)**



2017 Enacted House Plan Districts (4 Districts)

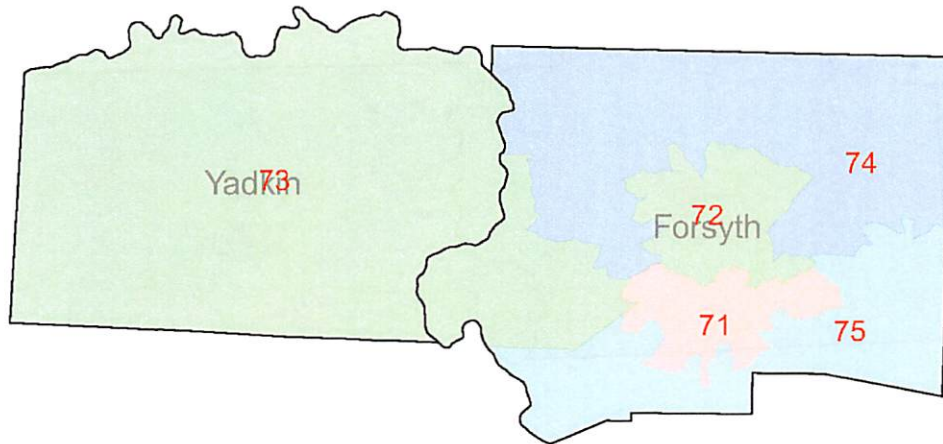


**Figure 127: House Simulation Set 2:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Cumberland County Grouping  
(Among the 1000 Simulated Plans With 0 or More Districts of At Least 65% Black CVAP)**



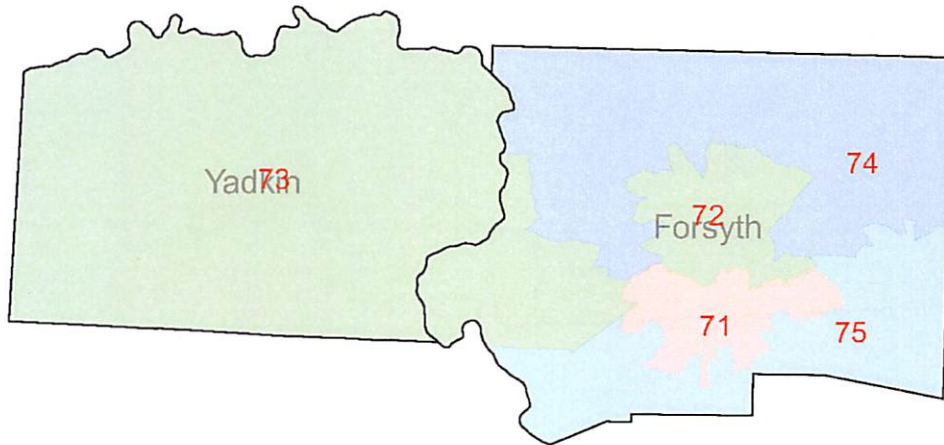
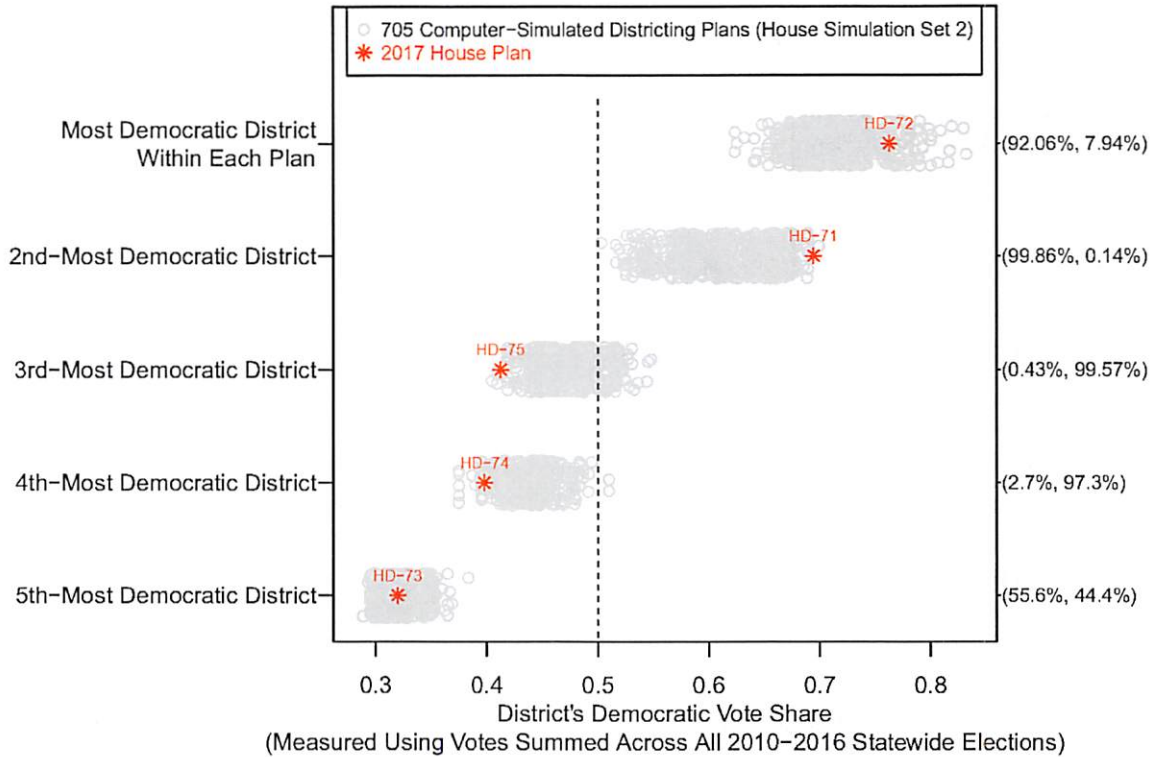
2017 Enacted House Plan Districts (4 Districts)

**Figure 128: House Simulation Set 2:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Forsyth–Yadkin County Grouping  
(Among the 754 Simulated Plans With 1 or More Districts of At Least 41% Black CVAP)**



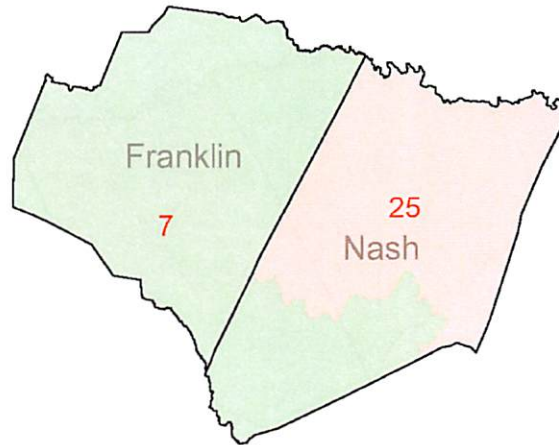
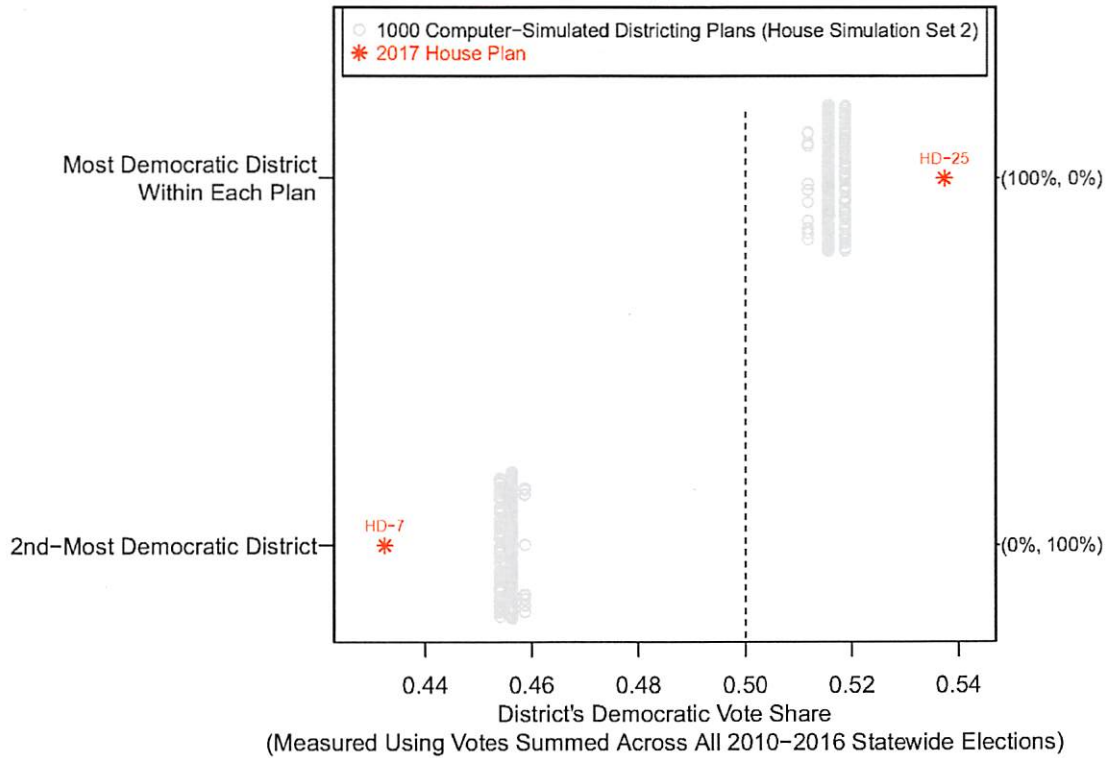
2017 Enacted House Plan Districts (5 Districts)

**Figure 129: House Simulation Set 2:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Forsyth–Yadkin County Grouping  
(Among the 705 Simulated Plans With 1 or More Districts of At Least 42% Black CVAP)**



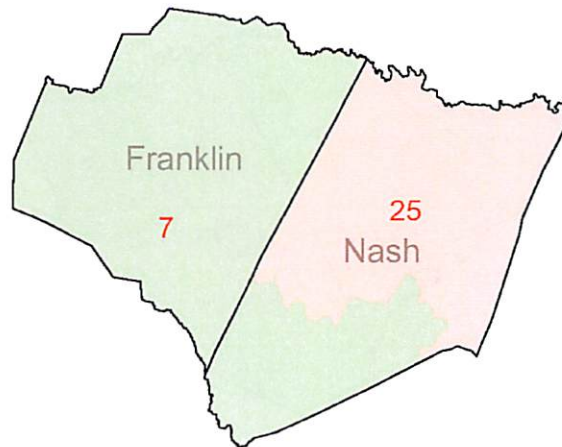
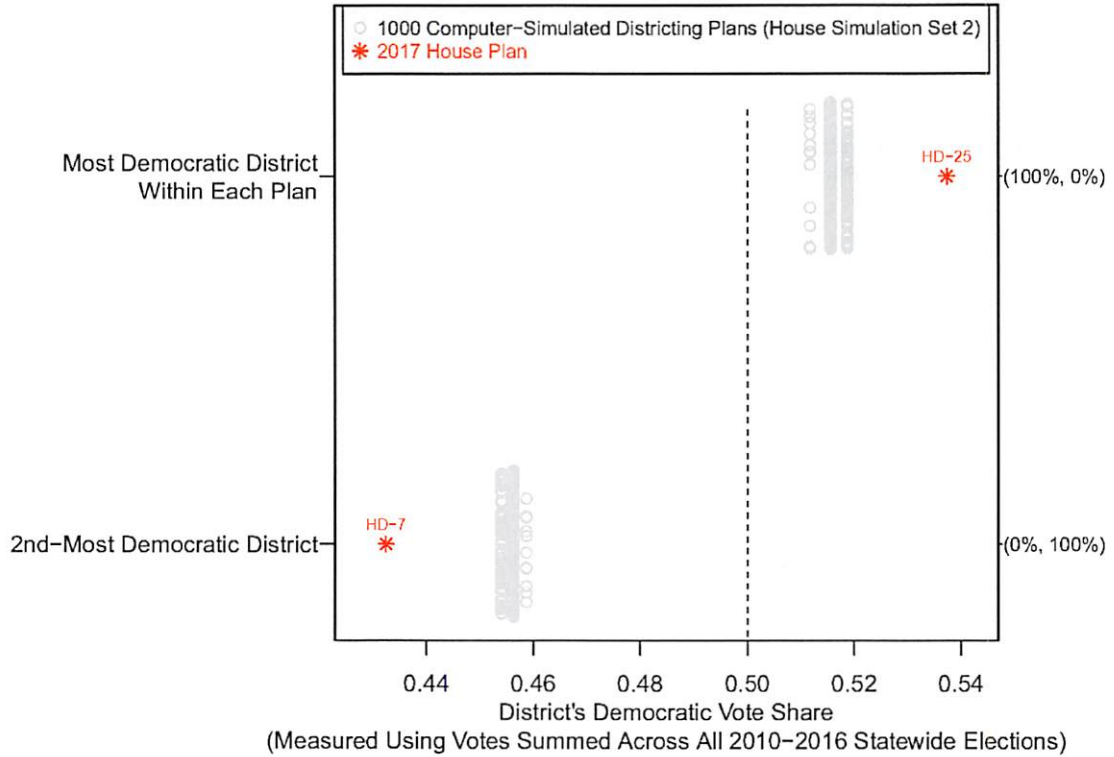
2017 Enacted House Plan Districts (5 Districts)

**Figure 130: House Simulation Set 2:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Franklin-Nash County Grouping  
(Among the 1000 Simulated Plans With 2 or More Districts of At Least 12% Black CVAP)**



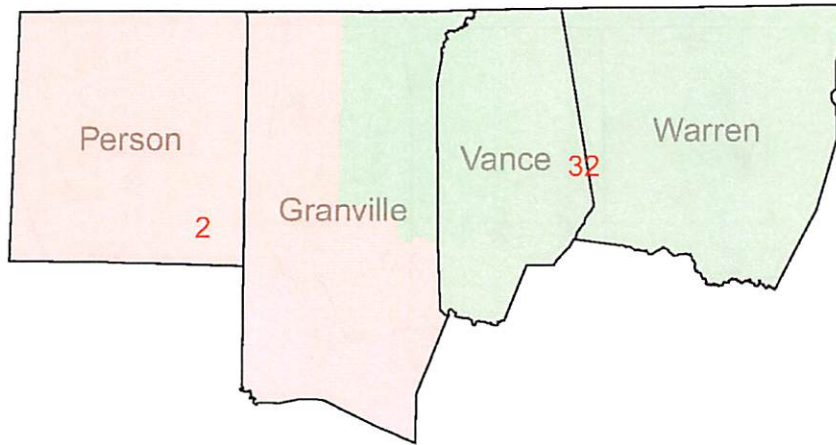
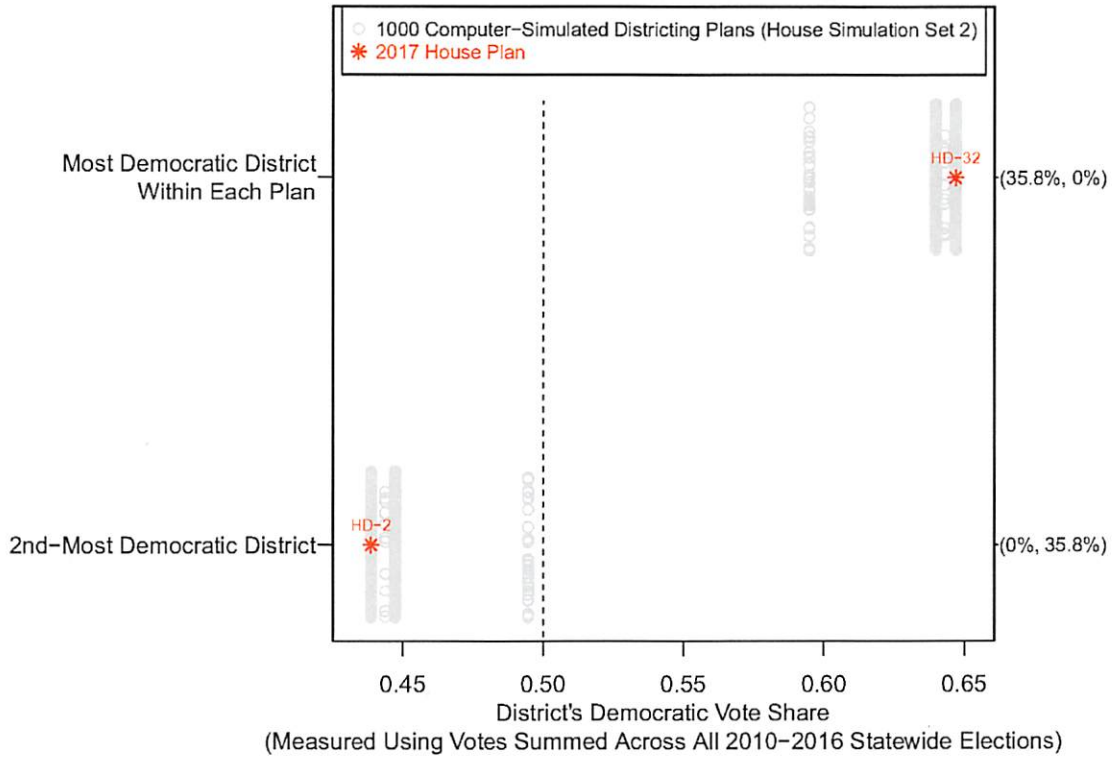
2017 Enacted House Plan Districts (2 Districts)

**Figure 131: House Simulation Set 2:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Franklin-Nash County Grouping  
(Among the 1000 Simulated Plans With 1 or More Districts of At Least 40% Black CVAP)**



2017 Enacted House Plan Districts (2 Districts)

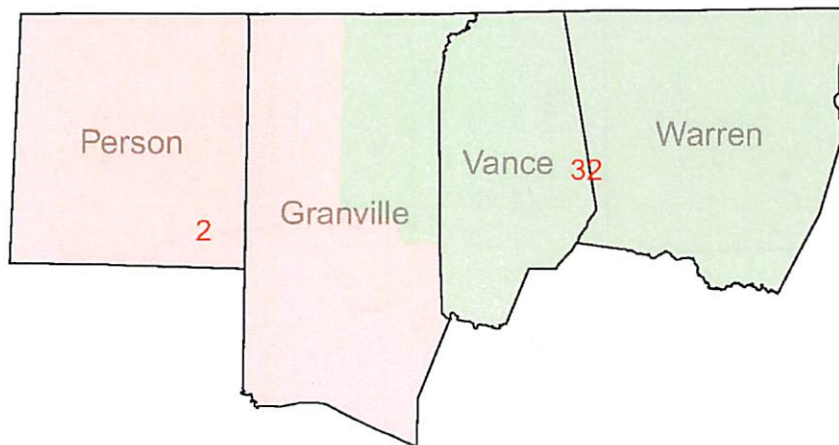
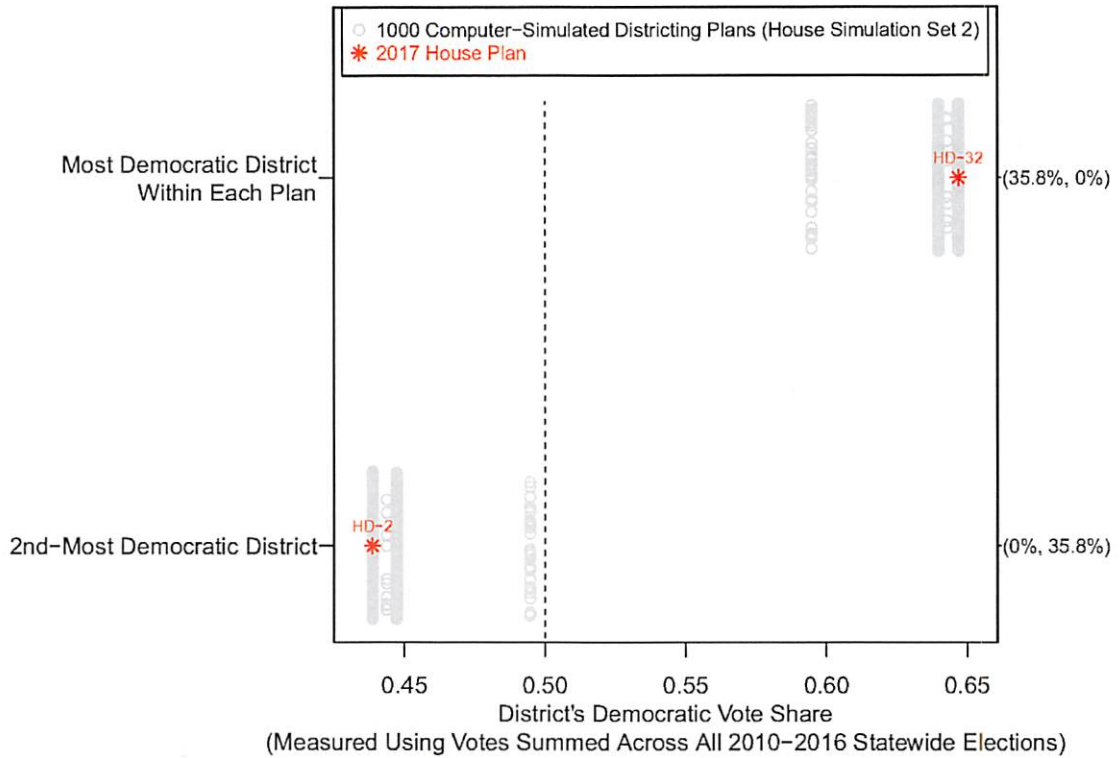
**Figure 132: House Simulation Set 2:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Granville-Person-Vance-Warren County Grouping  
(Among the 1000 Simulated Plans With 1 or More Districts of At Least 32% Black CVAP)**



2017 Enacted House Plan Districts (2 Districts)

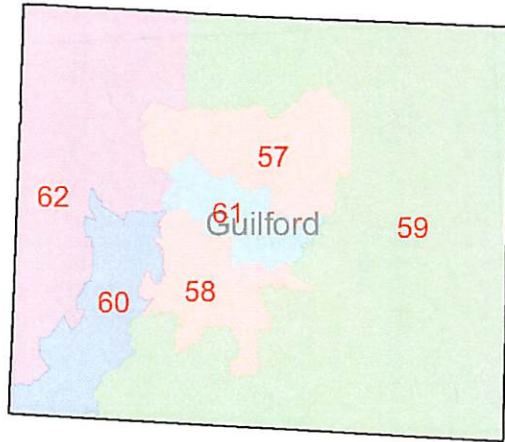
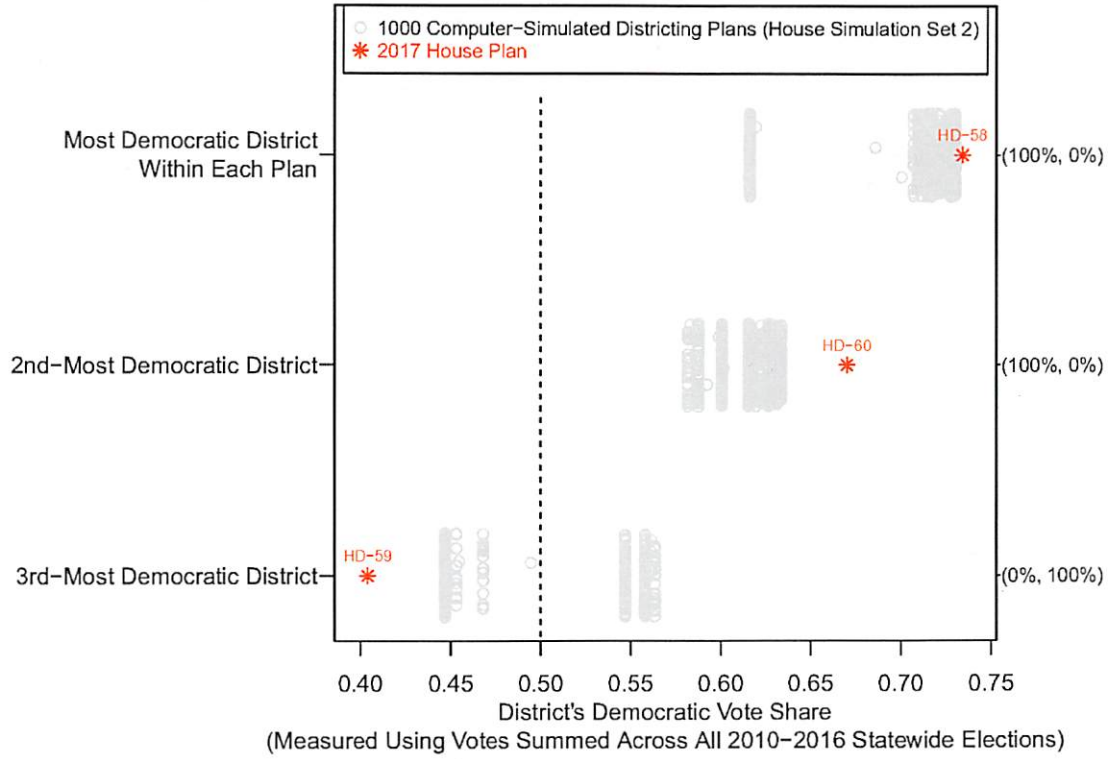


**Figure 133: House Simulation Set 2:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Granville–Person–Vance–Warren County Grouping  
(Among the 1000 Simulated Plans With 1 or More Districts of At Least 34% Black CVAP)**



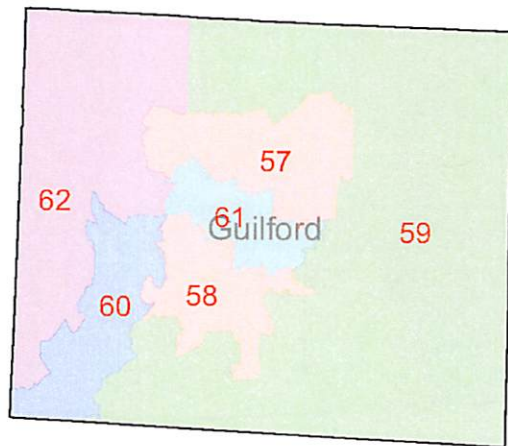
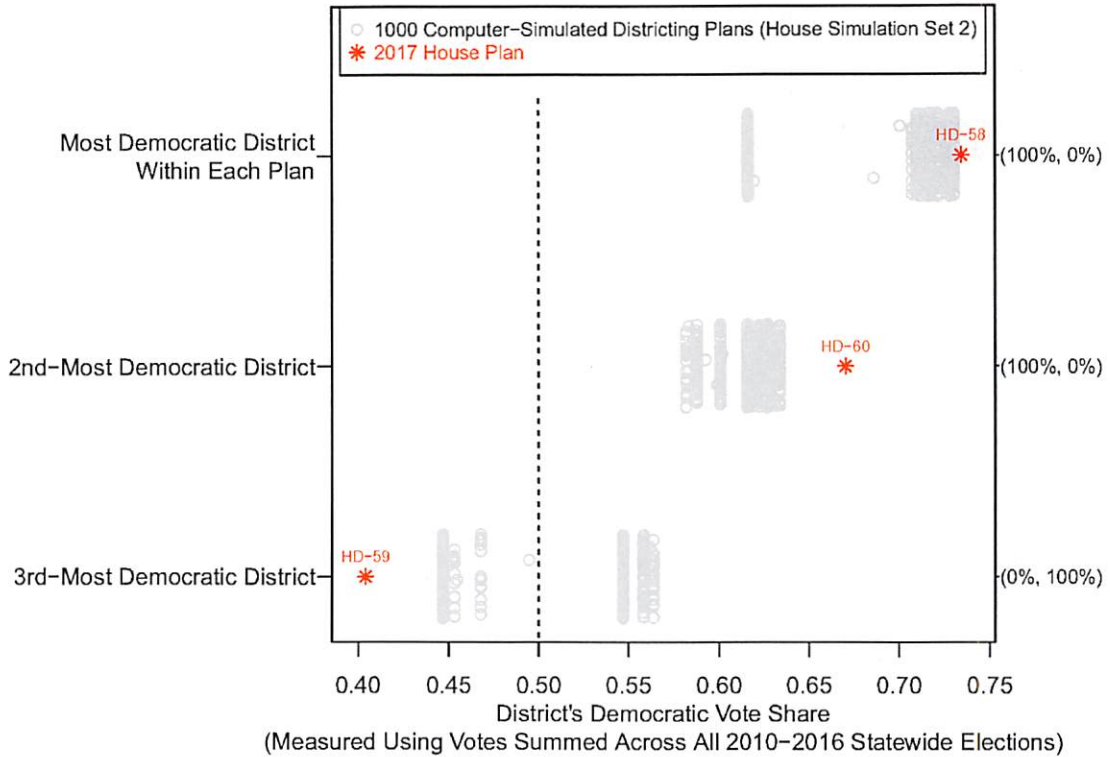
2017 Enacted House Plan Districts (2 Districts)

**Figure 134: House Simulation Set 2:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Guilford County Grouping  
(Among the 1000 Simulated Plans With 3 or More Districts of At Least 5% Black CVAP)**



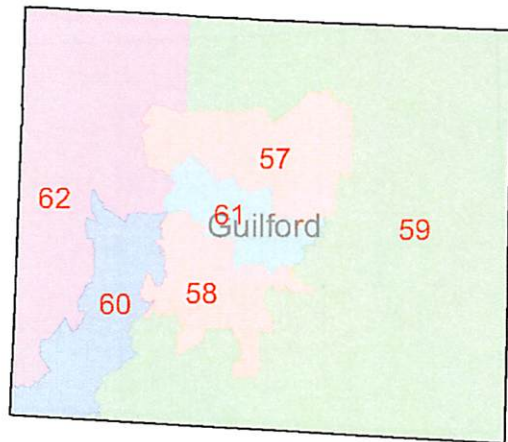
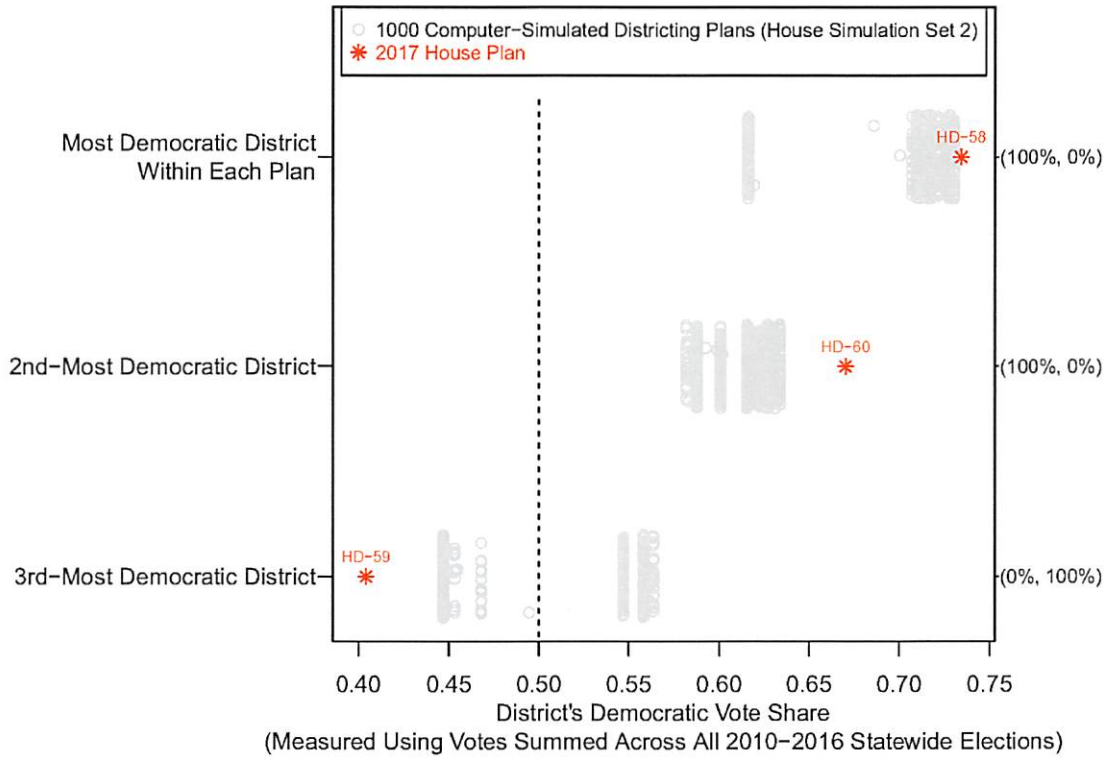
**2017 Enacted House Plan Districts (6 Districts)**  
 (This county grouping includes 3 Special Master Districts (HD-57, HD-61, and HD-62) that are frozen in all simulated plans and not included in the above Figure)

**Figure 135: House Simulation Set 2:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Guilford County Grouping  
(Among the 1000 Simulated Plans With 3 or More Districts of At Least 23% Black CVAP)**



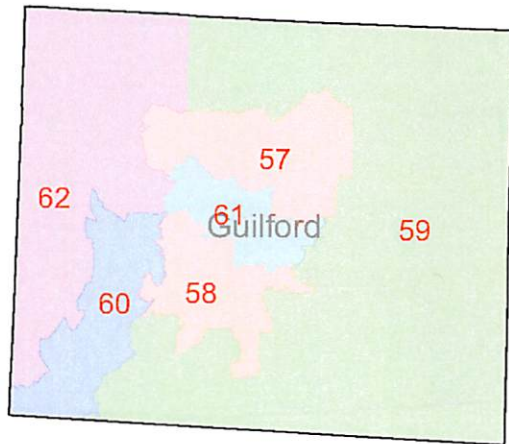
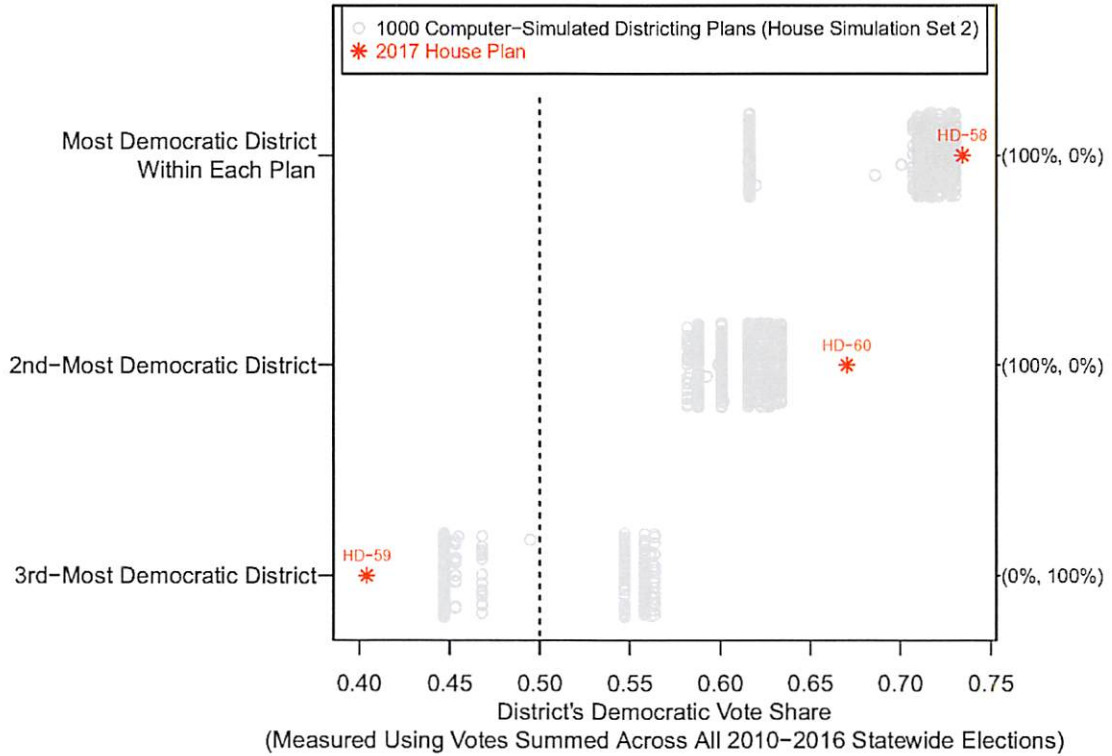
**2017 Enacted House Plan Districts (6 Districts)**  
 (This county grouping includes 3 Special Master Districts (HD-57, HD-61, and HD-62) that are frozen in all simulated plans and not included in the above Figure)

**Figure 136: House Simulation Set 2:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Guilford County Grouping  
(Among the 1000 Simulated Plans With 2 or More Districts of At Least 26% Black CVAP)**



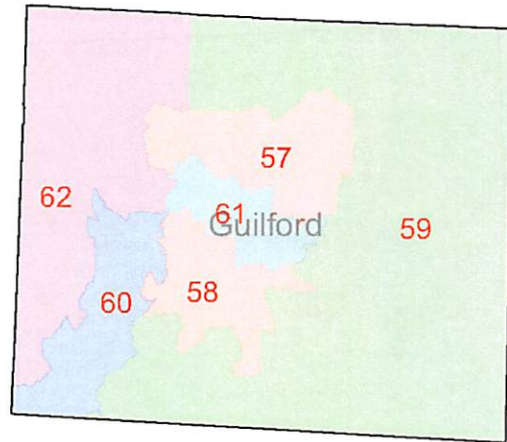
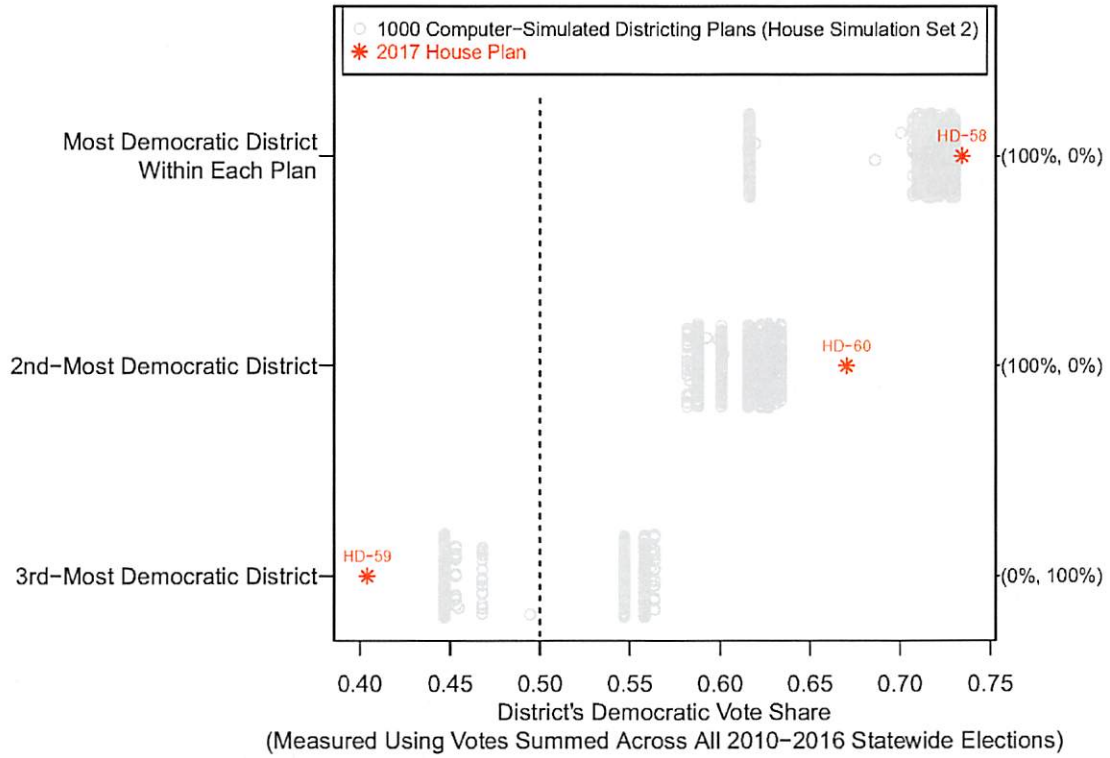
2017 Enacted House Plan Districts (6 Districts)  
 (This county grouping includes 3 Special Master Districts (HD-57, HD-61, and HD-62) that are frozen in all simulated plans and not included in the above Figure)

**Figure 137: House Simulation Set 2:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Guilford County Grouping  
(Among the 1000 Simulated Plans With 2 or More Districts of At Least 30% Black CVAP)**



**2017 Enacted House Plan Districts (6 Districts)**  
 (This county grouping includes 3 Special Master Districts (HD-57, HD-61, and HD-62) that are frozen in all simulated plans and not included in the above Figure)

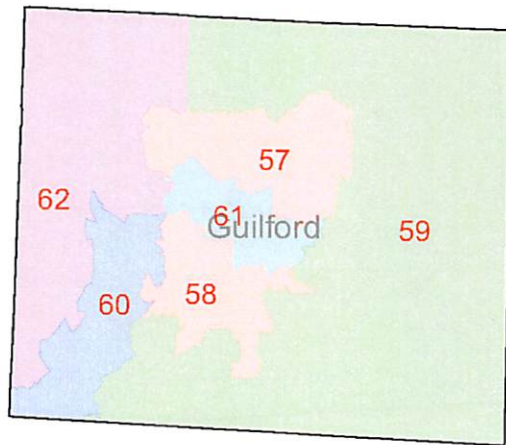
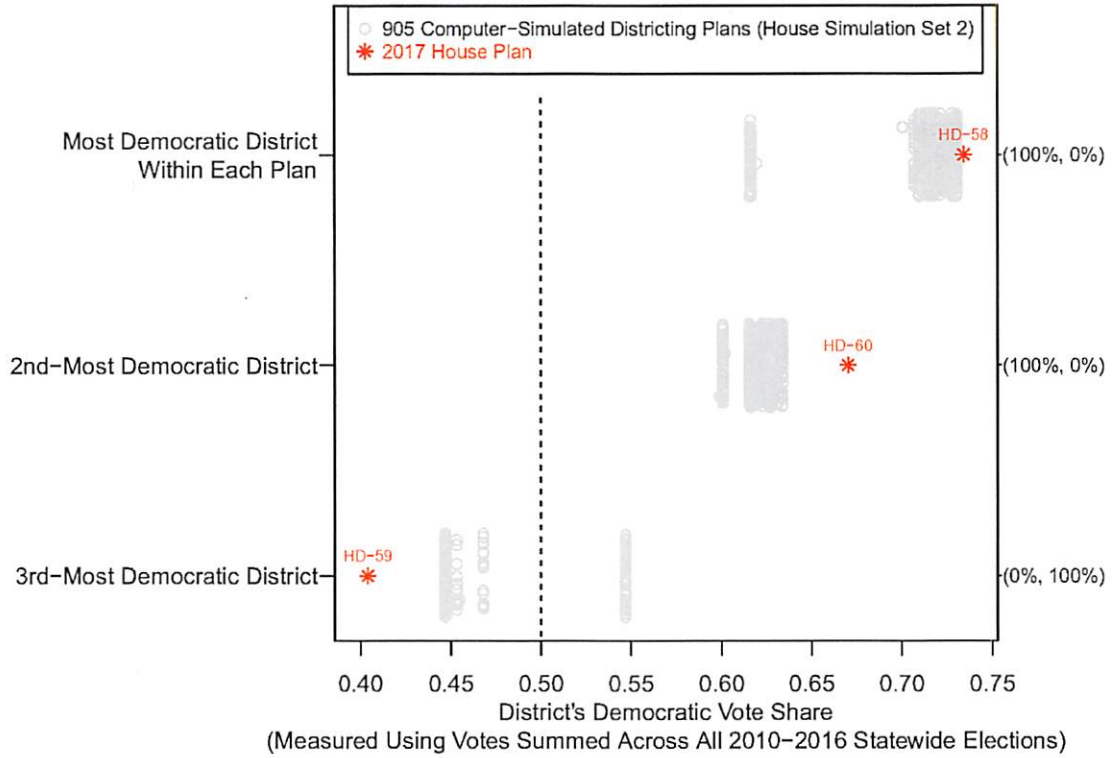
**Figure 138: House Simulation Set 2:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Guilford County Grouping  
(Among the 1000 Simulated Plans With 2 or More Districts of At Least 31% Black CVAP)**



**2017 Enacted House Plan Districts (6 Districts)**  
(This county grouping includes 3 Special Master Districts (HD-57, HD-61, and HD-62) that are frozen in all simulated plans and not included in the above Figure)

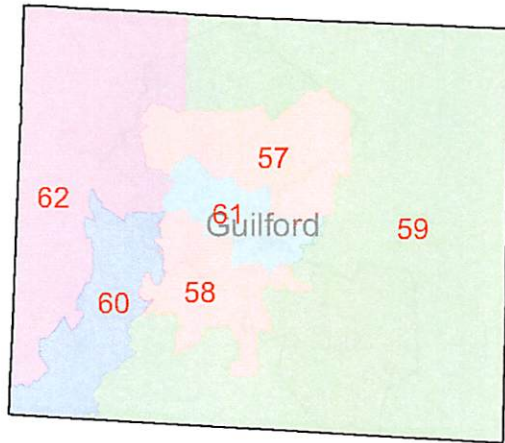
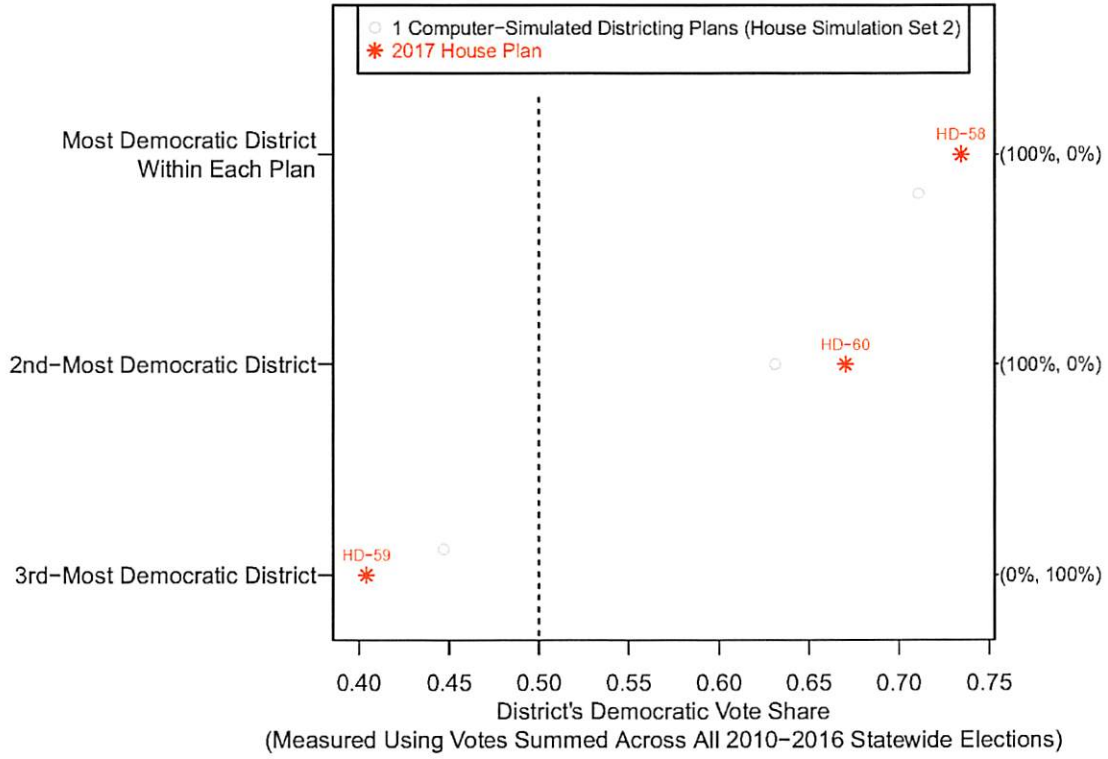


**Figure 139: House Simulation Set 2:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Guilford County Grouping  
(Among the 905 Simulated Plans With 2 or More Districts of At Least 40% Black CVAP)**



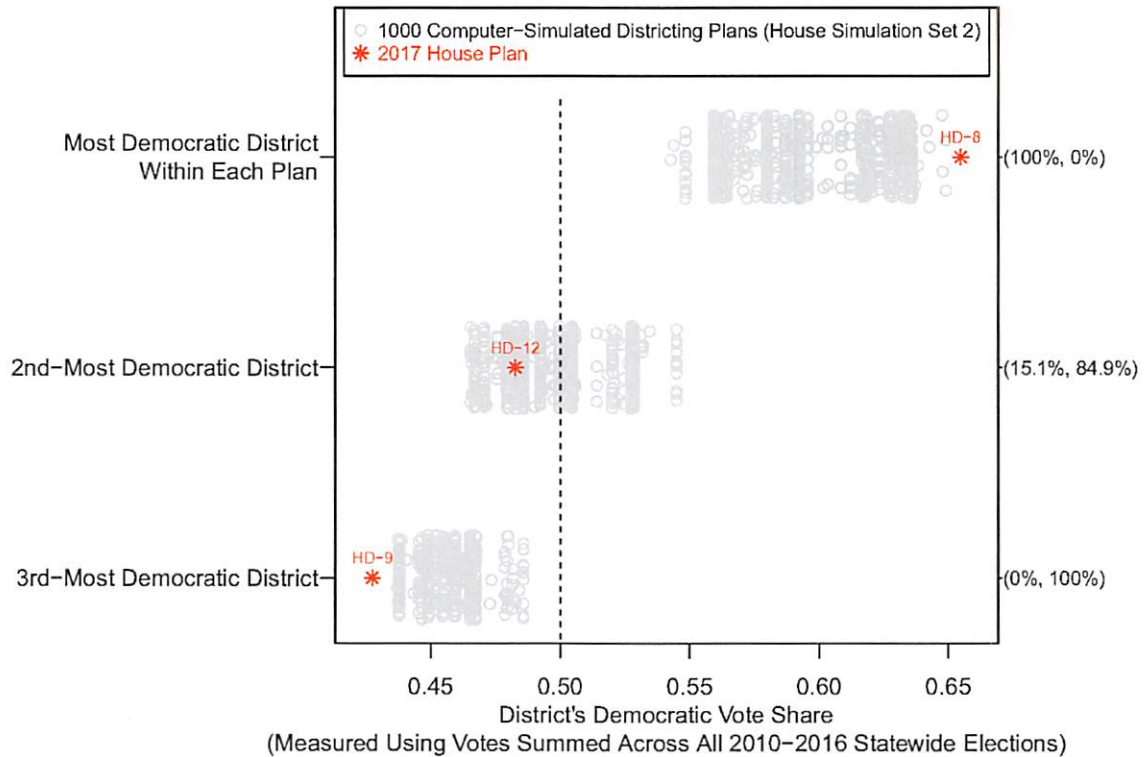
**2017 Enacted House Plan Districts (6 Districts)**  
 (This county grouping includes 3 Special Master Districts (HD-57, HD-61, and HD-62) that are frozen in all simulated plans and not included in the above Figure)

**Figure 140: House Simulation Set 2:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Guilford County Grouping  
(Among the 1 Simulated Plans With 2 or More Districts of At Least 43% Black CVAP)**



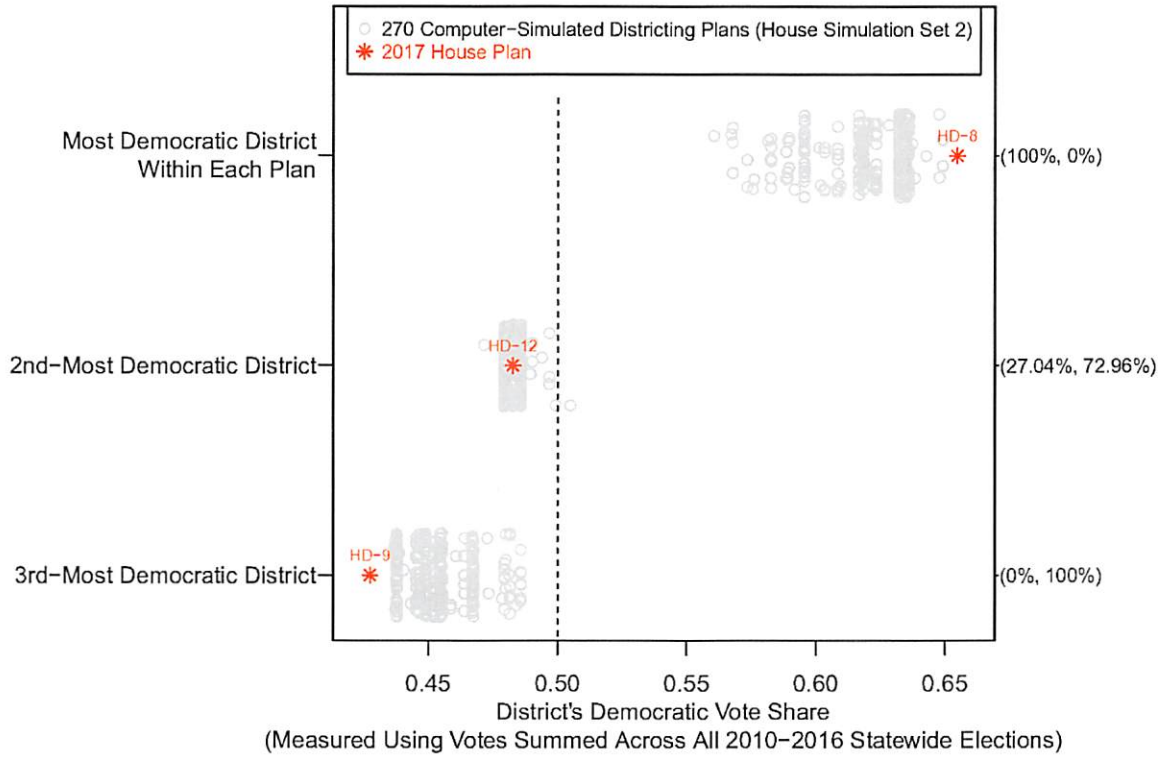
**2017 Enacted House Plan Districts (6 Districts)**  
(This county grouping includes 3 Special Master Districts (HD-57, HD-61, and HD-62) that are frozen in all simulated plans and not included in the above Figure)

**Figure 141: House Simulation Set 2:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Lenoir-Pitt County Grouping  
(Among the 1000 Simulated Plans With 3 or More Districts of At Least 18% Black CVAP)**



2017 Enacted House Plan Districts (3 Districts)

**Figure 142: House Simulation Set 2:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Lenoir-Pitt County Grouping  
(Among the 270 Simulated Plans With 2 or More Districts of At Least 38% Black CVAP)**



2017 Enacted House Plan Districts (3 Districts)

***Dr. Lewis' Black CVAP Threshold Estimates for the Alamance-Guilford-Randolph County Grouping in the Senate Plan:*** For the Alamance-Guilford-Randolph county grouping in the 2017 Senate Plan, Dr. Lewis produced two different Black CVAP threshold estimates. Dr. Lewis estimated that a Black CVAP of 22% is necessary for an African-American-preferred candidate to win the 2016 Attorney General Democratic primary election (p. 17, Lewis Report of May 1), and Dr. Lewis estimated that a Black CVAP of 41% is necessary for an African-American-preferred candidate to win a "hypothetical 2016 general election" (p. 20, Lewis Report of May 1).

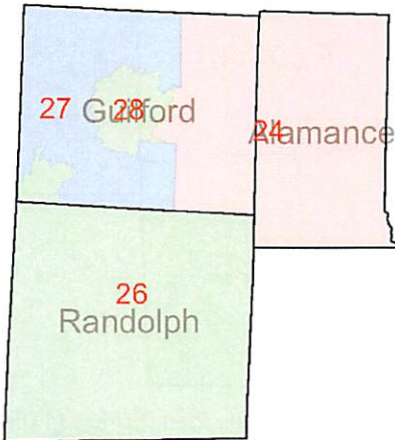
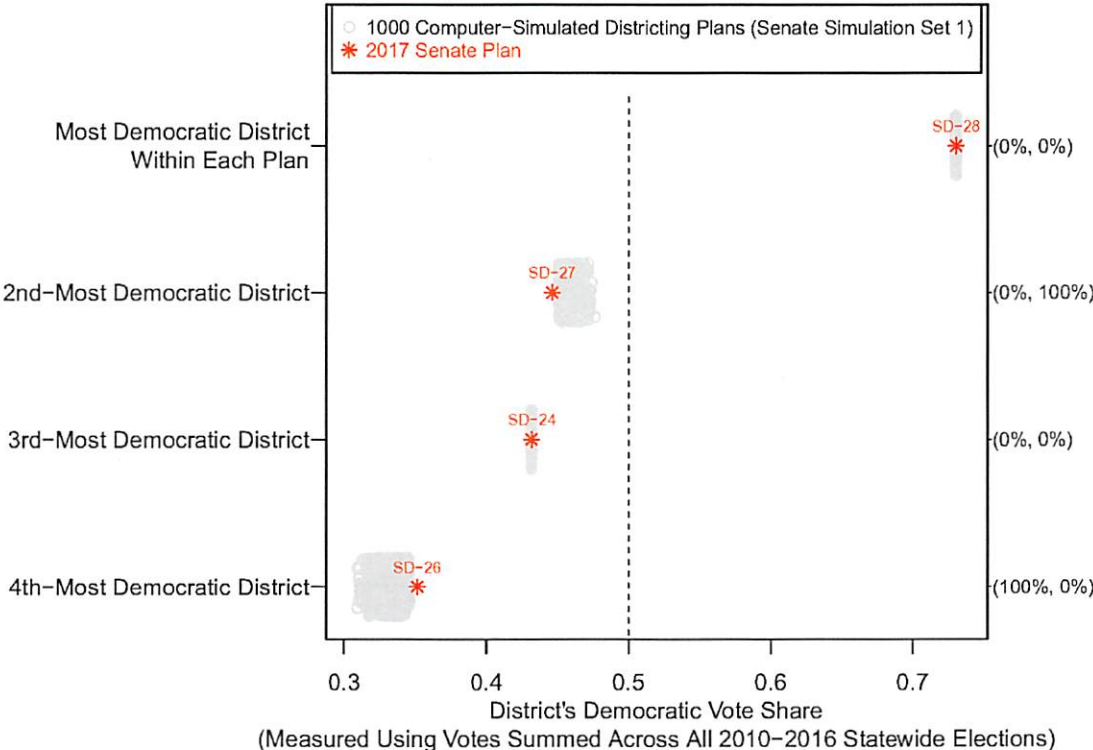
For these two different Black CVAP thresholds, Table 6 reports that the enacted 2017 Senate Plan contains one district (SD-28) satisfying the 41% Black CVAP threshold and two districts (SD-24 and 28) satisfying the 22% Black CVAP threshold. Moreover, as the fifth and seventh columns of Table 6 report, all 1,000 of the computer-simulated plans in Senate Simulation Set 1 either match or exceed the 2017 Senate Plan's number of districts satisfying each of these two thresholds.

In fact, as reported in the sixth and eighth columns of Table 6, most of the computer-simulated Senate plans demonstrate that it is possible to exceed the 2017 Senate Plan's number of districts satisfying Dr. Lewis' 22% Black CVAP threshold in the Alamance-Guilford-Randolph county grouping. Specifically, 79.9% of the Senate Simulation Set 1 plans and 79.3% of the Senate Simulation Set 2 plans exceed the 2017 Senate Plan's two districts satisfying Dr. Lewis' 22% Black CVAP threshold in this grouping.

***Partisan Comparisons of 2017 Senate Plan to Simulated Senate Plans Satisfying Black CVAP Thresholds:*** For the Alamance-Guilford-Randolph county grouping in the 2017 Senate Plan, all 1,000 plans in Senate Simulation Set 1 and all 1,000 plans in Senate Simulation Set 2 match or exceed the 2017 Senate Plan's number of districts satisfying Dr. Lewis' 22% and 41% Black CVAP thresholds in this grouping. Therefore, in Figures 145 through 148, I include all of these 2,000 computer-simulated Senate plans, and I compare them to the 2017 Senate Plan in terms of the partisanship of each plan's four districts in the Alamance-Guilford-Randolph county grouping. These Figures show that the 2017 Senate Plan districts in this grouping contain partisan outliers compared to the partisan distribution of districts in the computer-simulated

plans, and this conclusion is not altered if we consider only the simulated plans that match the 2017 Senate Plan's number of districts satisfying Dr. Lewis' Black CVAP threshold.

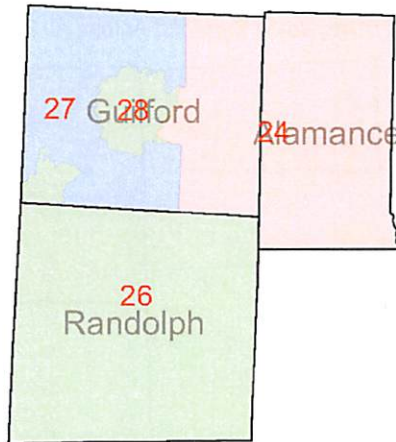
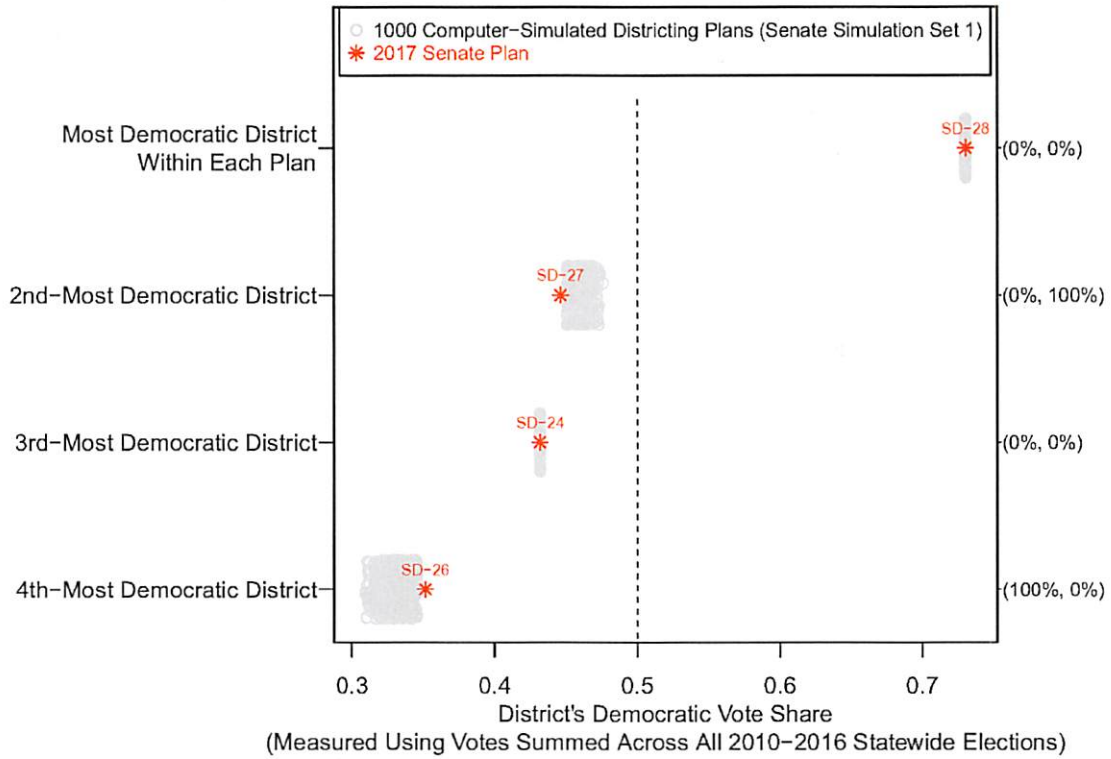
**Figure 145: Senate Simulation Set 1:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Alamance-Guilford-Randolph County Grouping  
(Among the 1000 Simulated Plans With 2 or More Districts of At Least 22% Black CVAP)**



**2017 Enacted Senate Plan Districts (4 Districts)**  
(This county grouping includes 2 Special Master Districts (SD-24 and SD-28) that are frozen in all simulated plans and included in the above Figure)

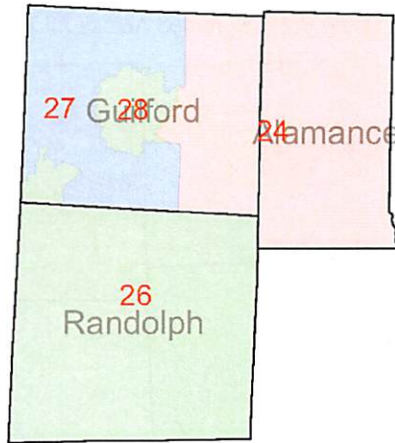
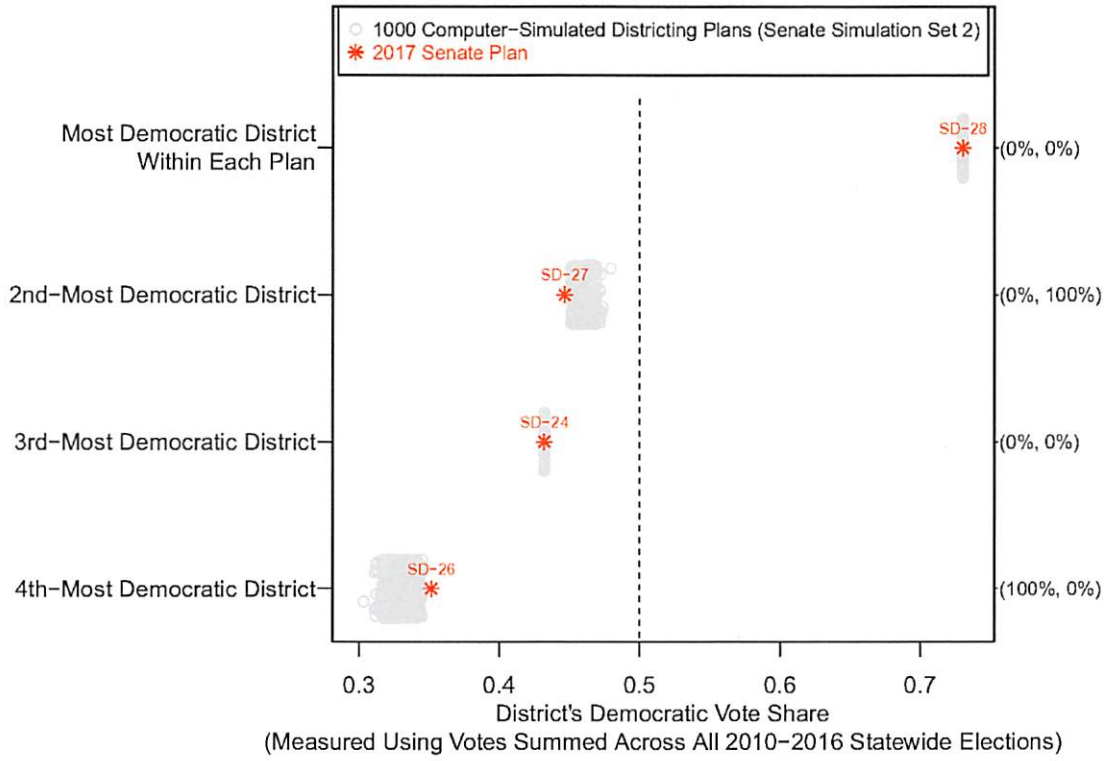


**Figure 146: Senate Simulation Set 1:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Alamance-Guilford-Randolph County Grouping  
(Among the 1000 Simulated Plans With 1 or More Districts of At Least 41% Black CVAP)**



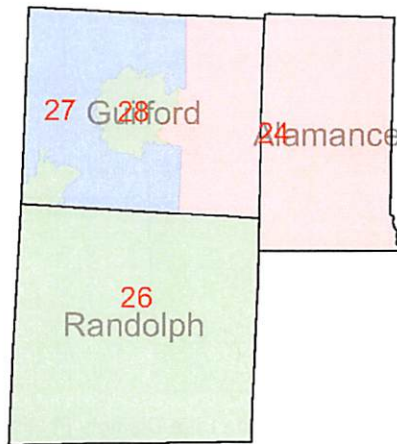
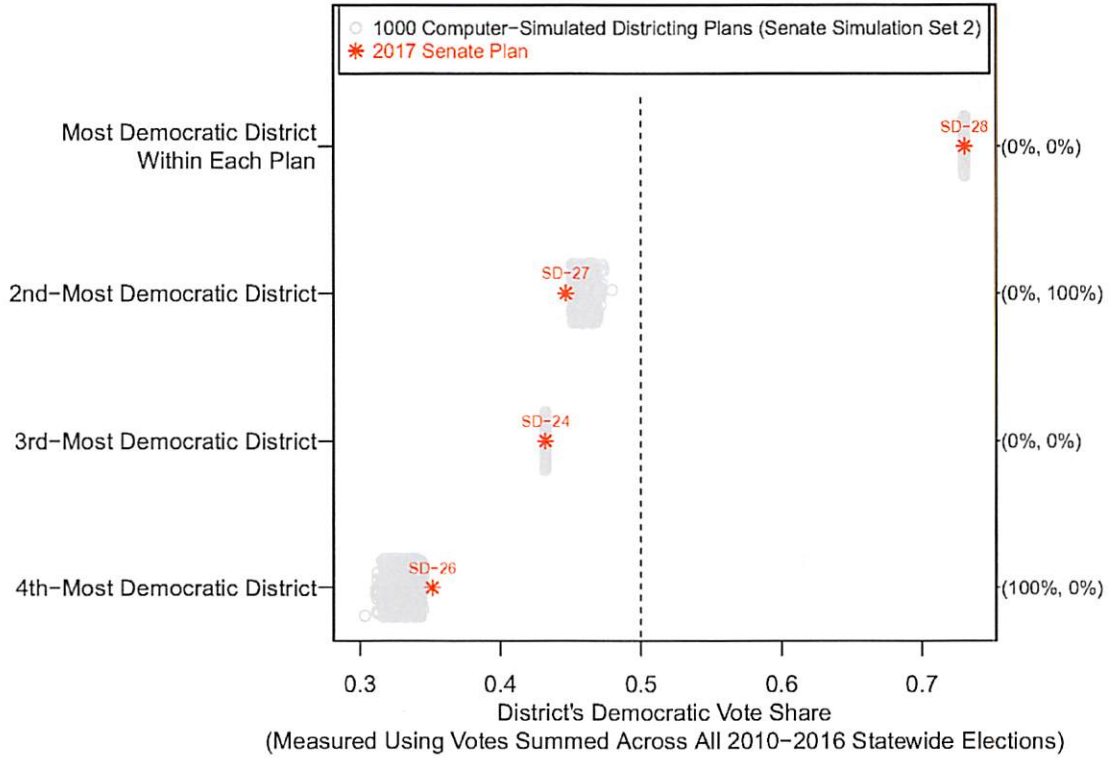
2017 Enacted Senate Plan Districts (4 Districts)  
(This county grouping includes 2 Special Master Districts (SD-24 and SD-28)  
that are frozen in all simulated plans and included in the above Figure)

**Figure 147: Senate Simulation Set 2:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Alamance-Guilford-Randolph County Grouping  
(Among the 1000 Simulated Plans With 2 or More Districts of At Least 22% Black CVAP)**



**2017 Enacted Senate Plan Districts (4 Districts)**  
(This county grouping includes 2 Special Master Districts (SD-24 and SD-28)  
that are frozen in all simulated plans and included in the above Figure)

**Figure 148: Senate Simulation Set 2:  
Democratic Vote Share of the Enacted and Computer-Simulated Districts  
Within the Alamance-Guilford-Randolph County Grouping  
(Among the 1000 Simulated Plans With 1 or More Districts of At Least 41% Black CVAP)**



**2017 Enacted Senate Plan Districts (4 Districts)**  
(This county grouping includes 2 Special Master Districts (SD-24 and SD-28) that are frozen in all simulated plans and included in the above Figure)

**Table 6: Senate Computer-Simulated Districts Achieving Dr. Lewis' Estimated Black CVAP Thresholds**

<b>Senate County Grouping (# of Districts):</b>	<b>Election for Which Dr. Lewis Estimates Black CVAP Threshold</b>	<b>Dr. Lewis' Black CVAP Threshold:</b>	<b>Number of Enacted Districts Satisfying Dr. Lewis' Black CVAP Threshold:</b>	<b>Senate Simulation Set 1 Plans With At Least As Many Black CVAP Threshold Districts as 2017 Senate Plan:</b>	<b>Senate Simulation Set 1 Plans With More Districts with Dr. Lewis' Black CVAP Threshold than the 2017 Senate Plan:</b>	<b>Senate Simulation Set 2 Plans With At Least As Many Black CVAP Threshold Districts as 2017 Senate Plan:</b>	<b>Senate Simulation Set 2 Plans With More Districts with Dr. Lewis' Black CVAP Threshold than the 2017 Senate Plan:</b>
Alamance-Guilford-Randolph (4 Districts)	Attorney General, primary (2016)	22%	2 (SD-24, 28)	1,000 (100%) (SD-24 and 28 frozen)	799 (79.9%) (SD-24 and 28 frozen)	1,000 (100%) (SD-24 and 28 frozen)	793 (79.3%) (SD-24 and 28 frozen)
Alamance-Guilford-Randolph (4 Districts)	Hypothetical State Senate (2016)	41%	1 (SD-28)	1,000 (100%) (SD-28 frozen)	0 (0%)	1,000 (100%) (SD-28 frozen)	0 (0%)
Davie; Forsyth (2 Districts)	Hypothetical State Senate (2016)	41%	1	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Davie; Forsyth (2 Districts)	Attorney General, primary (2016)	42%	1	0 (0%)	0 (0%)	0 (0%)	0 (0%)

***House Districts Satisfying Dr. Lewis' Black CVAP Threshold Estimates for Individual Counties:*** Dr. Lewis also produced Black CVAP threshold estimates for individual counties within larger county groupings. For each county that Dr. Lewis examined, I counted the number of 2017 House Plan districts wholly within the county that satisfy Dr. Lewis' estimated Black CVAP threshold for that county. I then analyzed whether each computer-simulated House plan contains as many or more districts in the county that satisfy this Black CVAP threshold.

Table 7 illustrates the results of this analyses for the 2017 House Plan and House Simulation Set 1 and Set 2. Overall, in every county that Dr. Lewis analyzed, the vast majority of the computer-simulated plans match or exceed the 2017 House Plan's number of districts satisfying most of Dr. Lewis' various Black CVAP thresholds. In fact, for most of Dr. Lewis' various Black CVAP thresholds, all 1,000 simulated plans in House Simulation Set 1 and Set 2 either match or exceed the 2017 House Plan's number of districts above the Black CVAP threshold.

Finally, as Table 7 illustrates, there are four counties in which some computer-simulated House plans exceed the 2017 House Plan's number of districts above one of Dr. Lewis' Black CVAP thresholds. These counties are: Cumberland County (34% Black CVAP threshold); Forsyth County (44% Black CVAP threshold); Guilford County (26%, 30%, and 31% Black CVAP threshold); and Pitt County (28% Black CVAP threshold). Thus, in these four counties, the computer-simulated plans demonstrate that it is possible to create more African-American districts exceeding Dr. Lewis' Black CVAP thresholds than the 2017 House Plan does.

***Senate Districts Satisfying Dr. Lewis' Black CVAP Threshold Estimates for Individual Counties:*** For each individual county that Dr. Lewis examined, I also counted the number of 2017 Senate Plan districts wholly within the county that satisfy Dr. Lewis' estimated Black CVAP threshold for that county. I then analyzed whether each computer-simulated Senate plan contains as many or more districts in the county that satisfy this Black CVAP threshold.

**Table 7:  
Comparison of 2017 House Plan and House Simulation Set 1 and Set 2  
On Number of Districts with Dr. Lewis' Black CVAP Thresholds in Individual Counties**

<b>County:</b>	<b>Number of 2017 House Plan Districts Wholly Within County:</b>	<b>Election for Which Dr. Lewis Estimates Black CVAP Threshold:</b>	<b>Dr. Lewis' Black CVAP Threshold:</b>	<b>Number of 2017 House Plan Districts Satisfying Dr. Lewis' Black CVAP Threshold:</b>	<b>House Simulation Set 1 Plans Containing At Least the Same Number of Districts with Dr. Lewis' Black CVAP Threshold as the 2017 House Plan:</b>	<b>House Simulation Set 1 Plans Containing More Districts with Dr. Lewis' Black CVAP Threshold than the 2017 House Plan:</b>	<b>House Simulation Set 2 Plans Containing At Least the Same Number of Districts with Dr. Lewis' Black CVAP Threshold as the 2017 House Plan:</b>	<b>House Simulation Set 2 Plans Containing More Districts with Dr. Lewis' Black CVAP Threshold than the 2017 House Plan:</b>
Bladen	0	Attorney General, Primary (2016)	14%	0	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Bladen	0	Hypothetical State House (2016)	27%	0	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Bladen	0	Lt. Gov., General (2016)	32%	0	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Bladen	0	President, General (2016)	37%	0	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Columbus	0	Sheriff, General (2018)	31%	0	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Cumberland	4	Attorney General, Primary (2016)	13%	4 (HD 42, 43, 44, 45)	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Cumberland	4	Hypothetical State House	34%	2 (HD 42, 43)	1,000 (100%)	701 (70.1%)	1,000 (100%)	872 (87.2%)



		(2016)							
Cumberland	4	Commissioner of Labor, Primary (2016)	65%	0	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)	0 (0%)
Forsyth	4	Commissioner of Labor, Primary (2016)	5%	4 (HD 71, 72, 74, 75)	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)	0 (0%)
Forsyth	4	Hypothetical State House (2016)	40%	1 (HD 72)	987 (98.7%)	180 (18%)	799 (79.9%)	38 (3.8%)	
Forsyth	4	Attorney General, Primary (2016)	44%	1 (HD 72)	770 (77%)	4 (0.4%)	615 (61.5%)	1 (0.1%)	
Guilford	6	Commissioner of Labor, Primary (2016)	5%	6 (HD 57, 58, 59, 60, 61, 62)	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)	
Guilford	6	Sheriff, Primary (2014)	23%	5 (HD 57, 58, 59, 60, 61)	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)	
Guilford	6	Attorney General, Primary (2016)	26%	4 (HD 57, 58, 60, 61)	1,000 (100%)	1,000 (100%)	1,000 (100%)	1,000 (100%)	
Guilford	6	Sheriff, Primary (2018)	30%	4 (HD 57, 58, 60, 61)	1,000 (100%)	72 (7.2%)	1,000 (100%)	179 (17.9%)	
Guilford	6	Sheriff, General (2018)	31%	4 (HD 57, 58, 60, 61)	1,000 (100%)	72 (7.2%)	1,000 (100%)	164 (16.4%)	
Guilford	6	Hypothetical State House (2016)	40%	4 (HD 57, 58, 60, 61)	994 (99.4%)	0 (0%)	905 (90.5%)	0 (0%)	
Guilford	6	Sheriff, Sheriff, (2016)	43%	2 (HD 58,	0 (0%)	0 (0%)	1 (0.1%)	0 (0%)	

		General (2014)		60)				
Nash	1	Sheriff, Primary (2014)	30%	1 (HD 25)	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Nash	1	Hypothetical State House (2016)	41%	1 (HD 25)	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Nash	1	Sheriff, General (2014)	54%	0	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Pitt	2	Sheriff, General (2018)	28%	1 (HD 8)	1,000 (100%)	392 (39.2%)	1,000 (100%)	624 (62.4%)
Robeson	1	Sheriff, Primary (2018)	36%	0	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)

**Table 8:  
Comparison of 2017 Senate Plan and Senate Simulation Set 1 and Set 2  
On Number of Districts with Dr. Lewis' Black CVAP Thresholds in Individual Counties**

<b>County:</b>	<b>Number of 2017 Senate Plan Districts Wholly Within County:</b>	<b>Election for Which Dr. Lewis Estimates Black CVAP Threshold:</b>	<b>Dr. Lewis' Black CVAP Threshold:</b>	<b>Number of 2017 Senate Plan Districts Satisfying Dr. Lewis' Black CVAP Threshold:</b>	<b>Senate Simulation Set 1 Plans Containing At Least the Same Number of Districts with Dr. Lewis' Black CVAP Threshold as the 2017 Senate Plan:</b>	<b>Senate Simulation Set 1 Plans Containing More Districts with Dr. Lewis' Black CVAP Threshold than the 2017 Senate Plan:</b>	<b>Senate Simulation Set 2 Plans Containing At Least the Same Number of Districts with Dr. Lewis' Black CVAP Threshold as the 2017 Senate Plan:</b>	<b>Senate Simulation Set 2 Plans Containing More Districts with Dr. Lewis' Black CVAP Threshold than the 2017 Senate Plan:</b>
Bladen	0	Attorney General, Primary (2016)	14%	0	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Bladen	0	Hypothetical State Senate (2016)	27%	0	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Bladen	0	Lt. Gov., General (2016)	32%	0	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Bladen	0	President, General (2016)	37%	0	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Columbus	0	Sheriff, General (2018)	31%	0	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Cumberland	1	Attorney General, Primary (2016)	13%	1 (SD 19)	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Cumberland	1	Hypothetical State Senate (2016)	34%	0	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Cumberland	1	Commissioner of Labor, Primary (2016)	65%	0	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Forsyth	1	Commissioner	5%	1 (SD 32)	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)

		of Labor, Primary (2016)						
Forsyth	1	Hypothetical State Senate (2016)	40%	1 (SD 32)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Forsyth	1	Attorney General, Primary (2016)	44%	0	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Guilford	2	Commissioner of Labor, Primary (2016)	5%	2 (SD 27, 28)	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Guilford	2	Sheriff, Primary (2014)	23%	1 (SD 28)	1,000 (100%)	140 (14%)	1,000 (100%)	131 (13.1%)
Guilford	2	Attorney General, Primary (2016)	26%	1 (SD 28)	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Guilford	2	Sheriff, Primary (2018)	30%	1 (SD 28)	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Guilford	2	Sheriff, General (2018)	31%	1 (SD 28)	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Guilford	2	Hypothetical State Senate (2016)	40%	1 (SD 28)	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Guilford	2	Sheriff, General (2014)	43%	1 (SD 28)	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Nash	0	Sheriff, Primary (2014)	30%	0	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Nash	0	Hypothetical State Senate (2016)	41%	0	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Nash	0	Sheriff, General (2014)	54%	0	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Pitt	0	Sheriff, General (2018)	28%	0	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)
Robeson	0	Sheriff, Primary (2018)	36%	0	1,000 (100%)	0 (0%)	1,000 (100%)	0 (0%)

Table 8 illustrates the results of this analyses for the 2017 Senate Plan and Senate Simulation Set 1 and Set 2. Overall, in every county that Dr. Lewis analyzed, every single computer-simulated plan in Senate Simulation Set 1 and Set 2 matches or exceeds the 2017 Senate Plan's number of districts satisfying most of Dr. Lewis' various Black CVAP thresholds. In other words, all 2,000 of the computer-simulated plans in Senate Simulation Set 1 and Set 2 create as many as or more districts in that county exceeding Dr. Lewis' Black CVAP thresholds than the 2017 Senate Plan does.

***The Franklin-Nash House Plan County Grouping:*** In the 2017 House Plan, the Franklin-Nash county grouping contains two House districts. In his expert report, Dr. Lewis estimated that in this grouping, a 12% Black CVAP is necessary for African-Americans to elect their preferred candidate in the 2016 Lieutenant Governor Democratic primary, while a 40% Black CVAP is necessary for African-Americans to elect their preferred candidate in a "hypothetical 2016 general election contest" (p. 17 and 20, Lewis Report).

In response to Dr. Lewis' claims regarding the Franklin-Nash county grouping, plaintiffs' counsel asked me to answer the following question: Is it possible to form a district in this county grouping that contains a BVAP over 50%, while adhering to the equal population and contiguity criteria listed in the 2017 Adopted Criteria and while having a Polsby-Popper score of at least 0.05 and a Reock score of at least 0.15?

I determined that it is not possible to do so. To answer this question, I conducted a set of new, 10,000 independent computer simulations in which district boundaries in the Franklin-Nash grouping are drawn to intentionally create one district with a 50% or higher Black Voting Age Population (BVAP). First, I found it was not possible to create a 50% BVAP district by drawing districts based only on precinct or VTD boundaries. Instead, it was necessary to use census block as the building blocks in order to produce computer-simulated plans containing a majority-African-American House district. The algorithm proceeded by reassigning census blocks from one district to the other in an intentional effort to increase the BVAP of the more heavily African-American district; this redrawing of the boundaries continued until one of the two districts in the Franklin-Nash grouping achieved at least a 50% BVAP.

I conducted 10,000 independent runs of this algorithm, producing 10,000 plans in the Franklin-Nash grouping that each contained one district with at least 50% BVAP. All of these

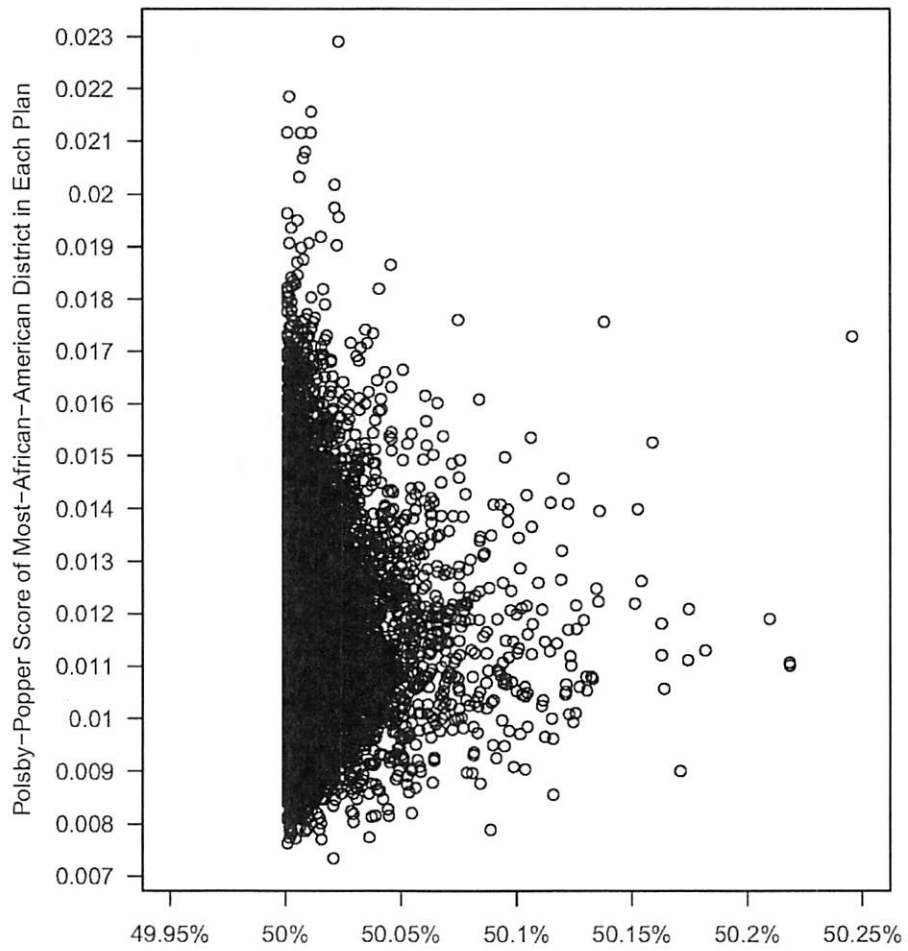
plans were required to remain within the contiguity and equal population requirements described in the 2017 Adopted Criteria. I then measured the Polsby-Popper and Reock scores of each plan to measure the compactness of these 50% BVAP districts.

In Figure 149, each of the 10,000 black circles represents one of the 10,000 computer-simulated plans for the Franklin-Nash county grouping. The horizontal axis depicts the BVAP of the most heavily African-American district within the plan, while the vertical axis depicts the Polsby-Popper score of this most heavily African-American district. Figure 149 illustrates that although all of these 10,000 plans contain a majority-African-American district, none of these districts have a Polsby-Popper score remotely close to 0.05. Instead, all 10,000 of these majority-African-American districts have Polsby-Popper scores ranging from 0.007 to 0.023, indicating they are significantly less compact than a district with a Polsby-Popper score of 0.05.

Hence, having conducted 10,000 computer-simulated plans, I concluded that it is very likely impossible to create a majority-African-American VAP House district with at least a 0.05 Polsby-Popper compactness score in the Franklin-Nash county grouping. Figure 150 illustrates the *most* compact of the computer-simulated plan among these 10,000. The simulated plan shown in Figure 150 contains two districts. District 1, shaded in red, has a BVAP of 50.02% and a Polsby-Popper score of 0.023.

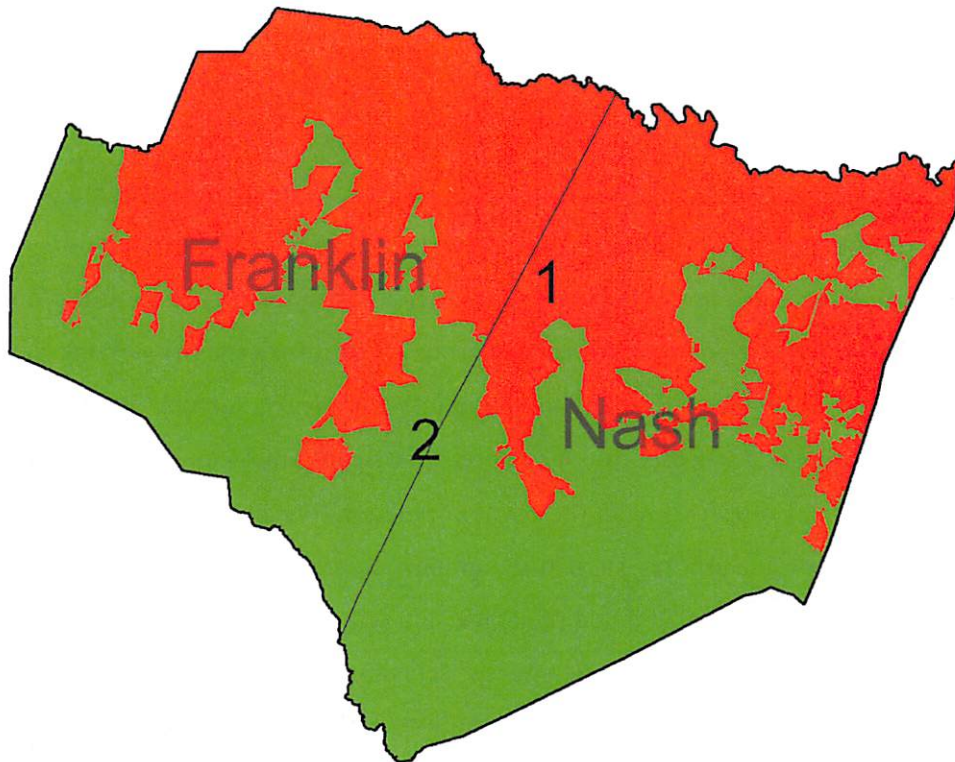


**Figure 149:**  
**10,000 Computer-Simulated House Plans for the Franklin-Nash County Grouping**  
**Intentionally Creating One District Over 50% BVAP**



Black Voting Age Population of the Most-African-American District in Each Plan

**Figures 150:  
The Computer-Simulated House Plan for the Franklin-Nash County Grouping  
With the Highest Polsby-Popper Score  
While Intentionally Creating One District Over 50% BVAP:**



District:	1 (Red)	2 (Green)
Population:	75,646	80,813
African-American VAP:	50.02%	16.72%
Polsby-Popper Score:	0.023	0.023
Reock Score:	0.319	0.313
Contiguous:	Yes	Yes

***The Davie-Forsyth Senate Plan County Grouping:*** In the 2017 Senate Plan, the Davie-Forsyth county grouping contains two Senate districts. In his expert report, Dr. Lewis estimated that in this grouping, a 42% Black CVAP was necessary for African-Americans to elect their preferred candidate in the 2016 Attorney General Democratic primary, while a 41% Black CVAP was necessary for African-Americans to elect their preferred candidate in a "hypothetical 2016 general election contest" (p. 17 and 20, Lewis Report).

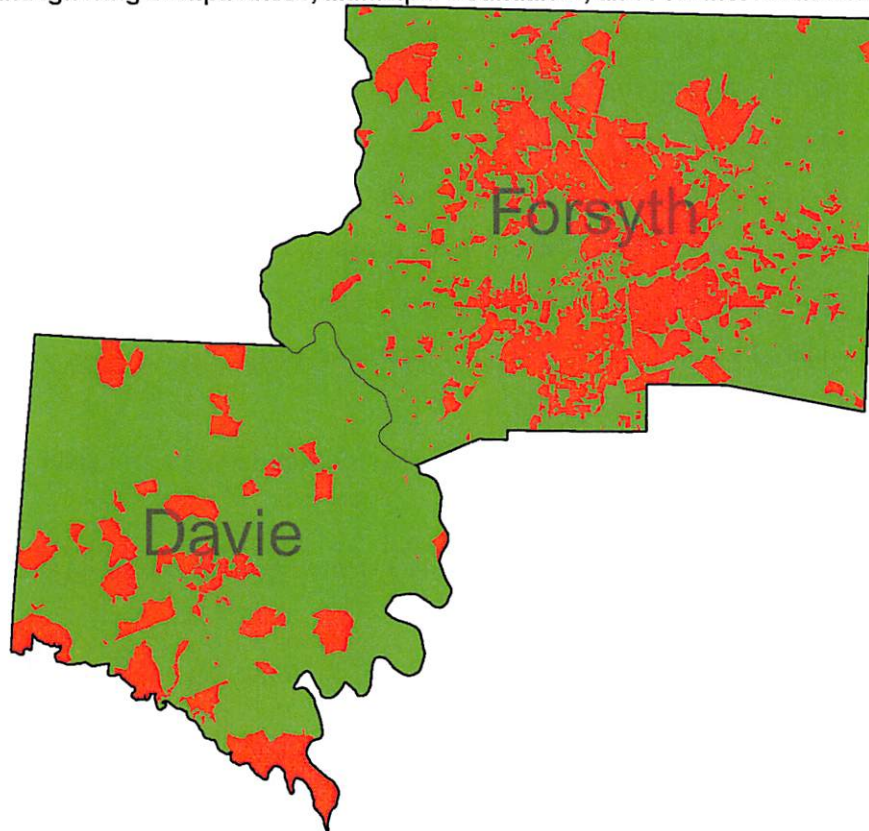
In response to Dr. Lewis' claims regarding the Davie-Forsyth county grouping, plaintiffs' counsel asked me to answer the following question: Is it possible to form an African-American majority (based on Voting Age Population) in a single member district that adheres to the equal population and contiguity criteria listed in the 2017 Adopted Criteria while having a Polsby-Popper score of at least 0.05 and a Reock score of at least 0.15?

I determined that it is not possible to do so because there are mathematically not enough African-Americans in the Davie-Forsyth county grouping to form a majority-Black Senate district that complies with the  $\pm 5\%$  equal population threshold requirement. To arrive at this answer, I simply calculated whether or not a majority-African-American district could be created in Davie-Forsyth while complying with the equal population threshold requirement while ignoring all other districting criteria, such as geographic contiguity and compactness.

Specifically, I first calculated that the Davie-Forsyth county grouping has a total population of 391,910. Each of the two Senate districts must contain a population no lower than 191,665 and no higher than 200,245, in order to comply with the  $\pm 5\%$  equal population threshold requirement. Next, to calculate whether creating a majority-African-American district is numerically possible, I identified the most heavily-African-American census blocks within the Davie-Forsyth county grouping. I iteratively assigned the most heavily-African-American unassigned census block to District 1. These census blocks were assigned to the district regardless of whether doing so would violate geographic contiguity and other non-partisan criteria. This iterative process of assigning the most heavily-African-American census blocks continued until District 1's population had just surpassed the 191,665 minimum Senate district population for the Davie-Forsyth grouping. This process resulted in a population-compliant Senate district whose BVAP is only 44.81%, as illustrated in Figure 151.

Hence, I concluded that, even if one were to ignore districting criteria such as geographic contiguity and compactness, it is numerically impossible to form a majority-African-American Senate district in the Davie-Forsyth county grouping.

**Figures 151:**  
**Senate District Boundaries for the Davie-Forsyth County Grouping**  
**With the Highest Possible Black Voting Age Population**  
**(While Violating Contiguity**  
**and Ignoring Compactness, Municipal Boundaries, and Precinct Boundaries)**



District:	1 (Red)	2 (Green)
Population:	191,679	200,231
African-American VAP:	44.81%	4.84%
Polsby-Popper Score:	0.002	0.005
Reock Score:	0.088	0.309
Contiguous:	No	No

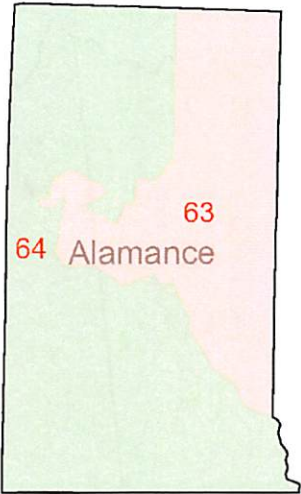
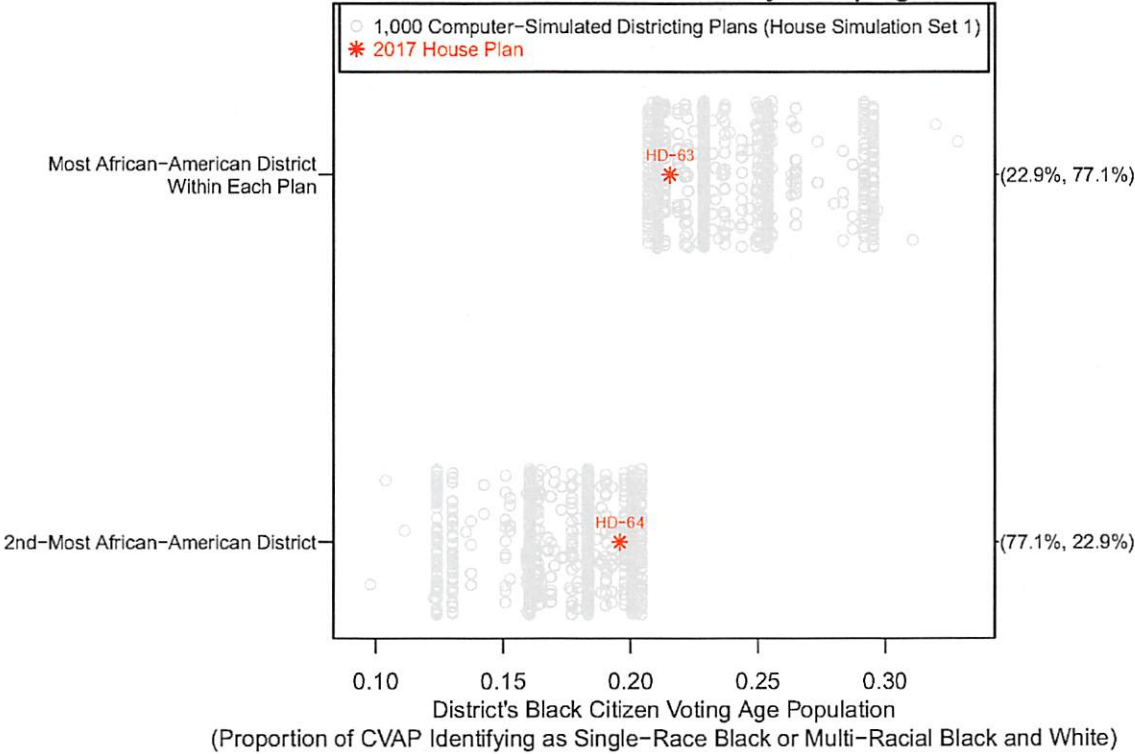
***County Groupings Not Analyzed by Dr. Lewis:*** Finally, I analyze the following question: Among the county groupings not included in Dr. Lewis' report, in which county groupings does the most heavily African-American district have a significantly higher Black CVAP under the simulated plans than under the enacted plan?

For the 2017 House Plan, I find that in five county groupings, the most heavily African-American district within the grouping under the 2017 House Plan contains a lower Black CVAP than under all or most of the computer-simulated plans in both House Simulation Set 1 and Set 2. For each of these five county groupings, Figures 152 to 161 display the Black CVAP of each district under the 2017 House Plan and under the computer-simulated plans. In each figure, the districts within the county grouping are aligned from most-to-least heavily African-American. Hence, in each Figure, the top row contains the most African-American district, the second row contains the second-most African-American district, and so on. The horizontal axis measures each district's Black CVAP. Thus, these Figures reveal that within each of these five county groupings, the most African-American district under the 2017 House Plan has a lower Black CVAP than under all or most of the computer-simulated plans.

These five county groupings are:

- 1) The Alamance county grouping: Figure 152 (House Simulation Set 1) and Figure 157 (House Simulation Set 2)
- 2) The Anson-Union county grouping: Figure 153 (House Simulation Set 1) and Figure 158 (House Simulation Set 2)
- 3) The Cleveland-Gaston county grouping: Figure 154 (House Simulation Set 1) and Figure 159 (House Simulation Set 2)
- 4) The Columbus-Pender-Robeson county grouping: Figure 155 (House Simulation Set 1) and Figure 160 (House Simulation Set 2)
- 5) The Duplin-Onslow county grouping: Figure 156 (House Simulation Set 1) and Figure 161 (House Simulation Set 2)

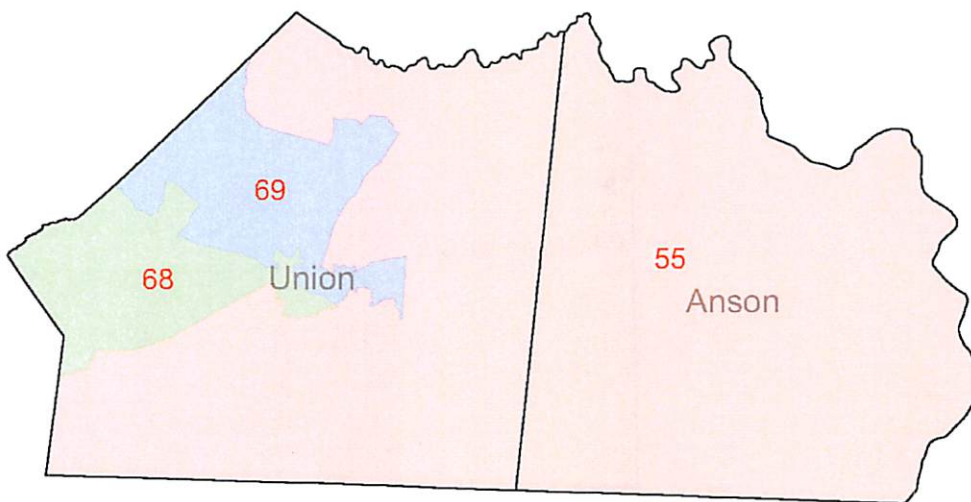
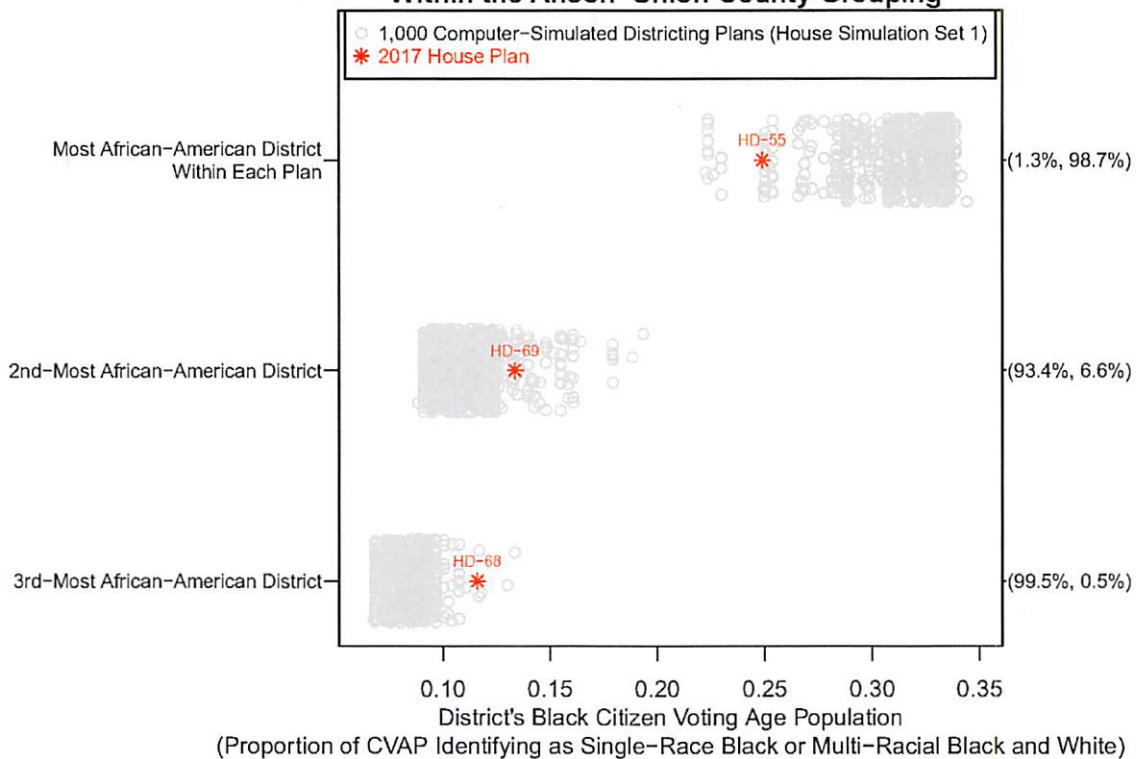
**Figure 152: House Simulation Set 1:  
Black CVAP of the Enacted and Computer-Simulated Districts  
Within the Alamance County Grouping**



2017 Enacted House Plan Districts (2 Districts)

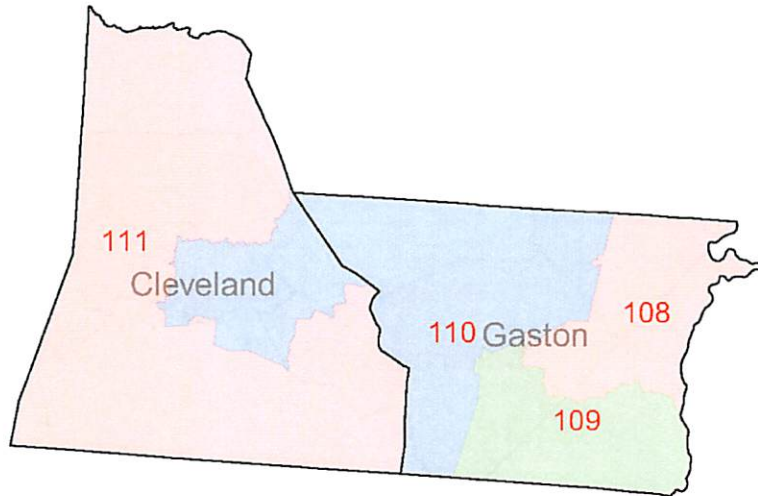
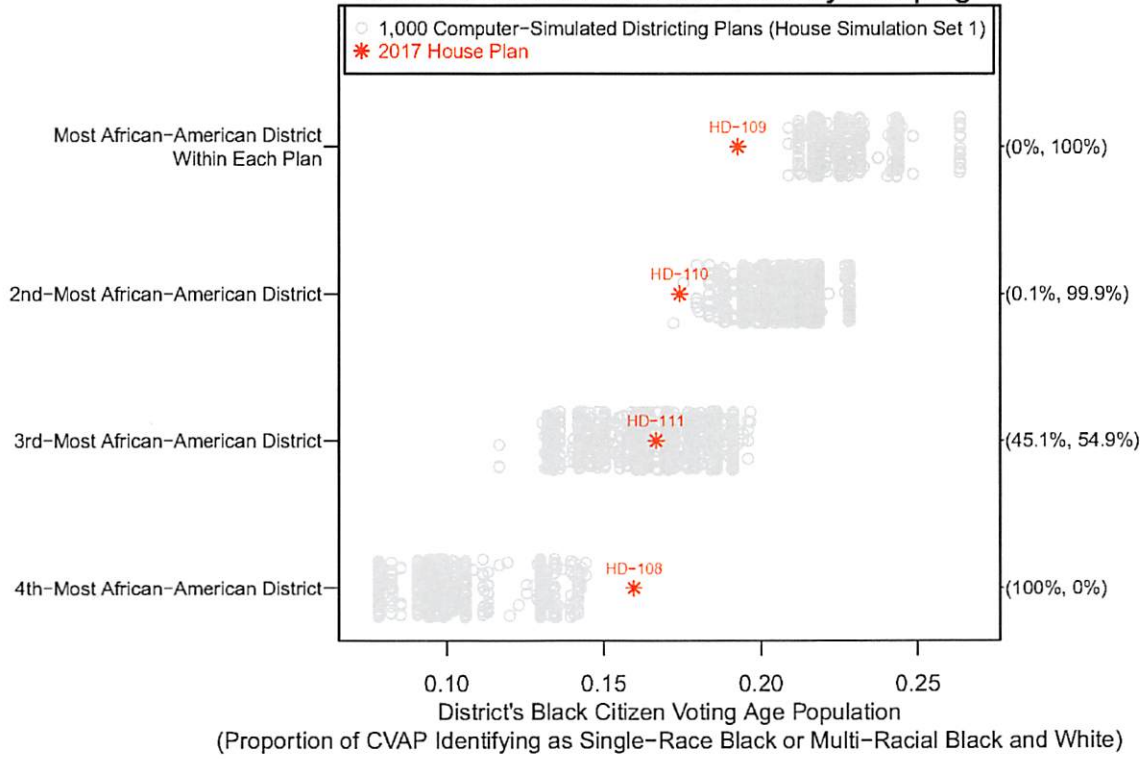


**Figure 153: House Simulation Set 1:  
Black CVAP of the Enacted and Computer-Simulated Districts  
Within the Anson-Union County Grouping**



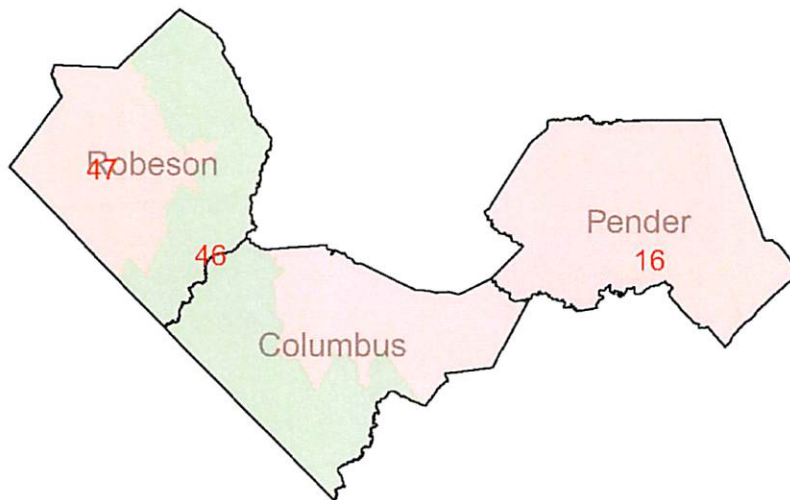
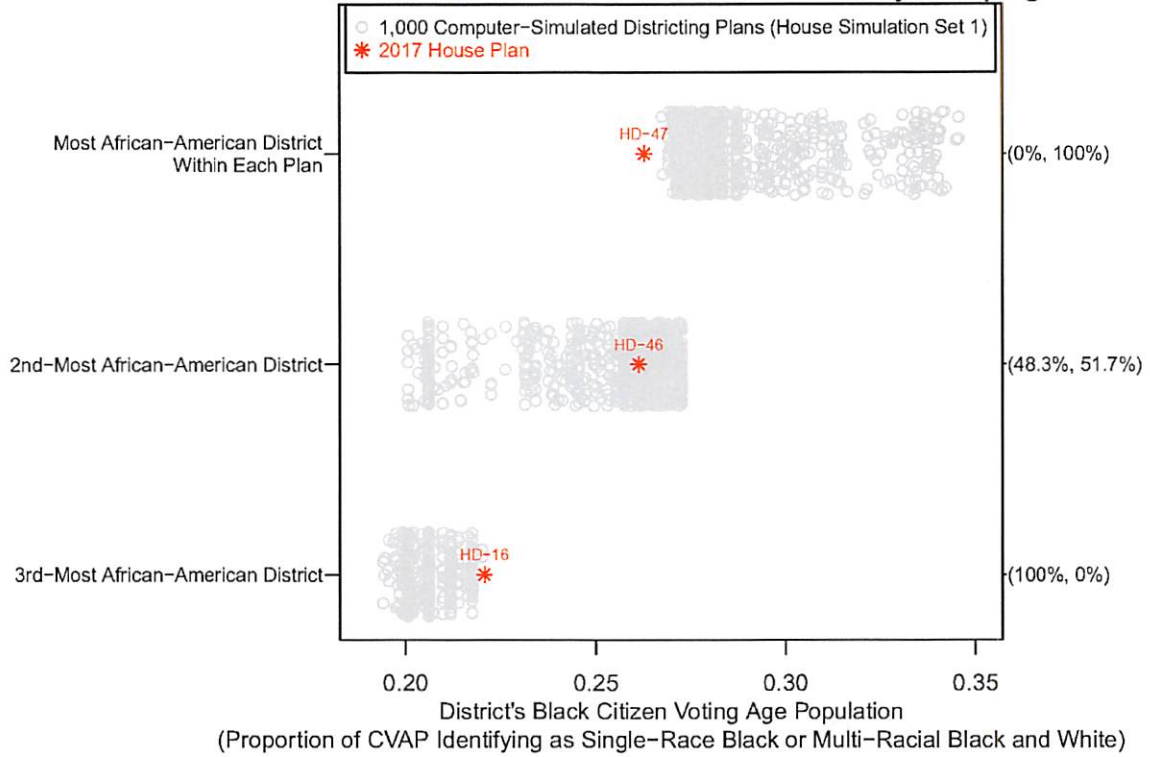
2017 Enacted House Plan Districts (3 Districts)

**Figure 154: House Simulation Set 1:  
Black CVAP of the Enacted and Computer-Simulated Districts  
Within the Cleveland-Gaston County Grouping**



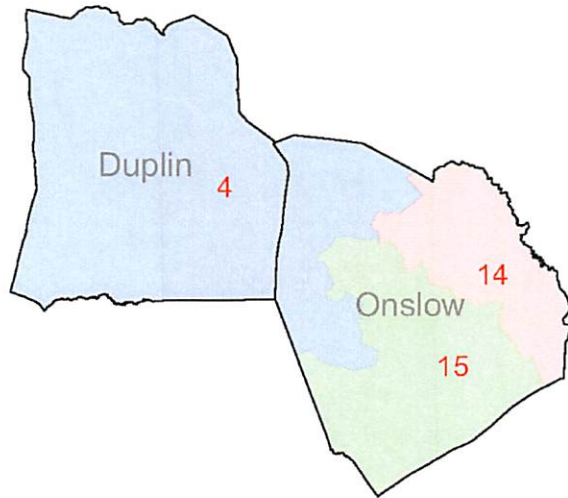
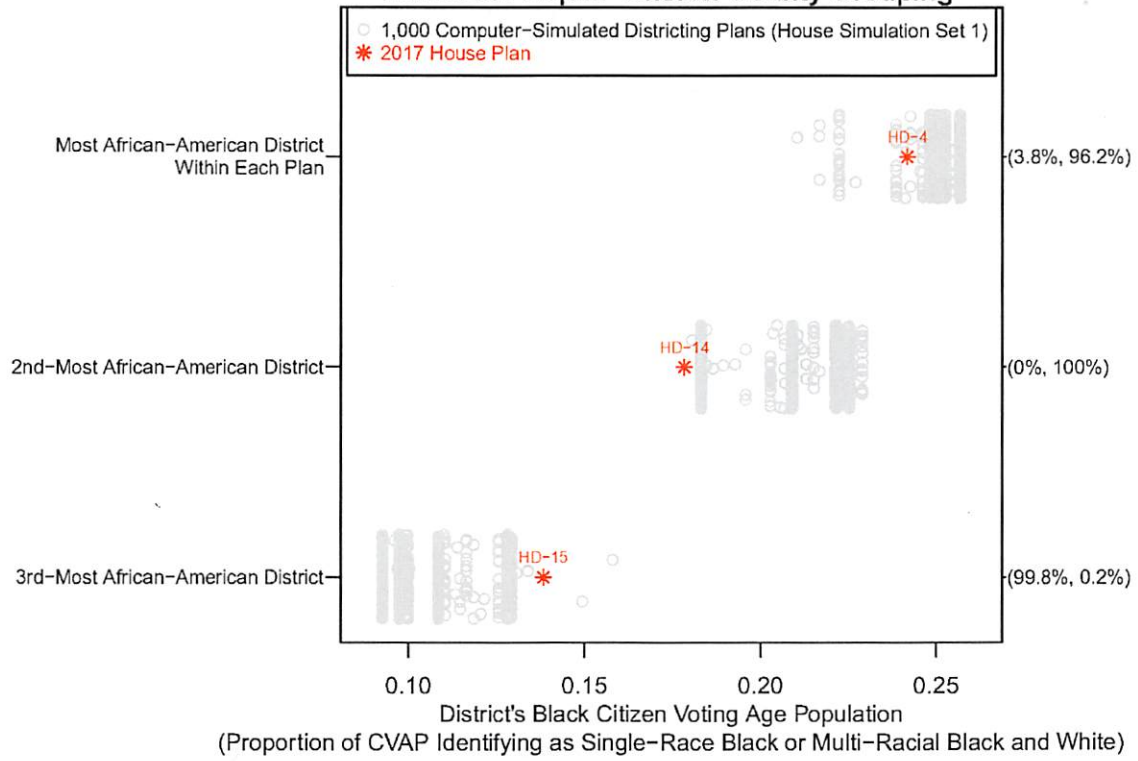
2017 Enacted House Plan Districts (4 Districts)

**Figure 155: House Simulation Set 1:  
Black CVAP of the Enacted and Computer-Simulated Districts  
Within the Columbus-Pender-Robeson County Grouping**



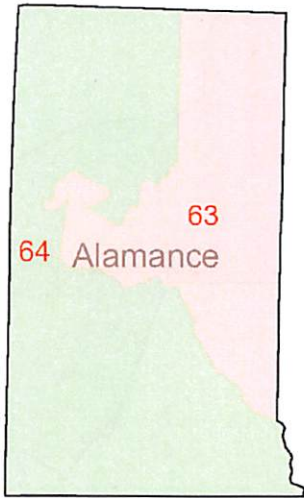
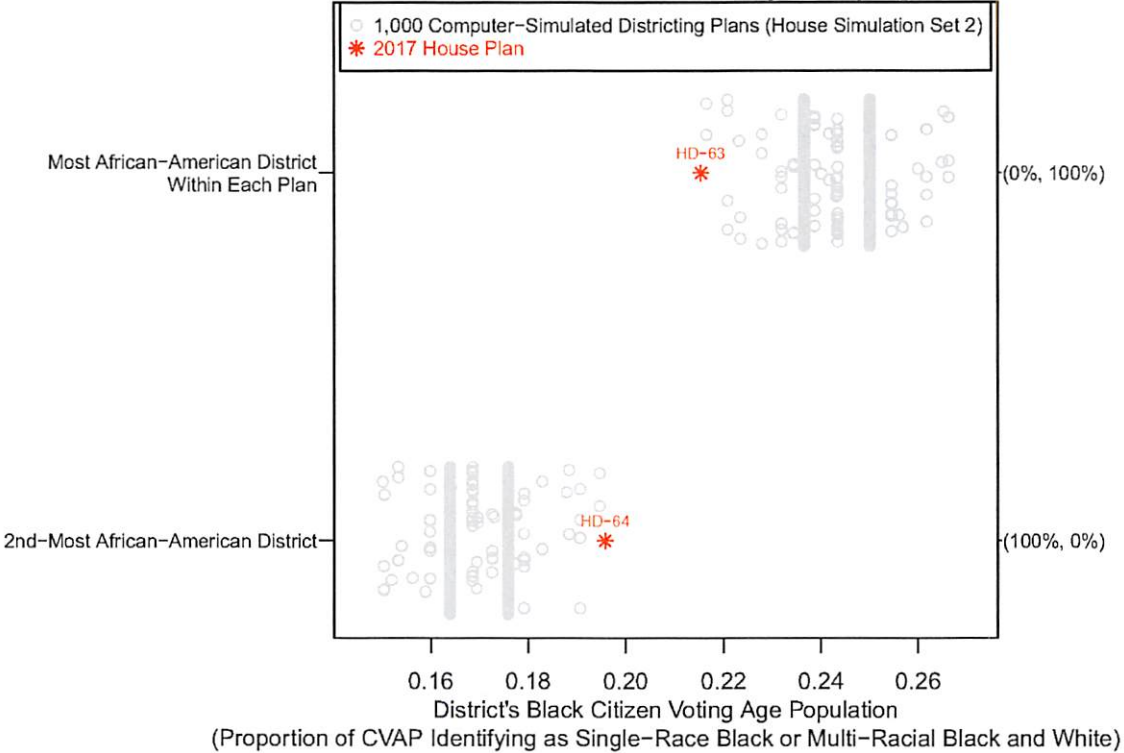
2017 Enacted House Plan Districts (3 Districts)

**Figure 156: House Simulation Set 1:  
Black CVAP of the Enacted and Computer-Simulated Districts  
Within the Duplin-Onslow County Grouping**



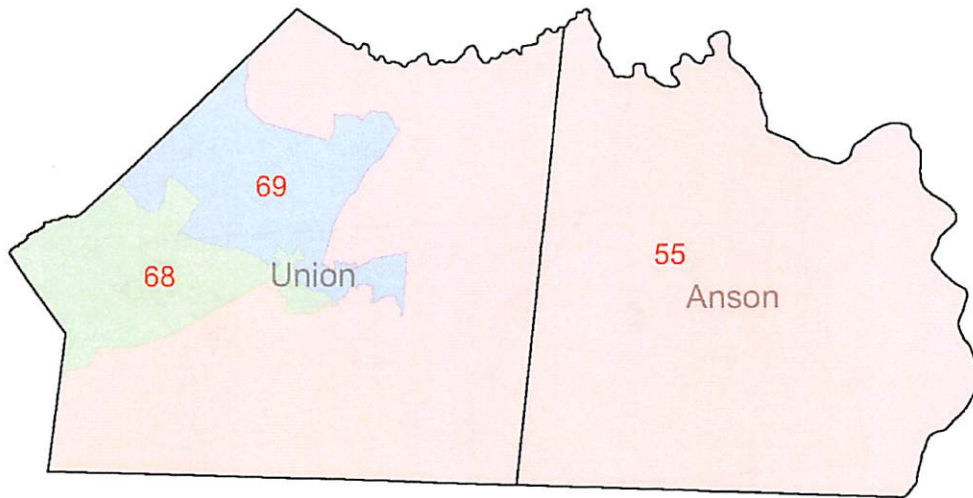
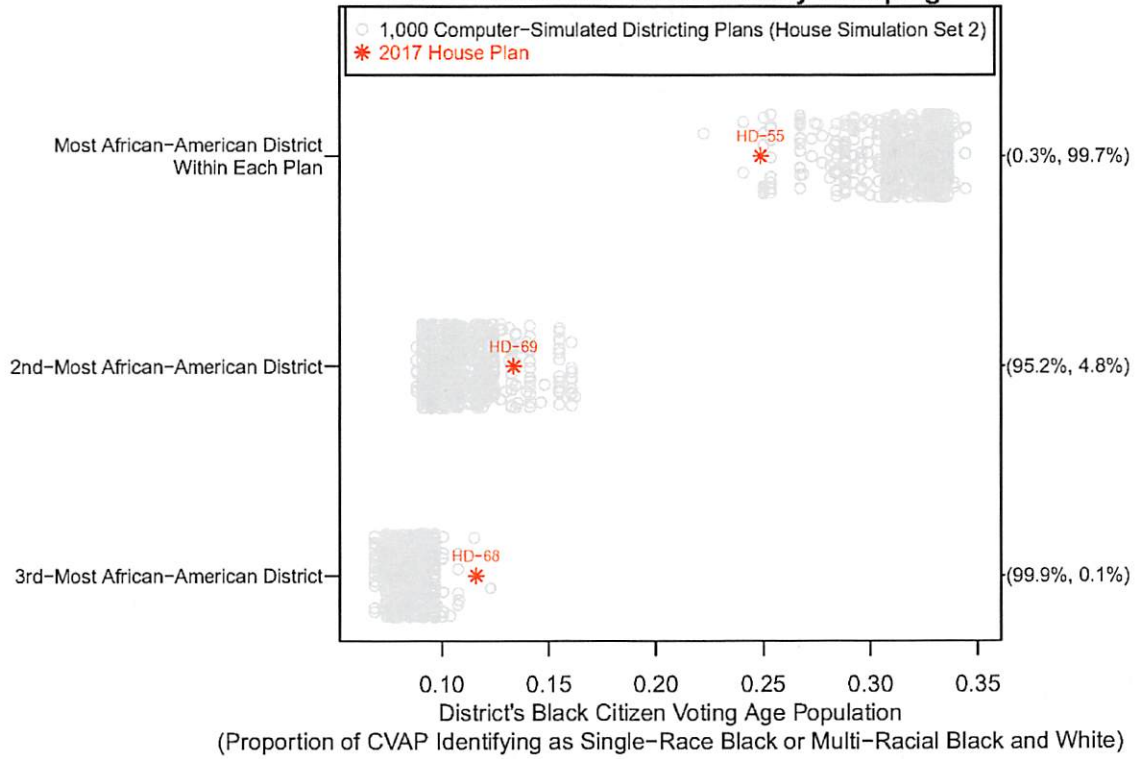
2017 Enacted House Plan Districts (3 Districts)

**Figure 157: House Simulation Set 2:  
Black CVAP of the Enacted and Computer-Simulated Districts  
Within the Alamance County Grouping**



2017 Enacted House Plan Districts (2 Districts)

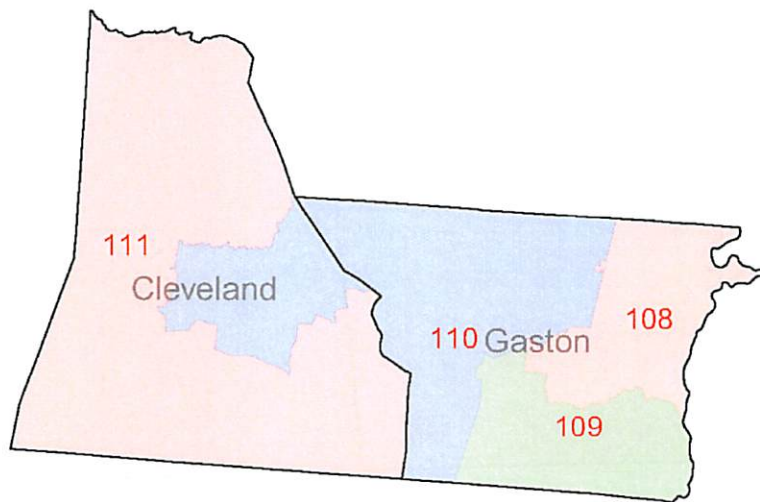
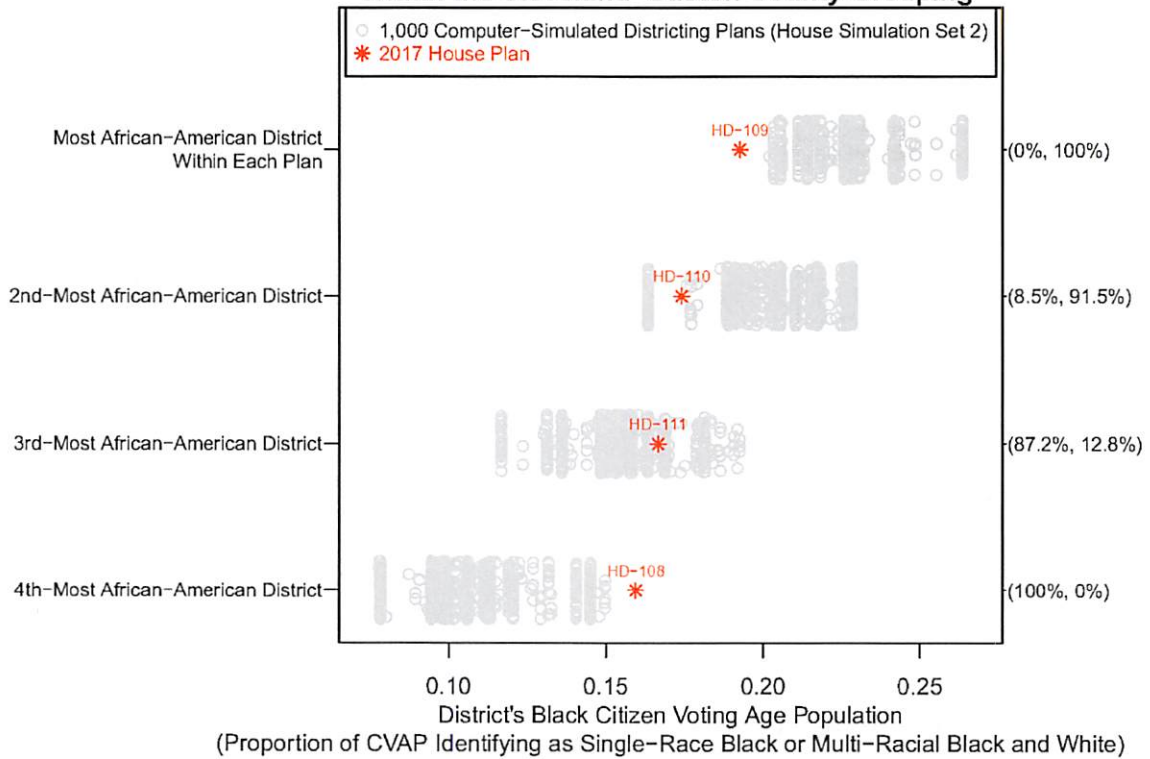
**Figure 158: House Simulation Set 2:  
Black CVAP of the Enacted and Computer-Simulated Districts  
Within the Anson-Union County Grouping**



2017 Enacted House Plan Districts (3 Districts)

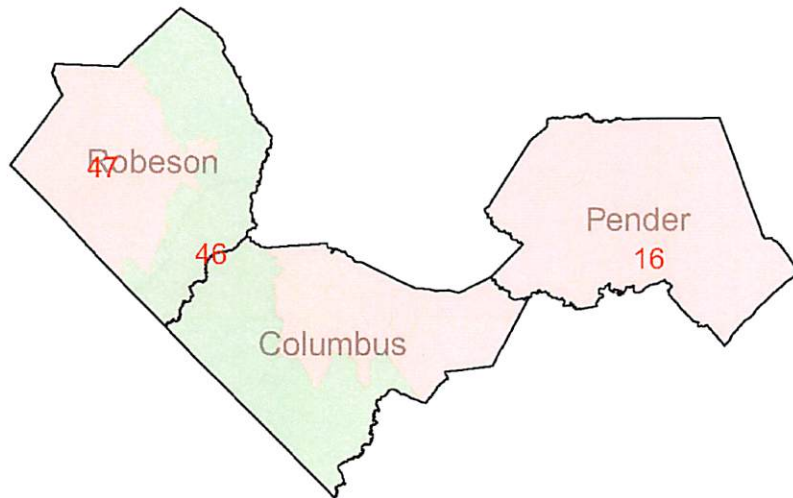
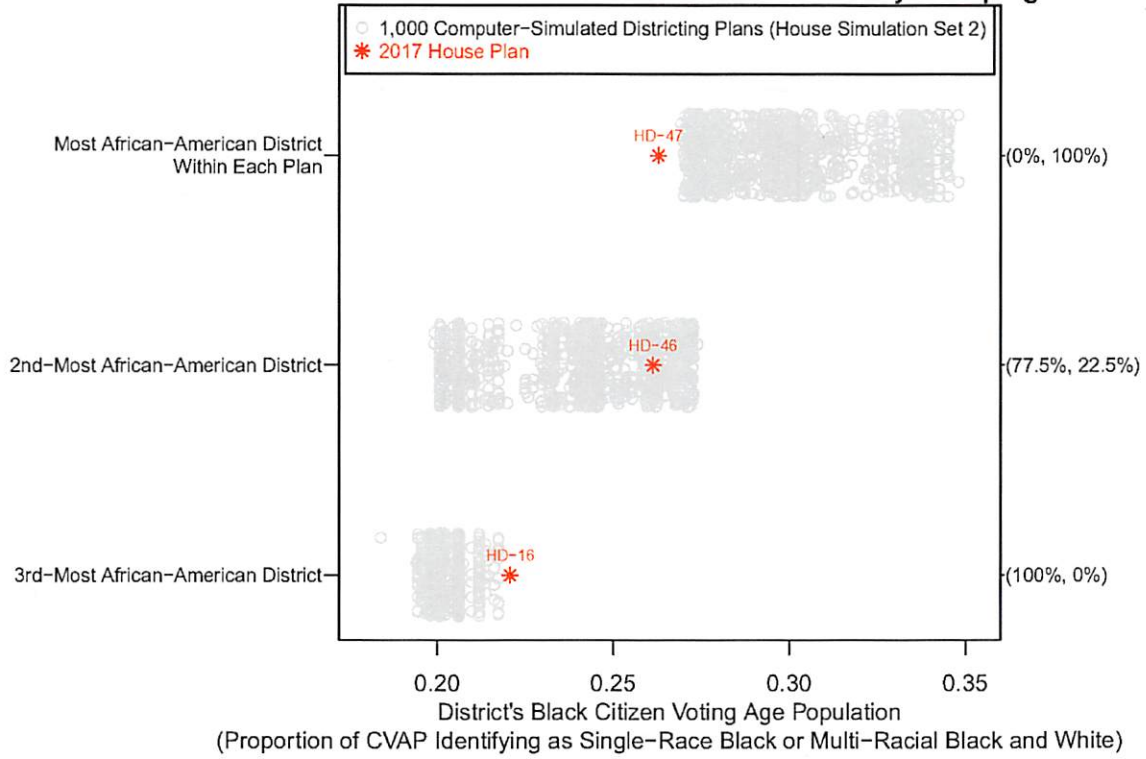


**Figure 159: House Simulation Set 2:  
Black CVAP of the Enacted and Computer-Simulated Districts  
Within the Cleveland-Gaston County Grouping**



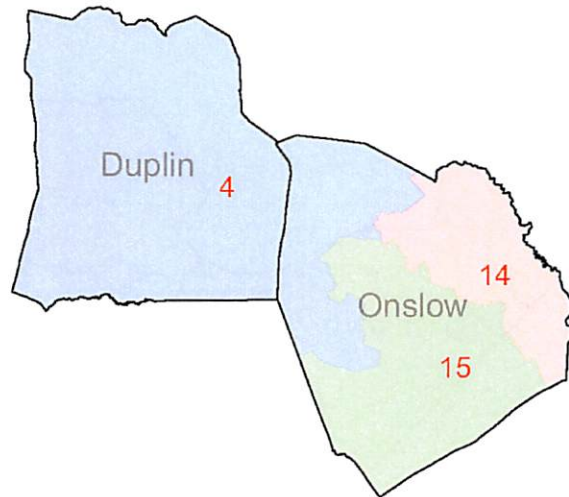
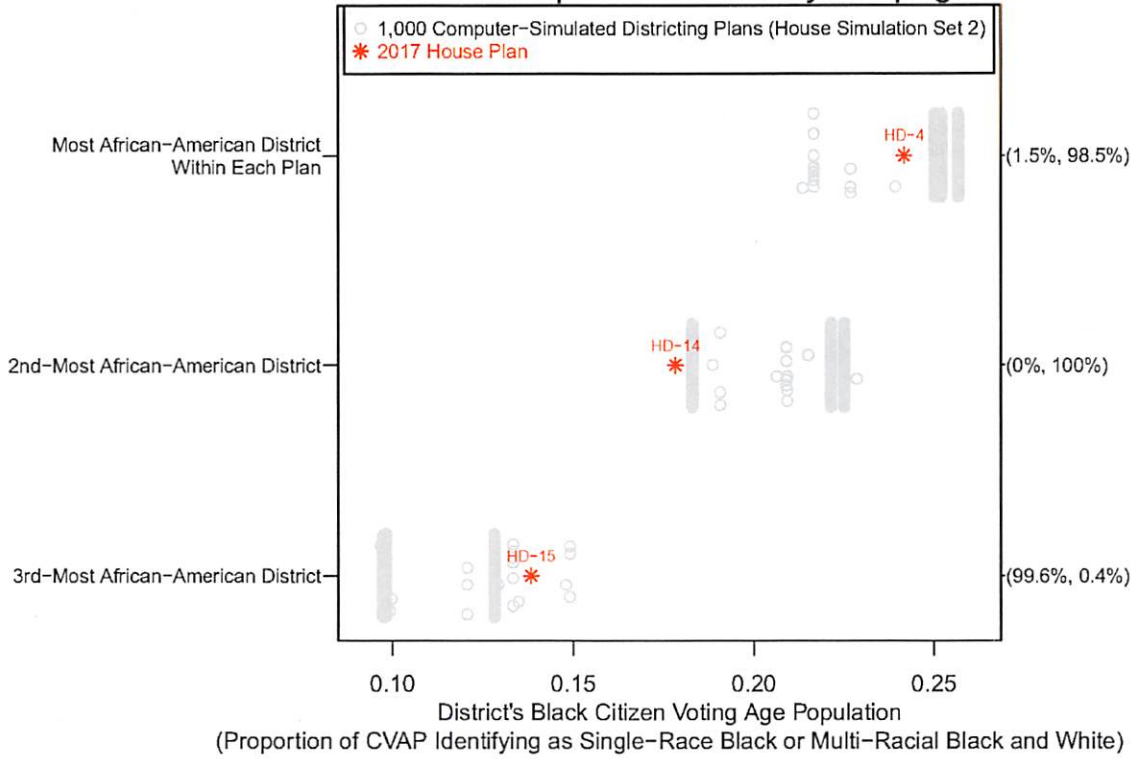
2017 Enacted House Plan Districts (4 Districts)

**Figure 160: House Simulation Set 2:  
Black CVAP of the Enacted and Computer-Simulated Districts  
Within the Columbus-Pender-Robeson County Grouping**



2017 Enacted House Plan Districts (3 Districts)

**Figure 161: House Simulation Set 2:  
Black CVAP of the Enacted and Computer-Simulated Districts  
Within the Duplin-Onslow County Grouping**



2017 Enacted House Plan Districts (3 Districts)

**Response to Dr. Thomas Brunell's Criticisms Regarding the Computer Simulations:**

First, Dr. Brunell criticizes my computer simulation algorithm for not considering race, "which means that some unknown number of these districts are unsuitable due to noncompliance with Section 2 of the Voting Rights Act" (p. 4, Brunell Rebuttal Report of April 30, 2019). However, the General Assembly's Adopted Criteria explicitly prohibited any consideration of racial information, and my computer algorithm therefore ignored racial considerations for this reason.

Second, Dr. Brunell criticizes the computer simulation algorithm for not intentionally "preserving the cores of districts" (p. 3, Brunell Rebuttal Report of April 30, 2019). Dr. Brunell asserts that incumbents "regularly make requests" regarding "preserving their core constituency" (p. 7, Brunell Rebuttal Report of April 30, 2019).

My response is as follows: First, the 2017 Adopted Criteria make no mention of preserving district cores, so the computer simulation algorithm does not include this as a districting consideration. Second, preserving the cores of the previous plan's districts, or core retention, is not a traditional districting criteria. Third, 28 of North Carolina's state legislative districts from the existing map were found to be racially gerrymandered in the *Covington* litigation. An intentional effort to preserve the cores of these districts would simply bias the map towards having districts similar or identical to the prior, unconstitutional plans' districts.

Third, Dr. Brunell asserts that "In Prof. Chen's county groupings analysis there are many instances in which the districts in the enacted map are in the middle of the distribution of simulated maps" (p. 11, Brunell Rebuttal Report of April 30, 2019). Dr. Brunell then asserts that "In Figure 28 (pg. 93) for Cumberland County enacted districts 42 and 44 are not outliers" (p. 11, Brunell Rebuttal Report of April 30, 2019).

This assertion is plainly incorrect. In my original expert report, Figure 28 (p. 93) clearly shows that in Cumberland County, HD-42, HD-43, and HD-45 are clear partisan outliers compared to the computer-simulated districts. HD-42, for example, is more heavily Democratic than 97.5% of the most Democratic districts within the 1,000 plans in House Simulation Set 1. Dr. Brunell simply misread or mischaracterized this Figure.

Dr. Brunell also observes that there are some overlaps between the enacted and the simulated districts in Mecklenburg County (House), and he asserts that "for the Forsyth-Yadkin

County grouping, all five of the districts are contained in the cloud of grey dots that indicated the simulated outcomes." (p. 11, Brunell Rebuttal Report of April 30, 2019).

As a general matter, it is hardly surprising that not every single enacted district in these various county groupings is an extreme partisan outlier when compared to the computer-simulated districts. Rather, some enacted districts are partisan outliers, and others are not. The purpose of these Figures in my original expert report was to identify county groupings where such partisan outliers exist. In the Mecklenburg county grouping (Figure 33 on p. 98 of the Chen Expert Report), for example, HD-92, HD-98, HD-103, HD-104, HD-105 are extreme partisan outliers when compared to the House Simulation Set 1 districts. In the Forsyth-Yadkin county grouping (Figure 29 on p. 94), HD-71 and HD-75 are both partisan outliers when compared to the House Simulation Set 1 districts in this grouping. Dr. Brunell appears to have either misread this Figure or misunderstood the definition of a statistical outlier.

Finally, Dr. Brunell claims the following:

"Figure 82 (pg. 152) is a good example – the two enacted districts are “outliers” but the distinction is not substantively meaningful – the Republican district is more Republican than the simulated districts and the Democratic district is more Democratic than the simulated districts" (p. 12, Brunell Rebuttal Report of April 30, 2019).

Dr. Brunell appears to be claiming that although both enacted Senate districts (SD-31 and SD-32) in the Davie-Forsyth county grouping are extreme partisan outliers when compared to the Senate Simulation Set 2 districts, this "distinction is not substantively meaningful" because neither of these enacted districts was flipped from Democratic to Republican-favoring, or vice versa, using the 2010-2016 statewide Election Composite.

Partisan outlier districts such as SD-31 and SD-32 are substantively significant, even if the enacted district favors the same party as the computer-simulated districts. As explained on p. 29 of my original report, such partisan outliers could be consequential in an election with either a strong pro-Democratic or pro-Republican uniform swing. In the case of the Davie-Forsyth county grouping (Figure 82 on p. 152 of the April 8 Chen Expert Report), the computer-simulated districts in every Senate Simulation Set 2 plan are always significantly more competitive than the two enacted districts (SD-31 and SD-32) in this county grouping. Moreover, Figure 82 of my original report measures districts' partisanship using the 2010-2016 statewide

Election Composite, which, as explained on p. 29 of my original report, is a Republican-favorable election measure. Hence, in a strong pro-Democratic election year, Democrats might have a reasonable chance of winning both Senate districts in many of the computer-simulated Senate plans, but Democrats would likely have no chance of doing so under the 2017 Senate Plan districts in the Davie-Forsyth county grouping.

### **Response to Dr. Barber's, Dr. Hood's, and Dr. Johnson's Claims Regarding Political Geography**

Dr. Hood claims that the clustering of Republican voters and Democratic voters in North Carolina "can affect the manner in which legislative districts are created." Dr. Barber claims that the "inefficient" concentration of Democratic voters in North Carolina, combined with the county groupings requirement, may limit the areas where Democratic candidates can win districts. Dr. Johnson also claims that the county groupings requirement affects the partisan control of legislative districts in North Carolina.

All three of these experts simply misunderstand the purpose of using computer-simulated districting plans. Generating computer-simulated plans in a non-partisan manner is valuable because it allows us to precisely measure how North Carolina's unique voter geography, combined with the state's county groupings requirement and the other non-partisan portions of the 2017 Adopted Criteria, combine to form statewide, legislative districting plans. Each simulated plan combines North Carolina's census geographies together in a different way, but always in compliance with the non-partisan districting criteria that the computer has been programmed to follow. The simulations thus produce a large distribution of non-partisan districting plans drawn solely on the basis of the non-partisan portions of the 2017 Adopted Criteria. Producing such computer-simulated plans is the most accurate way to precisely measure how North Carolina's political geography affects legislative districting.

As I have explained in my published academic research,<sup>14</sup> the proper way to analyze how a state's political geography skews (or does not skew) its districting maps is by producing a large

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<sup>14</sup> Jowei Chen, 2017. "The Impact of Political Geography on Wisconsin Redistricting: An Analysis of Wisconsin's Act 43 Assembly Districting Plan," *Election Law Journal*. Vol. 16, No. 4: 443-452.



number of randomly computer-simulated districting maps following partisan-neutral districting criteria and examining the partisanship of these simulated maps. To properly examine the impact of North Carolina's political geography on actual state legislative plans, it is necessary to randomly generate large numbers of House and Senate plans that comply with the state's nonpartisan redistricting criteria. When I use computer simulations to generate thousands of North Carolina House and Senate plans following the non-partisan portions of the 2017 Adopted Criteria, I find that not one of the computer-generated House and Senate maps is as favorable to Republicans direction as the enacted 2017 House and Senate Plans. Therefore it is clear that North Carolina's political geography and county boundaries cannot possibly explain the partisanship of the 2017 House and Senate Plans.

## **Response to Dr. Hood's Claims Regarding Measuring the Partisanship of Districts:**

Dr. Hood's observes that Democratic legislative candidates performed better in November 2018 than in the several prior elections. That fact, however, in no way affects my overall finding that the 2017 House Plan and Senate Plan exhibit a significant pro-Republican bias when compared to the baseline of computer-simulated maps. As a general matter, a favorable Democratic election year involves both a pro-Democratic shift in the overall statewide vote, as well as a pro-Democratic shift in the number of districts the Democratic can expect to win under a computer-simulated map produced by a non-partisan districting process. The fact that the Democrats win relatively more districts in a pro-Democratic election year does not somehow prove that a districting plan was not drawn to create an intentional partisan bias. Moreover, it says nothing about whether Democrats would not have even won more seats that year but for the gerrymandering.

This concept is illustrated clearly by Figures U1 through U12 in my original April 8 expert report. These 12 Figures compare the number of Democratic-favoring districts in the 2017 House and Senate Plans to the number of Democratic-favoring districts in the 4,000 computer-simulated House and Senate plans under various alternative uniform swing conditions. Hence, for example, Figure U2 compares the number of Democratic-favoring districts under the 2017 House Plan and under the 1,000 plans in House Simulation Set 1, assuming a pro-Democratic uniform swing of +4.5%; Figure U3 shows these same comparisons for a pro-Democratic uniform swing of +5.0%. Figures U5 and U6 show similar comparisons for House Simulation Set 2.

Overall, these Figures illustrate an important finding: The partisan gap between the 2017 House Plan and the computer-simulated House plans becomes even wider under a strong pro-Democratic uniform swing than under neutral electoral conditions (with little or no uniform swing). Under a +5% pro-Democratic uniform swing, the 2017 House Plan creates nine fewer Democratic House districts (or nine additional Republican districts) than the median computer-simulated House plan. This gap between the 2017 House Plan and the computer-simulated plans is significantly wider than under neutral electoral conditions with no uniform swing, suggesting that the 2017 House Plan exhibits its greatest partisan effect during strong Democratic election

years. Figures U7 to U12 exhibit a similar partisan gap between the 2017 Senate Plan and the computer-simulated Senate plans.

Next, Dr. Hood criticizes my use of previous statewide election results to measure the partisanship of legislative districts in the computer-simulated maps and in the 2017 House and Senate Plan (p. 14, Hood Rebuttal Report of May 2019). Specifically, Dr. Hood argues that future election results may diverge from past election results.

My response to Dr. Hood's criticisms is as follows: Although no measure of district partisanship will be completely perfect, there are five reasons it is appropriate to use prior statewide elections results such as the 2010-2016 statewide election results that I used in my expert report to evaluate the partisanship of legislative districts drawn in 2017: First, Representative David Lewis announced on August 10, 2017 that the House and Senate Redistricting Committees would use these 2010-2016 statewide election results in drawing the new 2017 House and Senate districts; hence, I simply evaluated districts using the same election results-based data that the General Assembly claimed to have used. Second, Dr. Thomas Hofeller, the General Assembly's map-drawer for the 2017 House and Senate Plans, also used recent statewide election results in evaluating the partisanship of districts as he drew various draft plans. Third, based on my past experience studying redistricting in North Carolina, I know that it is common practice in the North Carolina General Assembly to use recent past statewide election results to evaluate the partisanship of new districting plans. Fourth, based on my past experience studying redistricting in a wide variety of states outside of North Carolina, I know that it is the standard practice among state legislators and their map-drawers across the country to use recent past statewide election results to estimate the partisanship of new legislative districts under consideration. Finally, it is widely known that redistricting practitioners commonly use recent past statewide elections to measure district partisanship because such election results, though not perfect predictors of future election results, are nevertheless strongly reliable indicators of district partisanship.

## **Response to Dr. Thornton's Claims that the Computer Simulations Ignored the Adopted Criteria**

In her Rebuttal Report of May 7, 2019, Dr. Janet Thornton argues that my computer simulation algorithm failed to follow the 2017 Adopted Criteria because, even though my algorithm avoided pairing incumbents (in House Simulation Set 2 and Senate Simulation Set 2), my algorithm did not help to re-elect these incumbents by intentionally creating politically favorable districts. Specifically, Dr. Thornton claims that:

"Dr. Chen ignores this piece of the 2017 enacted map criteria which was to allow for incumbents to win, not to just consider the pairing. He could have modified his criterion to weight the vote share for the political party of the incumbent, but chose not to" (Para. 44).

As I explained in my original expert report, the essential feature of my simulation algorithm is to "ignore any data regarding partisanship" while "adhering strictly to the non-partisan portions of the 2017 Adopted Criteria" (p. 8, Chen Expert Report of April 8, 2019). The purpose of producing computer-simulated is to determine whether the 2017 House and Senate Plans followed the non-partisan portions of the 2017 Adopted Criteria, or whether partisan goals predominated over the drawing of the enacted plans. If the General Assembly's enacted plans perform far worse on the non-partisan criteria while producing extreme partisan outcomes compared to the computer-simulated plans, then this is strong evidence that the non-partisan criteria were subordinated, and partisan goals predominated in the drawing of the enacted plans.

In order to determine whether non-partisan redistricting criteria were subordinated in the drawing of the 2017 House and Senate Plans, it is thus necessary to begin with a baseline set of computer-simulated plans drawn with strict adherence to the non-partisan criteria and with complete ignorance of any partisan considerations. Thus, my computer simulation algorithm intentionally ignored all partisan considerations, including those mentioned in the 2017 Adopted Criteria.

Creating politically favorable districts to help reelect incumbents introduces significant partisan bias, particularly where the prior map (under which the existing incumbents were elected) was itself gerrymandered to favor that political party. Drawing a map to ensure that incumbents will win re-election can be just another means of partisan gerrymandering.

**Dr. Hood's and Dr. Thornton's Misinterpretation of Pildes and Neimi's (1993) Reock and Polsby-Popper Score Cutoffs:**

Dr. Thornton misinterprets a Pildes and Neimi (1993)<sup>15</sup> article as prescribing a "minimum" Reock and Polsby-Popper score for legislative districts:

With respect to compactness the guidelines state, "The Committees shall make reasonable efforts to draw legislative districts in the 2017 House and Senate plans that improve the compactness of the current districts. In doing so, the Committees may use as a guide the minimum Reock ("dispersion") and Polsby-Popper ("perimeter") scores identified by Richard H. Pildes and Richard G. Neimi." The minimum dispersion or Reock score is 0.15 and the minimum perimeter or Polsby-Popper score is 0.05 according to this article (Para. 37, Thornton Report of May 7, 2019).

Dr. Thornton's claims of a 0.15 "minimum" Reock score and a 0.05 "minimum" Polsby-Popper score constitute a misreading of the Pildes and Neimi (1993) article. In his rebuttal report, Dr. Hood similarly misinterprets the Pildes and Neimi (1993) article (p. 6, Hood Rebuttal Report of April 30, 2019).

In their article, Pildes and Neimi (1993) simply use 0.15 and 0.05 as "somewhat arbitrary" cutoffs for the purpose of creating a single table in their article that lists some examples of the most "bizarre-looking" congressional districts in the country (564). Pildes and Neimi (1993) never claimed that 0.15 and 0.05 are universal cutoffs that might somehow distinguish "compact" from "non-compact" districts. Instead, Pildes and Neimi (1993) repeatedly warn the reader that 0.15 and 0.05 are merely "arbitrary" cutoffs chosen simply for the purpose of listing districts the authors believed could be legally vulnerable in the wake of *Shaw v. Reno* (1993) due to their relative non-compactness (564). In fact, the authors even warn the reader that districts above these cutoffs could still be not sufficiently compact ("In choosing the cutoff points used in Table 3, we do not imply that all districts below those points, or only those districts, are vulnerable after Shaw", 564).

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<sup>15</sup> Richard H. Pildes and Richard G. Neimi in *Expressive Harms, "Bizarre Districts," and Voting Rights: Evaluating Election-District Appearances After Shaw v. Reno*, 92 Mich. L. Rev. 483 (1993).

Finally, Pildes and Neimi (1993) remind the reader that "compactness falls along a continuum," rather than being a binary quality (567). The recognition that compactness is measured along a continuum has been repeatedly emphasized in more modern political science research on district compactness (e.g., Kaufman et. al., 2019).<sup>16</sup> Most tellingly, Pildes and Neimi's (1993) use of the 0.15 and 0.05 cutoffs is not even consistent throughout their paper. Instead, they intentionally switch to different, higher Reock and Polsby-Popper cutoffs later in their paper in order to "further illustrate our argument that congressional districts lie along a compactness continuum" (568). Hence, it is clear that Pildes and Neimi (1993) intentionally warned against blindly adopting a single, universal Reock or Polsby-Popper cutoff for declaring a district to be compact or noncompact.

### **Response to Dr. Johnson's Claims Regarding North Carolina's Use of VTDs in**

#### **Redistricting:**

In his Supplemental Report of May 6, 2019, Dr. Douglas Johnson claims that "North Carolina's emphasis on preserving VTDs when redistricting is unusual, and may be unique" (Para. 12, Johnson Supplemental report of May 6, 2019).

This claim is inaccurate. Based on my academic expertise in redistricting, as well as my experience as a redistricting expert witness, it is common for state statutes and state constitutions to require the following of VTD or precinct lines as a redistricting criterion. For example, South Carolina's state legislature has adopted redistricting criteria that require adherence to precinct boundaries:

"District boundaries should adhere, to the extent practical, to voting precinct boundary lines, as represented by the Census Bureau's Voting Tabulation District (VTD) Lines, in order to minimize voter confusion and cost of election administration. Pending precinct boundary line realignments should be considered. If precincts must be split, every effort should be made to divide precincts along recognizable and demonstrable boundaries."

South Carolina Senate Judiciary Committee,  
Redistricting Subcommittee, Guidelines for  
Legislative and Congressional Redistricting <sup>17</sup>

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<sup>16</sup> Aaron Kaufman, Gary King, and Mayya Komisarchik, 2019. "How to Measure Legislative District Compactness If You Only Know it When You See It." Forthcoming, American Journal of Political Science.

<sup>17</sup> <https://www.scstatehouse.gov/redist/senate/criteria/guidelines042903.doc>

Kansas has adopted similar redistricting guidelines requiring that:

"The "building blocks" to be used for drawing district boundaries shall be voting districts (VTDs) as described on official 2000 Redistricting U.S. Census maps."

Kansas House Select Committee on Redistricting  
Guidelines and Criteria for 2002 Congressional and  
Legislative Redistricting (April 26, 2001).

Maryland's Governor's Redistricting Advisory Committee articulates a similar VTD criterion:

"To the extent possible, the plan, as recommended, should follow established 2000 Voting District (precinct) lines"

Legal Standards for Plan Development, Maryland  
Governor's Redistricting Advisory Committee,  
2001 <sup>18</sup>

Several other states, including Alabama, Colorado, Idaho, Kentucky, Montana, New Mexico, Virginia, Washington, Wisconsin, also have constitutional provisions, statutes, and other adopted criteria that similarly call for consideration of VTD or precinct boundaries when drawing legislative districts. In short, calling for adherence to VTD or precinct boundaries in redistricting is hardly unusual across the US states.

### **Response to Dr. Thornton's Claims Regarding Statistical Significance:**

Dr. Thornton claims that for every set of computer-simulated maps analyzed in the Chen Expert Report of April 8, 2019, the difference between the Democratic seat share of the average simulated map and the 2017 enacted map is "not statistically significant." Specifically, Dr. Thornton claims that for each set of simulated maps, the difference between the average simulated map and the enacted map is less than one standard deviation (Para. 80-86, Thornton Expert Report of May 7, 2019).

Dr. Thornton's claims are erroneous because she miscalculated the standard deviation of the Democratic seat share among each set of computer-simulated plans. In connection with my April 8 report, I turned over data files reporting the number of Democratic-leaning districts under each of the 4,000 computer-simulated plans. However, Dr. Thornton did not use this data

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<sup>18</sup> <https://www.senate.mn/departments/scr/REDIST/Red2010/MDprin2001.htm>



regarding the *actual* computer-simulated plans to calculate the standard deviations of the Democratic seat share under each set of simulations. Instead, Dr. Thornton created a fictitious distribution for my simulated plans, and calculated the standard deviation of that fictitious distribution, which is not based on my actual results and has no grounding in reality. Dr. Thornton then erroneously used the standard deviation from her fictitious binomial distribution to analyze whether the enacted plan is an outlier relative to the computer-simulated plans. This mistake led Dr. Thornton to reach the erroneous conclusion that each of the 2017 enacted plans is not “statistically significantly different” from the average computer-simulated plan.

To illustrate how Dr. Thornton’s erroneous use of her fictitious binomial distribution led to her wildly inaccurate conclusions, we need only compare the actual distribution of the computer-simulated plans to Dr. Thornton’s erroneous calculations regarding the standard deviation of the simulated plans. Figures 48 to 51 present these comparisons for the four simulation sets in my original report. These Figures illustrate the actual, precise standard deviations of the number of Democratic districts in each simulation set, and then each Figure illustrates how the fictitious binomial distribution created by Dr. Thornton led her to a wildly inaccurate calculation of the standard deviation of the simulated plans.

Figure 50 compares the 2017 House Plan to the 1,000 House Simulation Set 1 plans. The upper half of this Figure shows the actual distribution of Democratic seats (measured using the 2010-2016 Statewide Election Composite) across the 1,000 House Simulation Set 1 plans, and the dashed red line represents the 2017 House Plan, which contains 42 Democratic districts. As this Figure illustrates, the actual computer-simulated plans range from 43 to 51 Democratic districts. The actual simulated plans have an average of 46.52 Democratic districts, with a standard deviation of 1.36.

But the lower half of this Figure shows Dr. Thornton's wildly inaccurate estimate of the standard deviation, based on the fictitious binomial distribution she created. Rather than use data from the actual 1,000 House Simulation Set 1 plans that I turned over with my April 8, 2019 report, Dr. Thornton created a binomial distribution by assuming that each of North Carolina's 120 districts has exactly a 38.77% probability of electing a Democrat. In other words, Dr. Thornton assumed that Democrats have the exact same 38.77% chance of winning each of the 120 House districts, and she created a binomial distribution of the possible number of Democratic seats won if one flipped a weighted coin 120 times, where each coin flip is

independent and has a 38.7% chance of landing on “Democrat” each time. This assumption is obviously contrary to reality; Democrats do not have exactly the same percentage chance of winning each of the 120 districts. Indeed, Dr. Thornton’s use of a binomial distribution for estimating the range of possible outcomes under a non-partisan simulated plan leads to results that are implausible. For instance, as Figure 50 illustrates, Dr. Thornton’s binomial distribution would suggest that Democrats could win as few as 30 out of 120 seats under an entirely non-partisan, computer-simulated districting plan.

Dr. Thornton calculated an enormous standard deviation of 5.34 based on this binomial distribution. This is a substantively meaningless calculation, as it clearly bears no resemblance to the actual distribution of 1,000 computer-simulated plans shown in the upper half of the Figure. Dr. Thornton's standard deviation is approximately four times larger than the actual standard deviation of the number of Democratic districts among the 1,000 computer-simulated plans. This overestimate of the standard deviation led Dr. Thornton to reach the clearly erroneous conclusion that the difference between the 2017 House Plan (42 Democratic districts) and the average computer-simulated plan (46.52 Democratic districts) is less than one standard deviation. In reality, the 1,000 simulated plans' actual standard deviation is 1.36, and the difference between the 2017 House Plan and the average computer-simulated plan is 3.33 standard deviations. If one were to use the standard deviation of the simulated plans to establish statistical significance, a difference of 3.33 standard deviations would allow us to conclude, with over 99.9% statistical certainty, that the 2017 House Plan has significantly more Republican seats than the average computer-simulated plan in House Simulation Set 1.

Figure 51 compares the 2017 House Plan to the 1,000 House Simulation Set 2 plans. The upper half of this Figure shows the actual distribution of Democratic seats (measured using the 2010-2016 Statewide Election Composite) across the 1,000 House Simulation Set 2 plans, and the dashed red line represents the 2017 House Plan, which contains 42 Democratic districts. As this Figure illustrates, the actual computer-simulated plans range from 43 to 51 Democratic districts. The actual simulated plans have an average of 47.08 Democratic districts, with a standard deviation of 1.35.

But the lower half of this Figure shows Dr. Thornton's wildly inaccurate estimate of this standard deviation, based on the fictitious binomial distribution she created. Rather than use data from the actual 1,000 House Simulation Set 2 plans that I turned over with my April 8, 2019

report, Dr. Thornton created a binomial distribution by assuming that each of North Carolina's 120 districts has exactly a 39.23% probability of electing a Democrat. Dr. Thornton's binomial distribution is illustrated in the lower half of Figure 51, and Dr. Thornton calculated a standard deviation of 5.35 based on this binomial distribution. Again, this is a substantively meaningless calculation, as it clearly bears no resemblance to the actual distribution of 1,000 computer-simulated plans shown in the upper half of the Figure. Dr. Thornton's standard deviation is approximately four times larger than the actual standard deviation of the number of Democratic districts among the 1,000 computer-simulated plans. This overestimate of the standard deviation led Dr. Thornton to reach the clearly erroneous conclusion that the difference between the 2017 House Plan (42 Democratic districts) and the average computer-simulated plan (47.08 Democratic districts) is less than one standard deviation. In reality, the difference between the 2017 House Plan and the average computer-simulated plan is 3.76 standard deviations, when using the 1,000 simulated plans' actual standard deviation of 1.35. If one were to use the standard deviation of the simulated plans to establish statistical significance, difference of 3.76 standard deviations would allow us to conclude, with over 99.9% statistical certainty, that the 2017 House Plan has significantly more Republican seats than the average computer-simulated plan in House Simulation Set 2.

Figure 52 compares the 2017 Senate Plan to the 1,000 Senate Simulation Set 1 plans. The upper half of this Figure shows the actual distribution of Democratic seats (measured using the 2010-2016 Statewide Election Composite) across the 1,000 Senate Simulation Set 1 plans, and the dashed red line represents the 2017 Senate Plan, which contains 18 Democratic districts. As this Figure illustrates, the actual computer-simulated plans range from 19 to 21 Democratic districts. The actual simulated plans have an average of 19.85 Democratic districts, with a standard deviation of 0.69.

But the lower half of this Figure shows Dr. Thornton's wildly inaccurate estimate of this standard deviation, based on the fictitious binomial distribution she created. Rather than use data from the actual 1,000 Senate Simulation Set 1 plans that I turned over with my April 8, 2019 report, Dr. Thornton created a binomial distribution by assuming that each of North Carolina's 50 Senate districts has exactly a 39.70% probability of electing a Democrat. Dr. Thornton's binomial distribution is illustrated in the lower half of Figure 52, and Dr. Thornton calculated a standard deviation of 3.46 based on this binomial distribution. Again, this a substantively

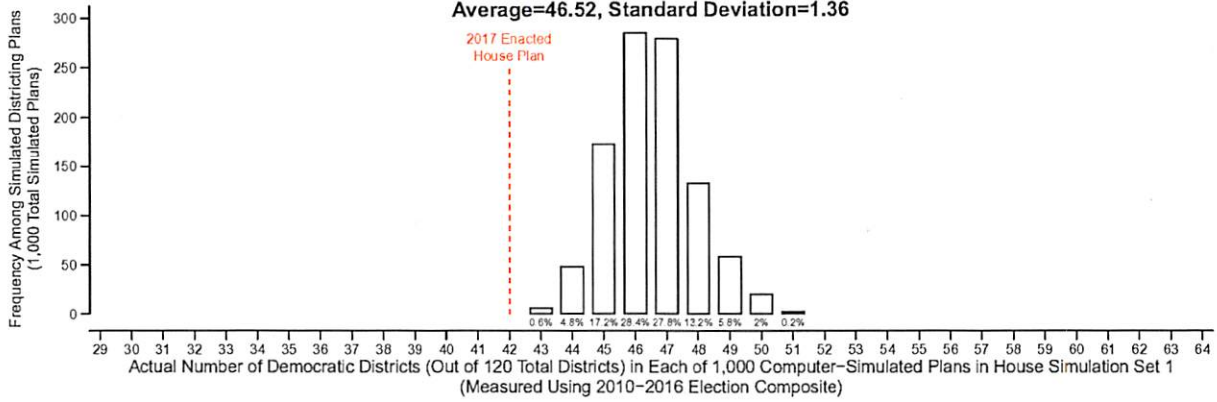
meaningless calculation, as it clearly bears no resemblance to the actual distribution of 1,000 computer-simulated plans shown in the upper half of the Figure. Dr. Thornton's standard deviation is approximately five times as large as the actual standard deviation of the number of Democratic districts among the 1,000 computer-simulated plans. This overestimate of the standard deviation led Dr. Thornton to reach the clearly erroneous conclusion that the difference between the 2017 Senate Plan (18 Democratic districts) and the average computer-simulated plan (19.85 Democratic districts) is less than one standard deviation. In reality, the difference between the 2017 Senate Plan and the average computer-simulated plan is 2.70 standard deviations, when using the 1,000 simulated plans' actual standard deviation of 0.69. If one were to use the standard deviation of the simulated plans to establish statistical significance, a difference of 2.70 standard deviations would allow us to conclude, with over 99% statistical certainty, that the 2017 Senate Plan has significantly more Republican seats than the average computer-simulated plan in Senate Simulation Set 1.

Figure 53 compares the 2017 Senate Plan to the 1,000 Senate Simulation Set 2 plans. The upper half of this Figure shows the actual distribution of Democratic seats (measured using the 2010-2016 Statewide Election Composite) across the 1,000 Senate Simulation Set 2 plans, and the dashed red line represents the 2017 Senate Plan, which contains 18 Democratic districts. As this Figure illustrates, the actual computer-simulated plans range from 19 to 22 Democratic districts. The actual simulated plans have an average of 19.86 Democratic districts, with a standard deviation of 0.59.

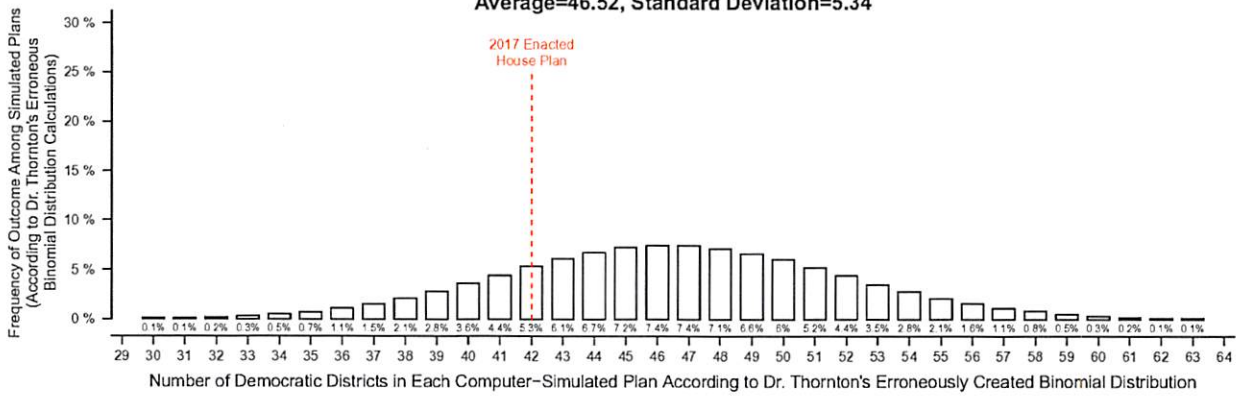
But the lower half of this Figure shows Dr. Thornton's wildly inaccurate estimate of this standard deviation, based on the fictitious binomial distribution she created. Rather than use data from the actual 1,000 Senate Simulation Set 2 plans that I turned over with my April 8, 2019 report, Dr. Thornton created a binomial distribution by assuming that each of North Carolina's 50 Senate districts has exactly a 39.72% probability of electing a Democrat. Dr. Thornton's binomial distribution is illustrated in the lower half of Figure 53, and Dr. Thornton calculated a standard deviation of 3.46 based on this binomial distribution. Again, this is a substantively meaningless calculation, as it clearly bears no resemblance to the actual distribution of 1,000 computer-simulated plans shown in the upper half of the Figure. Dr. Thornton's standard deviation is nearly six times larger than the actual standard deviation of the number of Democratic districts among the 1,000 computer-simulated plans. This overestimate of the

standard deviation led Dr. Thornton to reach the clearly erroneous conclusion that the difference between the 2017 Senate Plan (18 Democratic districts) and the average computer-simulated plan (19.86 Democratic districts) is less than one standard deviation. In reality, the difference between the 2017 Senate Plan and the average computer-simulated plan is 3.15 standard deviations, when using the 1,000 simulated plans' actual standard deviation of 0.69. If one were to use the standard deviation of the simulated plans to establish statistical significance, a difference of 3.15 standard deviations would allow us to conclude, with over 99% statistical certainty, that the 2017 Senate Plan has significantly more Republican seats than the average computer-simulated plan in Senate Simulation Set 2.

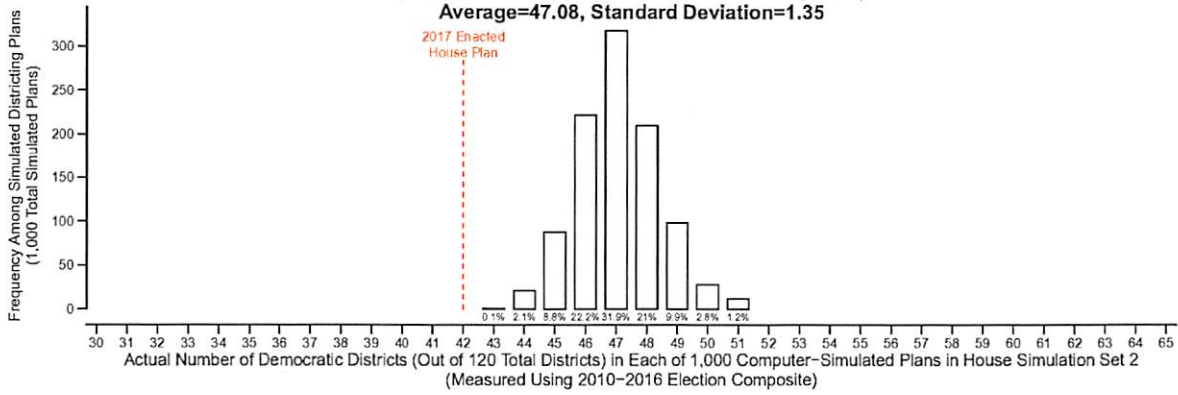
**Figure 50:**  
**Actual Distribution of Democratic-Favoring Districts Across 1,000 Simulated Plans in House Simulation Set 1:**  
**(Measured Using 2010–2016 Election Composite)**  
**Average=46.52, Standard Deviation=1.36**



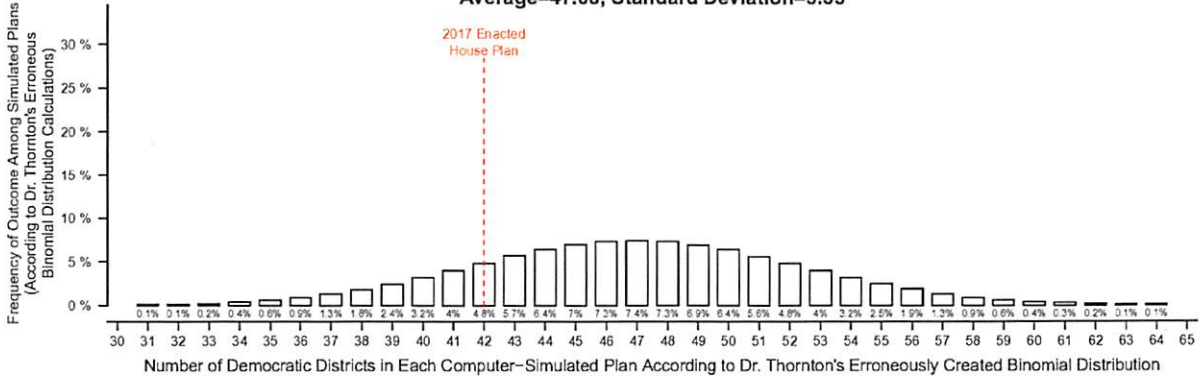
**Binomial Distribution Erroneously Created by Dr. Thornton:**  
**Average=46.52, Standard Deviation=5.34**



**Figure 51:**  
**Actual Distribution of Democratic-Favoring Districts Across 1,000 Simulated Plans in House Simulation Set 2:**  
**(Measured Using 2010–2016 Election Composite)**  
**Average=47.08, Standard Deviation=1.35**

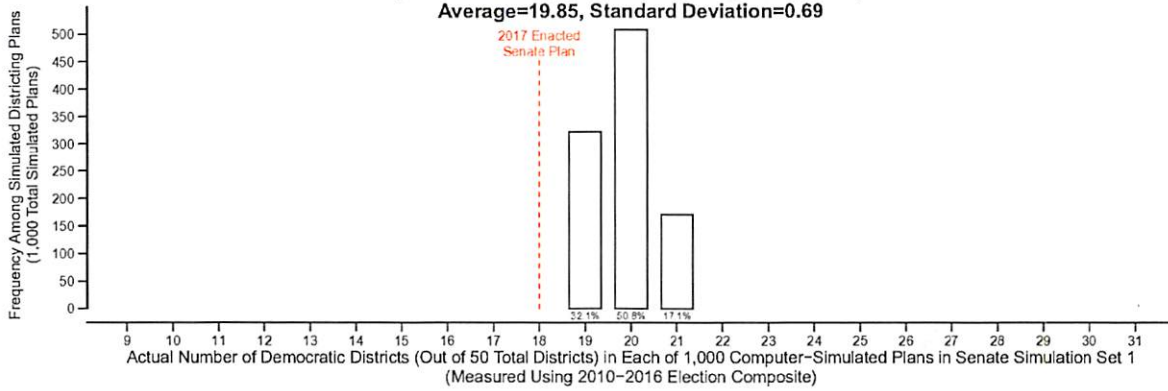


**Binomial Distribution Erroneously Created by Dr. Thornton:**  
**Average=47.08, Standard Deviation=5.35**

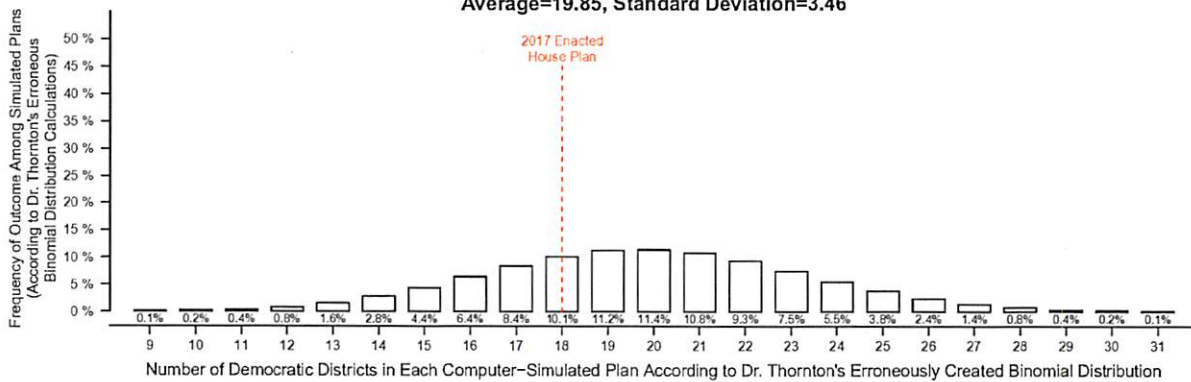




**Figure 52:**  
**Actual Distribution of Democratic-Favoring Districts Across 1,000 Simulated Plans in Senate Simulation Set 1:**  
**(Measured Using 2010–2016 Election Composite)**  
**Average=19.85, Standard Deviation=0.69**



**Binomial Distribution Erroneously Created by Dr. Thornton:**  
**Average=19.85, Standard Deviation=3.46**



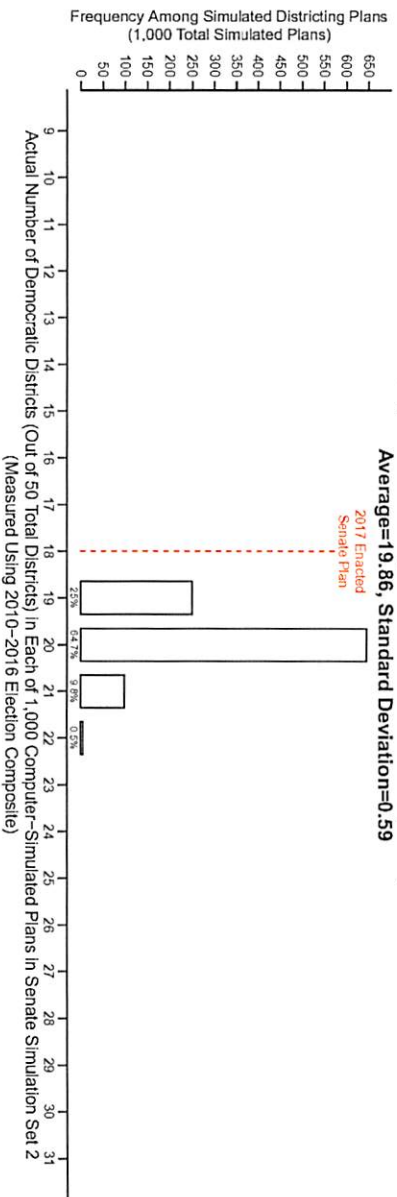
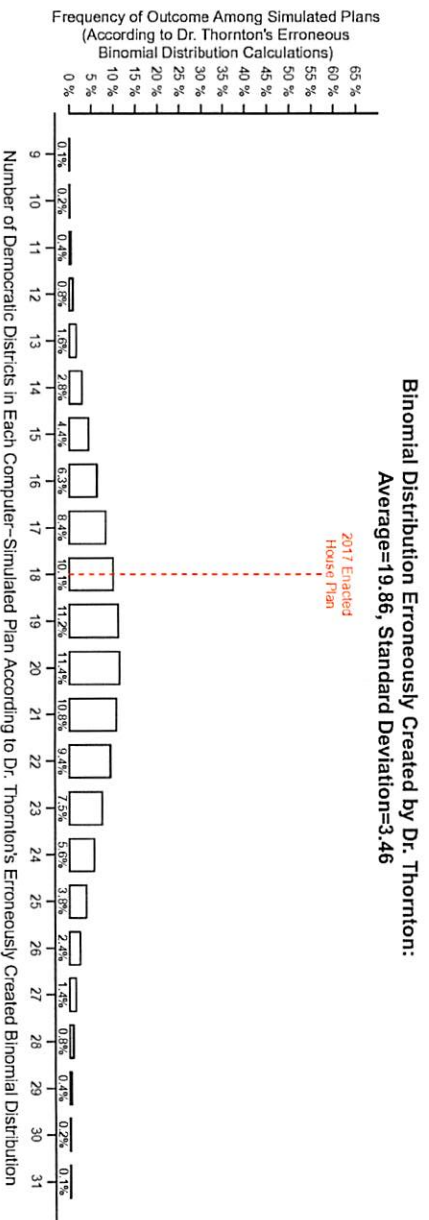


Figure 53: Actual Distribution of Democratic-Favoring Districts Across 1,000 Simulated Plans in Senate Simulation Set 2: (Measured Using 2010–2016 Election Composite)

Average=19.86, Standard Deviation=0.59

2017 Enacted Senate Plan



Binomial Distribution Erroneously Created by Dr. Thornton:

Average=19.86, Standard Deviation=3.46

2017 Enacted House Plan

In sum, the binomial distributions created by Dr. Thornton have no relation to any of the actual computer-simulated plans. Dr. Thornton's binomial distributions model North Carolina's legislative elections as if every single one of the 120 House seats were elected by independently flipping a coin that with a 61% probability of choosing a Republican and 39% probability of choosing a Democrat (Table 5, Thornton Rebuttal Report of May 7, 2019), and as if every single one of the 50 Senate seats were elected by independently flipping a coin that has a 60% probability of choosing a Republican and a 40% probability of choosing a Democrat. Dr. Thornton openly acknowledges that her binomial distribution models district-level election outcomes as independent coin flips (Para. 66-67, Thornton Rebuttal Report of May 7, 2019).

Of course, it is plainly obvious why modeling North Carolina's district-level election outcomes as 120 (or 50) independent coin flips, each with the same probability of electing a Democrat, is inappropriate. Within any enacted or computer-simulated North Carolina legislative map, districts are inevitably quite politically heterogeneous: Any House district within Randolph County, for example, will be safely Republican, while any district within the city of Durham will be safely Democratic. But Dr. Thornton's binomial distribution pretends as if all House districts have the same probability of electing a Republican. This statistical error leads Dr. Thornton to wildly overestimate the variability of partisan outcomes under the computer-simulated districting plans, which, in turn, leads Dr. Thornton to miscalculate standard deviations that are much larger than the actual standard deviations of the computer-simulated plans. Dr. Thornton's erroneously large standard deviation calculation is the basis of her inaccurate conclusion that the difference between each enacted map the average computer-simulated map is not statistically significant (Para. 80-86, Thornton Expert Report of May 7, 2019).

#### **Response to Dr. Thornton's Claims Regarding Statistical Outliers:**

In her rebuttal report, Dr. Thornton makes the following claim:

"Similarly, at page 169 of his report, Dr. Chen provides a chart that compares the enacted map using his composite of elections for his simulations to the enacted map for each named Plaintiff. In nearly every instance, the enacted map is within the range of simulated maps." (Para. 62, Thornton Rebuttal Report of May 7, 2019)

Here, Dr. Thornton is referring to my original report's comparisons of the partisanship of each plaintiffs' district under the 2017 House Plan and under each of the computer-simulated

House plans. Dr. Thornton's claim that "In nearly every instance, the enacted map is within the range of simulated maps" (Para. 62, Thornton Rebuttal Report of May 7, 2019) is clearly inaccurate.

First, Figure 95 (p. 169, Chen Expert Report of April 8, 2019), which compares plaintiffs' respective districts under the 2017 House Plan to their districts under each of the House Simulation Set 1 plans, reveals that many plaintiffs reside in outlier districts under the 2017 House Plan. Figure 95 reveals, for example, that the following plaintiffs reside in 2017 House Plan districts that are clearly statistically partisan outliers when compared to the plaintiffs' respective districts under House Simulation Set 1: Vinod Thomas (HD-98), Paula Ann Chapman (HD-100), Kristin Parker (HD-103), Julie Ann Frey (HD-69), Jackson Thomas Dunn, Jr. (HD-104), Rebecca Johnson (HD-74), Lily Nicole Quick (HD-59), Joshua Perry Brown (HD-60), Dwight Jordan (HD-25), David Dwight Brown (HD-58), Electa E. Person (HD-43), Donald Allan Rumph (HD-9), Amy Clare Oseroff (HD-8), Lesley Brook Wischmann (HD-15), Derrick Miller (HD-18), Carlton E. Campbell Sr. (HD-45), Mark S. Peters (HD-116), Joseph Thomas Gates (HD-115), Stephen Douglas McGrigor (HD-7), Rebecca Harper (HD-36), and Nancy Bradley (HD-35). Figure 96 (p. 170, Chen Expert Report of April 8, 2019) reveals that, in addition to the above plaintiffs, Leon Schaller (HD-64) also resides in a district that is a partisan outlier when compared to his respective district under House Simulation Set 2.

Additionally, since I first conducted the analysis of plaintiffs' districts in my original April 8, 2019 expert report, the number of plaintiffs residing in partisan outlier districts has actually increased. One of the plaintiffs, Rosalyn Sloan, has since moved to a new address located in HD-83 in the 2017 House Plan. Using her new address, I now find that Rosalyn Sloan's 2017 House Plan district (HD-83) is clearly an extreme partisan outlier when compared to her district under each of the 1,000 plans under House Simulation Set 1. This result is now illustrated in Figure 54, which is a new version of Figure 95 from the April 8 Chen Expert Report, updated to reflect plaintiff Rosalyn Sloan's new address; this Figure compares plaintiffs' districts under the 2017 House Plan and the House Simulation Set 1 plans. Similarly, Figure 55 is a new version of Figure 96 from the April 8 Chen Expert Report, updated to reflect plaintiff Rosalyn Sloan's new address; this Figure compares plaintiffs' districts under the 2017 House Plan and the House Simulation Set 2 plans.

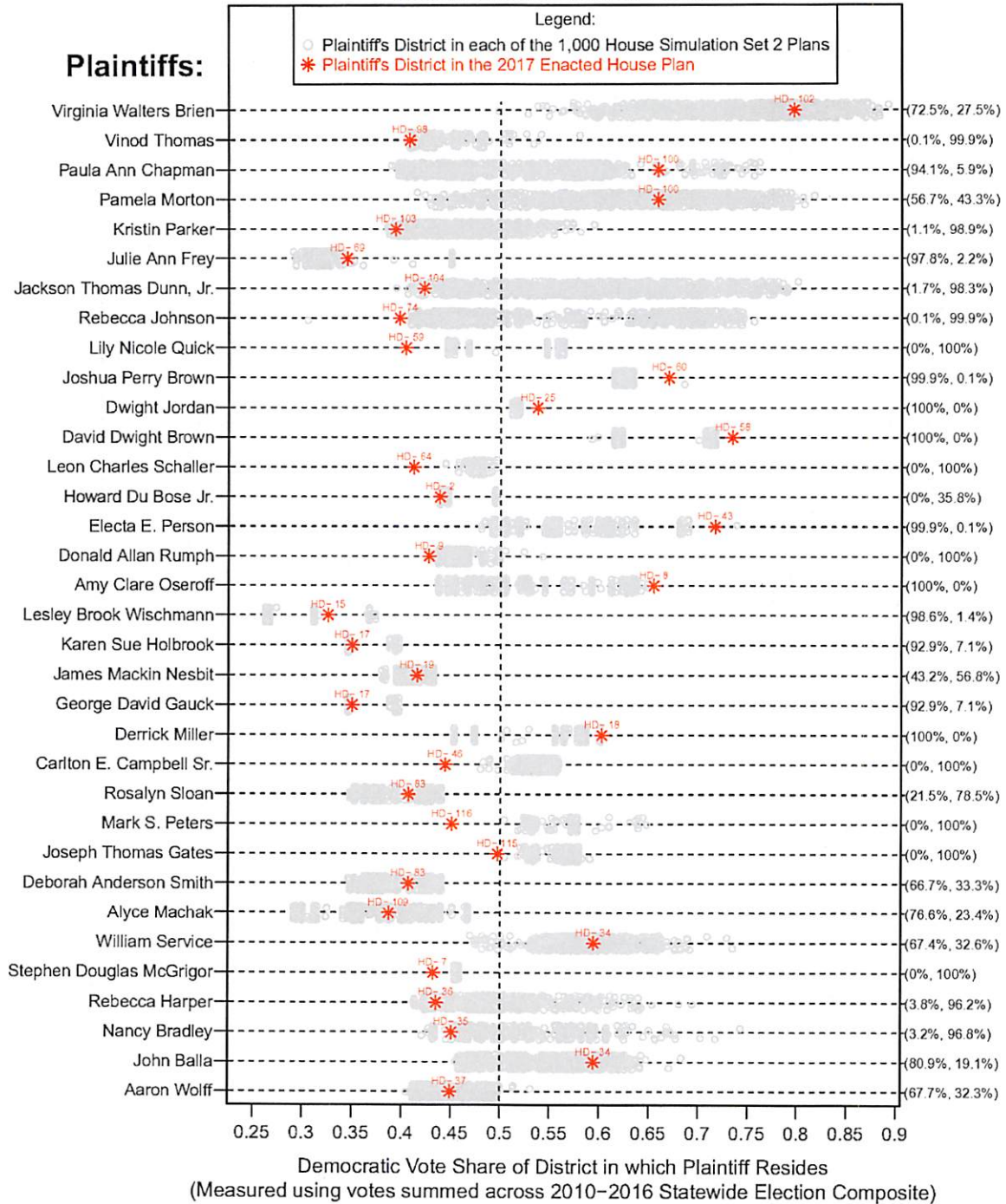
Overall, these comparisons of the partisanship of plaintiffs' districts in Figures 54 and 55 illustrates that Dr. Thornton's characterization of my analysis of plaintiffs was completely inaccurate. Her claim that "In nearly every instance, the enacted map is within the range of simulated maps" is inaccurate, as many plaintiffs currently reside in partisan outlier districts, and the number of such plaintiffs has since increased as a result of plaintiff Rosalyn Sloan's new address.

**Figure 54:  
House Simulation Set 1**





**Figure 55:  
House Simulation Set 2**





I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge.

This 7th day of June, 2019.

A handwritten signature in black ink, appearing to read "Jowei Chen", written over a horizontal line.

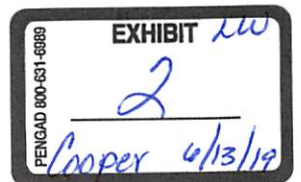
Jowei Chen

# **EXHIBIT G**

Responses to Drs. Barber, Brunell, Hood, Lewis, Johnson, and Owen

Christopher A. Cooper

June 7, 2019



## Introduction

This report responds to the expert witness reports of Drs. Barber, Brunell, Hood, Lewis, Johnson, and Owen. I will respond to each of the above-named reports in turn, but I offer these initial observations relating to all of the expert reports at the outset:

- Six of the seven experts offered by Legislative Defendants and Intervenors do not discuss, much less challenge, my individual county cluster analysis—an analysis which occupied 78 pages (over  $\frac{3}{4}$ ) of my original report. The only expert who does discuss individual clusters, Dr. Johnson, limits his analysis to just 16 House districts and 2 Senate districts in Mecklenburg, Wake, and New Hanover counties. None of the Defendants' or Intervenors' experts challenged the data I presented on packing and cracking using electoral outcomes, or the predictive data from Civitas and the North Carolina Free Enterprise Foundation about district-level competitiveness. None of the experts offered any rebuttal related to how and why the current maps split municipalities and certain communities of interest, like college campuses.
- None of the experts commissioned by Legislative Defendants and Intervenors challenge my assertion that since 2011, the composition of the North Carolina General Assembly has been consistently more Republican than other political offices where district lines are fixed or non-existent.
- Several of the Defendants' and Intervenors' experts reference the history of regional voting patterns in North Carolina. While such patterns are no doubt evident, the district lines that are the basis of Plaintiffs' challenge are drawn *within a single region*, so regional voting patterns are less than helpful for discerning the presence or absence of gerrymandering.
- Several of Legislative Defendants' and Intervenors' experts stated that mapmakers in North Carolina are constrained from drawing boundaries to maximize partisan advantage. But evidence from Dr. Thomas Hofeller's hard drive indicates not only that the mapmaker did have options but that he actively considered partisanship when drawing district lines in the North Carolina General Assembly.

### Hood, Johnson, and Brunell on Partisan Intent

Drs. Hood, Johnson, and Brunell characterize the process of mapmaking in North Carolina as a straightforward one with little room for judgment or manipulation. All three also question whether “partisan intent” can be inferred from the current maps. For example, Dr. Hood describes drawing state legislative districts in North Carolina as a “formulaic exercise,” citing the state’s whole county provision along with other criteria that the General Assembly purportedly applied in 2017.<sup>1</sup> According to Dr. Hood, there is insufficient evidence that “the General Assembly was engaged in an effort to engage in extreme partisan gerrymander.”<sup>2</sup> He goes on to explain that the process of “legislative redistricting in North Carolina...is quite constrained, which greatly limits the ability of map drawers to create districts where partisan motives predominate.”<sup>3</sup> Like Dr. Hood, Dr. Johnson claims that “the ‘county groupings’ requirement significantly limits the legislature’s ability to draw lines based exclusively on partisanship.”<sup>4</sup> And Dr. Brunell similarly asserts that “[d]ivining the intent of the map-maker is extraordinarily difficult because the process of redistricting is complex.”<sup>5</sup>

As set forth in my original report, the partisan effects of the General Assembly in drawing the relevant state House and state Senate districts—within individual counties or county groupings—is clear from analyzing the district lines and historical election data. Indeed, despite claiming that partisan intent is difficult to discern or that there is insufficient evidence of such intent here, Drs. Hood, Johnson, and Brunell do not dispute any of my cluster-by-cluster analyses or my conclusion that the contours of the relevant districts have partisan effects.

There is even more evidence regarding partisan intent with respect to North Carolina’s General Assembly districts. I understand that Plaintiffs’ counsel obtained via subpoena the files of Dr. Thomas Hofeller, who drew the 2011 and 2017 plans. Those files reveal that partisanship was the overwhelming, if not the sole, motivation in drawing the state House and state Senate districts at issue. Below I present my analysis based on a number of Dr. Hofeller’s files that I and geographic information systems specialist Blake Esselstyn (who assisted me in processing and preparing the screenshots for the maps below) received directly from Plaintiffs’ forensic vendor. The maps presented below are taken directly from Dr. Hofeller’s Maptitude files (Maptitude for Redistricting™ is the software that Dr. Hofeller used to draw redistricting plans). These images reflect the exact

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<sup>1</sup> April 30, 2019 report of Dr. M.V. Hood III (hereinafter, “Hood Report I”), p. 2.

<sup>2</sup> Hood Report I, p. 9.

<sup>3</sup> Hood Report I, pp. 9-10.

<sup>4</sup> April 30, 2019 report of Dr. Douglas Johnston (hereinafter, “Johnston Report I”), p. 13.

<sup>5</sup> Report of Thomas Brunell (hereinafter, “Brunell Report”), p. 7.

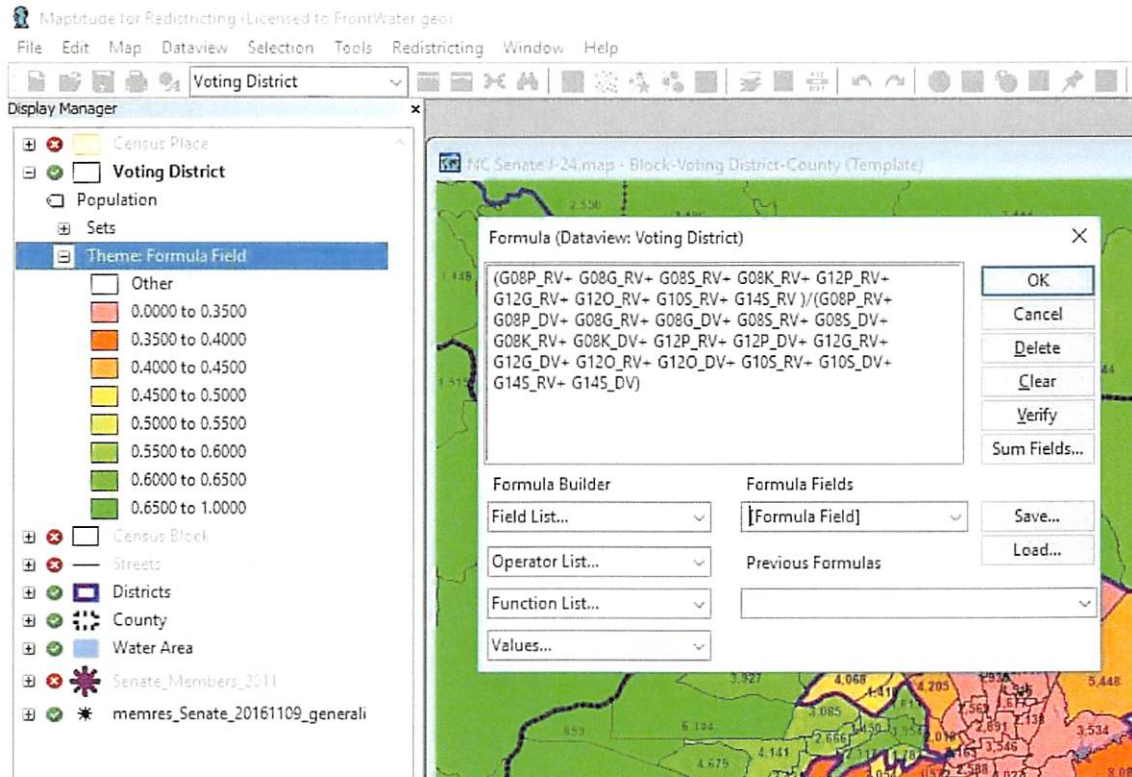
maps that Dr. Hofeller viewed when he was working in each relevant file. Other than resizing the windows to fit on an 8 1/2-inch wide page and re-centering the maps, the maps' configurations have not been manipulated or altered in any way.

These files reveal that partisanship data was front and center for Dr. Hofeller as he designed North Carolina's state legislative maps. For each VTD in each of these districts, Dr. Hofeller assigned a partisanship score, reflecting its expected Republican vote share. On the pages that follow, I review images of the maps Dr. Hofeller viewed when drawing the districts in county groupings that changed in the 2017 Senate plan and the 2017 House plan. I then review the districts that were created in 2011 and remain today (first in the Senate then in the House).

## Partisan Intent in the Creation of 2017 Senate Maps

A screenshot of a formula used in the 2017 Senate plans appears below.<sup>6</sup> This shows the formula that Dr. Hofeller constructed to measure the expected partisan outcome in each VTD.

Figure 1: Partisan Formula Field for 2017 NC Senate Redistricting from Dr. Hofeller's Hard Drive



<sup>6</sup> The 2017 Senate maps depicted here are all from the "NC Senate J-24" plan saved on July 5, 2017. The file path for the (2017) NC Senate J-24 plan depicted in this section is: ES0007C\C\Seagate Dashboard 2.0\TOSHIBA-PC\toshiba\Backup\f7bc3748-d314-4cc2-a86b-ca77894bb5b2\20170705\_130329\_toshibaInc2731\C\MPRwork\NCPlans\NC Senate J-24 Backups\NC Senate J-24003.bak.zip



Where:

G08P= votes for that party's candidate for **President** in that geographic unit in the 2008 general election

- (\_RV=Republican candidate, \_DV=Democrat candidate)

G08G= votes for that party's candidate for **Governor** in that geographic unit in the 2008 general election

- (\_RV=Republican candidate, \_DV=Democrat candidate)

G08S= votes for that party's candidate for **US Senate** in that geographic unit in the 2008 general election

- (\_RV=Republican candidate, \_DV=Democrat candidate)

G08K= votes for that party's candidate for **Insurance Commissioner** in that geographic unit in the 2008 general election

- (\_RV=Republican candidate, \_DV=Democrat candidate)

G10S= votes for that party's candidate for **US Senate** in that geographic unit in the 2010 general election

- (\_RV=Republican candidate, \_DV=Democrat candidate)

G12P= votes for that party's candidate for **President** in that geographic unit in the 2010 general election

- (\_RV=Republican candidate, \_DV=Democrat candidate)

G12G= votes for that party's candidate for **Governor** in that geographic unit in the 2012 general election

- (\_RV=Republican candidate, \_DV=Democrat candidate)

G12S= votes for that party's candidate for **Commissioner of Labor** in that geographic unit in the 2012 general election

- (\_RV=Republican candidate, \_DV=Democrat candidate)

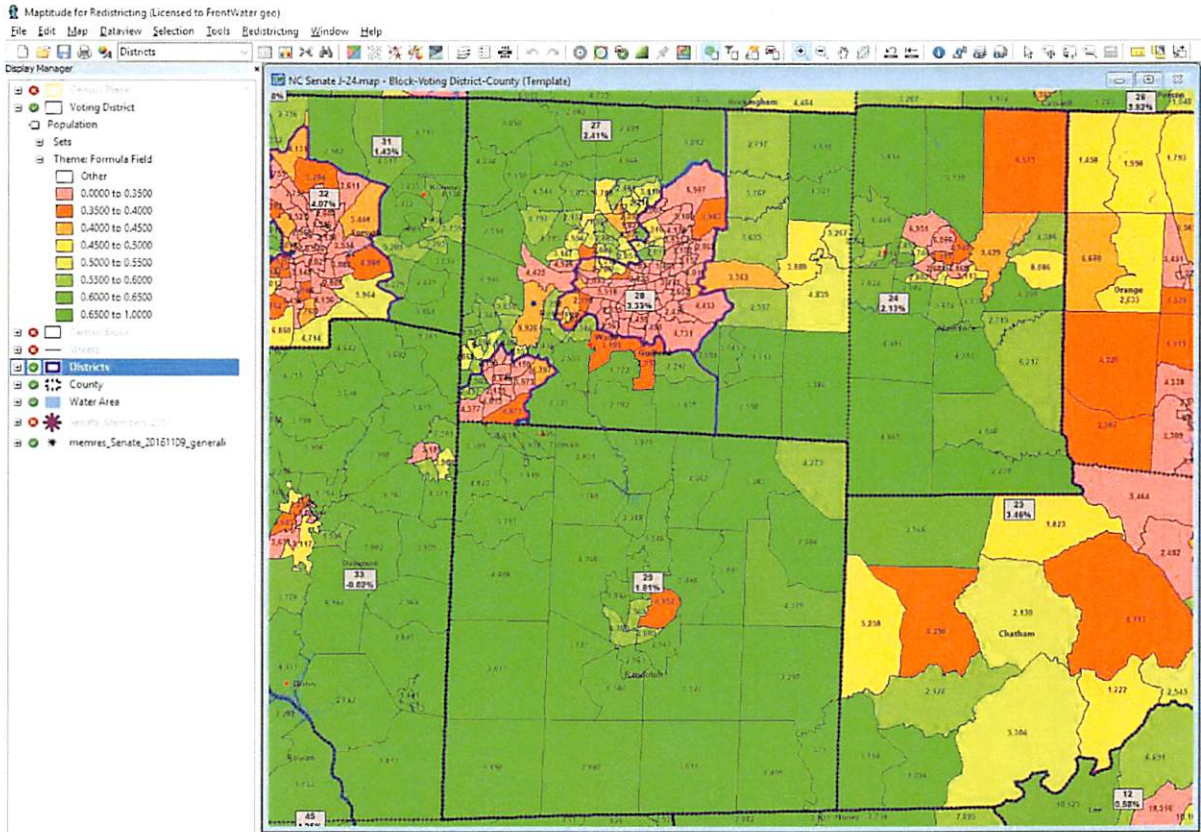
G14S= votes for that party's candidate for **US Senate** in that geographic unit in the 2014 general election

- (\_RV=Republican candidate, \_DV=Democrat candidate)

Dr. Hofeller then shaded each VTD along a color range based on the partisanship score he assigned with the aforementioned formula. Rather than color coding each VTD with the traditional red (Republican) to blue (Democrat) shading for both chambers, he opted for two different color systems—one for the Senate and one for the House. In the Senate, he employed a system where VTDs with scores of 0-.35 are shaded dark pink, indicating a VTD that leans most heavily towards

the Democratic Party. His colors then shift in increments of five-hundredths (.35-.40, .40-.45, .45-.50, .50-.55, .55-.60, .60-.65) until .65. Scores of .65-1.00 are shaded bright green, indicating the most Republican-leaning VTDs. These scores and shading are visible on the left-hand side of each of the following screenshots. See below for an example, featuring Forsyth and Guilford Counties.

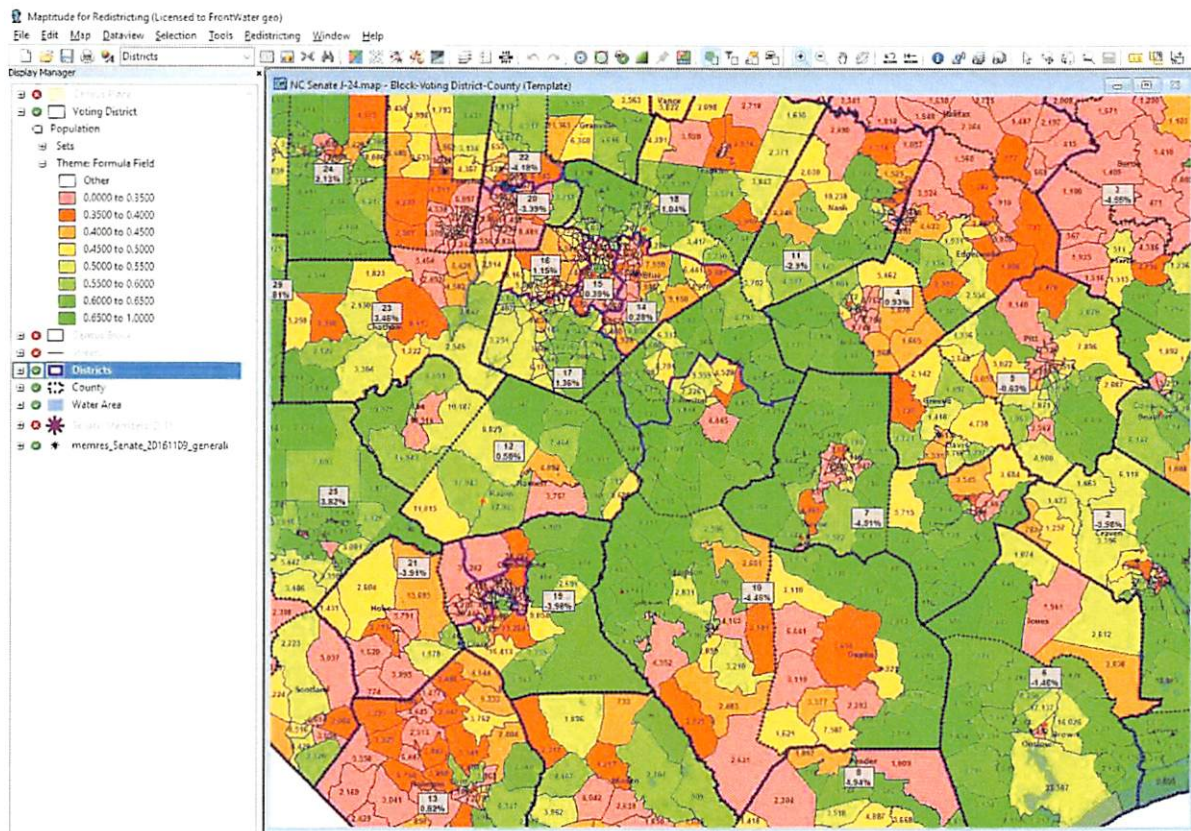
Figure 2: Example of NC Senate Partisan Targeting from Dr. Hofeller’s Hard Drive



## Senate Districts 10, 11, and 12

The screenshot below shows a map depicting Senate Districts 10, 11, and 12 from Dr. Hofeller's files. Recall that this cluster, located to the south and east of Raleigh, should have at least one district that is competitive.<sup>7</sup> Yet because the existing map combines Democratic voters around Rocky Mount with Republican strongholds in Johnston County, this cluster is home to three virtual locks for the Republican Party.<sup>8</sup> Although Dr. Hofeller's partisanship scores were based on a more complex formula than the measure of partisanship I utilized in my original report, his scores track well with my analysis of the partisan composition of this Senate cluster. This screenshot indicates that Dr. Hofeller clearly was aware of the partisan implications of these district boundaries as he constructed them.

Figure 3: Partisan Targeting in Senate Districts 10, 11, and 12



<sup>7</sup> April 8, 2019 report of Dr. Christopher Cooper (hereinafter, "Cooper Report"), p. 33.

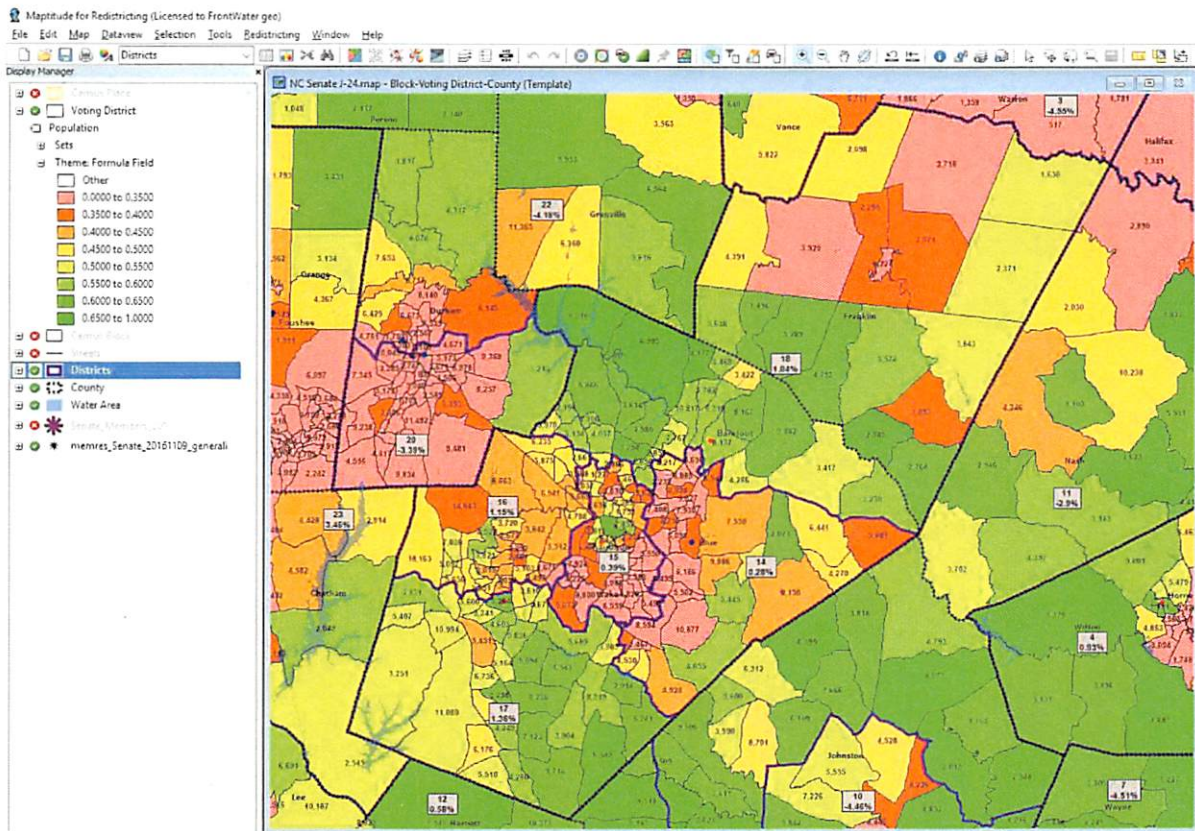
<sup>8</sup> Cooper Report, pp. 32-34.



## Senate Districts 14, 15, 16, 17, and 18

The next map shows Senate Districts 14, 15, 16, 17, and 18. As I detailed in my original report, these district boundaries, contained within Wake and Franklin counties, pack Democrats into three districts, allowing the two remaining districts to stay competitive.<sup>9</sup> The screenshot below illustrates that Dr. Hofeller was drawing these district lines with precision and with knowledge of their partisan implications. Note how all of the most Democratic VTDs are packed into Senate Districts 14, 15, and 16, with Senate Districts 17 and 18 grabbing every Republican VTD (shaded green) that is available. Moreover, a comparison between the provisional district boundaries depicted in the map below (indicated with a purple line) and the districts as enacted reveals that one VTD in western Raleigh shaded in light green (home to the Carolina Country Club) was moved into SD-18, in the northern part of Wake County, making SD-18 more competitive for Republicans.

Figure 4: Partisan Targeting in Senate Districts 14, 15, 16, 17, and 18

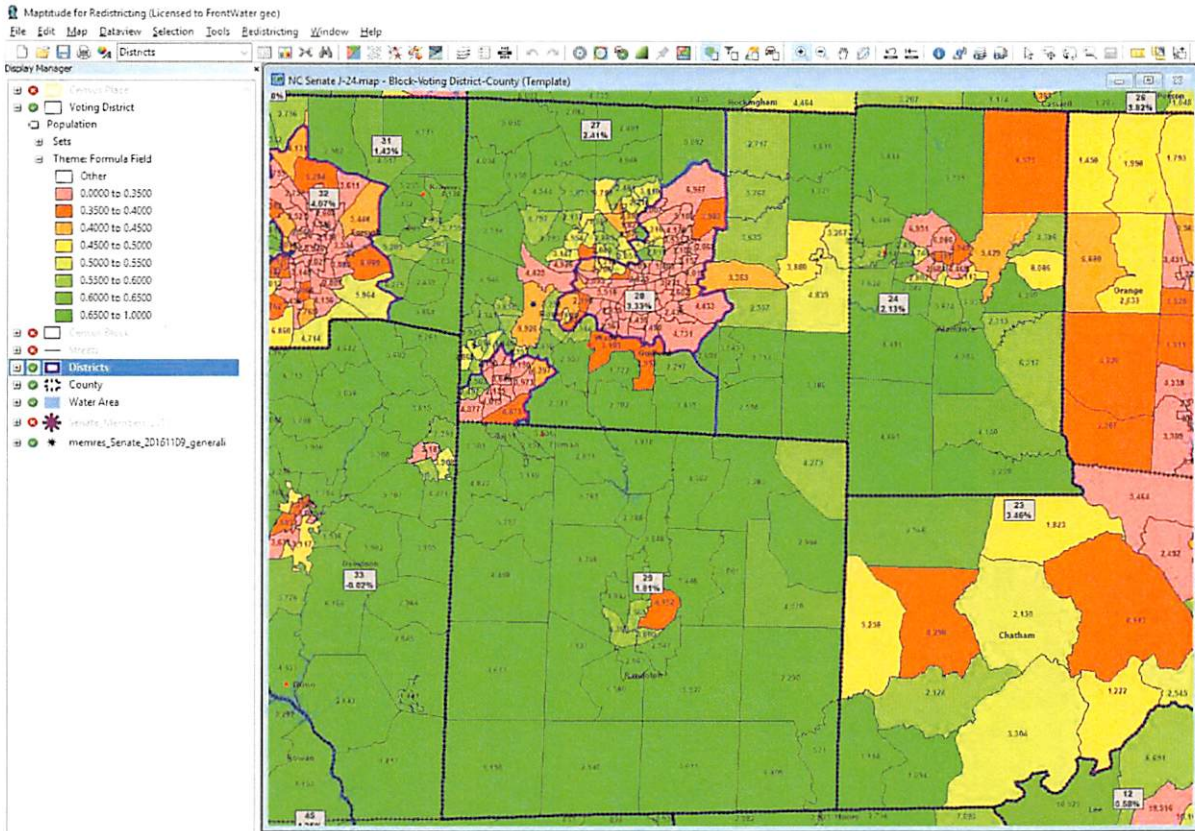


<sup>9</sup> Cooper Report, pp. 35-40.

Senate Districts 24, 26, 27, and 28

The next map presents a visual representation of Dr. Hofeller’s partisan scores for Senate Districts 24, 26, 27, and 28. These districts are all located in a three-county cluster in the Piedmont that includes Randolph, Guilford, and Alamance counties.<sup>10</sup> As the map below and its partisan scores demonstrate, Dr. Hofeller clearly knew that these lines would maximize Republican partisan advantage. Specifically, the way Dr. Hofeller drew SD-26 (labeled SD-29 in the map below) allowed it to reach into southwest Guilford County to grab High Point’s heavily Democratic VTDs, separating them from SD-27.

**Figure 5: Partisan Targeting in Senate Districts 24, 26, 27, and 28**



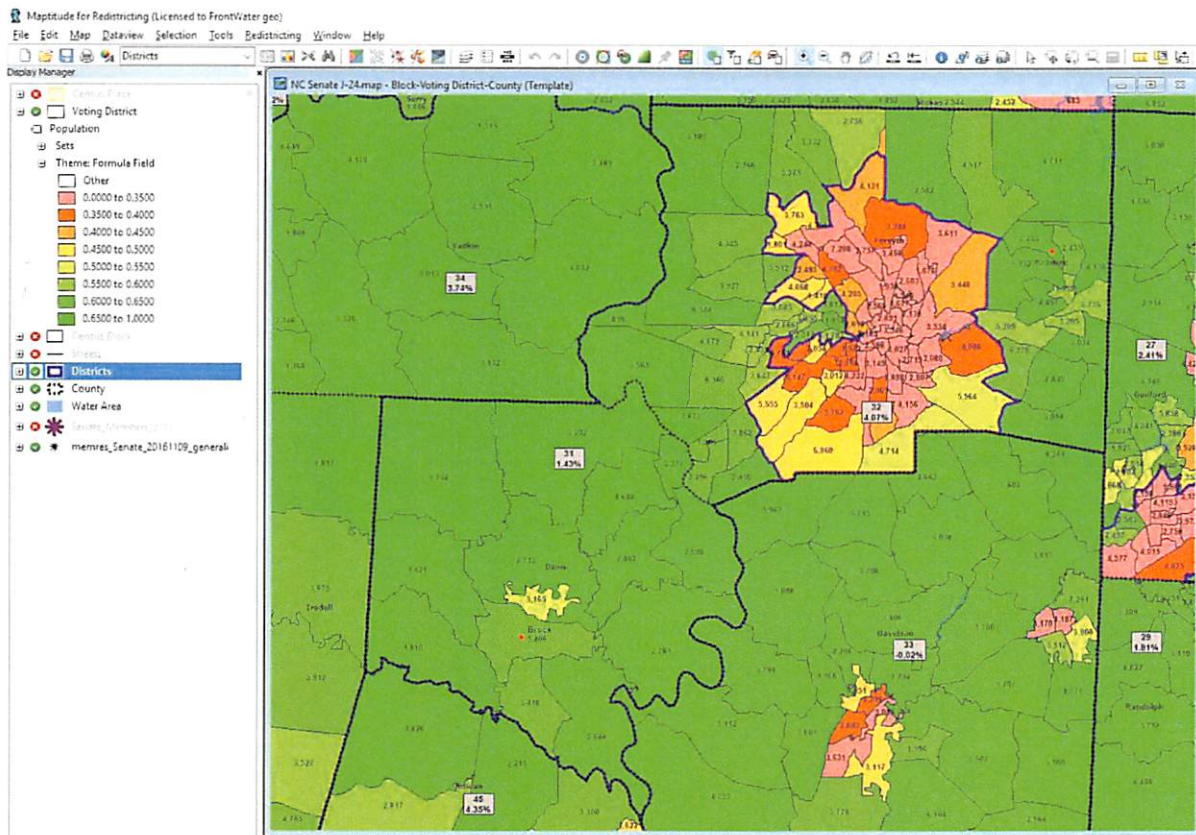
<sup>10</sup> Cooper Report, pp. 41-42.



## Senate District 31 and 32

Recall that SD-31 and SD-32 are located in a county cluster of Davie and Forsyth counties, in North Carolina's Piedmont. To create one reliably Republican district in this region, the current district lines placed every Republican VTD within the Winston-Salem city limits into SD-32,<sup>11</sup> as indicated by the green bitemark taken out of the western side of that city. The screenshot from Dr. Hofeller's hard drive below illustrates that Dr. Hofeller was not only aware of these partisan voting patterns, but they track directly with the final boundaries of the districts he created, with all of the most Democratic VTDs included within SD-32.

Figure 6: Partisan Targeting in Senate Districts 31 and 32

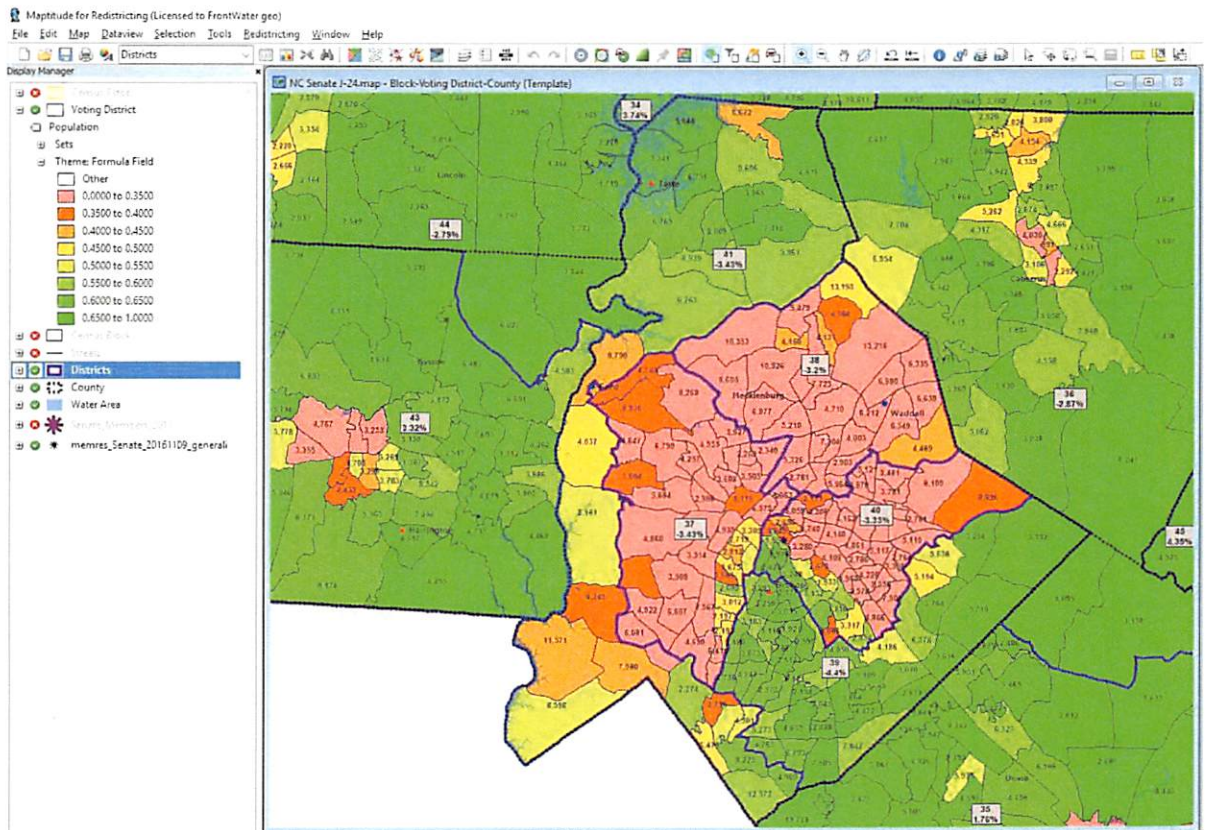


<sup>11</sup> Cooper Report, pp. 43-45.

## Senate Districts 37, 38, 39, 40, and 41

As detailed in my previous report, these districts are all located within Mecklenburg County and dominated by the presence of Charlotte.<sup>12</sup> These district lines created one strong Republican district (SD-39) and one competitive district (SD-41) out of a geographic area that is dominated by Democratic voters and Democratic VTDs. As this screenshot taken from Dr. Hofeller's files suggests, Dr. Hofeller was aware of the partisan consequences of these boundaries. Most conspicuously, the elongated shape of SD-41 carefully avoids the most Democratic leaning VTDs on the western side of Charlotte, which are packed into SD-37 and SD-38. Moreover, the provisional boundaries of SD-40 depicted in the map below actually shifted in the final maps to better track Dr. Hofeller's partisanship scores, with the green VTDs on the southwest side of that district ultimately pushed into SD-39 to make that district safer for Republicans.

Figure 7: Partisan Targeting in Senate Districts 37, 38, 39, 40, and 41



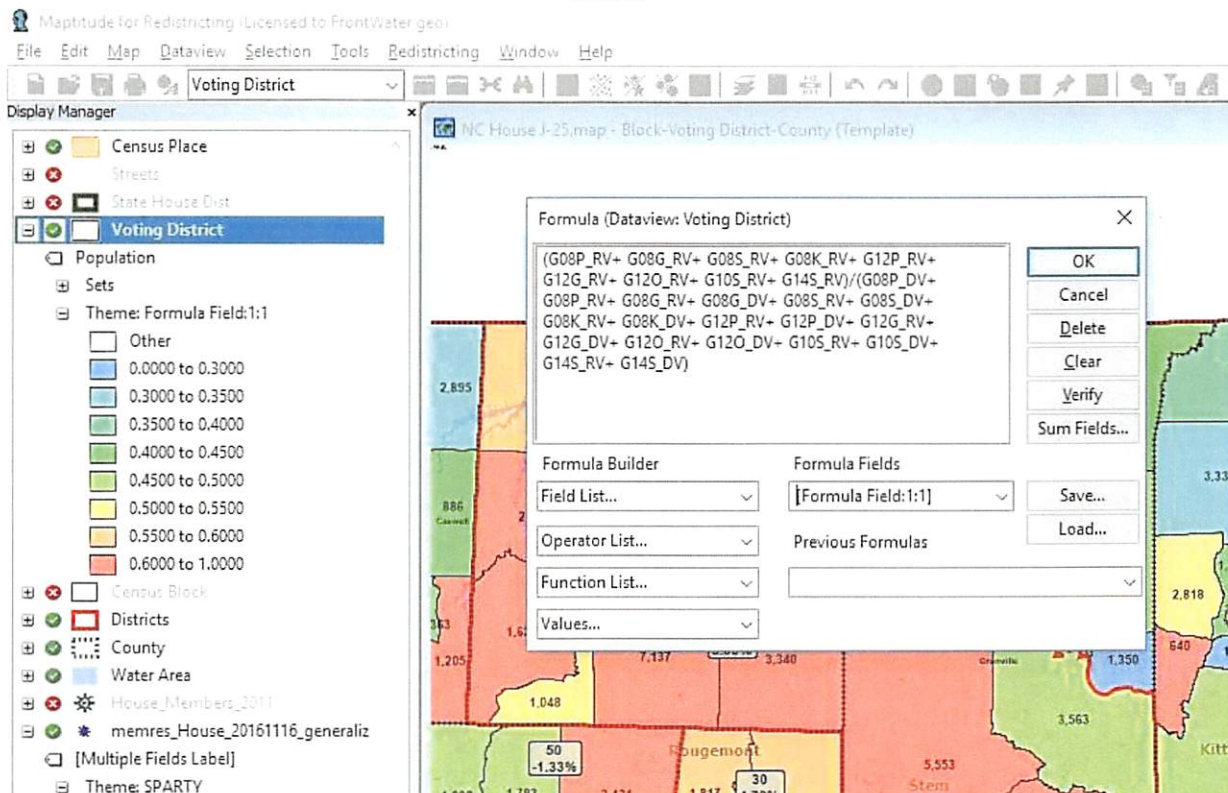
<sup>12</sup> Cooper Report, pp. 46-48.



## Partisan Intent in the Creation of 2017 House Maps

In the House, Dr. Hofeller employed a slightly different coloring system, although one that comports more readily with most people’s notions of partisanship colors. Here VTDs with scores of 0-.30 are shaded dark blue, indicating a VTD that leans most heavily towards the Democratic Party. His color-coding then moves in increments of five-hundredths (.30-.35, .35-.40, .40-.45, .45-.50, .55-.55, .55-.60) until .60. Scores of .60-1.00 are shaded bright red, indicating the most Republican-leaning VTDs.<sup>13</sup>

Figure 8: Partisan Formula Field for 2017 House Redistricting from Dr. Hofeller’s Hard Drive

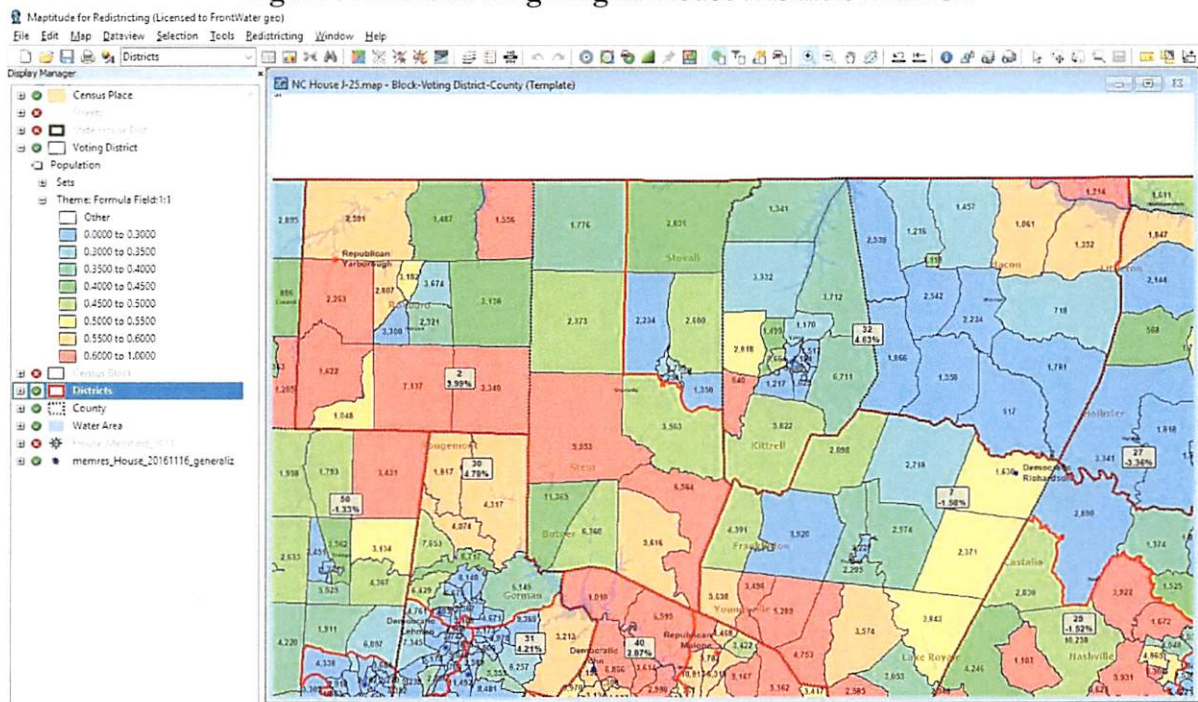


<sup>13</sup> The 2017 House maps depicted here are all from the “NC House J-25” plan saved on August 7, 2017. The file path for the (2017) NC House J-25 plan depicted in this section is: ES0007C\C\Seagate Dashboard 2.0\TOSHIBA-PC\toshiba\Backup\f7bc3748-d314-4cc2-a86b-ea77894bb5b2\20170807\_211230\_toshibaInc3011\C\MPRwork\NCPlans\NC House J-25 Backups\NC House J-25003.bak.zip

## House Districts 2 and 32

House Districts 2 and 32 are located on North Carolina's northern border, north and northeast of Durham. The current district lines place the Democratic areas of Granville County in HD-32, creating one heavily Democratic district and one Republican district (HD-2).<sup>14</sup> The figure below presents a screenshot from Dr. Hofeller's files illustrating the partisan score he applied to each VTD in this cluster as he constructed this gerrymander. The light blue VTDs near the center of the figure below, in the heavily Democratic town of Oxford, are ensnared by HD-32, thereby packing those Democratic voters into a district with other Democratic voters in Vance and Warren counties.

Figure 9: Partisan Targeting in House Districts 2 and 32



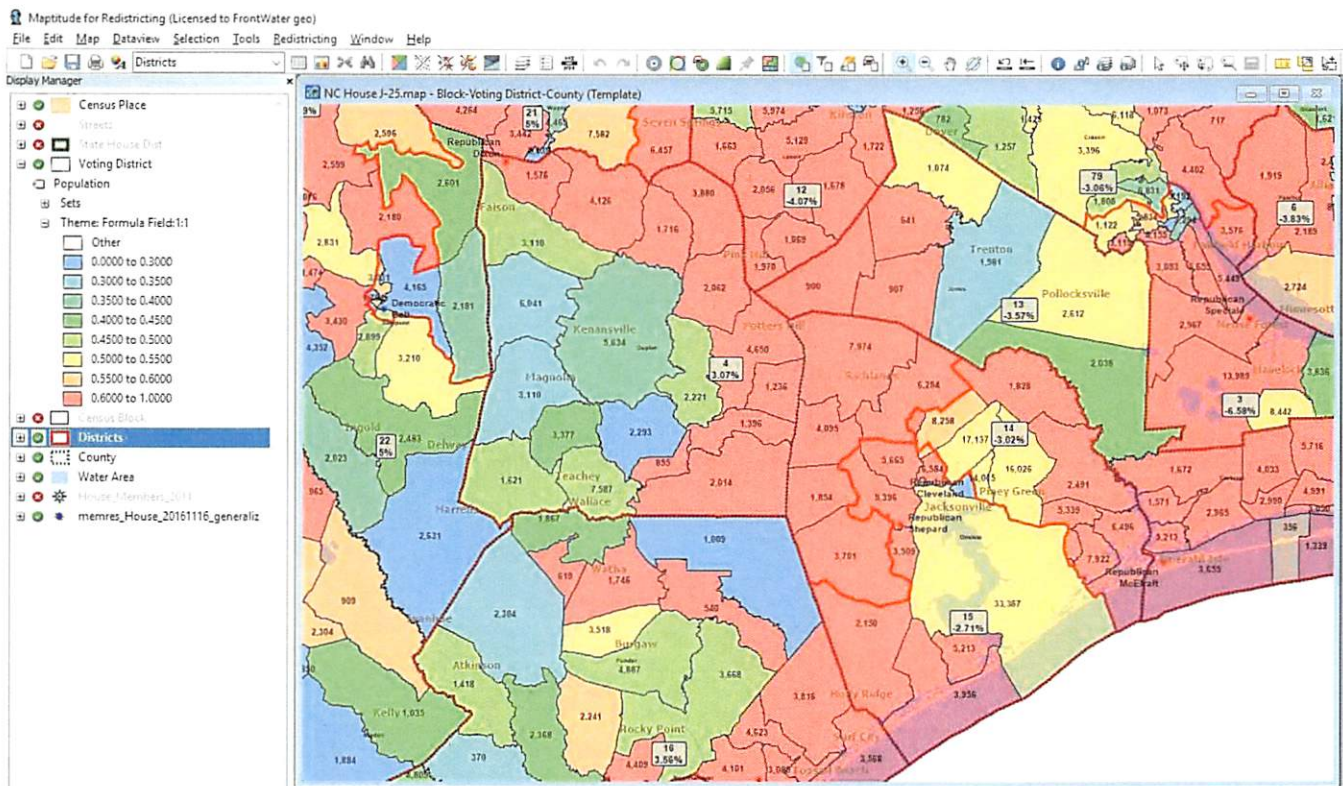
<sup>14</sup> Cooper Report, pp. 52-54.



## House Districts 4, 14, and 15

House Districts 4, 14, and 15 are located in eastern North Carolina and include Onslow and Duplin counties. In service of this gerrymander, the current district lines split Jacksonville, keeping part of this Democratic stronghold (the blue VTD surrounded by yellow and red) separate from Democratic voters near Warsaw and Kenansville.<sup>15</sup> As the below screenshot from Dr. Hofeller's files demonstrates, Dr. Hofeller split Jacksonville's Democratic-leaning and moderate VTDs across House Districts 14 and 15, cracking the Democratic voters between those districts. As the shading on the map indicates, Dr. Hofeller knew the partisan consequences of these map boundaries.

Figure 10: Partisan Targeting in House Districts 4, 14, and 15

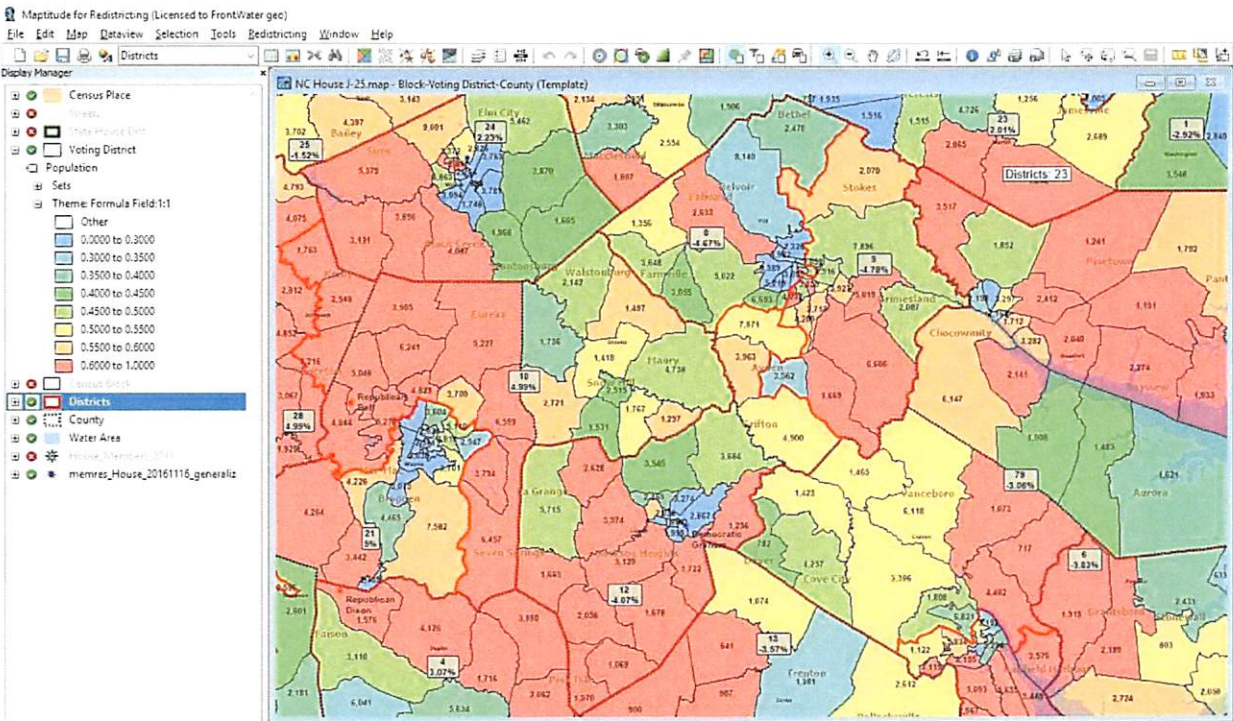


<sup>15</sup> Cooper Report, pp. 55-57.

## House Districts 8, 9, and 12

House Districts 8, 9, and 12 are located in Pitt and Lenoir counties. To create favorable conditions for the Republican Party, the current map packs Democratic areas of Pitt County into HD-8, creating a strong Democratic district there but allowing HD-9 and HD-12 to have a much greater chance of electing Republicans.<sup>16</sup> As the map below shows, Dr. Hofeller knew the consequences of packing all of the bluest VTDs into HD-8, just inside that district's eastern boundary.

Figure 11: Partisan Targeting in House Districts 8, 9, and 12



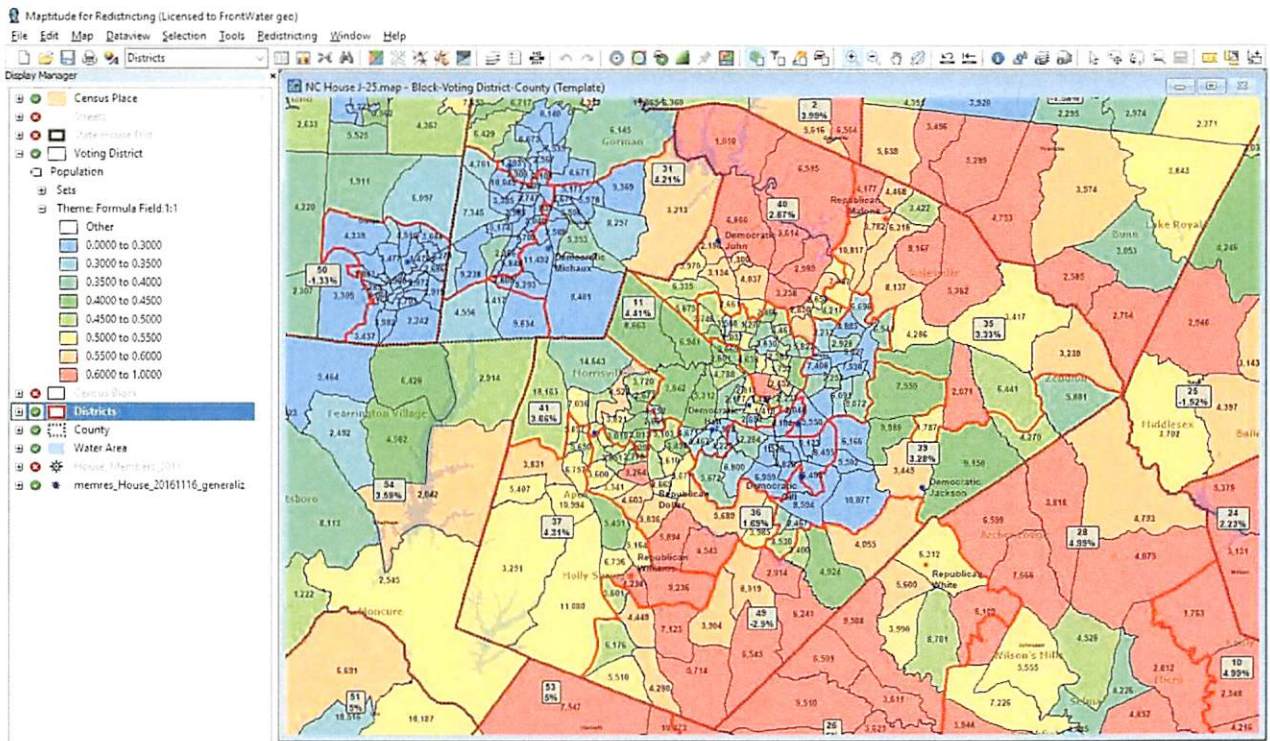
<sup>16</sup> Cooper Report, pp. 60-63.



House Districts 11, 33, 34, 35, 36, 37, 38, 39, 40, 41, and 49

Given the number of Democratic voters spread throughout Wake County, this cluster should normally favor the Democrats in all districts. Yet by splitting the City of Raleigh into nine districts, Dr. Hofeller created district lines that allowed three districts to lean towards the Republican Party.<sup>17</sup> As the screenshot from Dr. Hofeller's files demonstrates, the boundaries of these districts, including the Republican-leaning HD-35, HD-36, HD-37, and HD-40, correspond directly with Dr. Hofeller's partisan scoring for the VTDs in this cluster.

**Figure 12: Partisan Targeting in House Districts 11, 33, 34, 35, 36, 37, 38, 39, 40, 41, and 49**

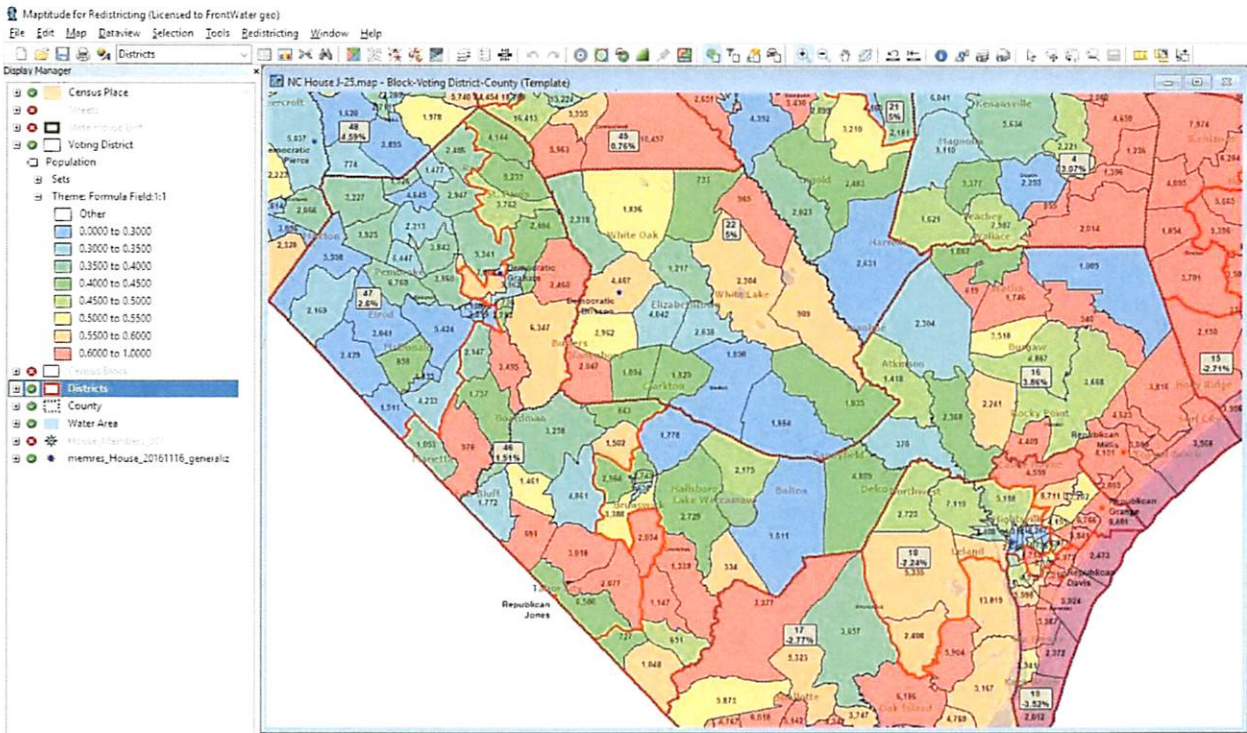


<sup>17</sup> Cooper Report, pp. 64-68.

House Districts 16, 46, and 47

House Districts 16, 46, and 47 are located in the southeastern portion of the state within Pender, Columbus, and Robeson counties. The current lines pack Democratic voters into a single district (HD-47), creating favorable conditions for Republicans elsewhere in this cluster.<sup>18</sup> As the map below illustrates, Dr. Hofeller had knowledge of these partisan implications, and the final boundaries of HD-47 encompass almost all of the heavily Democratic VTDs (shaded blue) in Robeson County.

**Figure 13: Partisan Targeting in House Districts 16, 46, and 47**



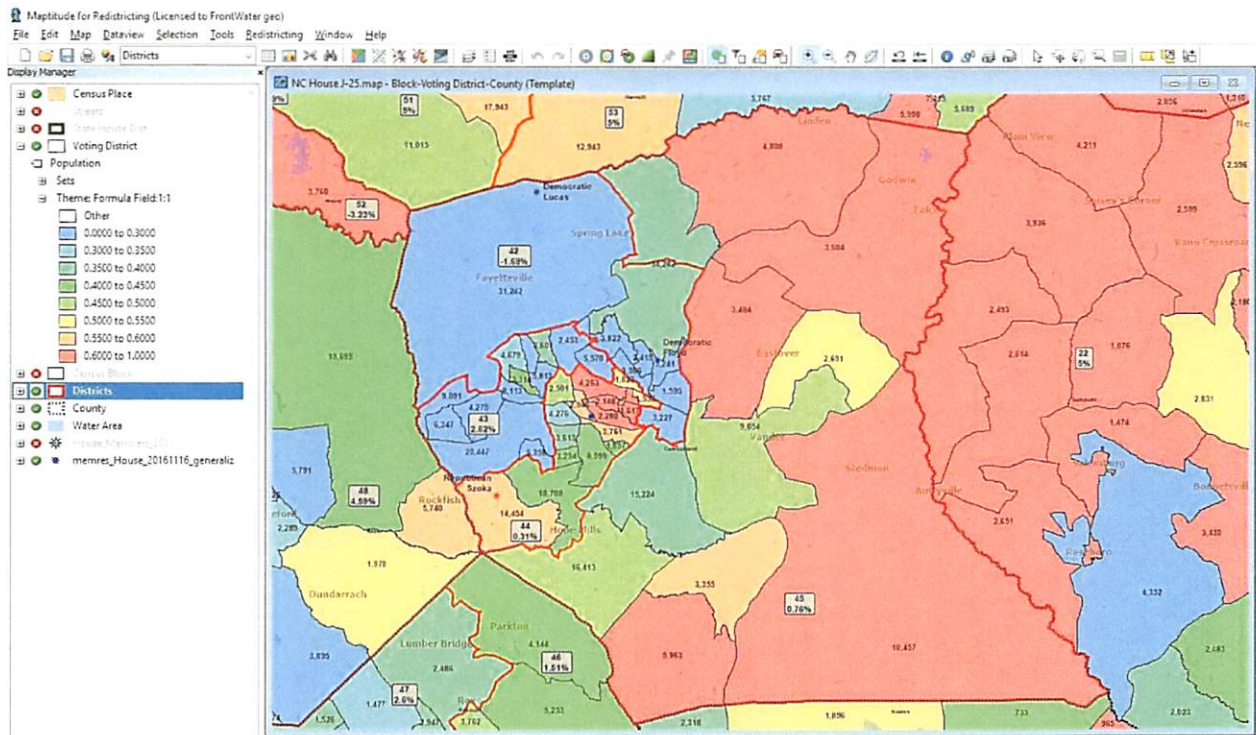
<sup>18</sup> Cooper Report, pp. 69-70.



## House Districts 42, 43, 44, and 45

These four districts are located within Cumberland County, a predominately Democratic county located near the South Carolina border and dominated culturally and economically by Fayetteville. To create the greatest chance for Republican victory in this cluster, the current district lines split the City of Fayetteville into four separate districts.<sup>19</sup> The screenshot from Dr. Hofeller's hard drive demonstrates that the primary mapmaker created these lines with knowledge of the geography of partisan voting patterns in this cluster. In fact, the final version of HD-45 in the enacted map was actually safer for the Republican Party than in this draft map from Dr. Hofeller's hard drive.

Figure 14: Partisan Targeting in House Districts 42, 43, 44, and 45

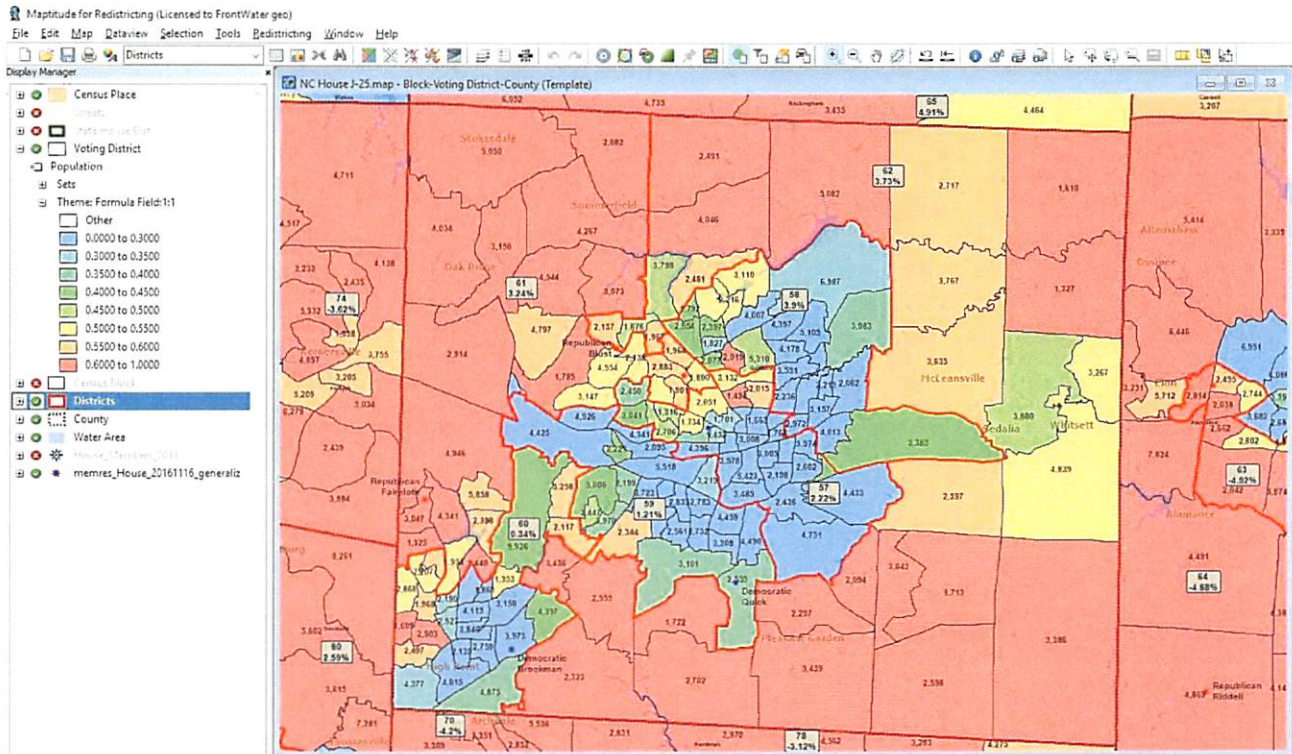


<sup>19</sup> Cooper Report, pp. 75-77.

## House Districts 58, 59, and 60

These three districts are all located in Guilford County. The current maps pack the Democratic areas in South Greensboro into HD-58 and the remainder of the Democratic VTDs into HD-60, leaving HD-59 to lean Republican.<sup>20</sup> Dr. Hofeller's partisan color-coded map demonstrates how the boundaries of the C-shaped district in the eastern side of Guilford County (HD-59, but labeled HD-62 in the figure below), meander along the edge of Greensboro, avoiding Democratic-leaning VTDs along the way.

Figure 15: Partisan Targeting in House Districts 58, 59, and 60



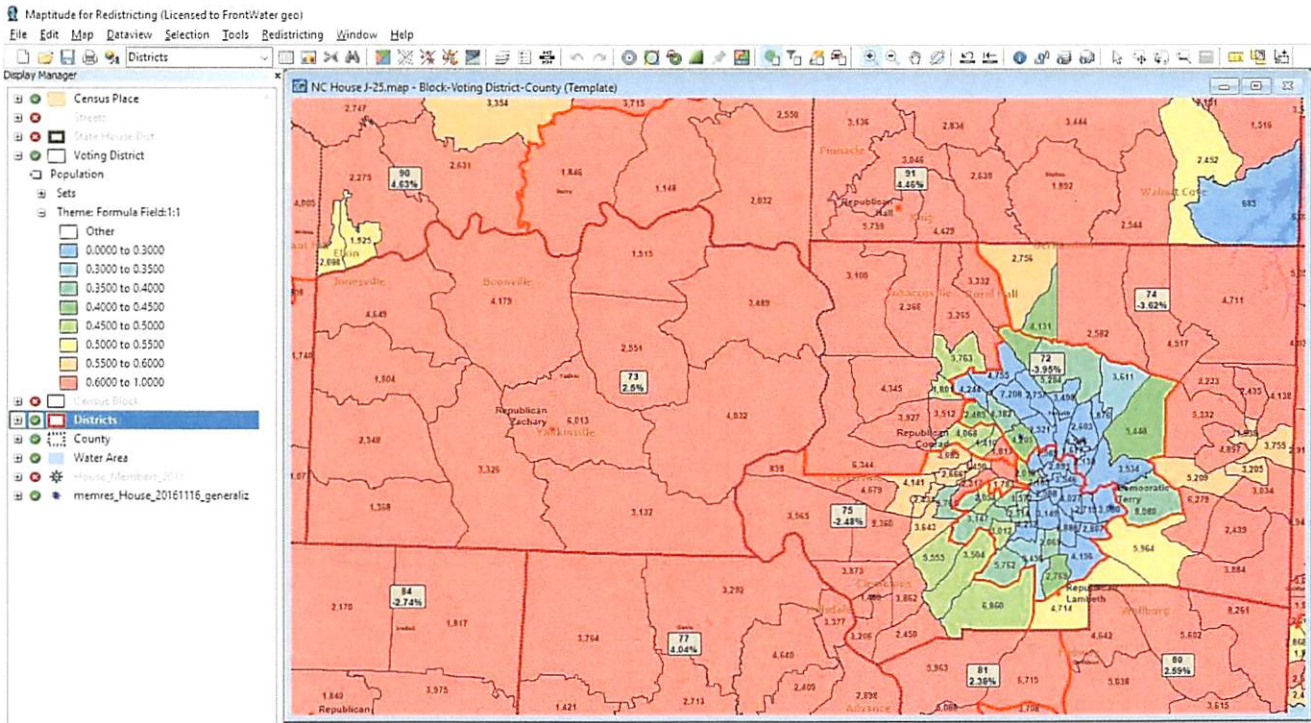
<sup>20</sup> Cooper Report, pp 81-82.



## House Districts 71, 72, 73, 74, and 75

These five House districts are located within a two-county cluster of Forsyth and Yadkin counties. The current maps split Winston-Salem into all five of these districts, watering down the influence of this Democratic stronghold.<sup>21</sup> As the screenshot below illustrates, Dr. Hofeller carefully packed all of the most Democratic VTDs into House Districts 71 and 72 (note that HD-71 is unlabeled in the figure below, but sits directly south of HD-72).

Figure 16: Partisan Targeting in House Districts 71, 72, 73, 74, and 75

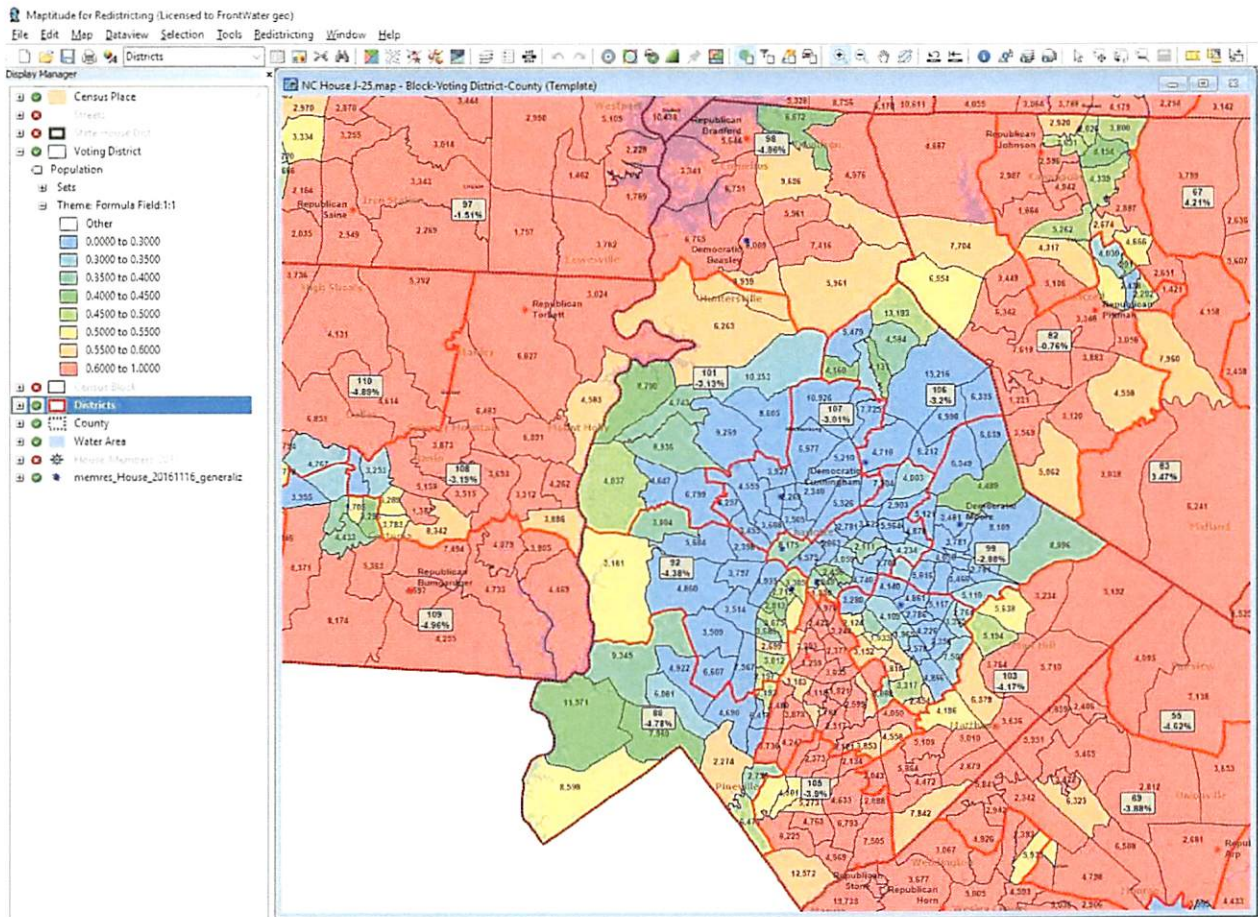


<sup>21</sup> Cooper Report, pp. 89-91.

House Districts 88, 92, 98, 99, 101, 102, 103, 104, 105, 106, and 107.

These districts are all located within Mecklenburg County, a county dominated economically, culturally and politically by the presence of Charlotte. The current district lines carve up Charlotte with remarkable precision.<sup>22</sup> As the screenshot from Dr. Hofeller’s hard drive demonstrates, Dr. Hofeller had full knowledge of the partisan implications of these decisions. Indeed, the red and orange (indicating Republican) slice of geography that resembles a pizza slice in the southeast corner of the map is clearly visible from these maps stored on Dr. Hofeller’s hard drive. This pizza slice tracks closely with the boundaries of HD-105 and HD-104 (unlabeled in the figure below, but sitting directly north of HD-105).

**Figure 17: Partisan Targeting in House Districts 88, 92, 98, 99, 101, 102, 103, 104, 105, 106, and 107.**



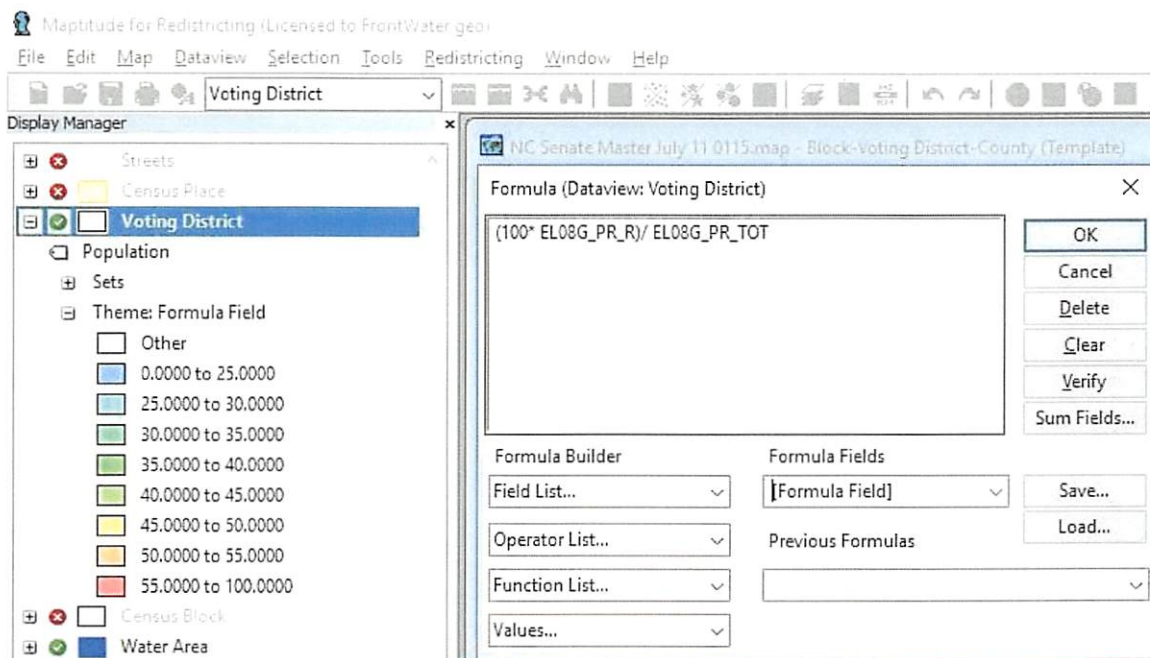
<sup>22</sup> Cooper Report, pp. 92-95.



## Partisan Intent in the Creation of 2011 Senate Maps

While many of the challenged districts were redrawn in 2017, two clusters remained constant from 2011 to 2017—SD-8 and SD-9, and SD-48 and SD-49. In 2011, Dr. Hofeller used a much simpler formula than he used in 2017. As displayed in the figure below, his partisan index was simply the Republican presidential candidate vote share over the total vote for President in a given geographic area.<sup>23</sup> Here VTDs with scores of 0-.25 are shaded dark blue, indicating a VTD that leans most heavily towards the Democratic Party. His color-coding then moves in increments of five-hundredths (.25-.30, .30-.35, .35-.40, .40-.45, .45-.50, .50-.55) until .55. Scores of .55-1.00 are shaded bright red, indicating the most Republican-leaning VTDs.

Figure 18: Partisan Formula Field for 2011 NC Senate Redistricting from Dr. Hofeller’s Hard Drive



<sup>23</sup> The 2011 Senate maps depicted here are all from the “NC Senate Master July 11 0115” plan saved in July, 2011. The file path for the (2011) “NC Senate Master July 11 0115” plan depicted in this subsection is “ES0007C\C\Seagate Dashboard 2.0\TOSHIBA-PC\toshiba\Backup\f7bc3748-d314-4cc2-a86b-ea77894bb5b2\20150328\_151333\_toshiba\C\MPRwork\NCPlans\NC Senate Master July 11 0115 Backups\NC Senate Master July 11 0115001.bak.zip”

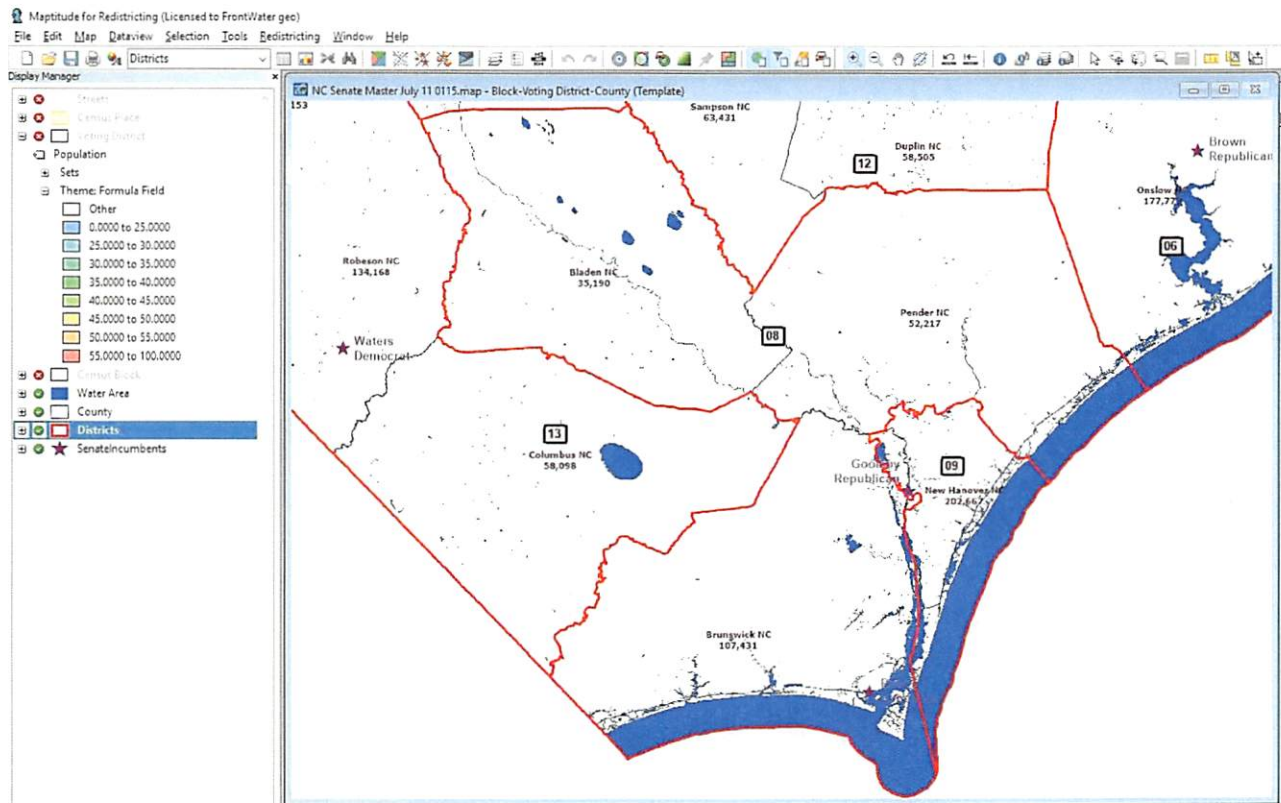
For the 2011 Senate maps, Dr. Hofeller clearly considered partisanship, but it appears that he did not have the partisanship “layer” (the “Formula Field” on the left side of Figure 18) turned on at the time when he saved these Maptitude files. This layer was deliberately constructed and exists within his files—displaying it for visual representation involves nothing more than a click of the mouse. Nonetheless, in the 2011 Senate map figures that follow, I reproducing these maps without the partisan layer turned on so as to provide a more faithful representation of how the maps existed on Dr. Hofeller’s hard drive when he saved them.



## Senate Districts 8 and 9

The first map in this series demonstrates Dr. Hofeller's knowledge of partisan voting patterns at the time when he created Senate Districts 8 and 9 in 2011. As I detailed in my original report, these two districts are the home of the "Wilmington Notch," where SD-8 juts east to grab Democratically-leaning VTDs in Wilmington, reducing the Democratic-lean of SD-9 and diluting those Democratic votes in heavily Republican SD-8.<sup>24</sup> As you can see from the formula field on the left side of the screenshot pasted below, Dr. Hofeller had access to visual evidence of the partisan implications of this strange incision into Wilmington when drawing these maps.

Figure 19: Partisan Targeting in Senate Districts 8 and 9

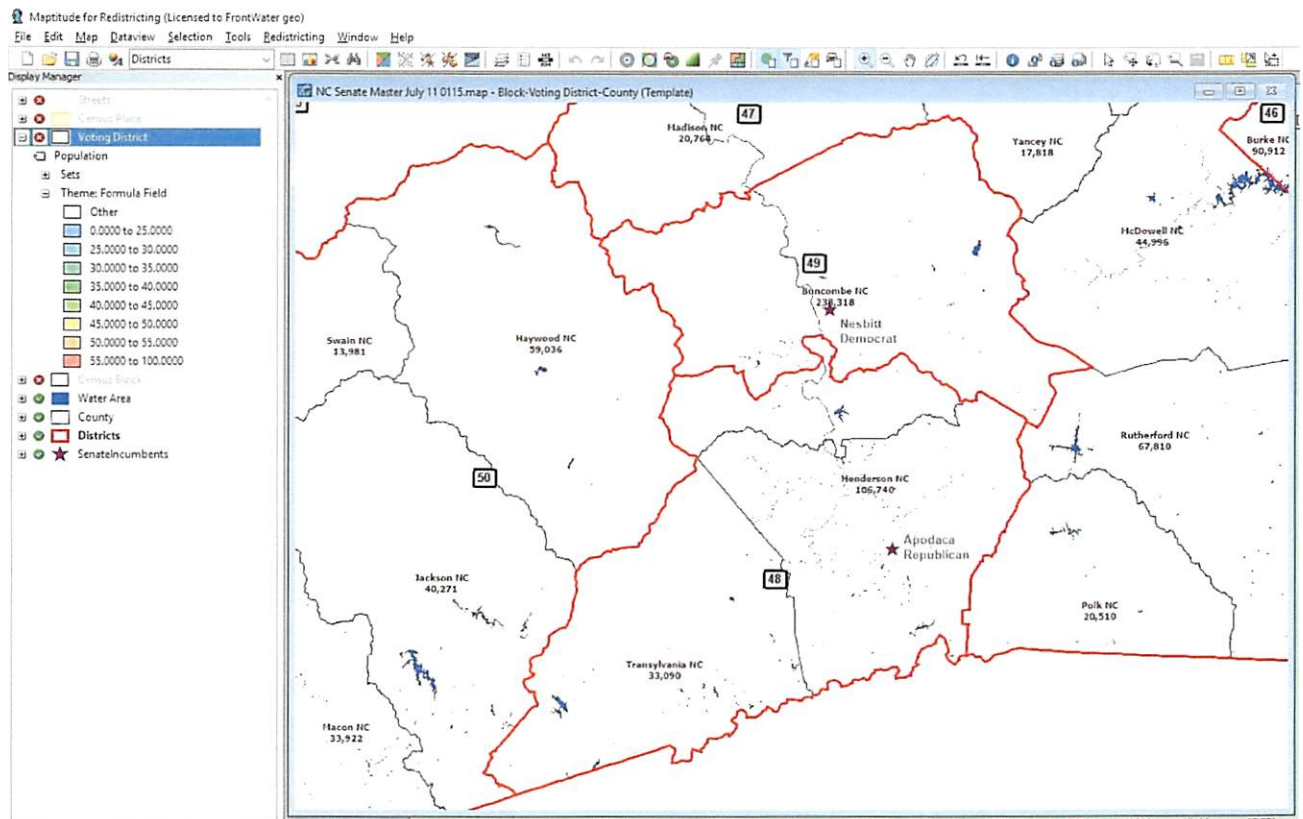


<sup>24</sup> Cooper Report, pp. 28-31.

## Senate Districts 48 and 49

Senate Districts 48 and 49 are located in western North Carolina, with Asheville as the cultural, economic, and political centerpiece of this cluster. The extant lines are drawn in such a way that SD-48 remains safely in Republican hands.<sup>25</sup> As you can see on the left side of the screenshot below, Dr. Hofeller had access to data that would show this partisan impact when he drew these lines.

Figure 20: Partisan Targeting in Senate Districts 48 and 49



<sup>25</sup> Cooper Report, pp. 49-50.

## Partisan Intent in the Creation of 2011 House Maps (July)

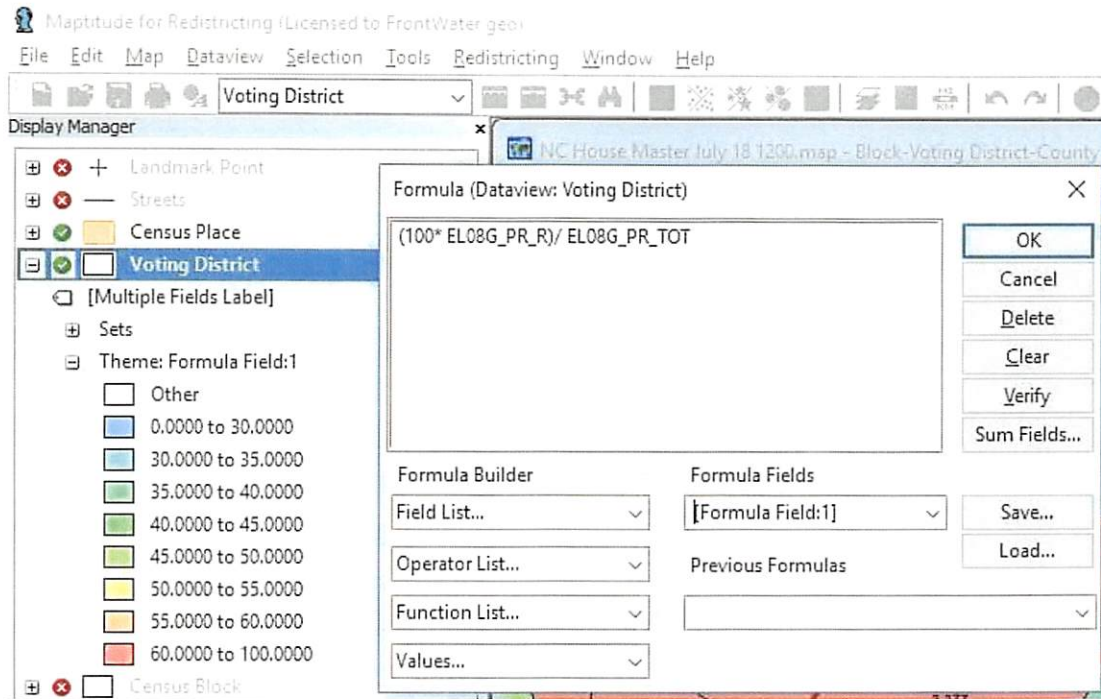
While many of the challenged districts in the House were redrawn in 2017, a few clusters remained constant from 2011 to 2017. Those clusters are presented below. Just as in his 2011 Senate maps, Dr. Hofeller used a much simpler formula in 2011 than he used in 2017 when constructing the House maps. As displayed in the figure below, his partisan index was simply the Republican presidential candidate vote share over the total vote for President in a given geographic area.<sup>26</sup> I present these results in two sections—first I present the map from HD-17, HD-18, HD-19, and HD-20 that was created in July 2011. Although he happened to save this file from July 2011 with the partisanship layer turned off, just like with the 2011 Senate maps discussed above, the partisan layer was present and could be toggled on and off with a click of the mouse.

The VTD coding here is almost identical to the colors in the 2011 Senate series. As the left side of the formula field indicates, VTDs with scores of 0-.30 are shaded dark blue, indicating a VTD that leans most heavily towards the Democratic Party. His color-coding then moves in increments of five-hundredths (.30-.35, .35-40, .40-45, .45-.50, .55-.55, .55-.60) until .60. Scores of .60-1.00 are shaded bright red, indicating the most Republican-leaning VTDs.

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<sup>26</sup> The 2011 House maps depicted here are all from the “NC House Master July 18, 1200” plan saved in July, 2011. Although 2011 is not mentioned in the file name its metadata clearly indicate that this plan was created and last modified in July, 2011. The file path for the (2011) “NC House Master July 18 1200” plan depicted for these districts is ES0007C\C\Seagate Dashboard 2.0\TOSHIBA-PC\toshiba\Backup\f7bc3748-d314-4cc2-a86b-  
ea77894bb5b2\20150328\_151333\_toshiba\C\MPRwork\NCPlans\NC House Master July 18 1200 Backups\NC House Master July 18 1200001.bak.zip

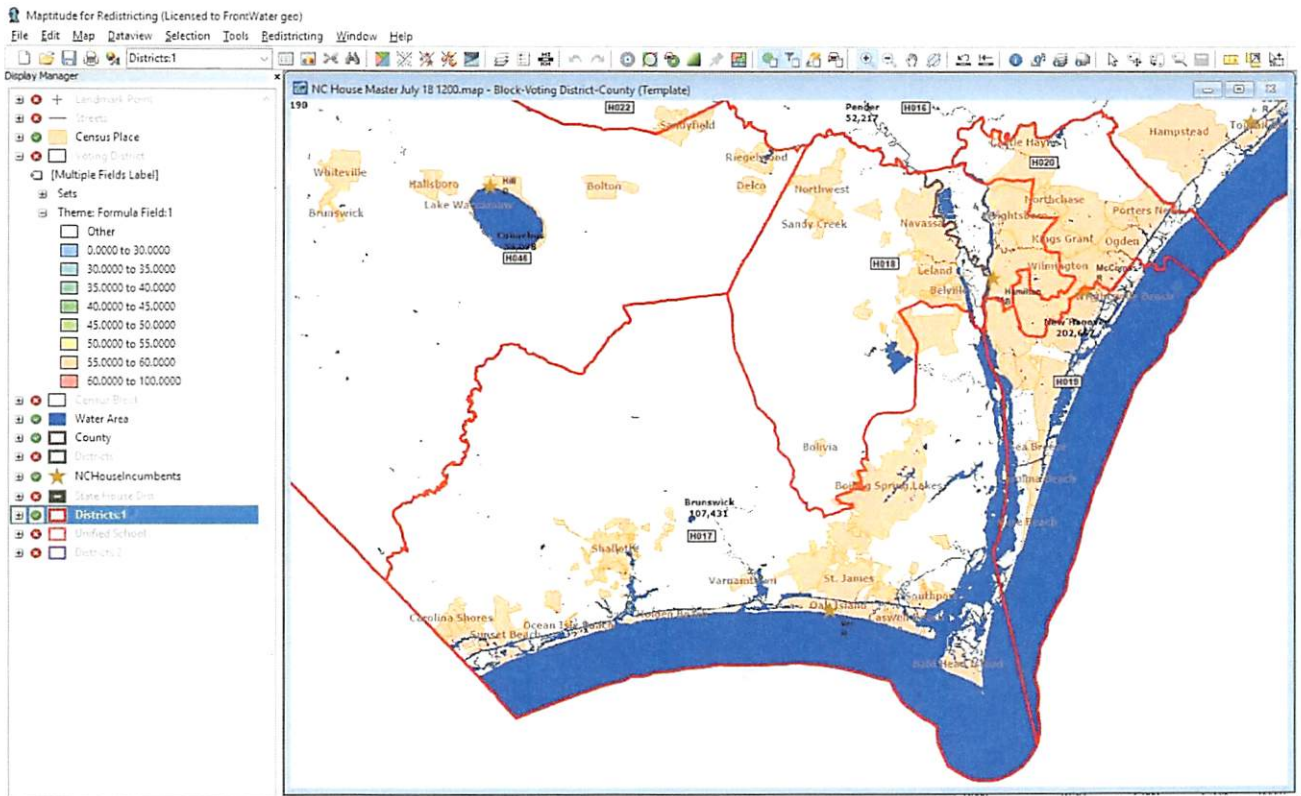
Figure 21: Partisan Formula Field for July 2011 House Redistricting



## House Districts 17, 18, 19, and 20

These four districts lie in a two-county cluster that includes New Hanover and Brunswick counties. Recall that the lines in this cluster packed Wilmington's most heavily Democratic VTDs in HD-18, and placed more moderate and Republican-leaning VTDs in HD-19 and HD-20.<sup>27</sup> The presence of the partisan scoring indicates that Dr. Hofeller understood the partisan implications of these boundaries.

Figure 23: Partisan Targeting in House Districts 17, 18, 19, and 20



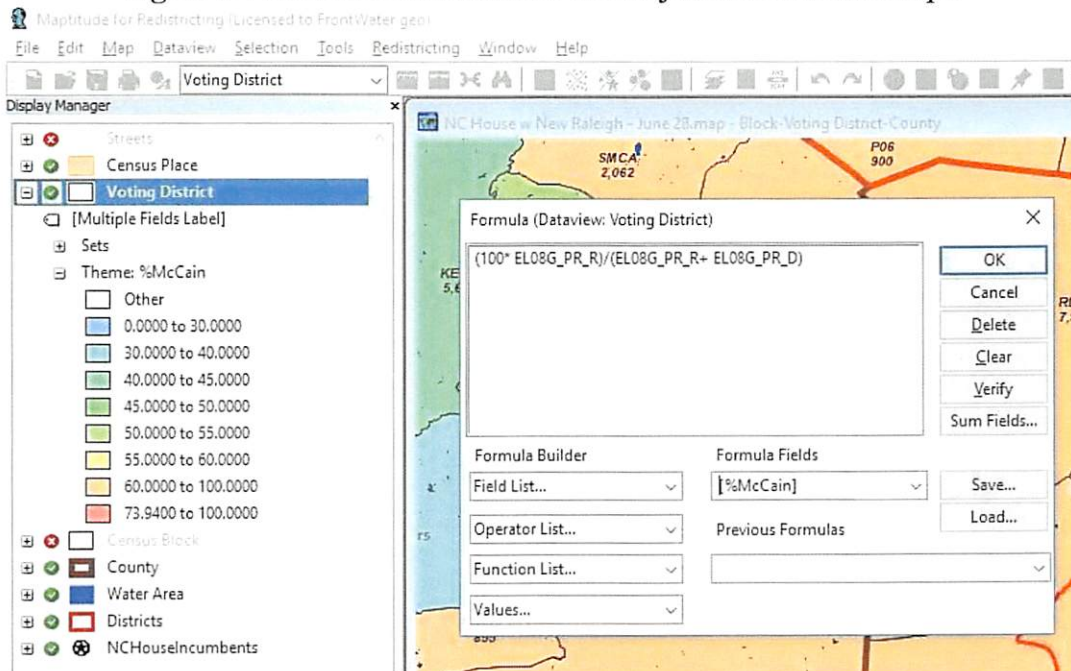
<sup>27</sup> Cooper Report, pp. 71-74.



## Partisan Intent in the Creation of 2011 House Maps (June)

While the maps saved in July 2011 were saved with the partisan layer available, but turned off, Dr. Hofeller also saved a series of maps with the partisan layer on during June (those were all saved under the name “NC House w New Raleigh-June 28”). These maps were also considered by Dr. Hofeller and used a similar Presidential vote share formula to produce his partisanship scores.<sup>28</sup> His coding here is similar to what I described in the previous description of July 2011 House maps but with slightly different bin sizes in a few places. Here, the most Democratic VTD is colored bright blue and represents VTDs with partisanship scores of 0-30. The next bin represents scores of 30-40, followed by 40-45, 50-55, and 55-60). The orange bin is labeled 60-100, but the red label represents 73.94 to 100, meaning that scores 60-73.63 would be represented as orange and 73.94 to 100 as red. I review these June 2011 maps below.

Figure 24: Partisan Formula Field for the June 2011 House Maps



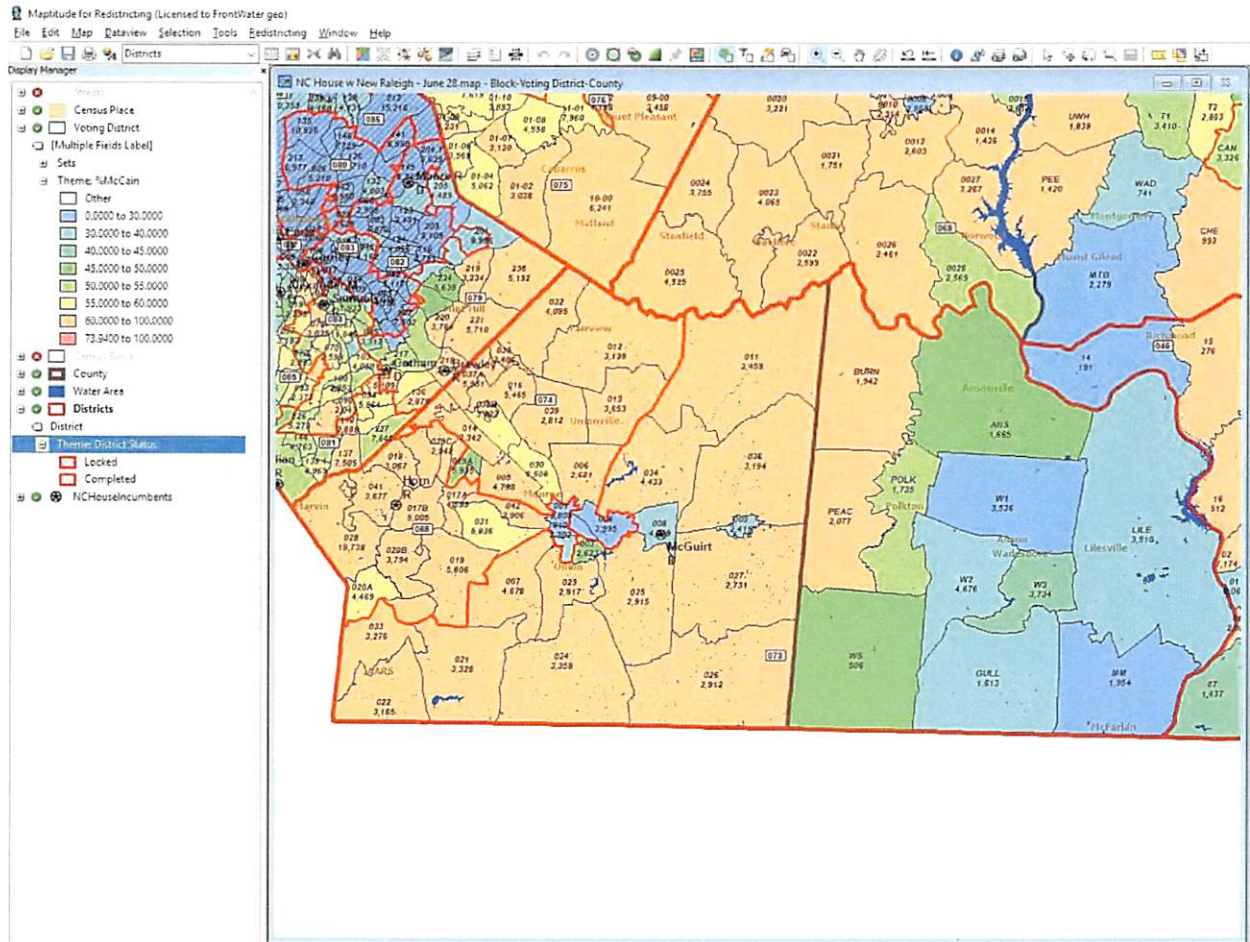
<sup>28</sup> The 2011 House maps depicted here are all from the “NC House w New Raleigh-June 28” plan saved in June 2011. The file path for the (2011) “NC House w New Raleigh - June 28” plan depicted in this subsection is ES0007C\C\Seagate Dashboard 2.0\TOSHIBA-PC\toshiba\Backup\f7bc3748-d314-4cc2-a86b- ea77894bb5b2\20150328\_151333\_toshiba\C\MPRwork\NCPlans\NC House w New Raleigh - June 28 Backups\NC House w New Raleigh - June 28005.bak.zip



House Districts 55, 58, and 69

These districts are located southeast of Charlotte in a two-county cluster that includes Anson and Union counties. The current district lines crack Monroe across three districts.<sup>29</sup> The screenshot below demonstrates that Dr. Hofeller knew the voting patterns of each of these VTDs and knew that placing the lines where he did would create lines that would benefit the Republican Party and Republican candidates.

Figure 25: Partisan Targeting in House Districts 55, 68, and 69

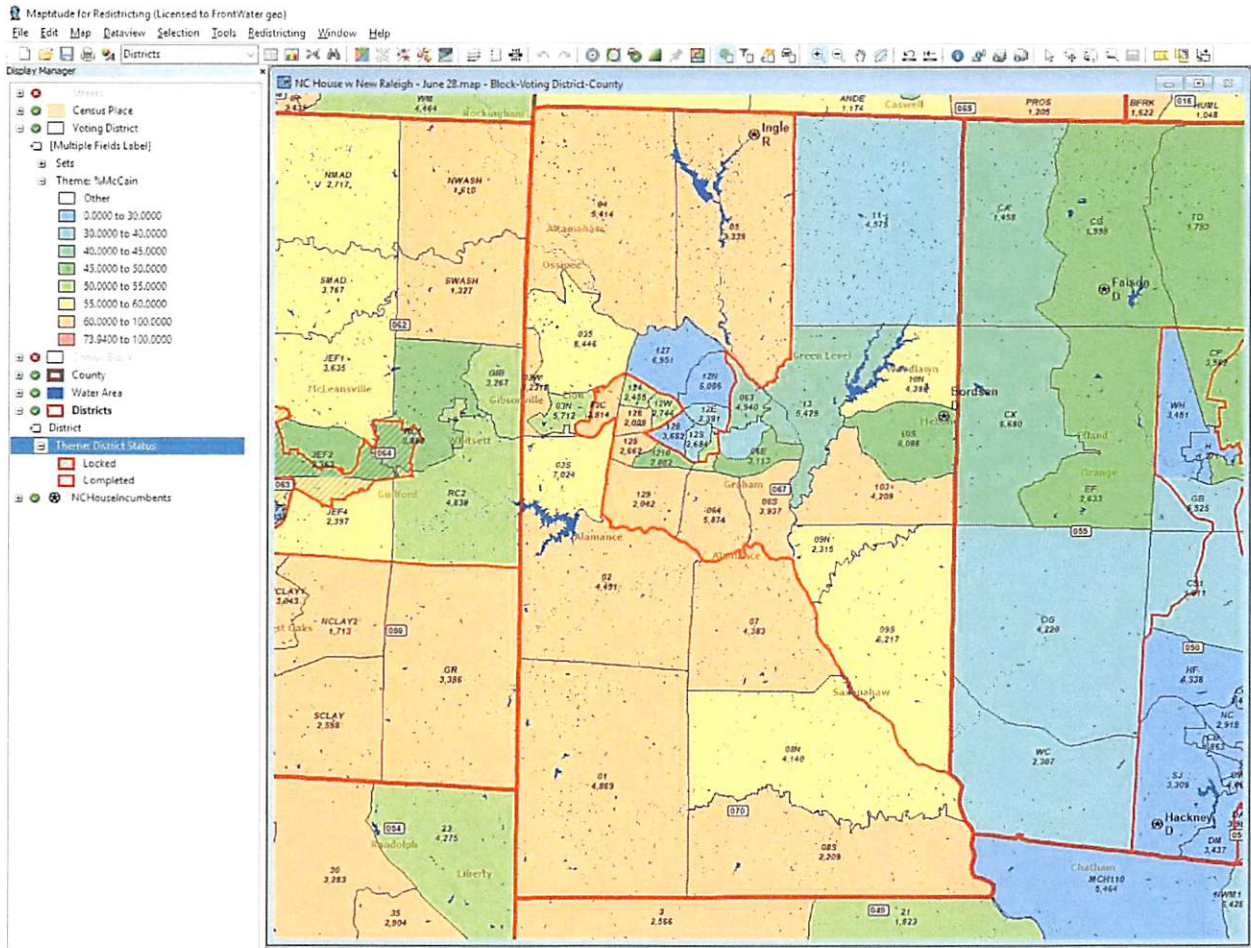


<sup>29</sup> Cooper Report, pp. 78-80.

## House Districts 63 and 64

House Districts 63 and 64 are located in Alamance County, a county east of Greensboro and west of Research Triangle Park. To create two Republican districts in this competitive county, the current map cracks the Democratic areas of Alamance across two districts.<sup>30</sup> As the screenshot from Dr. Hofeller’s hard drive demonstrates, this decision was made with awareness of the partisan implications of these lines, including the odd appendance of HD-63 that reaches up and into the western half of the county. This has the effect of pairing the Democratic (dark blue) areas near Burlington towards the center of the map with the Republican (orange) areas to their north.

Figure 26: Partisan Targeting in House Districts 63 and 64



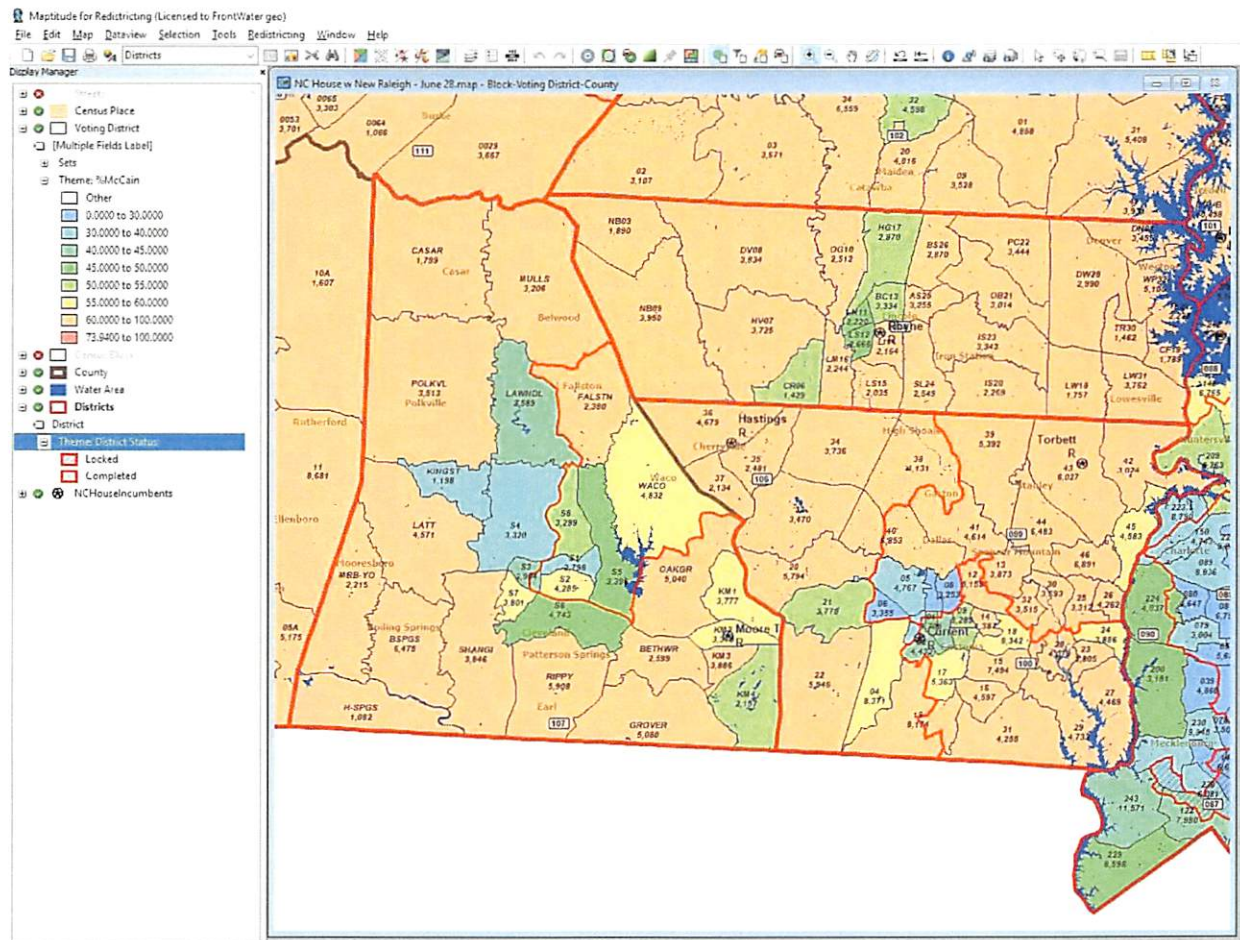
<sup>30</sup> Cooper Report, pp. 83-85.



## House Districts 108, 109, 110, and 111

These districts are located in Gaston and Cleveland counties, just west of Charlotte. This cluster featured two city splits (Gastonia and Shelby) that reduce Democratic voting power.<sup>31</sup> As the screenshot below illustrates, Dr. Hofeller was aware of the partisan implications of these district lines and the municipal splits that they entailed.

Figure 27: Partisan Targeting in House Districts 108, 109, 110 and 111

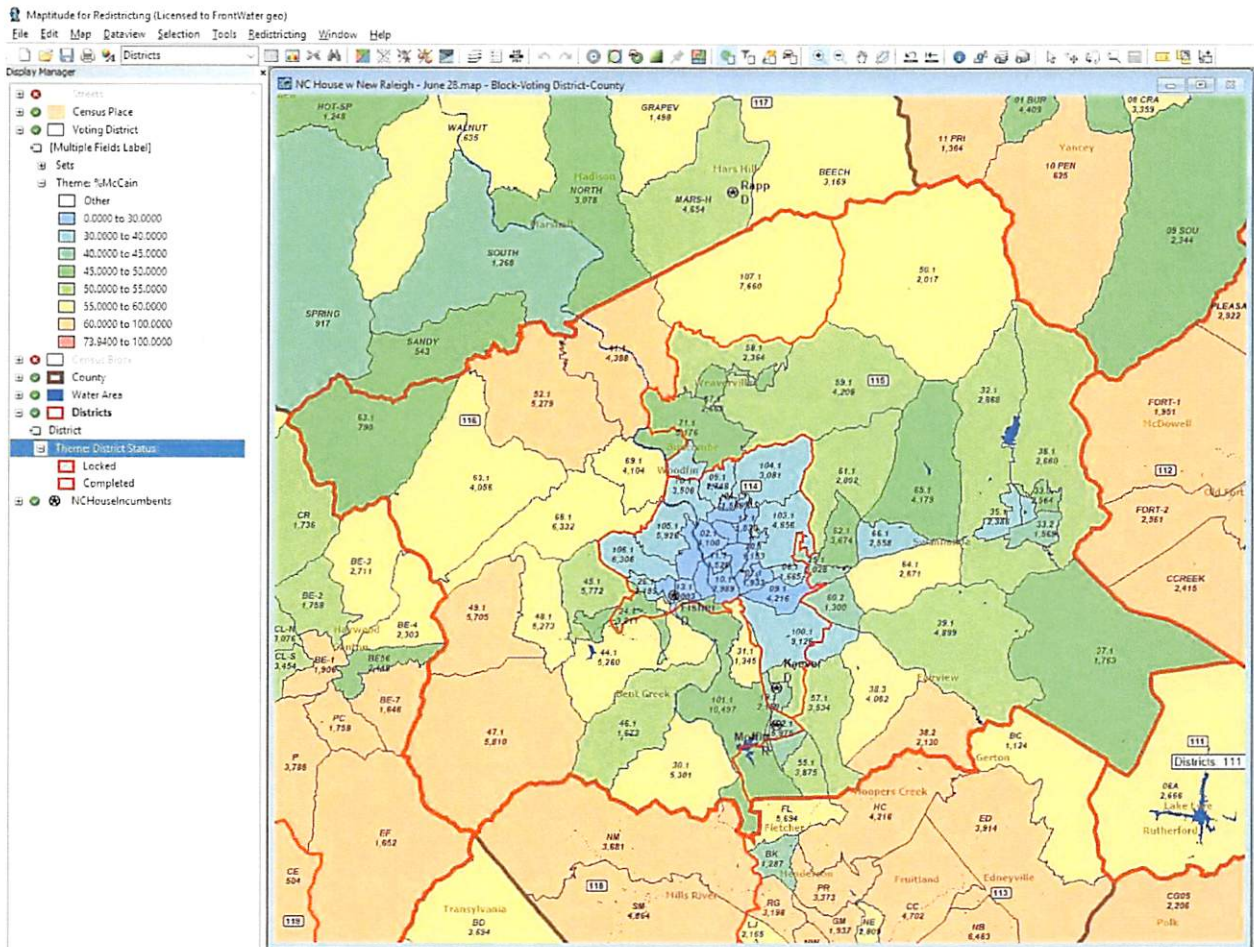


<sup>31</sup> Cooper Report, pp. 97-98.

## House Districts 114, 115, and 116

These three districts are located in the western part of the state and spiral around Asheville, the largest city in the region. As I illustrated in my previous report, the current lines unnecessarily split municipalities and even a college campus in order to further partisan aims.<sup>32</sup> As the map from Dr. Hofeller's hard drive indicates, Dr. Hofeller drew these lines with full awareness of their partisan implications. Note, in particular, how the blue areas at the center of the map are all contained within HD-114.

Figure 28: Partisan Targeting in House Districts 114, 115, and 116



In sum, contrary to the assertions of Drs. Hood, Johnson, and Brunell, the mapmaker (i.e., Dr. Hofeller) was not constrained or prevented from using partisanship in drawing the House and

<sup>32</sup> Cooper Report, pp. 99-102.

Senate districts at issue. He created an index of partisan voting patterns down to the VTD level and applied this scoring to craft each district boundary. The presence of this partisan scoring system indicates that Dr. Hofeller had full knowledge of the partisan implications of his districting decisions.

### Lewis' Assumptions Regarding African-American Representation

On pages 19-22 of his report, Dr. Lewis creates a model to estimate the minimum African-American percentage of the citizen-voting age population needed in particular areas of the state for candidates preferred by African-American to win general elections to the state legislature.<sup>33</sup> This model is ostensibly in service of Dr. Lewis' argument that some districts were drawn (or must be drawn) as they are to ensure African-American representation. But Dr. Lewis' analysis relies on three "assumptions about voting behavior"<sup>34</sup> that deviate from the reality of North Carolina politics. He assumes:

1. 100 percent of African Americans who are not Republicans and participate in the election will support the African American-preferred candidate,
2. No Republicans of any race or ethnicity and no whites who are not Democrats support the African American-preferred candidate, and
3. 75 percent of white (non-African American) Democrats support the African American-preferred candidate (who is also, by assumption, the Democrat).

Dr. Lewis presents no empirical support for these assumptions and they are contrary to what we know about North Carolina politics. For example, the second assumption requires not only that "no Republicans of any race or ethnicity" (including African-American Republicans) will vote for an African-American Democrat, it also assumes that "no white[s] who are not Democrats support the African-American candidate." That means that Dr. Lewis assumes that no white Unaffiliated voter will support an African-American Democrat. One-third of white registered voters in North Carolina, and 31 percent of whites who voted in the 2018 election, are Unaffiliated,<sup>35</sup> and Dr. Lewis' assumption that *none* of these voters would support an African-American Democrat is clearly not borne out in history. As a matter of fact, Hood and McKee find that Unaffiliated voters who were recent migrants to the state were one of the keys to African-American Democrat Barack Obama's 2008 victory in North Carolina.<sup>36</sup> While Unaffiliated voters have swung towards the Republican

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<sup>33</sup> Report of Dr. Jeffrey B. Lewis (hereinafter, "Lewis Report"), pp. 19-22.

<sup>34</sup> Lewis Report, p. 21.

<sup>35</sup> Less than one percent of registered whites are members of the Constitution (.02%), Libertarian (.61%), or Green (.02%) parties.

<sup>36</sup> Hood, M.V. III, Seth C. McKee, "What Made Carolina Blue? In-Migration and the 2008 North Carolina Presidential Vote," *American Politics Research* 38, no. 2 (2010): 266-302.



Party in recent years, it is simply not credible to suggest that *none* of these Unaffiliated whites would choose an African-American Democrat. As for Dr. Lewis' third assumption that 75% of white Democrats in every area of the state that he analyzes would support the African-American-preferred candidate, that unfounded assumption presumes that white willingness to vote for an African-American candidate is remarkably static across space. In fact, we know that counties that had larger slave-holding populations in 1860 have higher levels of racial resentment, lower support for Affirmative Action, and a more negative affect towards African-Americans than counties with fewer slaves.<sup>37</sup> In the context of North Carolina, that means we might see more negative attitudes towards African-Americans (and presumably African-American candidates) in the predominately rural counties in Northeastern and Eastern North Carolina, but less negative attitudes in other areas of the state, including in many of the districts on which Plaintiffs have focused their challenge.

While I believe that Lewis' assumptions are unrealistic on their face, they are also problematic in that they produce systematically biased predictions about election outcomes. To demonstrate this, I downloaded the publicly available voter history file (which lists past voting history) and merged that with the publicly available voter registration file (which includes partisanship). I then applied Dr. Lewis' assumptions to the 2018 General Assembly general elections where an African-American Democrat appeared on the ballot.<sup>38</sup> The tables below present the results of this analysis. Table 1 includes results from the North Carolina state Senate—beginning with the Senate county groupings that were included in Dr. Lewis' Table 4 (Senate Districts 28 and 32), followed by the Senate county groupings that were not included in Dr. Lewis' Table 4. Similarly, Table 2 presents the results for House county groupings that Dr. Lewis did and did not analyze.

As you can see, Dr. Lewis' assumptions systematically *understate* the level of support for African-American candidates. For the Senate county groupings included in Lewis' Table 4, that underestimation averages 17.5%. For the groupings that had African-American Senate candidates but were not included in Table 4, the average was smaller but still significant (8%). In the House, Dr. Lewis' assumptions would have underestimated support for the African-American Democratic candidate by ~5% in the groupings that he includes in Table 4 and ~13% in the county groupings with African-

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<sup>37</sup> Acharya, Avidit, Matthew Blackwell, and Maya Sen, "The Political Legacy of American Slavery," *Journal of Politics* 78(3) (2016): 621-641.

<sup>38</sup> This procedure slightly over estimates voter turnout since some of the people who voted in the 2018 election did not vote in the 2018 General Assembly election (due to ballot roll-off). There are also some people who voted in this election, moved from the state (or passed away) and filed the proper paperwork to be removed from the voter file. The resulting overestimation averages less than 1% of the total turnout in the Senate (.77%) and less than 2% of the turnout in the House (1.65%) in the House

American House candidates that were not included in his table. This underestimation was more pronounced in the most urban counter clusters (Durham, Guilford, Forsyth, Wake, and Orange).

In conclusion, Dr. Lewis' model relies on three key assumptions that do not reflect the realities of North Carolina politics and partisanship. Applying his assumptions to real-world data reveals that Dr. Lewis underestimates the support for African-American candidates by substantial margins, particularly in urban areas of the state.

Table 1: Applying Lewis' Three Assumptions to the 2018 NC Senate Elections

County Grouping	Senate District	Predicted % for African-American Democratic Candidate Using Lewis Assumptions	Actual % for African-American Democratic Candidate in 2018	Lewis Under-Estimation of Support for African-American Democratic Candidate
<b>Senate County Groupings Listed in Dr. Lewis' Table 4</b>				
Alamance-Guilford-Randolph	28	56%	75%	19%
Davie-Forsyth	32	57%	73%	16%
			Average	17.50%
<b>Senate County Groupings Not Listed in Dr. Lewis' Table 4</b>				
Beaufort-Bertie-Martin-Northampton-Vance-Warren	3	57%	54%	-3%
Chatham-Orange	23	40%	74%	34%
Cleveland-Gaston-Lincoln	43	29%	34%	5%
Cleveland-Gaston-Lincoln	44	27%	31%	4%
Columbus-Robeson	13	55%	38%	-17%
Cumberland-Hoke	21	64%	71%	7%
Davidson-Montgomery	29	22%	28%	6%
Duplin-Harnett-Johnston-Lee-Nash-Sampson	10	38%	37%	-1%
Durham-Granville-Person	20	58%	84%	26%
Edgecombe-Halifax-Wilson	4	60%	58%	-2%
Franklin-Wake	14	53%	71%	18%

Greene-Pitt	5	47%	55%	8%
Iredell-Yadkin	34	20%	30%	10%
Mecklenburg	40	59%	76%	17%
			Average	8.00%
Average Across All 2018 Senate Elections with African-American Democratic Candidates				9.19%

Table 2: Applying Lewis' Three Assumptions to the 2018 NC House Elections

County Grouping	House District	Predicted % for African-American Democratic Candidate Using Lewis Assumptions	Actual % for African-American Democratic Candidate in 2018	Lewis Under-Estimation of Support for African-American Democratic Candidate
<b>House County Groupings Listed in Dr. Lewis' Table 4</b>				
Bladen-Greene-Harnett-Johnston-Lee-Sampson-Wayne	21	52%	53%	1%
Columbus-Pender-Robeson	46	50%	37%	-13%
Cumberland	42	69%	78%	9%
Cumberland	43	66%	74%	8%
Forsyth-Yadkin	71	53%	73%	20%
Forsyth-Yadkin	72	63%	79%	16%
Franklin-Nash	7	38%	42%	4%
Franklin-Nash	25	53%	53%	0%
Granville-Person-Vance-Warren	2	43%	45%	2%
Granville-Person-Vance-Warren	32	66%	65%	-1%
Guilford	58	62%	77%	15%
Guilford	60	56%	69%	13%
Lenoir-Pitt	8	59%	65%	6%
Lenoir-Pitt	12	50%	44%	-6%
			Average	5%

**House County Groupings Not Listed in Dr. Lewis' Table 4**

Alamance	64	32%	42%	10%
Anson-Union	55	32%	35%	3%
Beaufort-Craven	3	32%	44%	12%
Beaufort-Craven	79	36%	39%	3%
Bertie-Camden-Chowan- Perquimans-Tyrrell- Washington	1	49%	47%	-2%
Cabarrus-Davie- Montgomery-Richmond- Rowan-Stanly	82	31%	47%	16%
Chatham-Durham	29	57%	88%	31%
Chatham-Durham	31	62%	84%	22%
Chatham-Durham	54	37%	63%	26%
Cleveland-Gaston	110	30%	32%	2%
Davidson	80	18%	25%	7%
Duplin-Onslow	4	37%	36%	-1%
Duplin-Onslow	14	31%	41%	10%
Edgecombe-Martin	23	65%	61%	-4%
Gates-Hertford- Pasquotank	5	57%	60%	3%
Hoke-Scotland	48	56%	63%	7%
Mecklenburg	92	50%	70%	20%
Mecklenburg	99	71%	82%	11%
Mecklenburg	101	65%	79%	14%
Mecklenburg	104	22%	52%	30%
Mecklenburg	106	63%	81%	18%
Wake	33	59%	79%	20%
Wake	37	27%	51%	24%
Wake	38	61%	84%	23%
Average				13%
Average Across All 2018 House Elections with African-American Democratic Candidates				9.97%

### **Hood on the Potential for Geographic Clustering**

Much of Dr. Hood's original and supplemental reports are concerned with the potential for geographic clustering, the phenomenon whereby Democrats tend to be located in urban areas and Republicans in rural areas. Dr. Hood also describes geographic clustering by region by applying V.O. Key's four-part regional breakdown to demonstrate that certain areas of the state (such as the Coastal Plain) tend to lean toward the Democratic Party while others (such as the Mountain region) tend to lean towards the Republican Party.<sup>39</sup> I do not disagree with Dr. Hood that North Carolina (like any state) displays regional voting patterns, but such regional variation does not explain the electoral outcomes benefiting Republicans at the expense of Democrats in those districts profiled in my original report. Each one of the district clusters is contained within a single geographic area. As a result, while it may be true that certain regions historically tend towards one party, those historical tendencies do not contradict my opinion that the current state legislative district lines increase the probability of Republican victories and reduce the probability of Democratic victories *within* each cluster. For example, Dr. Hood's map shows a large dark blue patch around the Charlotte/Mecklenburg County region.<sup>40</sup> Despite the clear lean towards the Democratic Party in this region, the current maps place *every Republican-leaning VTD within the Charlotte city limits* into House Districts 103, 104, and 105 in order to increase the probability of Republican victory.

### **Brunell on Gerrymandering and Party Polarization**

Dr. Brunell addresses two points from my original report. First, he cautions that "while redistricting is often mentioned as one of the usual suspects when it comes to the political polarization that we have been experiencing nationwide, it is fairly clear that redistricting has very little to do with the political extremism we have witnessed in modern American politics."<sup>41</sup> Dr. Brunell's statement about modern political extremism has merit, but I find his inclusion of this point in his report as curious. Nowhere in my original report did I say that gerrymandering causes polarization. My point is a simple one: the current General Assembly district lines created a situation that advantages Republican candidates at the expense of Democratic candidates and voters. As a result, the North Carolina General Assembly has become more much conservative than the average North Carolinian.

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<sup>39</sup> Hood Report I, Figure 1, p. 18.

<sup>40</sup> Hood Report I, Figure 1, p. 18.

<sup>41</sup> Brunell Report, p. 12

### **Barber on Historical Trends in the North Carolina Legislature**

Dr. Barber notes that “until the 1970s, the state legislature was nearly entirely dominated by the Democratic Party.”<sup>42</sup> According to Dr. Barber, the decline in Democratic partisanship is a longer-trend and has not been affected by gerrymandering. Of course, the North Carolina General Assembly—like the entire American South—was dominated by the Democratic Party through the 1980s. At the same time, the Democratic Party’s strength was never as strong in North Carolina as it was in most other southern states. Moreover, the slope of the decline in Democratic partisanship in North Carolina was historically much slacker than it was in most other southern states. Beginning in 2010 and picking up steam in 2012, however, the Democratic decline and Republican rise in North Carolina’s General Assembly became much more pronounced—particularly as compared to North Carolina’s southern neighbors like Georgia, Virginia, and South Carolina.<sup>43</sup> Gerrymandering, therefore, may not have lit the fire of partisan change in North Carolina, but it certainly added the gas necessary to keep it going.

### **Brunell and Barber on Moderation**

Drs. Brunell and Barber both take issue with my characterization of North Carolinians as “moderate.” Dr. Brunell argues that just because North Carolina is moderate in the aggregate does not mean that constituent parts of the state are moderate.<sup>44</sup> Dr. Barber’s critique is more extended and pronounced. First, he takes issue with the Berry et al. ideology measure I present on page 10 of my original report. Second, he notes that ideology measures create “artificial moderation.”<sup>45</sup> Third, and finally, he raises “the idea that voters can be, and often are, simultaneously ideologically moderate, yet decidedly partisan.”<sup>46</sup>

It is true that every state has liberal and conservative strongholds, and North Carolina is no different. I discussed North Carolina’s moderation simply to note that the sudden and dramatic rise in Republican presence in the General Assembly was not precipitated by a sudden shift towards conservatism across the state. In this sense, Dr. Barber’s critique of the Berry et al. citizen ideology

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<sup>42</sup> Report of Dr. Michael Barber (hereinafter, “Barber Report”), p. 9.

<sup>43</sup> Cooper, Christopher A., and H. Gibbs Knotts, “Partisan Change in Southern State Legislatures, 1953-2013,” *Southern Cultures* 20, no. 2 (2014): 75-89.

<sup>44</sup> Brunell Report, p. 13.

<sup>45</sup> Barber Report, p. 7

<sup>46</sup> Barber Report, p. 9.



measure is a bit of a red herring. As he acknowledges, a second measure discussed in my paper comes to largely the same conclusion—North Carolinians are fairly moderate in aggregate. Indeed, I am not aware of any measure of public ideology that concludes that North Carolinians are anything other than ideologically average. We North Carolinians are, on the whole, neither extremely liberal nor extremely conservative.

To be sure, aggregating policy questions in surveys may produce “artificial moderation” as Dr. Barber implies, but I am not examining these data in a vacuum. Rather, I am comparing North Carolina to other states. To completely discount my conclusions as Dr. Barber suggests, one would have to believe that there is something inherent in the North Carolina citizenry that makes citizen surveys produce more “artificial moderation” than for citizens in other states. There is no reason to believe that is the case. Similarly, Dr. Barber’s final point that “voters can be, and often are, simultaneously ideologically moderate, yet decidedly partisan” might be a persuasive critique were these ideology data presented without comparisons to other states and without any analysis of partisanship in other offices. But again, the reality remains that *compared to citizens in other states*, North Carolinians appear fairly average. The expressed partisan will of North Carolina voters does not lean heavily towards one party or the other.<sup>47</sup> Yet the General Assembly clearly does.

### **Hood and Barber on Seats to Votes**

Drs. Barber and Hood both analyze the seats to votes relationship in North Carolina’s General Assembly, wrongly suggesting that the highly disproportionate share of seats Republicans hold in relation to the votes Republican candidates received is not relevant to an analysis of gerrymandering. Dr. Barber agrees that the seats to votes ratio advantaged the Republican party in 2018, but he discounts the importance of this finding—first using a “toy” example,<sup>48</sup> and then concluding that a party winning a majority of the seats in the General Assembly while only receiving a minority of the vote is not “all that rare” in North Carolina, historically.<sup>49</sup> While such an outcome has occurred previously in North Carolina political history and indeed, during periods of Democratic Party dominance, my analysis suggests that the Republican Party learned from the example set by the former majority party and has moved gerrymandering in North Carolina from art to science. I do not argue that a party’s statewide vote margin in North Carolina should “exactly

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<sup>47</sup> Cooper Report, pp. 4-8.

<sup>48</sup> Barber Report, p. 11.

<sup>49</sup> Barber Report, p. 11-14.

translate to the same proportion of seats by that party in the legislature,”<sup>50</sup> but the *gross disproportionality* between the Republican vote margin and the seats Republicans have won in the General Assembly is certainly indicative of a partisan gerrymander.

### Response to Report of Karen L. Owen<sup>51</sup>

Dr. Karen Owen’s report is intended to “describe and assess concepts and practices of representation and to analyze competitive elections for both the North Carolina state House and state Senate in 2018.”<sup>52</sup> In an important respect, the story of North Carolina’s partisanship according to Dr. Owen is not incompatible with the one I presented in my original report. Like me, she cites V.O. Key’s seminal work from 1960 highlighting North Carolina’s moderate politics near the midpoint of the 20<sup>th</sup> century.<sup>53</sup> She also cites J. Michael Bitzer and Charles Prysby’s more recent analysis describing North Carolina as a “competitive partisan battlefield occupied by two ideologically hostile parties and with an uncertain outcome.”<sup>54</sup> But she does not attribute any of the gap between the state’s moderate citizenry and its overwhelmingly Republican legislature to gerrymandering. This conclusion is puzzling and at odds with the sources on which she relies. Indeed, in the same chapter that Dr. Owen cites, Bitzer and Prysby note, “Republicans created significant numbers of non-competitive seats in both chambers, with Democratic-leaning districts packed into urban areas and Republican districts in suburban and rural areas.”<sup>55</sup> Bitzer and Prysby also point to the significant gap between the “division of the vote and the division of the seats.”<sup>56</sup> Dr. Owen and I agree that North Carolina is best described as a politically moderate state, as demonstrated by two-party competitiveness in statewide elections, but we disagree about whether the current North Carolina General Assembly composition reflects that two-party tradition. We also disagree about whether gerrymandering is a contributing factor to the stark difference between the party composition of the General Assembly and the expressed will of the people. The evidence I presented in my previous report, along with the conclusions of other North Carolina-based political scientists, suggests that the General Assembly represents an exception to the trend of two-party

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<sup>50</sup> Barber Report, p. 11.

<sup>51</sup> This section of my rebuttal report is reproduced identically from the report I submitted on June 4, 2019. I have duplicated it here for ease of review.

<sup>52</sup> Expert report of Karen L. Owen (hereinafter “Owen Report”), p. 2.

<sup>53</sup> Key, V.O., Jr, *Southern Politics in State and Nation* (Knoxville, TN: University of Tennessee Press, 1960).

<sup>54</sup> Bitzer, J. Michael, and Charles Prysby, “North Carolina: A Growing Political Divide,” in *The New Politics of the Old South: An Introduction to Southern Politics* (Washington DC: CQ Press, 2018), 186. Cited by Owen Report, p.3.

<sup>55</sup> Bitzer and Prysby, p. 192.

<sup>56</sup> Bitzer and Prysby, p. 197.

politics in North Carolina and that the current district lines have created uncompetitive districts and a tilted playing field that consistently advantages Republican voters over Democratic voters.

### Competitiveness

In section IV.A.1 of Dr. Owen’s report, she labels 25 state House seats as “competitive,” defined as having elections decided by less than 10 percentage points in 2018. In Section IV.A.2 she identifies 10 state Senate seats that meet the same standard of competitiveness. She then profiles these races and concludes that Republican victors in these districts could have been defeated had the Democrats “recruited stronger candidates—higher name identification and community engagement—with moderating political views that could attract more unaffiliated and some Republican voters as well as if they fully supported that candidate with organizational infrastructure and funding.”<sup>57</sup>

There are four problems with this analysis. First, her method is to identify competitive districts and then conclude that those districts are, indeed, competitive, and therefore could have experienced different electoral outcomes if different candidates had been running. Dr. Owen does not analyze whether these districts would have been competitive *but for* the gerrymandering; it is likely that many of the currently competitive seats would be relatively safe Democratic seats had there been no gerrymandering. Moreover, Dr. Owen does not analyze other districts that are currently not competitive but that would be competitive but for the gerrymandering. To the extent that the creators of the current state House and state Senate districts sought to create “competitive” districts, they did so in an entirely one-sided fashion: they sought to create competitive districts for Republicans in regions that otherwise would produce safe Democratic seats, but in regions that otherwise would produce competitive or Republican-leaning districts, they ensured that those districts would *not* be competitive for Democrats. Dr. Owen’s analysis therefore does not demonstrate anything about the intent of the mapmakers or the effects of the gerrymander.

Second, 4 of the 10 Senate and 7 of the 25 House districts she analyzes are not districts on which Plaintiffs are focusing in this case (these are Senate Districts 1, 3, 7, and 19 and House Districts 1, 3, 21, 24, 51, 93, and 119). As a result, it is unclear how they inform the facts of this case.

Third, much of Dr. Owen’s analysis of individual races, and therefore her conclusions about candidate positioning and candidate quality, rests upon evidence that is difficult to confirm or is

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<sup>57</sup> Owen Report, p. 17.

based on speculation. For example, many of the facts she includes in her report are taken from a news aggregation service called “Real Facts NC” (RFNC).<sup>58</sup> In one example, when describing Republican representative John Alexander as a “moderate,” Dr. Owen relays that he “quip[ped] in one of his ads that he would vote as his Democratic wife told him.”<sup>59</sup> While the RFNC Election report Dr. Owen cites does contain that statement, there is no link or citation to the ad, itself—making it impossible to determine its context. Similarly, Dr. Owen posits that Democrat candidate Erica McAdoo “sens[ed] a change in the political nature of the district—new and young voters with fresh ideas,” and then describes her rhetoric as “overly ambitious” but provides no evidence for this claim.<sup>60</sup> When describing the SD-7 race, Dr. Owen speculates that the Democratic candidate “did not take advantage of his opponent’s lack of community engagement and representation,”<sup>61</sup> with no support, and she suggests that SD-9 Senator Mike Lee “had grown rather unpopular in the New Hanover district for his handling of the drinking water issue”<sup>62</sup> with no evidence other than a citation to a RFNC report. In certain instances, the facts Dr. Owen provides do not stand up to additional scrutiny. When discussing SD-1, she describes the race as “a closely watched, toss-up race with twice as many registered Democrats.”<sup>63</sup> The ratio of Democrats to Republicans in SD-1 is not, in fact, 2:1, but rather 1.57:1 (54,371 Democrats v. 34,420 Republicans). Further, about one in three (32.7%) registered voters in SD-1 are not Republicans or Democrats, but rather Unaffiliated. These Unaffiliated voters in SD-1 voted in the Republican, rather than the Democratic primary 61.56% of the time in 2018.

Fourth and finally, much of Dr. Owen’s analysis of individual contests actually *supports* Plaintiffs’ claims. Dr. Owen notes that the Democratic candidates in HD-19 and HD-63 vastly outraised their Republican opponents, but the Democrats still lost those races—meaning that the gerrymander of these districts held despite the Democratic advantages in spending and an enormously favorable electoral environment in 2018. Dr. Owen also notes that the Democratic candidate in HD-103 (Rachel Hunt) outraised her Republican opponent (Bill Brawley) by more than \$1.2 million, and enjoyed name recognition as the daughter of former Governor Jim Hunt. Despite these significant advantages, Rachel Hunt won the district by only 68 votes. Thus, Democrats

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<sup>58</sup> See Owen Report, at footnotes 28, 39, 42, 53, 58, 60, and 62.

<sup>59</sup> Owen Report, p. 16.

<sup>60</sup> Owen Report, pp. 12-13.

<sup>61</sup> Owen Report, p. 15.

<sup>62</sup> Owen Report, p. 15.

<sup>63</sup> Owen Report, p. 14.

dedicated and diverted enormous resources to win this Mecklenburg County district, which would have been much safer for Democrats if not for the gerrymandering. The competitiveness of this district prevented Democrats from spending their resources elsewhere in the state.

### Representation

The next section of Dr. Owen's Report (IV.B) discusses the nature of representation in the Tar Heel State and the diversity of the North Carolina General Assembly. After describing the academic literature on representation, she suggests that "North Carolina's General Assembly has become increasingly diverse over the last several election cycles"<sup>64</sup>—implying that the current district lines have led to a state legislature that more "descriptively represent[s]" North Carolinians.<sup>65</sup> This assertion does not withstand scrutiny. First, compared to other states, female representation in North Carolina has actually declined over time. North Carolina ranked 20<sup>th</sup> in the country in terms of female representation in 2009 and ranks 33<sup>rd</sup> today.<sup>66</sup> Second, only 34% of female General Assembly members are Republicans—a partisan difference that has only improved by one legislator since 2009 (14 of the 44 female legislators in NC were Republicans in 2009, compared to 15 of 44 in 2019). Thus, not only has North Carolina's General Assembly not become "increasingly diverse over the last several elections cycles,"<sup>67</sup> compared to other states, North Carolina's state legislature has actually gotten *worse* in terms of female representation.

Dr. Owen then discusses the responsiveness of the General Assembly as further evidence that gerrymandering is not harming the relationship between representatives and those they represent. As evidence of responsiveness, she describes the number of casework requests received by members of the General Assembly (10-15 per week) and the process by which the legislators handle those requests. This analysis is not convincing. First, Dr. Owen provides no comparative data across states or time (is 10-15 casework requests per week "a lot"? Is it an increase over recent years?), leaving us uncertain how to treat these results. Further, she provides no evidence about how casework requests are distributed across legislators (do members in the districts at issue in this case receive more or fewer casework requests than other members?) and she provides no evidence about the content of those casework requests, or from whom they come (do they come from co-partisans

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<sup>64</sup> Owen Report, p. 19.

<sup>65</sup> Owen Report, p. 19.

<sup>66</sup> Center for American Women and Politics (CAWP), "State Fact Sheet—North Carolina" (2019), [https://www.cawp.rutgers.edu/state\\_fact\\_sheets/nc](https://www.cawp.rutgers.edu/state_fact_sheets/nc), accessed June 2, 2019.

<sup>67</sup> Owen Report p. 19.

almost exclusively?). Ultimately, she concludes that “members take their roles of representing constituents and advocating their cases for resolution seriously.”<sup>68</sup> Even if it were true that all legislators take their role as representatives seriously, this does not mean that all constituents are treated equally, or that some interests are not advantaged over others.

To further her case about the representativeness and responsiveness of the General Assembly, Dr. Owen cites results from a North Carolina Policy Watch report, which used interviews with “influential North Carolinians, voters, and political observers to learn about pressing issues for the state.”<sup>69</sup> Notably, these voters and political observers listed “partisan polarization and gerrymandering” as major problems affecting North Carolina.<sup>70</sup> Not only does Dr. Owen not challenge the idea that North Carolinians see the elimination of gerrymandering as a policy priority, her report states explicitly that it *is* an important priority.

Dr. Owen also provides a series of data points about the 2017-2018 legislative session as further evidence of a responsive legislature. Specifically, she says that 1,951 bills were introduced, 425 legislative measures were passed, and 360 bills became law, 72.5% of which were passed with bipartisan support in the House and almost 70% of which passed the Senate with both parties “strongly favoring.”<sup>71</sup> Again—without any comparative data, this is less than convincing evidence of a well-functioning or truly representative legislature. As just one example, the 2009 legislative session witnessed 2,767 bills introduced and 618 that became law—far surpassing the number introduced and passed in the entire two-year 2017-2018 session.<sup>72</sup> Dr. Owen also makes no effort to disentangle substantive bills from symbolic, or local ones. For example, the 2017-2018 legislative session included House Bill 30, a bill supported by both Democrats and Republicans that “authorized the Division of Motor Vehicles to produce a Colorectal Cancer Awareness special registration plate, a Big Rock Blue Marlin Tournament special registration plate, and a Kick Cancer for Kids special registration plate.”<sup>73</sup> Presumably, Dr. Owen would have counted this as evidence of bipartisan cooperation—the same as if the two parties had cooperated on health care, teacher pay, or voter ID.

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<sup>68</sup> Owen Report, p. 23.

<sup>69</sup> Owen Report, p. 23.

<sup>70</sup> Owen Report, p. 23.

<sup>71</sup> Owen Report, p. 24.

<sup>72</sup> These data come from “Legiscan,” the same source Dr. Owen uses in her analysis. *The Book of the States* provide slightly different results, but also support the conclusion that the 2017-2018 session actually had fewer bills introduced and completed than any session in the last decade. See, e.g., *The Book of the States, 2010*. Lexington, KY: Council of State Governments (2010), p. 147.

<sup>73</sup> HB 30 (2017-2018 session), available at <https://www.ncleg.gov/Sessions/2017/Bills/House/PDF/H30v4.pdf>.



Later in that same section, Dr. Owen asserts, “There is general agreement within North Carolina on public priorities and the need to address these same policies. But we find in the details and the implementation of these policies disagreement and divisions among people, groups, and the representatives within the political parties.”<sup>74</sup> She later adds that the difference in policy preferences between Republicans and Democrats “is in the details.”<sup>75</sup> This statement runs contrary to both the political science literature and the lived experience of most North Carolinians. For example, Elon Poll data over the past few years has shown that Democratic and Republican citizens have meaningful differences on issues as varied as climate change,<sup>76</sup> whether it is a “good idea” to “allow teachers to carry guns to your school,”<sup>77</sup> and the relative risks of contaminated food.<sup>78</sup> These differences are not limited to the opinions of citizens; clearly Democratic and Republican legislators hold policy differences that are more than just “details.” While Democrats and Republicans may agree on some bills, like the recent bill to make the Moravian cookie the official cookie of North Carolina (HB 394),<sup>79</sup> they diverge sharply on critically important issues like voter ID,<sup>80</sup> health care,<sup>81</sup> and whether teachers with Master’s degrees should receive additional pay.<sup>82</sup>

In addition to running counter to the experiences and opinions of average North Carolinians, recent research supports the notion that the differences between Republican and Democratic policy preferences are not just “details.” In fact, the impact of partisan control on policy

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<sup>74</sup> Owen Report, p. 24.

<sup>75</sup> Owen Report, p. 25.

<sup>76</sup> 67% of Democrats believed it is “very likely” that “climate change, also known as global warming [will] negatively impact the coastal communities in North Carolina within the next 50 years versus 37% of Republicans. *See* Elon Poll at <https://www.elon.edu/u/elon-poll/wp-content/uploads/sites/819/2019/01/Elon-Poll-Report-101118.pdf>.

<sup>77</sup> This is a survey of teachers, rather than a survey of voters. 95% of Democratic teachers believe it is a “bad idea” to carry guns to school versus 57% of Republicans who hold the same belief. This difference exceeds differences based on sex, race, region, age, or population density of the school. *See* Elon Poll at <https://www.elon.edu/u/elon-poll/wp-content/uploads/sites/819/2019/02/Elon-Poll-Report-030818.pdf>.

<sup>78</sup> 21% of Republicans believe contaminated food is “very unsafe” versus 34% of Democrats. The size of this partisan difference exceeds the differences in opinions by race or county population density. *See* Elon Poll at [https://www.elon.edu/u/elon-poll/wp-content/uploads/sites/819/2019/04/2019\\_04\\_12-ElonPoll\\_Report.pdf](https://www.elon.edu/u/elon-poll/wp-content/uploads/sites/819/2019/04/2019_04_12-ElonPoll_Report.pdf)

<sup>79</sup> *See* HB 394 Bill Summary, available at [https://dashboard.ncleg.net/api/Services/BillSummary/2019/H394-SMST-47\(c3\)-v-1](https://dashboard.ncleg.net/api/Services/BillSummary/2019/H394-SMST-47(c3)-v-1).

<sup>80</sup> 2 House Democrats voted for SB 824 to implement the Voter ID Constitutional Amendment, while 39 Democrats voted against it; similarly 1 Republican voted against it, while 65 Republicans voted for it. *See* House Roll Call #1324, available at <https://www.ncleg.gov/Legislation/Votes/RollCallVoteTranscript/2017/H/1324>.

<sup>81</sup> 55 Democrats recently co-sponsored a bill to “close the Medicaid gap” (HB-5). No Republicans joined them to co-sponsor this bill and the bill never made it out of committee. *See* <https://www.ncleg.gov/BillLookUp/2019/H5>.

<sup>82</sup> 29 Democrats co-sponsored a bill to return additional pay for teachers with Master’s degrees (a policy that was revoked under the Republican-led General Assembly). This bill had no Republican co-sponsors and has not made it out of committee. *See* <https://www.ncleg.gov/BillLookUp/2019/H890>.

has actually doubled over the past few decades<sup>83</sup> and is particularly influential over polarized and substantively important issues like health care<sup>84</sup> and environmental regulation.<sup>85</sup> One of the most recent and most important of these studies for this case found that states with greater levels of gerrymandering systematically favor one party's preferences over the other, limiting representation of the out-party.<sup>86</sup> In the authors' words, "... partisan bias in the legislative districting process has an important effect on elections, legislative behavior, and representation."<sup>87</sup> Partisan gerrymandering "can degrade the disfavored party's influence on the political process, both in the short term and over the longer term as well."<sup>88</sup> It is important to note that their finding is not limited to examples of Republican control—when Democrats are advantaged by gerrymandering, they too pass laws that are at odds with the values of the voters. While Caughey, Tausanovitch, and Warshaw do not examine whether the effects vary based on the power of the legislature vis-à-vis the Governor, it stands to reason that the partisan make-up of the legislature is even more important in a state like North Carolina where the Governor has relatively little power over the policy process.<sup>89</sup>

In the concluding section of her report, Dr. Owen quotes political scientist Bruce Cain as saying "even the most egregious partisan gerrymanders do not 'lock in' one party's control over the state."<sup>90</sup> But the quoted statement does not actually appear anywhere in the Cain article cited by Dr. Owen in footnote 111 of her report. In fact, the 1985 Cain article that Dr. Owen cites, "Assessing the Partisan Effects of Redistricting," suggests the opposite conclusion. In Cain's words, "Are the partisan effects of redistricting important? The answer would seem to be that they are."<sup>91</sup> The three decades since the publication of this article do not seem to have changed his mind. In 2015, Cain said "political insiders aided by advances in line-drawing technology, can easily project demographic

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<sup>83</sup> Caughey, Devin, Christopher Warshaw, and Yiqing Xu, "Incremental Democracy: The Policy Effects of Partisan Control of State Government," *Journal of Politics* 79, no. 4 (2017): 1342-1358.

<sup>84</sup> Grumbach, Jacob M, "From Backwaters to Major Policymakers: Policy Polarization in the States, 1970-2014," *Perspectives on Politics* 16, no. 2 (2018): 416-435.

<sup>85</sup> Bergquist, Parrish, "Controlling the Regulators: How Party Control of Government Shapes Environmental Regulation in the 21<sup>st</sup> Century," Unpublished Manuscript. Available at [https://static1.squarespace.com/static/5c502dfb4611a0c68bfed6d7/t/5c53b79df9619a9695f3caa6/1548990368493/Bcrgquist\\_controlling+the+regulators+%28JMP%29.pdf](https://static1.squarespace.com/static/5c502dfb4611a0c68bfed6d7/t/5c53b79df9619a9695f3caa6/1548990368493/Bcrgquist_controlling+the+regulators+%28JMP%29.pdf).

<sup>86</sup> Caughey, Devin, Chris Tausanovitch, and Christopher Warshaw, "Partisan Gerrymandering and the Political Process: Effects on Roll-call Voter and State Policies," *Election Law Journal* 16, no. 4 (2017): 453-469.

<sup>87</sup> *Id.* at 465.

<sup>88</sup> *Id.* at 468.

<sup>89</sup> North Carolina has the 49<sup>th</sup> most powerful Governor in the country, according to institutional power. See Ferguson, Margaret, "Governors and the Executive Branch," in Virginia Gray, Russell L. Hanson, and Thad Kousser, eds. *Politics in the American States: A Comparative Analysis, 11<sup>th</sup> Edition*. (Washington DC: CQ Press, 2018), 252.

<sup>90</sup> Cain, Bruce, "Assessing the Partisan Effects of Redistricting," *American Political Science Review* 79, no. 2 (1985): 326, cited by Owen Report, p. 26.

<sup>91</sup> Cain, Bruce, "Assessing the Partisan Effects of Redistricting," *American Political Science Review* 79, no. 2 (1985): 331.

changes into the current districts and assess their political prospects months before any actual lines are drawn.”<sup>92</sup>

Suffice it to say, I am unconvinced that gerrymandering does not tilt the scales of democracy towards one party and, by extension, away from the preferences of members of the out-party. One reason for our disagreement may be that Dr. Owen is more confident than I am that legislators provide equal representation to all constituents. According to Dr. Owen, “no official is ignoring constituents because of partisanship or personal characteristics.”<sup>93</sup> Dr. Owen provides no evidence to support this sweeping claim, which runs counter to much of what we know about legislative representation. For example, David Broockman and his colleagues find that constituents are less likely to contact their legislators if those legislators are of a different race,<sup>94</sup> or if they are of the opposing party.<sup>95</sup> This unequal representation does not just exist on the demand side (constituents are less likely to contact legislators who do not resemble them) but on the supply side as well (legislators are less likely to respond to certain groups). For example, Broockman and Butler find that black constituents are less likely to receive a reply from white state legislators than their white counterparts.<sup>96</sup> Similarly, Gell-Redman, Visalvanich, Crabtree, and Fariss find that legislators are more likely to respond to constituent requests from whites than from blacks, Hispanics, or Asians.<sup>97</sup> The differential response rate for Hispanics appears to exist for Republican, but not Democratic state legislators. Black legislators are, of course, not immune from the tendency to be more responsive to constituents from some races than others. Broockman finds that black legislators are more likely to respond to requests from black citizens—even when the person making the request lives out of the district.<sup>98</sup> In sum, while I wish that Dr. Owen’s positive assessment of the nature of representation were true, extant research reinforces that representation is consistently more biased and uneven than Dr. Owen suggests.

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<sup>92</sup> Cain, Bruce, *Democracy More or Less: America's Political Reform Quandary*, New York: Cambridge University Press (2015), p. 122.

<sup>93</sup> Owen Report, p. 27.

<sup>94</sup> Broockman, David, “Distorted Communication, Unequal Representation: Constituents Communicate Less to Representatives Not of Their Race,” *American Journal of Political Science* 58, no. 2 (2014): 307-321.

<sup>95</sup> Broockman, David, and Timothy J. Ryan, “Preaching to the Choir: Americans Prefer Communicating to Copartisan Elected Officials,” *American Journal of Political Science* 60, no. 4 (2016): 1093-1107.

<sup>96</sup> Broockman, David E., and Daniel M. Butler, “Do Politicians Racially Discriminate Against Constituents? A Field Experiment on State Legislators,” *American Journal of Political Science*, 55, no. 3 (2011): 463-477.

<sup>97</sup> Gell-Redman, Micah, Neil Visalvanich, Charles Crabtree, and Christopher J. Fariss, “It’s All about Race: How State Legislators Respond to Immigrant Constituents,” *Political Research Quarterly* 71, no. 3 (2018): 517-531.

<sup>98</sup> Broockman, David E., “Black Politicians Are More Intrinsically Motivated to Advance Blacks’ Interests: A Field Experiment Manipulating Political Incentives,” *American Journal of Political Science* 57, no. 3 (2013): 521-536.

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Submitted June 7, 2019.

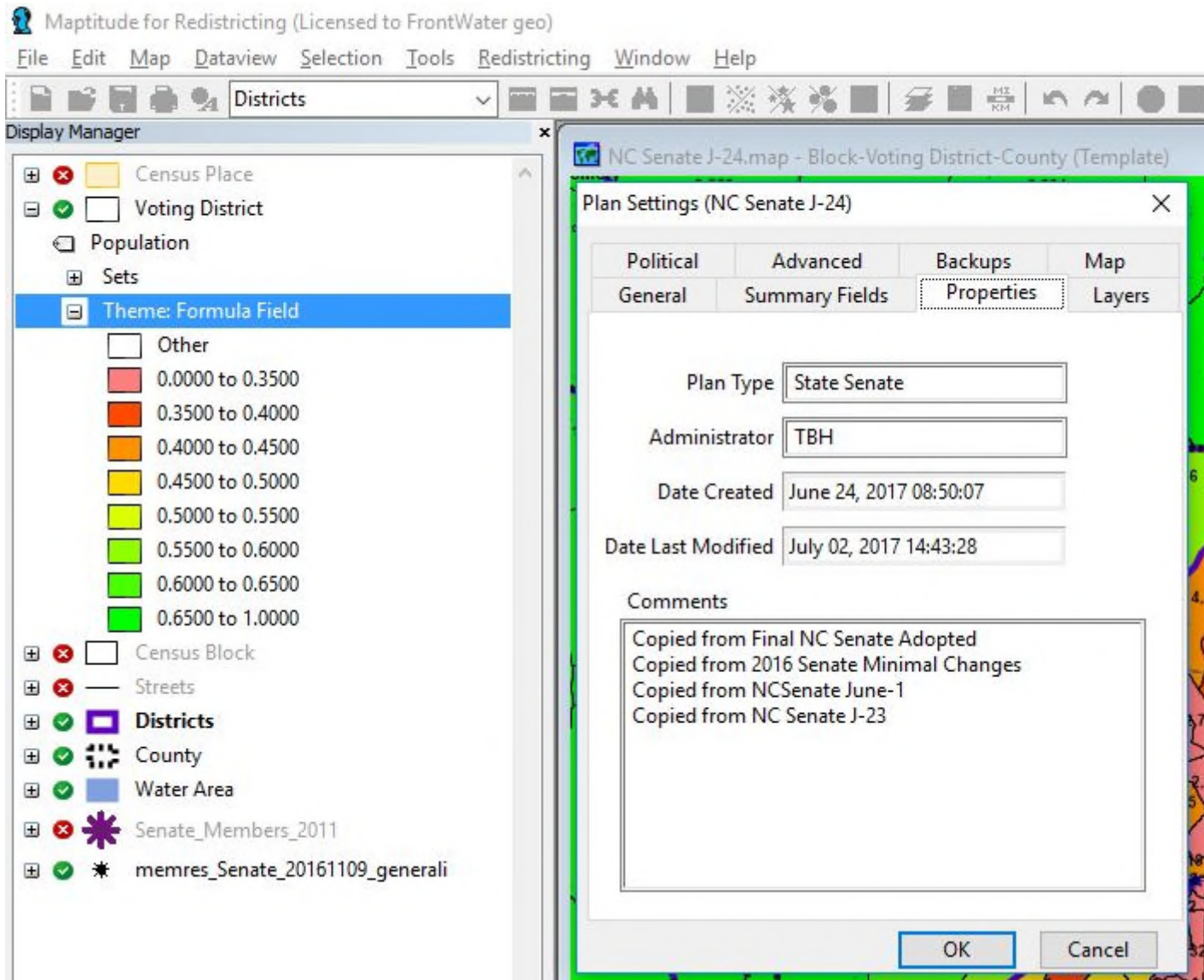


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Christopher A. Cooper

# **EXHIBIT H**









Display Manager

- Streets
- Census Place
- Voting District
- Population
  - Sets
  - Theme: Formula Field**
    - Other
    - 0.0000 to 25.0000
    - 25.0000 to 30.0000
    - 30.0000 to 35.0000
    - 35.0000 to 40.0000
    - 40.0000 to 45.0000
    - 45.0000 to 50.0000
    - 50.0000 to 55.0000
    - 55.0000 to 100.0000
  - Census Block
  - Water Area
  - County
  - Districts**
  - SenateIncumbents

NC Senate Master July 11 0115.map - Block-Voting District-County (Template)

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General	Summary Fields	<b>Properties</b>	Layers

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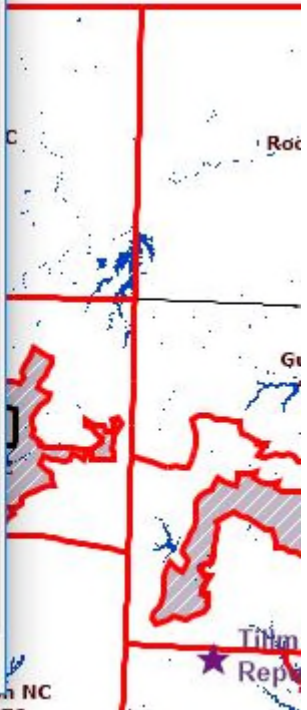
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Date Last Modified: July 11, 2011 1:19:44

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- Display Manager
- Census Place
  - Voting District
  - Census Block
  - Streets
  - Districts
  - County
  - Water Area
  - Senate\_Members\_2011

NC Senate J-23.map - Block-Voting District-County (Template)

Plan Settings (NC Senate J-23)

Political	Advanced	Backups	Map
General	Summary Fields	Properties	Layers

Plan Type:

Administrator:

Date Created:

Date Last Modified:

Comments

OK Cancel

Plan Settings (NC Senate J-24) [X]

Political	Advanced	Backups	Map
General	Summary Fields	Properties	Layers

Plan Type:

Administrator:

Date Created:

Date Last Modified:

Comments

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Display Manager

- ⊕ × Census Place
- ⊕ × Voting District
- ⊕ × Census Block
- ⊕ × Streets
- ⊕ ✓ **Districts**
- ⊕ ✓ County
- ⊕ ✓ Water Area
- ⊕ × Senate\_Members\_2011

Dataview1
District
28

NC Senate J-24.map - Block-Voting District-County (Template)

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General	Summary Fields	<b>Properties</b>	Layers

Plan Type:

Administrator:

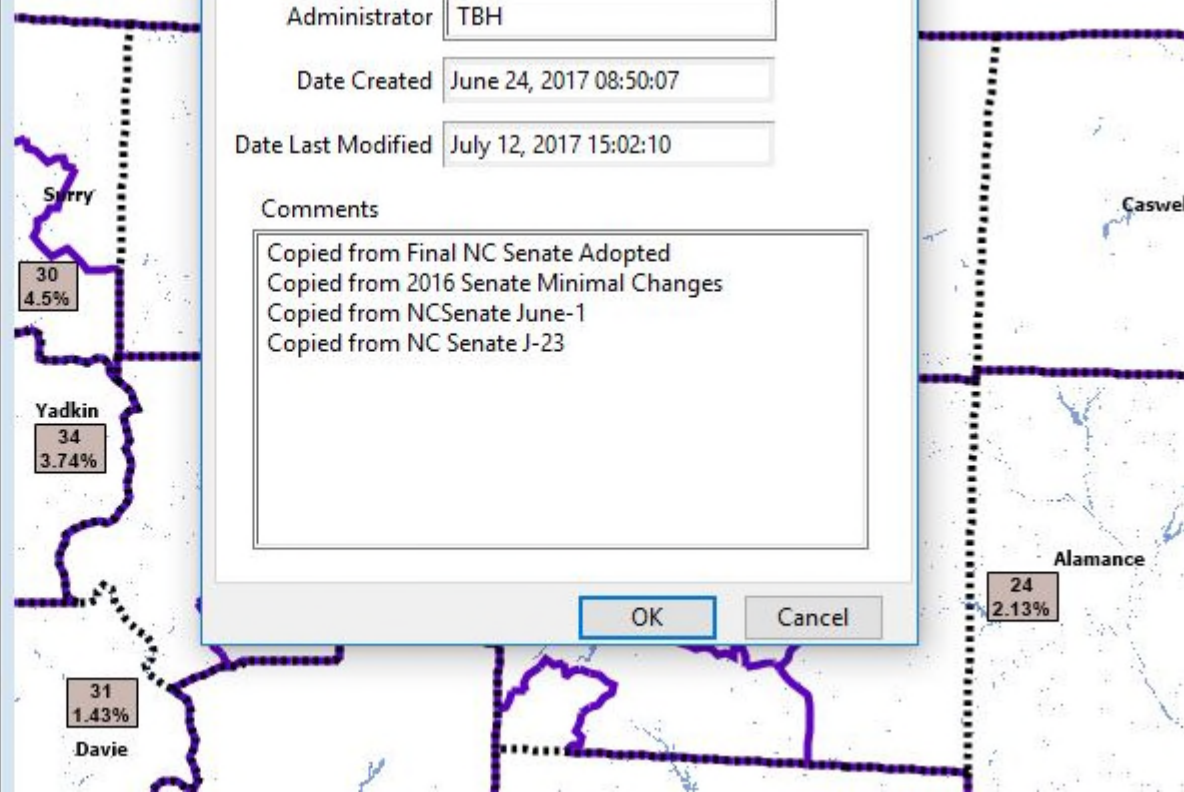
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Comments

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# **EXHIBIT I**



## NORTH CAROLINA GENERAL ASSEMBLY

June 27, 2017

VIA HAND DELIVERY

Dr. Thomas Hofeller

Dear Dr. Hofeller:

We require your professional assistance. The General Assembly will be drawing new legislative redistricting maps to include both House and Senate districts pursuant to an order from a federal district court. Based on your knowledge and experience, we believe you are best qualified to produce such maps. Therefore, we offer to engage you to produce such maps for possible presentation to the House and Senate Redistricting Committees for their consideration and ultimate use by the General Assembly.

OUR OFFER OF ENGAGEMENT IS SUBJECT TO THE FOLLOWING TERMS:

- You will produce a map of 120 House districts and a map of 50 Senate districts in North Carolina that complies with criteria adopted by the House and Senate Redistricting Committees (the "Committees"). The maps you produce may be presented to the Committees, the General Assembly or any third party in the sole discretion of the Co-Chairs.
- As a legislative contractor and consultant, your work will be subject to legislative confidentiality as prescribed by Article 17 of Chapter 120 of the General Statutes. Your work may also be subject to the doctrine of legislative privilege as provided by the common law in North Carolina. By directive of the Committees, these protections will accrue to the benefit of the Co-Chairs of the Committees, and the Co-Chairs shall have the sole discretion to grant any request for their waiver. Finally, and notwithstanding the foregoing, all drafting and information requests to you and documents prepared by you concerning redistricting shall no longer be confidential and shall become public records upon the act establishing the relevant district plan becoming law.
- To allow us and you to better to predict the cost of this engagement, we are prepared to offer compensation to you in the form of a flat fee equal to \$50,000.00 payable upon

LDNC001879

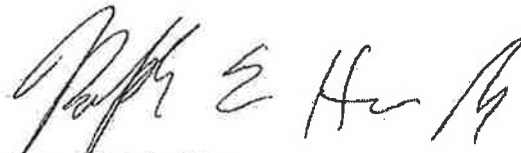


receipt by the Legislative Services Officer of an invoice from you for work performed and upon prior approval from the President Pro Tempore of the Senate and the Speaker of the House.

Should the terms of this engagement be acceptable to you, please indicate your acceptance in the space marked below. We appreciate your willingness to serve in this manner, and we look forward to working with you pursuant to the Committees' directive.

Sincerely,

  
Rep. David Lewis

  
Sen. Ralph Hise

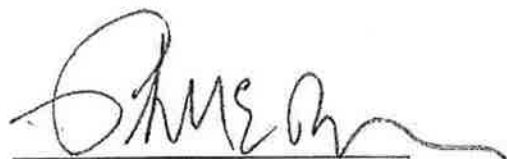
*Enclosures*


Agreed and Accepted to by:

  
Dr. Thomas Hofeller

Date: June 27, 2017

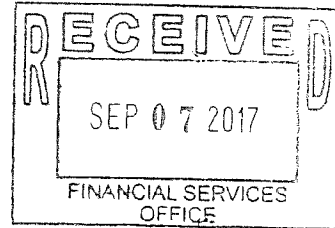
Agreement Authorized and Approved:

  
Sen. Phil Berger  
President Pro Tempore

  
Rep. Tim Moore  
Speaker

# INVOICE

Thomas B. Hofeller, Ph.D.  
[REDACTED]



September 1, 2017

Mr. Paul Coble  
Legislative Services Officer  
Room 2129, Legislative Building  
16 West Jones Street  
Raleigh, NC 27601

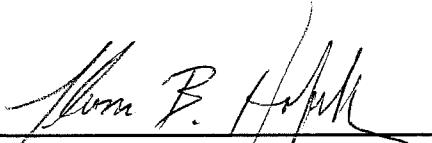
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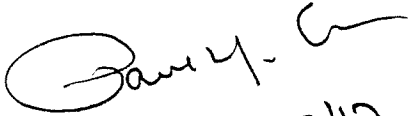

For professional services rendered in regard to design and construction of a new North Carolina State Senate and State House of representatives redistricting plans constructed during August of 2017.

Amount Due

✓ (\$50,000.00)

My Tax ID is: [REDACTED]

  
Thomas B. Hofeller, Ph.D.

OKAY to pay.  
  
9/7/17  


N.C. GENERAL ASSEMBLY  
INVOICE APPROVAL

VENDOR #	550627218	DIST #	92
AUDIT DATE	9/12/17	CO.	0101
ACCT.	532199	CTR.	1211
AUDIT APPROVAL	[Signature]		
FIN. SER. MGR. APPROVAL	[Signature]		

**From:** Rep. David Lewis  
**Sent:** Friday, August 11, 2017 10:43 AM  
**To:** 'celticheal@aol.com' <[celticheal@aol.com](mailto:celticheal@aol.com)>  
**Subject:** 2017 Redistricting Criteria

Dear Dr. Hofeller,

Thank you for your service to the House and Senate Redistricting Committees.

We are writing to inform you that the committees met yesterday and adopted the attached criteria to be used for the 2017 House and Senate Plans.

This message constitutes our direction to you to utilize this set of criteria when drawing districts in the 2017 House and Senate Plans.

I look forward to meeting this afternoon.

Kind Regards,

Rep. David Lewis

Sen. Ralph Hise

## 2017 HOUSE AND SENATE PLANS CRITERIA

Equal Population. The Committees shall use the 2010 federal decennial census data as the sole basis of population for drawing legislative districts in the 2017 House and Senate plans. The number of persons in each legislative district shall comply with the +/- 5 percent population deviation standard established by *Stephenson v. Bartlett*, 355 N.C. 354, 562 S.E. 2d 377 (2002).

Contiguity. Legislative districts shall be comprised of contiguous territory. Contiguity by water is sufficient.

County Groupings and Traversals. The Committees shall draw legislative districts within county groupings as required by *Stephenson v. Bartlett*, 355 N.C. 354, 562 S.E. 2d 377 (2002) (*Stephenson I*), *Stephenson v. Bartlett*, 357 N.C. 301, 582 S.E.2d 247 (2003) (*Stephenson II*), *Dickson v. Rucho*, 367 N.C. 542, 766 S.E.2d 238 (2014) (*Dickson I*) and *Dickson v. Rucho*, 368 N.C. 481, 781 S.E.2d 460 (2015) (*Dickson II*). Within county groupings, county lines shall not be traversed except as authorized by *Stephenson I*, *Stephenson II*, *Dickson I*, and *Dickson II*.

Compactness. The Committees shall make reasonable efforts to draw legislative districts in the 2017 House and Senate plans that improve the compactness of the current districts. In doing so, the Committees may use as a guide the minimum Reock ("dispersion") and Polsby-Popper ("perimeter") scores identified by Richard H. Pildes and Richard G. Neimi in *Expressive Harms, "Bizarre Districts," and Voting Rights: Evaluating Election-District Appearances After Shaw v. Reno*, 92 Mich. L. Rev. 483 (1993).

Fewer Split Precincts. The Committees shall make reasonable efforts to draw legislative districts in the 2017 House and Senate plans that split fewer precincts than the current legislative redistricting plans.

Municipal Boundaries. The Committees may consider municipal boundaries when drawing legislative districts in the 2017 House and Senate plans.

Incumbency Protection. Reasonable efforts and political considerations may be used to avoid pairing incumbent members of the House or Senate with another incumbent in legislative districts drawn in the 2017 House and Senate plans. The Committees may make reasonable efforts to ensure voters have a reasonable opportunity to elect non-paired incumbents of either party to a district in the 2017 House and Senate plans.

Election Data. Political considerations and election results data may be used in the drawing of legislative districts in the 2017 House and Senate plans.

No Consideration of Racial Data. Data identifying the race of individuals or voters shall not be used in the drawing of legislative districts in the 2017 House and Senate plans.

# **EXHIBIT J**



**NORTH CAROLINA GENERAL ASSEMBLY  
JOINT SELECT COMMITTEE ON CONGRESSIONAL REDISTRICTING**

February 16, 2016

VIA HAND DELIVERY

Dr. Thomas Hofeller

Dear Dr. Hofeller:

We require your professional assistance. Earlier today, a motion prevailed in the meeting of the Joint Select Committee on Congressional Redistricting (the "Committee") authorizing the Co-Chairs to engage a map drawing expert to produce a contingent Congressional Map or Maps using the attached criteria prevailing today on individual motions in the Committee (the "Adopted Criteria"). Based on your knowledge and experience, we believe you are best qualified to produce such a map or maps. Therefore, we offer to engage you to produce such a map for possible presentation to the Committee and ultimate use by the General Assembly.

OUR OFFER OF ENGAGEMENT IS SUBJECT TO THE FOLLOWING TERMS:


- You will produce a map of 13 congressional districts in North Carolina that complies with the Adopted Criteria. The map you produce may be presented to the Committee, the General Assembly or any third party in the sole discretion of the Co-Chairs.
- As a legislative contractor and consultant, your work will be subject to legislative confidentiality as prescribed by Article 17 of Chapter 120 of the General Statutes. Your work may also be subject to the doctrine of legislative privilege as provided by the common law in North Carolina. By directive of the Committee, these protections will accrue to the benefit of the Co-Chairs of the Committee, and the Co-Chairs shall have the sole discretion to grant any request for their waiver. Finally, and notwithstanding the foregoing, all drafting and information requests to you and documents prepared by you concerning redistricting shall no longer be confidential and shall become public records upon the act establishing the relevant district plan becoming law.
- To allow us and you to better to predict the cost of this engagement, we are prepared to offer compensation to you in the form of a flat fee equal to \$25,000.00 payable upon



receipt by the Legislative Services Officer of an invoice from you for work performed and upon prior approval from the President Pro Tempore of the Senate and the Speaker of the House.

Should the terms of this engagement be acceptable to you, please indicate your acceptance in the space marked below. We appreciate your willingness to serve in this manner, and we look forward to working with you pursuant to the Committee's directive.

Sincerely,

  
Rep. David Lewis

  
Sen. Bob Rucho

*Enclosures*

Agreed and Accepted to by:

  
Dr. Thomas Hofeller

Date: February 16, 2016

Agreement Authorized and Approved:

\_\_\_\_\_  
Sen. Phil Berger  
President Pro Tempore

\_\_\_\_\_  
Rep. Tim Moore  
Speaker

# **EXHIBIT K**

NORTH CAROLINA HOUSE OF REPRESENTATIVES SESSION

NORTH CAROLINA GENERAL ASSEMBLY

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TRANSCRIPT OF THE PROCEEDINGS

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In Raleigh, North Carolina  
Monday, August 28, 2017, 1:30 p.m.

PREPARED BY: Regina Toppins

RUFFIN CONSULTING, INC.

DIRECT DIAL: 252-243-9000

WWW.RUFFINCONSULTING.COM

1 sponsor a couple of questions.

2 SPEAKER MOORE: Does the gentleman from  
3 Harnett yield to inquiry?

4 REPRESENTATIVE LEWIS: I yield to all  
5 questions.

6 SPEAKER MOORE: He yields.

7 REPRESENTATIVE REIVES: Thank you, Chairman  
8 Lewis, and I'll try to make a couple of presumptions  
9 to go ahead and try not to ask you a whole bunch of  
10 questions.

11 I believe the reason we left the racial  
12 statistics out of the stack pack was to secure the  
13 racial gerrymander per the court's order. With that  
14 being said, we still had Dr. Hoffler doing the maps  
15 this time around. Was there a particular reason that  
16 we were picking Dr. Hoffler again?

17 REPRESENTATIVE LEWIS: Thank you for the  
18 question, Representative Reives. And to be clear, the  
19 map that you have before you is just like any other  
20 piece of legislation that comes up. The idea behind  
21 the map and the process that produces the map is a --  
22 is the legislative -- is the legislative process. I  
23 feel and continue to feel that Dr. Hoffler was the  
24 best person to help us quickly comply with the order  
25 of the court. So, yes, I think he was the best one to

1 hire to help reproduce this map to present to you  
2 today.

3 REPRESENTATIVE REIVES: And follow-up?

4 SPEAKER MOORE: Gentleman yields to  
5 additional questions? He yields.

6 REPRESENTATIVE REIVES: Thank you.

7 And based on that, that because of the fact  
8 that he would have been the quickest, would have been  
9 because of the substantial amount of work and work  
10 product that he would have had from 2011; would that  
11 be fair to say?

12 REPRESENTATIVE LEWIS: Well, thank you for  
13 the question.

14 No, I don't think the 2011 plan would have  
15 had anything to do with it. I think it was more the  
16 we agreed that maptitude was the sort of the industry  
17 standard that's used nationwide, and he was just very  
18 fluent in being able to help legislators translate  
19 their desires to the maptitude program.

20 REPRESENTATIVE REIVES: Follow-up.

21 SPEAKER MOORE: Does the gentleman yield to  
22 additional questions?

23 REPRESENTATIVE LEWIS: Yes, sir.

24 SPEAKER MOORE: He yields.

25 REPRESENTATIVE REIVES: Based on that, is it

1 your belief, then, that he would not have used  
2 information that he had had available to him back in  
3 2011 and his knowledge of the districts to kind of  
4 help push this process along?

5 REPRESENTATIVE LEWIS: Thank you for the  
6 question.

7 The only information that Dr. Hoffler had  
8 access to and used in preparing this map was that it  
9 was adopted by the criteria because that was the only  
10 -- was the criteria adopted by the committee because  
11 that was the only information that was loaded up on  
12 his computer.

13 REPRESENTATIVE REIVES: Follow-up.

14 SPEAKER MOORE: Does the gentleman yield to  
15 additional questions?

16 REPRESENTATIVE LEWIS: I yield.

17 SPEAKER MOORE: He yields.

18 REPRESENTATIVE REIVES: Thank you.

19 So, did we put anything in place to make  
20 sure that he wasn't using any other information, for  
21 instance, his knowledge of the racial data,  
22 statistics, district lines, things of that sort, that  
23 information that has previously been used this time  
24 around so as not to violate the court's order?

25 REPRESENTATIVE LEWIS: Thank you for the



1 question.

2 Part of his contract and certainly his  
3 instructions from me were to only use the criteria  
4 that was adopted by the committee.

5 REPRESENTATIVE REIVES: All right, thank  
6 you, Mr. Chairman. Thank you, Mr. Speaker.

7 SPEAKER MOORE: For what purpose does the  
8 gentleman from Durham, Representative Michaux, rise?

9 REPRESENTATIVE MICHAUX: To see if the  
10 gentleman would respond to a question or two.

11 SPEAKER MOORE: Does the gentleman from  
12 Harnett yield to the gentleman from Durham?

13 REPRESENTATIVE LEWIS: I do.

14 SPEAKER MOORE: He yields.

15 REPRESENTATIVE MICHAUX: Mr. Chairman, did  
16 you contact any of the members of the body before  
17 these maps were presented to the committee to get any  
18 individual input from them?

19 REPRESENTATIVE LEWIS: Representative  
20 Michaux, thank you for the question.

21 I have talked to members of the body  
22 throughout this process. Prior to the release of the  
23 first map I certainly had talked to probably  
24 Representative Dollar, who is the Chair of the  
25 committee with me, but I don't recall that I spoke to

1 STATE OF NORTH CAROLINA

2 COUNTY OF DURHAM

3

4

REPORTER'S CERTIFICATE

5 I, Regina Toppins, Shorthand Reporter and Notary  
6 Public in and for the State of North Carolina, do hereby  
7 affirm that the foregoing pages contain a verbatim  
8 transcription of the above-captioned proceedings and  
9 have been transcribed to the best of my ability and  
10 understanding; I further affirm that I am not related  
11 to any of the parties to this action; that I am not  
12 interested in the outcome of this case; that I am not of  
13 counsel nor in the employ of any of the parties to this  
14 action.

15 IN WITNESS WHEREOF, I have hereto set my hand,  
16 this the 28th day of August, 2017.

17

18

19



20

Regina Toppins, Notary Public  
Notary Number: 200626300019

21

22

23

24

25

# **EXHIBIT L**

June 5, 2019

**VIA E-MAIL**

Phillip J. Strach  
Ogletree, Deakins, Nash,  
Smoak & Stewart, P.C.  
4208 Six Forks Road, Suite 110  
Raleigh, NC 27609  
phillip.strach@ogletree.com

Re: *Common Cause v. Lewis*, 18 CVS 0140001 (Wake County Sup. Ct., N.C.)

Dear Mr. Strach:

On behalf of Plaintiffs in the above-captioned lawsuit, I write in response to your May 31, 2019 letter on behalf of Legislative Defendants in both this case and several other cases concerning certain electronic storage devices produced by Stephanie Hofeller to Plaintiffs in response to their February 13, 2019 subpoena to Ms. Hofeller (the “Hofeller files”). Your letter (1) purports to designate the entirety of the Hofeller files as “Highly Confidential/Outside Attorneys’ Eyes Only” pursuant to the Consent Protective Order in this case, (2) asserts that Plaintiffs’ counsel have “likely” reviewed “privileged materials” of Legislative Defendants contained on the devices at issue, (3) expresses concern about the manner in which Plaintiffs received the devices from Ms. Hofeller in response to their subpoena, (4) makes several specific demands, and (5) suggests, without specificity or elaboration, that Plaintiffs’ counsel have been “neglecting [their] professional responsibilities.”

Your letter is not only baseless in every respect, but also troubling in its own right. We are concerned that Legislative Defendants are attempting—unilaterally and without authorization—to designate evidence produced by a *third party* in discovery pursuant to a *lawful subpoena* as Highly Confidential under the Court’s Consent Protective Order, apparently in an effort to conceal their own wrongdoing. Such wrongdoing appears to include false statements made by Legislative Defendants to federal courts, the Superior Court in this case, and the people of North Carolina.

Phillip J. Strach  
June 5, 2019  
Page 2

## **I. Legislative Defendants Have No Authority to Unilaterally Designate the Hofeller Files as Highly Confidential Under the Consent Protective Order**

Your letter purports to “designate the entirety of the materials produced by Ms. Hofeller as ‘Highly Confidential/Outside Attorneys’ Eyes Only’ pursuant to the Consent Protective Order in” this case. But the Consent Protective Order does not authorize Legislative Defendants to designate *any* of the Hofeller files as Highly Confidential, let alone *all* of them. Paragraph 1 of the Order states: “To fall within the scope of this Agreement, any such Confidential material shall be designated as ‘CONFIDENTIAL’ or ‘HIGHLY CONFIDENTIAL/OUTSIDE ATTORNEYS’ EYES ONLY,’ *by the Party producing the material.*” 4/5/19 Consent Protective Order ¶ 1 (emphasis added). Paragraphs 2 and 3 confirm that only “[t]he producing Party may designate” materials as “CONFIDENTIAL” or “HIGHLY CONFIDENTIAL.” *Id.* ¶¶ 2, 3 (emphasis added). Specifically, “[t]he producing Party may designate as ‘CONFIDENTIAL’ any materials that it produces in the litigation” subject to meeting certain confidentiality criteria, *id.* ¶ 2, and “[t]he producing Party may designate as ‘HIGHLY CONFIDENTIAL/OUTSIDE ATTORNEYS’ EYES ONLY’ (a) any non-public personal information, or (b) any CONFIDENTIAL material that the producing party reasonably and in good faith believes” meets certain additional criteria. *Id.* ¶ 3; *see also id.* ¶ 13 (stating that the Order applies equally to “information produced by a non-Party”).

Thus, the Consent Protective Order does not authorize anyone other than the party or non-party “producing the material” to designate such material as either Confidential or Highly Confidential. Legislative Defendants are not “the producing Party” of the Hofeller files, but instead are a “receiving party” of those files. Ms. Hofeller produced the Hofeller files, and she did not designate any of them as Confidential or Highly Confidential. To the contrary, Ms. Hofeller has testified to her desire that her father’s political and redistricting work be made available to serve as “a snapshot in time” and a “repository for . . . historical value” to provide “insight into the process -- the literal process.” S. Hofeller Dep. at 42:10-43:16; 104:12-105:16.

Furthermore, Legislative Defendants’ stated justification for attempting to designate the Hofeller files as Highly Confidential is pretextual. Your letter asserts that, in addition to the 1,001 files designated Highly Confidential pursuant to the Court’s May 1, 2019 Order, the devices include additional files containing “confidential financial information.” But your letter does not identify any such files, nor have you even attempted to establish that the number of such files is more than a small fraction of the total Hofeller files. If you are genuinely concerned about the privacy of files containing “confidential financial information,” you should identify each such file, and Plaintiffs will consider joining in a motion asking the Court to designate such files as Confidential

Phillip J. Strach  
June 5, 2019  
Page 3

or Highly Confidential, as appropriate. But your invocation of some small, unidentified number of files containing unspecified “confidential financial information” as a basis to designate hundreds of thousands of other files as Highly Confidential is unreasonable. The pretextual nature of your purported concern for the Hofeller family’s privacy is further laid bare by the fact that you attempted to designate “the entirety” of the files as Highly Confidential just one day after several of the Hofeller files—which exposed misconduct by federal government officials—were submitted to a federal district court and the United States Supreme Court in a case of national public importance.

While Plaintiffs would consider, as stated, jointly moving the Court to designate as Confidential or Highly Confidential any specific additional files containing “confidential financial information” for which a confidentiality designation would be appropriate, Legislative Defendants’ attempt to unilaterally designate “the entirety” of the Hofeller files as Highly Confidential is not authorized under the Consent Protective Order and is therefore without legal effect.

## **II. Legislative Defendants’ Privilege Claims Are Meritless**

### **A. Plaintiffs’ Counsel Have Acted Properly and Responsibly At All Times and Have Not Reviewed Any Conceivably Privileged Materials**

Your letter asserts that Plaintiffs’ counsel have “apparently been reviewing likely privileged materials” of Legislative Defendants. That assertion is wrong on every level.

*First*, while your letter asserts that there are “many” privileged materials among the Hofeller files, your letter identifies only *five* specific documents that you say are “expert witness materials created by Dr. Hofeller in connection with North Carolina legal matters.” Plaintiffs’ counsel have no intention of reviewing any of those five documents. Nor have Plaintiffs’ counsel reviewed—or have any intention of reviewing—any other draft expert report or draft declaration prepared in connection with litigation.

*Second*, your letter asserts that Plaintiffs “actually filed some” “likely privileged” materials in their April 26, 2019 Supplemental Reply Brief. You do not identify which of the files included in Plaintiffs’ April 26 reply brief are supposedly “likely privileged,” and for good reason. Legislative Defendants’ own April 29, 2019 response to Plaintiffs’ reply brief precludes Legislative Defendants from claiming privilege over the files included in the reply—or, indeed, over any draft maps or analyses of draft maps in the Hofeller files that existed before July 1, 2017. In their April 29 response, Legislative Defendants asserted that they had no “knowledge” of Dr. Hofeller’s work creating draft maps and analyses of draft maps before July 1, 2017, and Legislative Defendants



Phillip J. Strach  
June 5, 2019  
Page 4

specifically denied that they “authorized or were aware of any of the maps or charts Plaintiffs highlighted.” Having taken these positions that they had no knowledge of and did not authorize the creation of the material by Dr. Hofeller, Legislative Defendants cannot now contend that the materials are privileged as to them. Moreover, if Legislative Defendants had authorized Dr. Hofeller to draft these maps, they should be public records under state law and responsive to Plaintiffs’ discovery requests in this case.

Additionally, in the more than one month since Plaintiffs’ April 26 reply, Legislative Defendants never sought a protective order as to any materials included in the reply or asked that the reply be placed under seal.

## **B. Legislative Defendants Have Waived Any Privilege Claim**

In any event, Legislative Defendants have waived any privilege they may have held over *any* information on the Hofeller files, several times over.

### **1. Legislative Defendants’ Failure to Object to Plaintiffs’ Subpoena or Move to Quash Waived Any Privilege Claim**

As you know, we sent Legislative Defendants’ counsel written notice of Plaintiffs’ subpoena to Ms. Hofeller on February 13, 2019, the same day we served the subpoena. The subpoena sought “[a]ny storage device in [Ms. Hofeller’s] possession, custody, or control that contains” either any documents relating to Dr. Hofeller’s work on the challenged state House and state Senate Plans or any information “related to” any such documents. Legislative Defendants could have filed protective objections or a motion to quash, but they did not do so. As the Court has acknowledged: “No objection to or motion to quash the subpoena was filed by any party to this action or Ms. Hofeller.” 5/1/19 Order at 1; *see also* S. Hofeller Dep. at 39:2-20.

Legislative Defendants’ failure to object to the subpoena or move to quash—even though the subpoena on its face sought materials related to Dr. Hofeller’s work for Legislative Defendants—constitutes a clear waiver of any privilege. A party “waive[s] its privilege by its own inaction” when it “fail[s] to act to protect any privilege when served with copies of [a third-party] subpoena.” *Am. Home Assur. Co. v. Fremont Indem. Co.*, 1993 WL 426984, at \*3-4 (S.D.N.Y. Oct. 18, 1993). “Where a party is aware” that a subpoenaed third party may possess the party’s privileged information, “the burden falls on that party to take affirmative steps to prevent the disclosure in order [to] preserve the privilege as to itself.” *Id.* at \*4. “The failure to act to prevent or object to the disclosure of confidential communications when a party knows or should know that privileged documents may be disclosed by another party waives the privilege with respect to the

Phillip J. Strach  
June 5, 2019  
Page 5

party failing to act.” *Id.*; see also *Ravenswood Inv. Co., L.P. v. Avalon Corr. Servs., Inc.*, 2010 WL 11443364, at \*2 (W.D. Okla. May 18, 2010) (“Because Defendant did not state its claim of privilege within fourteen days of service of the subpoena on [a third party], the Court concludes Defendant has waived any such claim.”); *Patterson v. Chicago Ass’n for Retarded Children*, 1997 WL 323575, at \*3 (N.D. Ill. June 6, 1997) (“By failing to object” to third-party subpoena, party “essentially waived her claim to privilege, and the information gleaned via the subpoena may be used.”); *Scott v. Kiker*, 59 N.C. App. 458, 461, 297 S.E.2d 142, 145 (1982) (“Defendant . . . waived his privilege because he failed to object to the testimony.”).

Here, “[t]he broad scope of that subpoena” to Ms. Hofeller “should reasonably have alerted” Legislative Defendants “to the possibility that [Ms. Hofeller] might produce the [allegedly] privileged documents.” *Am. Home Assur.*, 1993 WL 426984, at \*4. Legislative Defendants’ “failure to take any steps to prevent the disclosure of [allegedly] privileged documents waived the privilege they seek to assert.” *Id.*

## **2. Legislative Defendants’ Successful Demand That Plaintiffs Transmit Complete Copies of All of the Hofeller Files to the Other Defendants Waived Any Privilege Claim**

Legislative Defendants independently waived any privilege by demanding that Plaintiffs transmit complete copies of all of the Hofeller files to State Defendants and Intervenor Defendants. Following the Court’s April 30 hearing, Plaintiffs transmitted complete copies of the full contents of the storage devices—without filtering out *any* of the files—to Intervenor Defendants and State Defendants, neither of which holds any privileged relationship with Legislative Defendants. Legislative Defendants successfully requested that the Court order Plaintiffs to transmit complete copies of the devices to all Defendants even though weeks earlier, on April 9, 2019, Plaintiffs sent you a searchable index of file names and file paths that made apparent the devices contain files involving Dr. Hofeller’s work for Legislative Defendants in litigation and other contexts. Legislative Defendants could have requested protective measures before these files were provided to the State Defendants and Intervenor Defendants, but they did not.

Given that “the documents were revealed to third parties without objection”—at Legislative Defendants’ request, no less—Legislative Defendants have waived any claim of privilege over them. *Durham Indus. Inc. v. N. River Ins. Co.*, 1980 WL 112700, at \*2 (S.D.N.Y. May 8, 1980); see also *Scott v. Glickman*, 199 F.R.D. 174, 179 (E.D.N.C. 2001) (finding waiver where no “reasonable protective measures were employed in order to safeguard claims of privilege” or “to ensure confidentiality” before documents were produced); *Parkway Gallery Furniture, Inc. v. Kittinger/Penn. House Grp., Inc.*, 116

Phillip J. Strach  
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Page 6

F.R.D. 46, 50 (M.D.N.C. 1987) (“the privilege may be lost even by inadvertent disclosure when a person fails to take affirmative action and institute reasonable precautions to ensure that confidentiality will be maintained”).

Not only did Legislative Defendants demand that Plaintiffs disseminate the Hofeller files to the other Defendants, Legislative Defendants did so knowing that State Defendants have not been aligned with them in this litigation. *In re Martin Marietta Corp.*, 856 F.2d 619, 625 (4th Cir. 1988) (finding waiver where party disclosed documents to government actors who were “adverse during the proceedings at issue”); *Navajo Nation v. Peabody Holding Co.*, 255 F.R.D. 37, 48 (D.D.C. 2009) (finding waiver where a party placed allegedly privileged materials “in the hands of” a potentially adverse party).

### **3. Any Work-Product Protection Is Defeated by Plaintiffs’ Substantial Need for Information and Inability to Obtain It Elsewhere**

Any possible claim of work-product privilege over materials related to Dr. Hofeller’s work during the *Covington* remedial phase and/or in drawing the 2017 Plans is also defeated by Plaintiffs’ substantial need for the materials and the prejudice to Plaintiffs and the public interest that would ensue were they concealed.

“The work product doctrine” is “a qualified privilege for certain materials prepared by an attorney acting on behalf of his client in anticipation of litigation.” *State v. Hardy*, 293 N.C. 105, 126, 235 S.E.2d 828, 841-42 (1977). It does not protect materials if a party shows “a ‘substantial need’ for the document and ‘undue hardship’ in obtaining its substantial equivalent by other means.” *Evans v. United Servs. Auto. Ass’n*, 142 N.C. App. 18, 28, 541 S.E.2d 782, 789 (N.C. Ct. App. 2001) (quoting N.C. Gen. Stat. § 1A-1, Rule 26(b)(3)).

Even based on a limited review of non-privileged materials, it is clear that Plaintiffs have a substantial need for the Hofeller files related to Dr. Hofeller’s work during the *Covington* remedial phase and/or in drawing the 2017 Plans, and that Plaintiffs—and the public—would suffer an extreme hardship if they were concealed. The files reveal evidence of false statements and material omissions to the federal district court in *Covington*, which will be highly relevant to the merits of Plaintiffs’ claims as well as any remedial process.

Phillip J. Strach  
June 5, 2019  
Page 7

**a. Legislative Defendants Made False Statements to the  
*Covington* Court to Avoid Special Elections in 2017**

The Hofeller files reveal that Legislative Defendants made false statements to the *Covington* district court about when the 2017 Plans were created. As a result of those false statements, the court did not order special elections in 2017 that would have jeopardized Republican super-majority control of the state House and state Senate.<sup>1</sup>

As you know, following the U.S. Supreme Court’s decision in *Covington* on June 5, 2017, the *Covington* district court ordered briefing on whether to conduct special elections under remedial state House and state Senate plans in 2017 or instead wait until the 2018 elections to implement remedial plans. In a brief submitted to the *Covington* court on July 6, 2017, Legislative Defendants repeatedly stated that no work on remedial plans had yet begun, and that Legislative Defendants therefore needed a long period of time to draft new plans. For instance, Legislative Defendants told the court:

- The General Assembly had not “start[ed] the laborious process of redistricting earlier” than July 2017. *Covington*, ECF No. 161 at 28.
- It had not been “necessary to begin the process” of drawing new districts “until at, the earliest, the end of the current Supreme Court term” on June 30, 2017. *Id.* at 29.
- “The General Assembly could begin the process of compiling a record in July 2017 with a goal of enacting new plans by the end of the year.” *Id.* at 28-29.
- In the “interim” between the Supreme Court’s stay of the district court’s judgment on January 10, 2017 and the end of the Supreme Court term on June 30, 2017, rather than engage in “drawing remedial legislative districts,” “the North Carolina General Assembly did just what the Supreme Court allowed it to do – enact policies and legislation that benefit the State as a whole.” *Id.* at 28.

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<sup>1</sup> In their April 29, 2019 filing in the instant case, Legislative Defendants asserted that certain of the Hofeller files from before October 31, 2016 may be privileged because they may have been prepared in connection with a declaration that Dr. Hofeller submitted in *Covington* on October 31, 2016. Legislative Defendants provided no support for this claim of possible privilege, but in any event, all of the Hofeller files underlying the discussion in this section post-date October 31, 2016.

Phillip J. Strach  
June 5, 2019  
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- “This Court should not short-circuit that process [of redistricting] by forcing the General Assembly to draw new maps without first engaging in the legislative and public consultation that this inherently policy-driven task necessitates.” *Id.* at 4.
- “Proceeding on [its proposed] timeline will allow the General Assembly to receive public input, engage in internal discussions about the design of remedial districts, prepare draft remedial plans, receive public responses to those draft remedial plans, and incorporate public feedback into the final plans.” *Id.* at 2.
- “Investigating, drawing, debating, and legislatively enacting satisfactory redistricting plans in time to hold elections in November 2017 or January 2018 would not even begin to allow [for sufficient] input by the public and other members of the General Assembly. And if the process and evidence relied upon by the General Assembly in 2011, developed over five months, was insufficient, it would be impossible for the General Assembly to establish a proper record in just a few days or weeks.” *Id.* at 13.

Similarly, at a July 27, 2017 hearing, Legislative Defendants’ counsel stated: “[R]edistricting is a very arduous, difficult task. It takes a lot of time and attention.” ECF No. 181 at 87:18-19.

Based on these statements by Legislative Defendants, the *Covington* court denied the plaintiffs’ request to order special elections in 2017. The court credited Legislative Defendants’ assertion that “Plaintiffs’ proposed August 11, 2017, deadline will provide them with insufficient time to conduct public hearings and engage in the robust deliberations necessary to develop districting plans.” *Covington v. North Carolina*, 267 F. Supp. 3d 664, 666 (M.D.N.C. 2017). While the court admonished Legislative Defendants for not having started the process sooner, the court agreed with Legislative Defendants that “there are many benefits to a time line that allows for the General Assembly (1) to receive public feedback on the criteria to be used in drawing the remedial districts and proposed remedial districting plans applying those criteria; (2) to revise the proposed plans based on that feedback; and (3) to engage in robust deliberation.” *Id.* at 667. Thus, the court concluded, an expedited schedule for adopting remedial plans, as needed to hold special elections in 2017, “[did] not provide the General Assembly with adequate time to meet their commendable goal of obtaining and considering public input and engaging in robust debate and discussion.” *Id.*

During the remedial phase through the fall of 2017, Legislative Defendants continued stating that no work had been done—including by Dr. Hofeller—to create new districts before July 2017:

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- Representative Lewis made the following statement at a July 26, 2017 hearing of the Joint Redistricting Committees (ECF 184-7 at 11-12):

REP MICHAUX: Are there any other maps that have not yet been released? For instance, anything that has been drawn by Dr. Hofeller or anybody else that you know of that have not yet been released?

REP. LEWIS: Not that I know of, sir.

- Representative Lewis made the following statements at an August 4, 2016 hearing of the Joint Redistricting Committees (ECF 184-8 at 72-73):

REP. MICHAUX: Can you assure this body right now that no redistricting maps have yet been drawn?

REP. LEWIS: I can assure this body that none has been drawn at my direction and that I have direct knowledge of. The only map I'm aware of was submitted by an independent group and presented to this committee last week.

...

REP. MICHAUX: Just to be clear, I'm talking about anything that any chairman or members of the Republican Party or anybody. No map has yet been drawn that should be handed out here? I'm -- people are concerned about the fact -- they think you've already drawn the maps. I want to make sure, coming from you, that you have not yet drawn maps.

REP. LEWIS: Thank you for the question. *I have not yet drawn maps nor have I directed that maps be drawn, nor am I aware of any other entity operating in conjunction with the leadership that has drawn maps.*

On September 7, 2017, Legislative Defendants submitted the hearing transcripts containing these statements to the district court in connection with securing the court's approval of the 2017 Plans.

In a September 22, 2017 submission to the *Covington* court seeking approval of the 2017 Plans, Legislative Defendants further stated: "Shortly following this Court's order of July 31, 2017, the legislative leaders, Senator Ralph Hise and Representative David Lewis, met with the map drawing consultant, Dr. Hofeller. Redistricting concepts



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were discussed with Dr. Hofeller as leaders made plans to comply with the Court's Order." ECF No. 192 at 6.

Likewise, in this case, Legislative Defendants have stated to the Superior Court that no draft maps existed prior to July or August 2017. For instance:

- In response to one of Plaintiffs' interrogatories asking about any "draft or copy" of "all or parts of the 2017 Plans before August 10, 2017," Legislative Defendants responded: "To the best recollection of [Legislative] Defendants, no drafts of the 2017 Plans existed prior to August 10, 2017."
- On April 26, 2019, Legislative Defendants stated in a Superior Court filing that "no legislative redistricting was occurring prior to July 2017," and that "July 1, 2017 to August 31, 2017 represented the period of time that the legislature was actually engaged in and preparing for legislative redistricting."
- At an April 30, 2019 hearing, Plaintiffs' counsel stated that July and August 2017 were the "timeframes when the redistricting actually occurred."

The Hofeller files reveal, however, that Dr. Hofeller had not only created numerous iterations of draft maps before July 2017, but that he had substantially *completed* the 2017 Plans *by the end of June 2017*. Specifically, the files show that Dr. Hofeller had already completed *over 97%* of the new Senate plan and *over 90%* of the new House plan by June 2017.

These facts are inconsistent with Legislative Defendants' prior statements to courts and the public that they had not "start[ed] the laborious process of redistricting" before July 2017, that "no legislative redistricting was occurring prior to July 2017," that "no drafts of the 2017 Plans existed prior to August 10, 2017," that they wanted to "first engag[e] in . . . legislative and public consultation" before "draw[ing] new maps," that they needed "[s]ufficient time" in July and August 2017 "to conduct public hearings and engage in the robust deliberations necessary to develop districting plans," that they only began discussing "redistricting concepts" with Dr. Hofeller in August 2017, and so on.

The inaccuracy of the above statements, and the fact that the entire public redistricting process in the fall of 2017 appears to have been a charade, are obviously relevant to Plaintiffs' claims on the merits, as well as the procedures to be used in any remedial process should Plaintiffs prevail. Plaintiffs cannot obtain this evidence from any other source, and there would be substantial hardship to Plaintiffs and the public interest were the truth concealed.

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**b. Legislative Defendants Made False Statements to the Covington Court About the 2017 Redistricting Process and the Criteria Used to Create the Remedial Plans**

In its July 31, 2017 order declining to order special elections in 2017 and allowing more time for the creation and enactment of remedial plans, the *Covington* court ordered Legislative Defendants to file, within seven days of enacting new plans, the following:

- “a description of the process the Senate Redistricting Committee, House Redistricting Committee, and General Assembly followed in enacting the new plans, including the identity of all participants involved in the process”;
- “any alternative district plans considered by the Senate Redistricting Committee, House Redistricting Committee, or the General Assembly”; and
- “the criteria the Senate Redistricting Committee, House Redistricting Committee, and General Assembly applied in drawing the districts in the new plans.”

*Covington*, 267 F. Supp. 3d at 668.

The Hofeller files reveal that statements in Legislative Defendants’ September 7, 2017 submission to the *Covington* court are false or misleading. In purporting to give a “Description of the 2017 Redistricting Process,” Legislative Defendants suggested that the process began “[o]n June 27, 2017,” when Senate President Pro Tempore Phil Berger and House Speaker Tim Moore approved a contract with Dr. Tom Hofeller as a mapdrawing consultant for Rep. David Lewis and Sen. Ralph Hise, the forthcoming chairs of the 2017 redistricting committees in the House and the Senate.” ECF No. 184 at 4. In reality, Dr. Hofeller had been drawing draft remedial maps since at least *August 2016*, and the new maps were substantially complete by June 27, 2017. In describing “Alternative Districting Plans Considered,” Legislative Defendants listed various alternative maps proposed by other members of the General Assembly, but did not list the numerous iterations of alternative draft maps that Dr. Hofeller had created. *Id.* at 9-10.

In the same submission, under the heading “Criteria Applied in Drawing the 2017 House and Senate Districts,” Legislative Defendants stated that the criteria “used to draw new districts in the 2017 House and Senate Redistricting plans” were those adopted by the House and Senate Redistricting Committees “[o]n August 10, 2017.” *Id.* at 6, 10. Of course, Dr. Hofeller had already completed drawing many of the districts by June 2017, over a month-and-a-half before August 10, 2017. Therefore, the criteria adopted by

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House and Senate Redistricting Committees on August 10, 2017 definitively were not the actual criteria “used to draw” these districts.

Again, the fact that the “Adopted Criteria” of the General Assembly were not the real criteria used by Dr Hofeller to create the 2017 Plans is highly relevant to the merits of Plaintiffs’ claims as well as any remedial process should Plaintiffs prevail, and there would be prejudice to Plaintiffs and the public interest if these facts were covered up.

**c. Legislative Defendants Made False Statements About the Use of Racial Data in Creating the Remedial Plans**

Legislative Defendants made additional false statements to the *Covington* court and the public concerning the use of racial data during the 2017 redistricting process. As you know, after the prior plans were invalidated as unconstitutional racial gerrymanders, *Covington v. North Carolina*, 316 F.R.D. 117 (M.D.N.C. 2016), Legislative Defendants adopted a formal criterion prohibiting use of racial data for the 2017 Plans: “Data identifying the race of individuals or voters ***shall not be used*** in the drawing of legislative districts in the 2017 House and Senate plans.” ECF No. 184-37 at 2 (emphasis added).

Further, Legislative Defendants repeatedly stated to the court and the public that there was not any racial data in the map-drawing software or other databases, and that they and Dr. Hofeller accordingly did not know the racial composition of the new districts. As just a few examples, Legislative Defendants said the following:

- “[D]ata regarding the race of voters was not used in the drawing of the districts, and, in fact, ***was not even loaded into the computer used by the map drawer to construct the districts.***” ECF No. 192 at 28 (court filing) (emphasis added);
- “[W]e have not had and do not have racial data on any of these districts.” ECF 184-17 (8/24/17 Senate Hr’g Tr. at 66 (statement of Sen. Hise)).
- “Race was not part of the database. It could not be calculated on the system[.]” *Id.* at 102 (statement of Sen. Hise).
- “There was no racial data reviewed in the preparation of this map.” ECF 184-18 (8/25/17 Hr’g Tr. at 20 (statement of Rep. Lewis)).

The Hofeller files reveal that none of the above statements were true. Dr. Hofeller did have “data on the race of voters” “loaded into the computer” he used to “construct the districts.” Dr. Hofeller’s computer in fact appears to have had data

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regarding the racial composition of the proposed districts for each and every iteration of his draft maps. Every Maptitude file with draft House or Senate districts from 2017—including draft maps from August 2017 *after* Legislative Defendants signed an engagement letter formally retaining Dr. Hofeller to create new maps—appears to have had racial data for the districts. Images from some of the Maptitude files even reveal that Dr. Hofeller apparently was displaying the black voting age population or “BVAP” of the new districts in some of the drafts. Dr. Hofeller also had racial data on the draft districts in Excel spreadsheets. Legislative Defendants’ statements that racial data “was not even loaded into the computer used by the map drawer to construct the districts,” that “[r]ace was not part of the database,” and so on were not true.

The full details of all of the above false statements will be made clear at trial, but in light of their existence, any work-product protection that could conceivably apply to the files at issue is defeated by Plaintiffs’ need for the materials and the inability to obtain substantially equivalent evidence elsewhere. *Hardy*, 235 S.E.2d at 841-42. Legislative Defendants’ apparent attempt to cover up this evidence, including by ineffectually designating “the entirety” of the Hofeller files as Highly Confidential under the Consent Protective Order, is troubling.

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Notwithstanding the above, if you believe that there are additional draft expert reports similar to the specific files identified in your letter, we are willing to meet and confer about such files. As mentioned, we have no intention of reviewing any such files and would be willing to consider an accommodation to address your concerns, notwithstanding your clear waiver of any privilege. To facilitate such a meet-and-confer process, you should identify each such file, specify the privilege that you believe applies, and provide appropriate legal and factual support for your contention that the file is privileged.

### **III. Plaintiffs Properly Received the Hofeller Files in Response to their Subpoena**

Your letter expresses concerns about “the manner in which Plaintiffs came into possession of” the devices. But as you know, on February 13, 2019, Plaintiffs served a lawful subpoena to Ms. Hofeller, through her lawyer, seeking the entire storage devices, and Ms. Hofeller produced the devices to Plaintiffs in response to the subpoena. As you also know from Ms. Hofeller’s deposition on May 17, 2019, when your co-counsel Ms. Scully questioned Ms. Hofeller about these issues for several hours, Ms. Hofeller testified that she properly obtained possession of the devices on October 11, 2018 from her parents’ home in Raleigh, with her mother Kathleen Hofeller’s knowledge and approval.

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S. Hofeller Dep. at 20:3-26:10; 52:6-10; 81:8-82:2; 110:17-11:24. Ms. Hofeller testified that her mother did “not object to [her] taking the devices,” and when asked whether her mother said “it was okay to take the devices,” Ms. Hofeller testified, “Yes. She encouraged me too.” *Id.* at 21:6-11; *see id.* at 26:3-10 (when Ms. Hofeller asked “Can I take these?” her mother “said absolutely”). Ms. Hofeller testified that “[her] mother gave to [her] unconditionally” “everything on those hard drives that [her] father had left in his room”—the devices were “given to [her] by [her] deceased father’s wife.” *Id.* at 81:8-82:2.

Ms. Hofeller further testified that she properly produced the devices to Plaintiffs in March 2019 in response to Plaintiffs’ February 13, 2019 subpoena, again with her mother’s knowledge and approval. *Id.* at 39:21-41:8. When asked whether her mother had given “her permission or her okay [for Ms. Hofeller] to provide the storage devices . . . to the plaintiffs’ lawyers in response to the subpoena,” Ms. Hofeller testified, “Yes.” *Id.* at 41:2-8.

The following responds to the specific “concerns” raised in your letter:

*First*, your letter asserts that there is “serious doubt on [Ms. Hofeller’s] mother’s ability to consent to Ms. Hofeller taking of the devices and Ms. Hofeller’s providing of those devices to counsel,” because a temporary guardian was appointed for Kathleen Hofeller “after” she gave the devices to her daughter. That is wrong. As described, Ms. Hofeller testified that her mother gave her the devices containing the Hofeller files on October 11, 2018. S. Hofeller Dep. at 52:6-10. It was only weeks *later*, on November 6, 2018, that an interim guardian ad litem was appointed for Kathleen Hofeller in a then-*ex parte* proceeding, in response to a Petition for Adjudication of Incompetence that had been filed one week earlier. On February 7, 2019, the incompetency petition with respect to Kathleen Hofeller was dismissed for failure to prosecute—without any finding of incompetency—after the parties reached a settlement. *See In re The Matter of Kathleen H. Hofeller*, 18 SP 2634 (N.C. Super. Feb. 7, 2019). That settlement, among other things, precludes the parties from bringing future incompetency proceedings against Kathleen Hofeller. Plaintiffs issued their subpoena to Stephanie Hofeller on February 13, 2019—after the incompetency proceeding was dismissed. The incompetency proceeding thus did not begin until after the date when Ms. Hofeller obtained possession of the devices with her mother’s permission, and the incompetency proceeding concluded (with no finding of incompetency) before the date when Ms. Hofeller sent the devices to Plaintiffs in response to their subpoena again with her mother’s permission,

*Second*, Ms. Hofeller’s deposition testimony contradicts your assertion that “Ms. Hofeller had no discussions with her mother regarding if there was any business

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information contained on the drives.” When asked whether she had “a specific conversation with [her] mother to tell her that [she] identified business records of [her] father’s on” the devices, Ms. Hofeller testified: “All of those points were at some point mentioned. My mother was aware of the fact that . . . the subpoena for these hard drives was, in fact, for *work-related files only*. So not only was it clear to her that there were *work-related files*, but it was clear to her that the lawyers that would be looking at it on either side would not be looking at anything other than *my father’s work-related files*.” S. Hofeller Dep. at 56:22-57:18 (emphases added); *see id.* at 59:13-18 (“Q. At what point in time did you discuss with your mother the possibility of turning over your father’s business records to Common Cause or to Arnold & Porter? A. The subpoena. That -- that would be when we specifically discussed that.”).

*Third*, your letter’s suggestion that Mr. Speas and Ms. Mackie should have “advise[d] Ms. Hofeller to seek the advice of an attorney for herself or her mother” is nonsensical. As you know, Stephanie Hofeller testified that she originally contacted Common Cause specifically to request a referral to an attorney independent of her father who could represent her mother in the incompetency proceeding. S. Hofeller Dep. at 31:7-19; 36:24-38:9. Common Cause provided such a referral, leading to Ms. Hofeller’s mother retaining an attorney to represent her in the incompetency proceeding. *Id.* at 59:5-12. As to Ms. Hofeller, she is the one who proactively contacted Common Cause, raised the fact that she had the electronic storage devices, and affirmatively offered to provide the devices to Common Cause. *Id.* at 31:7-38:17. We are aware of no obligation of a lawyer to advise a non-adverse third party like Ms. Hofeller to obtain counsel in these circumstances, and your letter does not identify any such obligation. In any event, the point is moot because Plaintiffs served their subpoena on Ms. Hofeller through her attorney, Tom Sparks, who later defended her deposition in this case. Ms. Hofeller was represented in connection with Plaintiffs’ subpoena.

*Finally*, your letter asserts that Mr. Speas and Ms. Mackie “told [Ms. Hofeller] that ‘anyone,’ including plaintiffs or legislative defendants, could only look at the content of items that were explicitly and obviously related to this case, and as a result, she should not be concerned about a privacy issue with her or her mother.” But Plaintiffs’ counsel have in fact attempted to shield sensitive personal information of the Hofeller family from disclosure, including through the designation of such materials as Highly Confidential pursuant to the Court’s May 1, 2019 Order. It is Legislative Defendants who successfully insisted that personal sensitive information in the Hofeller files be shared with other parties in the case, rather than filtered out and never reviewed by anyone. Beyond that, we understand from Ms. Hofeller that she approves of Plaintiffs’ review and use of the Hofeller files pertaining to Dr. Hofeller’s political and redistricting work. In any event, while Ms. Hofeller testified that she and her mother “felt . . . that the



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process would most likely be centered around provably pertinent files,” Ms. Hofeller also testified that she “assured her [mother] that she should be aware that once you -- and, again, this is something my father taught me. Once you let go of it, you don’t have control of it anymore so you can’t be guaranteed what will and won’t be disclosed, so it’s something you should be prepared for when you are involved with discovery.” S. Hofeller Dep. at 40:1-15.

#### **IV. Legislative Defendants’ Assertions Regarding Plaintiffs’ Counsel’s Professional Responsibilities Are Frivolous and Improper**

Your letter states that you “insist on compliance with the North Carolina Rules of Civil Procedure and Rules of Professional Responsibility,” and that Legislative Defendants “are considering all options available to them to enforce their rights” “[s]hould [Plaintiffs’ counsel] persist in neglecting [their] professional responsibilities.” But you do not identify a single rule of professional conduct purportedly implicated by Plaintiffs’ counsel’s actions. Your nonspecific references to Plaintiffs’ counsel’s “professional responsibilities” appear to be nothing more than an attempt to intimidate. We note that frivolous claims of professional ethics violations made to obtain an advantage in a civil matter are impermissible, and we refer you to District of Columbia Rule of Professional Conduct 8.4(g) and North Carolina Rule of Professional Responsibility 3.1. Under Rule 3.1, “a threat to file disciplinary charges is . . . improper if the disciplinary charges are frivolous.”<sup>2</sup>

#### **V. Legislative Defendants’ Specific Demands Are Baseless and Unreasonable**

*First*, your letter demands that Plaintiffs “immediately cease and desist reviewing all materials produced by Ms. Hofeller and particularly all files unrelated to North Carolina.” But Legislative Defendants, as leaders of the North Carolina General Assembly, have no legal interest in, and no standing to make demands regarding, files that are “unrelated to North Carolina.” Moreover, while this demand is predicated on Legislative Defendants’ (erroneous) understanding of Ms. Hofeller’s intent in producing the devices in response to Plaintiffs’ subpoena, Ms. Hofeller’s attorney recently confirmed in writing—prior to the filings in the federal census case—that Ms. Hofeller consents to use of the Hofeller files in connection with matters outside North Carolina.

*Second*, your letter demands that we “immediately cease and desist providing any or all of these materials to third parties unrelated to this case, as [we] have apparently

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<sup>2</sup> Suzanne Lever, *I’m Telling Mom! Reporting Professional Misconduct*, N.C. State Bar Journal (June 2014), <https://www.ncbar.gov/for-lawyers/ethics/ethics-articles/im-telling-mom-reporting-professional-misconduct>.

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recently done in a matter pending in New York.” Again, Legislative Defendants have no standing to make demands regarding materials unrelated to North Carolina. Anyway, your demand is contrary to hornbook law. “The general rule . . . is that information produced in discovery in a civil case may be used in other cases.” *United States v. Comstock*, 2012 WL 1119949, at \*1 (E.D.N.C. Apr. 3, 2012). Sharing discovery with litigants in other cases is not just permissible, but courts “have overwhelmingly and decisively endorsed the sharing of discovery information among different plaintiffs, in different cases, in different courts.” *Burlington City Bd. of Educ. v. U.S. Mineral Prod. Co.*, 115 F.R.D. 188, 190 (M.D.N.C. 1987) (emphasis added). Absent a protective order to the contrary (and there is no such order here with respect to the files at issue), nothing “prevent[s] [a litigant] who lawfully has obtained discovery . . . from using the discovery elsewhere.” *In re Accent Delight Int’l Ltd.*, 869 F.3d 121, 135 (2d Cir. 2017); see also *Parkway Gallery Furniture, Inc. v. Kittinger/Pennsylvania House Grp., Inc.*, 121 F.R.D. 264, 268-69 (M.D.N.C. 1988) (“[A] party needs to present good cause for prohibiting the dissemination of non-confidential discovery information or from prohibiting the utilization of such discovery in other litigation.”); *Ohio Valley Envtl. Coal. v. Elk Run Coal Co.*, 291 F.R.D. 114, 122 (S.D. W. Va. 2013) (“[T]he potential use of the fruits of discovery in other litigation is not, alone, a basis for a protective order.”); *FTC v. Digital Interactive Assocs., Inc.*, 1996 WL 912156, at \*3 (D. Colo. Nov. 18, 1996) (“[D]issemination of information to litigants in other forums is often encouraged for purposes of judicial economy.”); *United States v. Hooker Chemicals & Plastics Corp.*, 90 F.R.D. 421, 426 (W.D.N.Y. 1981) (“Use of the discovery fruits disclosed in one lawsuit in connection with other litigation, and even in collaboration among plaintiffs’ attorneys, comes squarely within the purposes of the Federal Rules of Civil Procedure”); *Patterson v. Ford Motor Co.*, 85 F.R.D. 152, 153-54 (W.D. Tex. 1980) (similar).

*Third*, your letter demands, bizarrely, that Plaintiffs “return all of the produced materials to the Trustee for the Kathleen H. Hofeller Irrevocable Trust.” You cite no legal authority, and we can think of none, for the notion that a litigant can demand that subpoenaed electronic files be returned to the “Trustee” of a financial trust of the mother of the subpoenaed individual. Even if Kathleen Hofeller rather than Stephanie Hofeller had produced the files in response to the subpoena (which she did not), Kathleen Hofeller is legally competent, and you do not explain why the materials would go to a “Trustee” rather than to her. It appears that you are making this odd request because Kathleen Hofeller herself does not want return of the materials.

*Fourth*, your letter asks that Plaintiffs identify all “individuals [Plaintiffs’ counsel’s law firms] employ” who have reviewed the “produced materials.” As stated above, we can represent that no one at our law firms has any intention of reviewing any of the five specific files identified in your letter as purportedly privileged. We have no

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obligation to provide you further information regarding names of attorneys who have worked on this matter.

*Fifth*, your letter also asks which of the files that you characterize as “wrongfully produced materials have been shared outside [Plaintiffs’ counsel’s] firms.” While we have no obligation to respond, we can advise you of the following: As you know, on May 6, 2019, we provided complete copies of all of the Hofeller files to all three sets of Defendants, including Legislative Defendants represented by you, Intervenor Defendants represented by separate private counsel, and State Defendants represented by the North Carolina Attorney General’s Office. We provided complete copies of all of the Hofeller files to each set of Defendants because you demanded that we do so. We have no information about whether and to what extent Defendants may have shared files with others.

*Lastly*, your letter demands that Plaintiffs “attest that all copies of the materials wrongfully produced by Ms. Hofeller are no longer in [our] possession and have been destroyed.” Legislative Defendants have offered no legitimate basis for this demand. Moreover, given that the Hofeller files reveal wrongdoing by government officials, “destroy[ing]” the files could constitute spoliation.

Sincerely,

*/s/ R. Stanton Jones*  
R. Stanton Jones