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In the Matter of:

WYGANT, et al.

vs

LEE, et al.

TRANSCRIPT OF PROCEEDINGS VOLUME II

April 18, 2023

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IN THE CHANCERY COURT
FOR THE TWENTIETH JUDICIAL DISTRICT
OF TENNESSEE

TELISE TURNER, GARY
WYGANT, and FRANCIE HUNT,

Plaintiffs,

vs. Case No. 22-0287-IV

BILL LEE, Governor, TRE
HARGETT, Secretary of State,
MARK GOINS, Tennessee
Coordinator of Elections;
all in their official
capacity only,

Defendants.

TRANSCRIPT OF PROCEEDINGS

Volume II

April 18, 2023

Russell T. Perkins, Chief Judge
J. Michael Sharp, Judge
Steven W. Maroney, Chancellor

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(The aforementioned cause came on to be heard Tuesday, April 18, 2023, before the Honorable Russell T. Perkins, Chief Judge; J. Michael Sharp, Judge; and Steven W. Maroney, Chancellor, beginning at approximately 9:01 a.m., when the following proceedings were had, to-wit:)

MR. HART: Your Honor, I apologize. We had thought that our first witness, who is going to be taken out of turn, Mr. Sean Trende, would be here. He was driving from Ohio last night and has gotten a little delayed. We think he's on his way over here but is not here yet. And I just wanted to inform the Court of that. We do expect him to be here this morning.

CHIEF JUDGE: We would be happy to take him as soon as he gets here wherever we are in proceedings, so he can get back on the road.

MR. TIFT: Your Honor, just a little housekeeping measure we discussed with opposing counsel, one of our Plaintiffs, Mr. Wygant has an engagement in Gibson this evening and would like to drive back after lunch. I understand Defendants are not going to re-call him. They

are okay with him doing so as long as the Court is okay with him doing so.

CHIEF JUDGE: That would be fine.

MR. TIFT: Okay. We are prepared for Mr. Cervas.

CHIEF JUDGE: Do you need a few minutes, Counsel?

MR. TIFT: I probably just need a few minutes to switch all the documents back.

CHIEF JUDGE: Okay. Take your time.

MR. HART: Your Honor, do you mind if I step out for a moment and try to call Mr. Trende.

CHIEF JUDGE: No. Help yourself, sir.

MR. HART: Your Honor, he is on Highway 31. We think he's about ten minutes away.

CHIEF JUDGE: Dr. Cervas, you are still under oath.

- - -

DIRECT EXAMINATION BY MR. TIFT:

Q All right. Good morning, Mr. Cervas.

A Good morning.

Q By way of quick reorientation, yesterday we were on your first report which is tab, your

first house report, which is Tab 8 in everyone's binders, or I guess I should say Exhibit 8. And you'll recall, we had discussed 13a. Then we had been discussing 13b, which maybe you can help us remember which page we need to look to to get back to 13b.

A My illustrative plan start on Page 12 of that first report under Tab 8, and my house plans 13a and 13b can be found on Page 13 and 14.

Q Okay. And we had been discussing noncontiguous census blocks yesterday. And looking back now to Cervas house map 13b, I believe we had gotten to the point of Defense experts made you aware of certain noncontiguous census blocks in 13b, correct?

A That is correct.

Q And did those noncontiguous census blocks have any population in them?

A No. My recollection was that there was no populations in any of those census blocks.

Q Okay. And were you subsequently able to pair those census blocks with their correct contiguous districts?

A Yes. I delivered a supplemental report correcting those noncontiguous. And I called the

plans -- I consider these to be exactly the same maps. The only difference is that there are technical corrections. So 13b_e is a technical correction. It's the same plan. No other changes have been made in the plan at all, except to make the technical changes.

Q And we looked yesterday at the rebuttal report to note where you had put in links for 13b_e, correct?

A Yes. It was on a different exhibit because it was a supplemental report after Defendants experts pointed out these technical errors.

Q Okay. And so 13b_e what is the total population variance on it?

A It would be identical to that of the 13b, which can be found in Table 3 on Page 18. And so the total number of county splits in this table listed TN county splits is 25.

Q So, that's the county splits. I think I asked what's the total variance.

A The total variance is 9.96. And just recalling the overall variance, you question keeps referring to total variance. Same terms, Courts have used different terms all meaning exactly the

same thing, the difference between the largest district in the state and that was smallest district in the state. And that was 9.96 percent and that's under the 10 percent threshold that the US Supreme Court established.

Q Okay. And you said the county splits in this map 13b_e are 25?

A Yes.

Q And 13b_e is now fully contiguous?

A Would be identical with 25.

Q But is it now a contiguous map?

A Yes. And I don't believe that Defendants ever rebutted that fact, that those maps, the _e maps are contiguous and therefore constitutional.

MR. SWATLEY: Your Honor, objection. It's a legal conclusion.

CHIEF JUDGE: The Court will disregard the part about "and therefore constitutional."

Q (By Mr. Tift) In this map 13b and 13b_e, did you make any effort to not pair incumbents?

A In this map, no. Recalling that at the time of this report, I was not provided data on where the incumbents lived at the time of this report.

Q All right. And now we can turn to

Tab/Exhibit 9, which is your December 2022 rebuttal report.

A Yes, sir.

Q Now, Exhibit 9 includes Cervas map 13c on Page 3. Are you able to find that?

A The figures on Page 3, yes.

Q Okay. And can you explain to us how you got from 13b to 13c?

A So again, recalling that when I named the map 13, it is indicating that Shelby County has 13 districts, and the boundary of Shelby County is -- all the districts are wholly within Shelby County. And so, this continues that same objective of keeping 13 districts in Shelby.

But the expert witnesses for the Defendants had pointed out that they believe that the way I had paired my District 80 from 13b with the adjacent Madison County violated the law according to one of the Lockert cases, because there was not one whole district fully inside of Madison.

And I talk about that in this report. I did not offer legal conclusions in my report. I'm not an attorney myself. I did not graduate law school. My reading of the Constitution suggests that the way I had done this is allowable under

Tennessee Law.

MR. SWATLEY: Your Honor, objection. That's a legal conclusion. He just stated he's not a lawyer.

CHIEF JUDGE: He's saying that this suggests, that goes back to what he is opining about. We are not taking any of the experts' legal conclusions, to the extent they are legal conclusions, as evidence for us. We are not bound by that. We are going to have to make our own independent determination. So, we are viewing it in that lens, but you are correct to protect your record.

THE WITNESS: So, 13b has District 80, which is a district that we believe is required by the Voting Rights Act in a way that doesn't leave enough population in Madison County for it to have its own district, so it needed to be combined with another county. I combined it with another full county so there's no additional county split. In fact, it reduces the amount of county splits found in the enacted plan in doing so.

That said, in map 13c the Plaintiffs' counsel asked if I could create a map where I

do District 80 identical to the enacted map. And that means that District 80 and the adjacent, I believe, District 73 would be identical as the enacted map. And then see if under that criteria if I could still significantly reduce the number of overall splits.

So in other words, to take away the justification of additional county splits for the VRA district. So, this map contains that VRA district plus all the other 12 districts in the state identical to the way the state drew them.

Q (By Mr. Tift) And can you remind us, you are using a shorthand of VRA district when you are talking about District 80. Can you remind us what that means to you?

A Right. The Voting Rights Act of 1965 says in Section II that you can't dilute the votes of a protected minority group and --

MR. SWATLEY: Your Honor, objection to the extent he's interpreting law and making a legal conclusion. Again, just for the record.

CHIEF JUDGE: Thank you. And we're listening for his opinion, and we're going to

make an independent determination about the Constitution.

MR. TIFT: And I would say Plaintiffs are fine with considering that a standing objection if Mr. Swatley doesn't want to make it every time a question is asked.

MR. SWATLEY: I'm happy to make that standing objection if the Court is okay with that.

CHIEF JUDGE: Let the record so reflect.

THE WITNESS: And so, Section II of the Voting Rights Act requires that we don't dilute the votes of a protected minority. And I believe just from my expertise that this particular region and based on previous court cases that this area of the state would be protected by Section II of the Voting Rights Act. And therefore, the state has an obligation to comply with that.

Though, I do believe that my map 13b is consistent with the Voting Rights Act, both in the spirit of the Voting Rights Act and in the process by which a redistricter were to go about by drawing it without race as a predominating motive, but drawing it in a way

that still satisfies the non-diluted properties of the Voting Rights Act. If there was a compelling reason to draw the district identical to the way that the state does, this map does that. It satisfies exactly the same criteria the state used.

Q Let me ask, is District 80 in the enacted house map a majority-minority district?

A Yes. It's a majority black voting-age population district. It's right around 57 percent black voting-age population.

Q And is District 80 in 13b and 13b_e a majority-minority district?

A It is. It's over 50 percent plus one black.

Q And is District 80 in Cervas house map 13c a majority-minority district?

A It's identical to the enacted map and therefore, it has the exact same properties as the enacted map.

Q And we have District 80 and you have mentioned the other district in Madison. Throughout your maps, does the other Madison County district have a consistent number?

A Yes. I see it right here, District 73.

Q So is it accurate to say the districts you are talking about here are 80 and 73?

A Yes.

Q And in 13b and 13b_e did the way that you drew District 80 leave enough space in Madison County for a full additional district within Madison County?

A Yeah. In map 13b, and it's technical corrected that 13b_e, there would not have been enough population left in Madison County for its own district. So it would need to be paired with another district, though, not creating any additional splits.

Q So did your District 80 in maps 13b and 13b_e lead to the need to combine the rest of Madison County with an additional county or more?

A Does my drawing of District 80 lead to the necessity of including the population [unintelligible] of Madison County with the subsequent adjacent county? Yes.

Q And again, did you create the District 80 in reliance on federal law or state law?

A District 80 would be by the Voting Rights Act, which is federal law superseding that of Tennessee Law.

Q All right. So looking to map 13c and using the actual district numbers this time, so are Districts 80 and 73 in map 13c exactly the same as they are in the enacted house map.

A They are.

Q All right. You have spoken about maintaining Districts 80 and 73 from the enacted house map in 13c. Did 13c have any other changes?

A Yes. So, because you are changing District 80, you have to change all the districts surrounding it because it affects the different counties. Like almost every decision in redistricting, when you change one line, you end up having this ripple effect that goes pretty significantly far.

And I was tasked with trying to keep the number of county splits to a low level, and to do that, because District 80 itself is creating three county splits, I had to add county splits to re-create the enacted plan. So I had to find somewhere else in the map to reduce it back down. So there is changes in, I believe, over 20 of the 40 districts that are not identical to the enacted map.

It caused a lot of changes throughout this map, though not anything that should be

regarded as substantial, because the Voting Rights Act districts are not changing. It's just which counties go with what to create the other districts in the state.

Q So overall how many majority-minority districts are in map 13c?

A 13c will have identical 13 majority-minority districts. All of them identical in shape and in demographics identical to the enacted plan.

Q And how many county splits are in map 13c?

A You can see the date in Table 1 on Page 5 of this report, and here I show there are 24 county splits in map 13c.

Q Okay. And what's the total or overall population deviation for map 13c?

A It's still 9.96. Quite high, again, because recalling yesterday's testimony, because there are districts in the enacted map that have very high deviations. And they are not affected by my map. So those high deviations continue to persist in my map.

That includes -- there are three districts in Montgomery County. And they all have 5.09 percent, too many people by 5 percent in all

three of those districts. Because I perpetuated those districts in these maps the deviations are still really high. Unless I were to do something about that and alleviate the population there, we'll continue to have those very high population deviations.

Q And you say "very high." How does the 9.96 compare to the enacted house map's total deviation?

A It's high in a sense that it's very close to the 10 percent threshold. But the enacted map itself is at 9.9 percent, and this is 9.96, so it's .06 percent more, which is to say not very much more. But it's still high and there are ways to reduce the total population deviation if one chooses to. And if you just look over, like your eyes, just slightly to the right here, you will see that 13d has a 9.89 percent deviation. So there are potential ways of alleviating the total deviation.

But in this map, almost all of the legislature's choices are maintained. In only very few, the additional splits that are added to this map are eliminated to reduce the total number of county splits.

Q In map 13c, did you make any effort to

avoid pairing incumbents?

A In map 13c, no. The only thing I was attempting to do in map 13c was to make District 80 identical to the enacted plan. And I had no other objectives in that plan, other than to continue to maintain a low number of county splits throughout the state because that's what the Tennessee Constitution says.

Q And similar question in map 13c, did you make any effort to change the core preservation as compared to your previous maps?

A No. Again, the only objective of map 13c was to fix the District 80 to be identical to the enacted map and to continue to lower the number of county splits, no other objectives.

Q Okay. Now, at some point did you become aware of any noncontiguous census blocks in map 13c?

A No.

Q And are you aware of any noncontiguous census blocks in map 13c to this day?

A I have not been able to identify any and nobody else has identified any non contiguities in map 13c.

Q Two pages over we see your illustration for map 13d on Page 5 of your rebuttal report. Have

you been able to find that?

A Yes.

Q Okay. Now explain to us how you got from map 13c to map 13d?

A So, Defendants' experts had criticized map 13b and the other maps that I had provided as illustrative, because they failed to retain the cores of the prior districts and that they paired too many incumbents. And so map 13d was a response to those criticisms.

Q Okay. And so, that being a response to those criticisms, what did you do to respond to those criticisms?

A So at this point, I was provided confidentially the incumbents' addresses for all members. I don't know anything about the actual data, other than that's the data that was provided to me by the Defendants for me to unpair the incumbents.

So, now that I have that data, I could draw a map that did exactly as I've said, kept Shelby County and Davidson County and Knox County and Hamilton County, all those urban counties, District 80 and 73, and various other districts in the state identical to the enacted map. But now

unpair incumbents anywhere I could to reduce the number of what Mr. Trende called double bunks, so I used his term here in the report. You might call it a paired incumbent, so that two incumbents didn't have to face each other in the next election.

And I also did as much as I could to retain the cores of the prior districts. And that was defined by the Defendants' experts as the cores of the 2012 enacted map. And so the numbers reflected in Table 1 under 13d, the very last column, shows that there is 80.1 percent of the cores are retained. That means that 80 percent of the districts are unchanged from 2012. That number, I believe, either matches or exceeds the number in the enacted map.

And you also see in the very last row of that that, there are only six double bunks. And you can compare that to the first column. I see now I have the enacted plan listed. Those numbers are identical to the enacted plan.

So reading through the table, you can see that 13d has a lower overall deviation, because in 13d -- well, I'm not exactly sure how the deviation goes down. I don't want to speak to that right now, because I don't have more data in front

of me. But the total deviation is lower than the enacted map. The average deviation is lower than the enacted map.

The compactness scores are equivalent. I believe they are both higher. Which on compactness, higher is better. Core retention is identical and double bunks is identical. So 13d is in every way either identical or superior to the enacted map, particularly on the county splits measure, which went from 30 to 24.

Q Okay. And you have just walked us through this chart. We are looking at Exhibit 5. I do want to focus specifically just to make sure that we have talked it through. You have said that your objective here was to work on core retention and double bunking. On the metric of core retention, how does 13d compare to the enacted house map?

A They both score 80.1 percent identical.

Q And I know it's listed double bunks here. Am I accurate if I also call that incumbent pairings?

A Yes.

Q On the metric of double bunks or incumbent pairings how does, how does 13d compare to the enacted house map?

A They both have exactly six.

Q And on the question of overall deviation how does the enacted map compare to 13d?

A The enacted map has a 9.90 percent overall deviation, and 13d has a 9.89 percent overall deviation.

Q So 13d's deviation is somewhat lower, correct?

A Yes.

Q And it's not on this summary chart, but how did the majority-minority districts compare between the enacted house map and 13d?

A This is a series 13 map if you will, so the majority-minority districts are identical, including District 80, absolutely identical to the enacted map.

Q Okay. And in addition how did the county splits compare between 13d and the enacted house map?

A In the enacted house map, there are 30 county splits. In 13d, there are 24, six less than the enacted map.

Q Looking back to the second page of your rebuttal report, in your first bolded point you address noncontiguous census blocks. What are you

explaining in this section of your report?

A This is the section where I thank Mr. Himes for identifying the zero population non contiguities that were in maps 13b, 14a, 13.5a, and 13.5b. And I'm acknowledging that those were technical errors that had no effect on the plans and that I have made those corrections, which the links are found later in this report.

Q Those links are found on Page 5 in the footnotes, correct?

A That's right. Footnotes 9 through 12 have those corrections.

Q Okay. And then, you are also reporting something here in point two about map 13a. Can you explain what point you are making about 13a here?

A In case it wasn't clear from my prior report, I did not think that map 13a was one that was viable because of the potential violation of the Voting Rights Act in District 80. So I was reiterating that that was the first map I drew. It was the baseline by which the other ones came about but that it was not a viable map.

Q Okay. And then, on Page 4 your ninth point, you address core retention and incumbency protection. Have we pretty much covered the core

retention and incumbency protection opinions in your previous testimony?

A If I could just add that, like, reading through the Tennessee Constitution and certainly in the US Constitution and in federal statute, there are absolutely no mentions of core retention or incumbency protection. And in the guidance provided by the state house redistricting subcommittee document that I used as my guidelines, these were not mentioned. These two, core retention and incumbent pairings were not mentioned as criteria.

Q Okay. And did anything in the Defendants' experts' witnesses reports, upon your receiving them, change your opinion in this case concerning whether fewer counties could have been split while still complying with the federal constitutional requirements on the 2020 census data?

A No. My opinion remains unequivocal that the legislature could have enacted a plan with far fewer splits. And I think that the preponderance of evidence that I have given here shows that that's absolutely 100 percent true.

Q And do you submit for the Court that your opinions in your rebuttal report that we just looked at also support your just stated opinion?

A It actually furthers my confidence in this matter that even holding almost every one of the State's legitimate state interest, including things that are not found in the Constitution, like core retention and incumbent protection, they still could have reduced the number of county splits in this plan and they failed to do so.

Q And in your 13d, how many fewer county splits could they have enacted while still meeting all those metrics?

A A total of six counties could have been not split while holding everything else constant.

Q And in that map, would the variance have been the same or better?

A It would have been better.

Q All right. Let's turn now to Exhibit 10.

MR. SWATLEY: Your Honor, I would just like to go ahead and object. This is the supplemental report we contend was submitted late after the closing of discovery according to the Discovery Order. I realize the Motion in Limine was ruled on. I just want to preserve the objection.

CHIEF JUDGE: Thank you. Noted. Objection overruled.

MR. TIFT: And Plaintiffs are similarly fine with the standing objection on that point and even believe that a denied Motion in Limine does preserve that objection throughout the trial. But we are fine with considering that a standing objection.

Q (By Mr. Tift) Okay. I have just directed you to Exhibit 10. Do you recognize this as a response authored by you to the Defendant expert depositions?

A Yes, this is dated January 9, 2023.

Q And what was your reason for generating this report?

A There were two issues that Defendants' experts pointed out in their depositions.

Q If I can interrupt you for a second, did their depositions take place after the report we just looked at or before it?

A It was after that report, because they were now responding to that report. So this report is just a response to their criticisms of my prior report.

Q Were they criticisms related to one specific map from your rebuttal report?

A Yes. Because 13c had no noncontiguous

districts, and so otherwise, they had nothing to say on that map.

Q So does this response only concern revisions to your map 13d?

A That is correct.

Q And what two criticisms did Defendants' experts raise in their depositions concerning map 13d?

A They raised a concern about noncontiguous census block. And though I write in here that there was a single one, I actually now believe that there were two. We showed yesterday on the giant exhibits that there was another one in the map that we are now going to talk about. I believe that probably was also existing in the other one but I did not catch it. So it continued on in the next iteration. So there's this single, noncontiguous block that I was able to identify in 13d.

But they also claim that I had improperly, quote, double split Sullivan County, which is the county that is the very far northeast of the state on the North Carolina border.

Q All right. Let's talk about that double split first, and I believe you have got some illustrations that might assist you in talking about

that. But can you address the double split and what you did in 13d_e concerning that?

A So, reminding you that the task was to retain as much of the cores as possible in this 13d map, this particular area of the state has lost population. So the Districts 1, 2, and 3, which are the districts as they are numbered in this part of the state, had to expand. They had to include more population, which meant having to over into the Hawkins County creating an extra split but by necessity. No matter how you draw these plans there's going to be a forced split here.

The question is which district gets split? Instead of having District 3 go through four different counties the way the state legislature had done, I had it go through only three counties and had District 2 span two counties.

Again, the configurations can be done kind of any way you want. They are three districts that are all contained in the same population block. And because the goal of that map was to retain the cores, I matched it up as closely as possible to the 2012 map and retained the most amount of cores possible. And the way that worked out was to create what they call a double split.

I personally, as a mapmaker, find it to be a better way of mapping, the way I had done it in my 13d, and I stand by that as a legitimate decision. Because a county instead of going on kind of aimlessly into multiple counties gets more limited, and then you have a much more compact second district, so it really increases compactness a lot. And it also had the virtue of increasing core retention.

So in map 13d_e this is a correction to both the noncontiguous zero population census blocks and to configure this Districts 1, 2, and 3 much more closely to the enacted plan.

CHIEF JUDGE: Just for the record, I believe the expert stuck his head in the courtroom.

MR. HART: May I go check?

CHIEF JUDGE: Yes.

MR. TIFT: And I believe we could finish addressing this double split and then be at a good point if he is ready. Is counsel okay if I do that while Mr. Hart has stepped outside or should we wait a second?

MR. RIEGER: Let's wait a second until Mr. Hart has had an opportunity to chat.

MR. TIFT: Okay.

[Respite.]

Q (By Mr. Tift) Okay. So we have been looking at these Pages 2 and 3 illustration showing the different Sullivan, Hawkins, Carter, Johnson Counties, and you were explaining what the double split was in your map. Do you see in the map you created, 13d, what Defendants refer to as a double split?

A Yes. So now we are looking at Page 3, so it would be Figure 3 on Page 3 zoomed in on those Districts 1, 2, and 3. And you can see that District 2 is part Sullivan County and part Hawkins County. And District 1 is fully contained in Sullivan County. And District 3 is just the part of Carter, all of Johnson, and all of Sullivan.

Q And what did you do to address this criticism?

A So, you will see in Figure 4, District 2 now is all within Sullivan County, as is District 1. And District 3 now spans those four counties. And you'll also notice that the shape of 13d_e of District 3 is much more bizarre and much less compact. So they both are legitimate ways of configuring these districts. My 13d is more compact

and preferable to me as a mapmaker, but you can see that the districts are all contained in the same counties. There's the same exact number of county splits.

However one configures these districts has no effect on the number of county splits in the map or any of the other. Variation is shared between these, so you can adjust the boundaries to create low population deviations as possible between these districts. So there's no meaningful difference between any of these maps on the measures that matter here.

Q Okay. So did your revision from 13d to 13d_e remove the double split that was pointed out by Defendants' experts?

A Yes, it's now removed. So Districts 1 and 2 are completely and wholly contained within Sullivan County, and there's no double split.

MR. TIFT: Okay. We would suggest pausing Dr. Cervas at this point for Mr. Trende to proffer his testimony.

CHIEF JUDGE: That works for the Court. We're going to take about five minutes.

[9:44 A.M., a recess was had until 9:51 A.M.]

MR. HART: Your Honor, Steve Hart, Special Counsel in the Tennessee Attorney General's Office on behalf of Defendants. Appreciate your indulgence with us on getting our expert witness here. That was my miscommunication to him about what time to be here. I apologize.

- - -

Sean Trende,

having been first duly sworn, testified as follows:

DIRECT EXAMINATION BY MR. HART:

Q All right. Would you state your name for the Court, please.

A Sean Patrick Trende.

Q And, Mr. Trende, what is your current employment?

A I'm the senior elections analyst for RealClearPolitics. I'm also finishing up my PhD at the Ohio State University.

Q And I have handed you what's in the binders as Exhibit No. 16. And is that the expert report that you prepared in this case?

A Yes, sir.

Q And when was this report prepared?

A This report was prepared in the second

half of 2022. I'm not sure about the exact date.

Q And who prepared the report?

A I did.

Q And refer you to the last pages labeled Appendix A is that your curriculum vitae as of November 2021?

A Yes, it is.

Q And is that correct and accurate as of that date?

A Yes, it is.

Q Are there any significant changes that have occurred to your CV?

A The PhD should be expected 2023. That's a typo. And that's still the expectation. Other than that, no, there's no significant updates.

Q Does Page 1 of your CV accurately set forth your formal education?

A Yes, it does.

Q And would you just summarize your education.

A Yes. So I graduated from Yale with a degree in history and political science in 1995. In 2001, I went to law school at Duke University. And at the time Duke offered a program where you could get a joint degree with one of their other schools,

so I opted to get a Masters degree in political science at the same time. And I was awarded both in 2001.

In 2016, I started to earn my PhD at Ohio State in political science. And when I showed up, they looked at my experience with my Masters degree and suggested that rather than go through their quantitative method sequence that I go over to the statistics department and take my quantitative methods there. So I earned a Masters degree in applied statistics, which was awarded in 2019.

And I have turned in a complete version of my dissertation and expect to be awarded that degree at the conclusion of the summer term.

Q And will you tell the Panel just briefly how does that coursework and your education relate the redistricting issues?

A So one of the chapters in my dissertation has to do with application of communities of interest to redistricting simulations, so it involves a pretty deep dive into redistricting methods. I also took coursework in geographic information systems programs, which is where you learn about shapefiles and all the building blocks of redistricting. And I also did an independent

study in preparation for my dissertation chapter on the redistricting literature.

Q And refer you to Page 2 of your CV it lists previous expert testimony in over 20 matters; is that correct?

A That is correct.

Q And will you just summarize your experience testifying as an expert witness?

A So, I have testified in a variety of contexts. But in the political and racial gerrymandering context, I testified in the Whitford v. Nichol case, as well as the Rucho v. Common Cause, which are the two that went up to the Supreme Court of the United States. I also have testified in a variety of cases this semester -- or this semester, this cycle.

Every blurs together, Your Honor.

The most prominent of which were probably the Maryland case, where that map was struck down as a political gerrymander in reliance on my testimony. And then the Harkenrider v. Hochul case, where the three New York Courts struck down that map as a political gerrymander.

Q And can you just briefly summarize how your previous expert testimony and work relates to

the issues in this lawsuit that you are being asked to be an expert on?

A So, in all those cases, particularly the Maryland case, we focused on issues that are relevant to this case: County splits, compactness measures. You know, there are additional issues including various criteria for determining whether a map is a political gerrymander, which I understand are not raised in this matter, but the core matters of looking to see if incumbents are paired, looking to see if counties are cracked is included there.

I also testified in NAACP v. McMaster and have pending testimony in the Texas racial gerrymandering/VRA case. So I have experience there with some of the, I guess, side matters raised by this litigation.

Q Page 3 of your CV lists court appointments. Can you tell us about these court appointments and how they relate to redistricting issues.

A So the first court appointment issue was actually the Supreme Court of Belize appointed me as special master for the Court in their version of Baker v. Carr. So I was tasked with the Court of summarizing international standards of fairness and

redistricting for them and then was asked to prepare alternative maps that would comply with international standards of fairness similar to our VRA Gingles step one, just to offer proof of concept that you can, in fact, do this in their country.

From there, I was appointed as a Voting Rights Act expert by the Arizona Independent Redistricting Commission. I was counsel to counsel, I suppose. The lawyers that were advising the Independent Redistricting Commission relied on my advice and Professor Ansolabehere at Harvard University on whether the maps that were being complied with the Voting Rights Act.

And then, I was appointed, along with Bernie Grofman as special master by the expert report of Virginia when their Independent Redistricting Commission deadlocked to draw the maps for them. So, Dr. Grofman and I drew the congressional state senate and state house maps.

And pretty proud that the two states I worked on were about the only swingish state maps that didn't get challenged so far this cycle.

Q And when you were appointed special master in the Virginia matter, did you draw any maps in that case?

A So, Dr. Grofman and I, we collaborated on every map that was drawn, but we drew the congressional state senate and state House of Representative maps.

Q Do you know if Dr. Cervas drew any maps in that case?

A I don't believe he did.

Q In addition to your expert testimony you provided in numerous matters and court appointments regarding redistricting, will you briefly summarize your teaching experience and experience with publications and presentations that would be relevant regarding redistricting?

A So I have been teaching for the past five years as part of my grad school. This one was not related to my grad school, but I was appointed lecturer at Ohio Wesleyan University to teach American Democracy and Mass Media. But after that at Ohio State, I taught the Intro American Politics class in, I guess, four semesters. That class touches briefly on redistricting as part of explaining how congressional districts are drawn.

The more in-depth work is a class that I have kind of put together, and I'm teaching it this semester, as well, and that's Political

Participation and Voting Behavior. And so the first half of that class is designed as like a theory section: What motivates people to vote, how do people make their choices when they go into the voting booths, how do campaigns interact with people's decisions on how they are going to vote.

The second half is an application. So we take the theory that we learned in the first half and look at real world problems. And one of the real world problems that we spend a lot of time on is political gerrymandering.

We probably spend two weeks on racial gerrymandering and the Voting Rights Act and then three weeks on political gerrymandering, looking at how courts have dealt with these issues, what political scientists have suggested as metrics. We go through in detail how you calculate the various compactness metrics and go through traditional redistricting criteria and how political scientists have suggested those criteria be dealt with.

And then, I'm pretty excited for Friday. Their final project is to actually draw a map and present it to the class trying to comply with one of the variance suggestions political scientists have made. So, I'm looking forward to

seeing what they come up.

Q Very good. Thank you. And in addition to the Appendix A, the CV, does your report correctly list your background in terms of education, professional experience, publications, court appointments, expert testimony on Pages 1 through 5 of your expert report?

A Yes, sir.

MR. HART: I move the Panel find that Mr. Trende is qualified as an expert regarding redistrict mapping and use of tools to do that mapping, map evaluations, redistricting criteria, and related redistricting issues by virtue of his knowledge, skill, experience, training, and education so that he could testify in the form of an opinion in regard to these redistricting related issues.

CHIEF JUDGE: Any objection?

MR. GARRISON: No objection, Your Honor.

CHIEF JUDGE: He will be recognized as an expert and allowed to testify as such.

MR. HART: Thank you.

Q (By Mr. Hart) And in this case you were retained by the Tennessee Attorney General's Office on behalf of the Defendants, correct?

A That is correct.
Q And what was the scope of your engagement?
A So, I was asked to evaluate the Tennessee maps passed in response to the 2020 census. Then, I was also asked to review the maps that were presented by Dr. Cervas in his initial report.
Q And you weren't asked to generate any maps of your own in this case, were you?
A No, I was not.
Q Does Page 6 and 7 of you're expert report, Exhibit 16, correctly reflect the scope of your engagement?
A Yes, it does.
Q Referring to Exhibit 16, Part 3 on Page 7, does that provide an accurate summary of your opinions as of the data of this report?
A Yes, it does.
Q And are those your opinions to a reasonable degree of professional certainty?
A Yes, they are.
Q And who developed these opinions, whose opinions are these?
A These are my opinions.
Q Whose analysis were these opinions based upon?

A The analysis was performed solely by myself.

Q Would you just give us a summary of your opinions as you set forth in the report?

A So again, this is responding to the initial maps that were drawn in Dr. Cervas' first report, and I had five opinions:

The first was that his maps forced the legislature, as I put it, play chicken with the VRA by dismantling a likely ability to elect district in South Central Tennessee.

I also noted that there were difficulties in the Madison County area, because they predict that all of them except for 13a failed to create a district that was contained wholly within Madison County, when such a district could have been drawn.

I noted that final two maps traversed a county boundary without offering justification for doing so.

Then, I looked through his maps to look at core retention and pairing of incumbents. And I think the best way to put it is they had low rates of core retention and they paired a huge number of incumbents together.

So, because of this, at least as of the end of the first report, there was no demonstration that you could create legal districts that could pass the legislature and withstand VRA scrutiny.

Q Okay. Let me take you back to the first point you talked about, which the maps would have the state play chicken with the VRA. What do you mean by that and why is that important, if it is important?

A Well, because the legislature has to try to comply with the Federal Constitution and federal law, which requires you to draw ability to elect districts where the minority group can elect its candidates of choice in certain circumstances. When you have a performing district that's consistently elected a black candidate of choice, dismantling that district is something the legislature is going to want to avoid, both for legal reasons and for just the optics of doing so.

Q You talked about the maps creating difficulties in the Madison County area. Will you explain that a little bit more?

A So that is the issue that most of the maps don't create a district wholly within Madison County

when you can do so.

Q Does your report at Page 7 contain an accurate summary of your opinions?

A It does.

Q For purposes of preparing your report, and I'll refer you to Page 8 of your expert report, Exhibit No. 16, what data did you review and rely upon?

A So, Dr. Cervas provided links to his maps that he had drawn in Dave's Redistricting App. So I, of course, relied upon those and seen what he had drawn.

I also downloaded Tennessee political materials for the block precinct and county level from the redistricting data hub, which is kind of a consortium of redistricting experts pool data, so it's relied upon by experts in litigation routinely. That was for conducting my own analyses of his maps.

And then, I did review the Supreme Court of Tennessee's three opinions in the Lockert series of cases. So, those were the main things upon which I relied.

Q And in this case, Dr. Cervas relied upon Dave's Redistricting App for his software, correct?

A That is correct.

Q Are there other standards that are used in the redistricting community, other tools like that?

A Yeah. There's a variety of maps. Maptitude is probably the most prominent. There's software I know they use in Texas called Red Apple. Maptitude is the most common. There's also Esri offers a product that some groups will use.

Q In your experience doing maps, can you compare the use of Dave's Redistricting App to Maptitude?

A I mean, I think Maptitude is the gold standard redistricting tool. When I was drawing the Belize districts on my own, that's what I used. I've used Dave's Redistricting, as well. It's certainly good as an instructional tool.

Q In using Dave's have you ever encountered any software problems regarding contiguity?

A Not that I'm aware of.

Q And when you did your review of Dr. Cervas' maps, did you see any noncontiguity issues show up on your Dave's App?

A I don't know that I checked the contiguity in Dave's. I would have downloaded the data into R, which is a statistical processing tool and looked at it that way, because there's ways to contiguity via

that. But I don't recall seeing anything in the summary screen for it. You could also eyeball it. Those little dots were plain looking at the map.

Q What if anything did you do in regard to third parties in constructing your datasets?

A So this is commonplace in political science. When you are looking at election results, there's often three or four small party candidates or independent candidates. The general rule is that you just exclude those. So if you have an election where the Republican gets 50 percent and the Democrat gets 48 percent, you would calculate what's called the two-party vote, which is just to take that 98 percent of the vote and split that. So you would call it a 51/49 election.

So all of my political data are presented that way, in keeping with the standards of the discipline.

Q Okay. I'll refer you back on Exhibit 16, Section V of your report. Does this accurately reflect your opinion regarding the specified Cervas' maps?

A It does.

Q And for the record, this is Pages 9 through 19 of your expert report?

A That is correct.

Q And would you explain your analysis in Section V-a. regarding Cervas map 13a, which is set forth on Pages 9 through 12 of your report?

A Yeah. So, the first map shown here is what I call the benchmark map. It's the enacted plan that shows the makeup of District 73 and 80.

And I will apologize for the ugly color scheme. It's called the viridis color scheme. And it has the benefit that colorblind people can read it, and if you print it in black and white, you can see the distinctions. So that's the reason I use that.

But basically, this is the district that's been represented by Representative Shaw since 2000. And you can see that you have District 73 contained entirely within Madison County. This is a heavily Republican district. And Representative Shaw represents District 80, which is a heavily Democratic, heavily African-American district majority.

Q And what was your opinion regarding the Cervas map 13a did you have any criticisms?

A Yes. So if you look at Dr. Cervas' map, 13a, for example, which is demonstrated on Page 12,

it takes that map and substantially reconfigures it, such that there is no majority black district in the area. In fact, all the districts that are left in the area are all heavily Republican districts. So this map would be exceedingly unlikely to elect the black candidate of choice.

Q And why is that important?

A Well, because the Voting Rights Act, if you can draw a majority black district, which has been done, demonstrated by the enacted plan, and if that district demonstrates racially polarized voting, you are required to draw the district under the Voting Rights Act.

Q Would you call that a federal requirement then?

A Yes, that's a federal requirement. There may be a state analogue that I'm not aware of, but that is a federal requirement.

Q And on Page 11, you set forth a chart about ecological-inference analysis. Can you tell us what that chart is showing and what this means?

A So, in I opinion, the best way to determine if there's racially polarized voting is just to ask people. And if we can exit polls, that's great, but unfortunately we don't have exit

polls for subsections of Tennessee. So, what political scientists in lieu when they don't have this data is to use a variety of techniques.

For a long time they used something called ecological regression, which is just a regression analysis performed on the precincts in the area. The problem with that is that regression analysis generates a line. And lines go from negative infinity to infinity. So, at a certain point, you will start generating percentages in excess of 100 percent or less than zero percent, which don't exist.

So, in the '90s Gary King, followed by some other political scientists and statisticians, came up with something called ecological inference. The algorithm is about 12 pages long, so I won't go into the details. But the basic idea is that it uses statistical techniques to place limits on that line so you don't get absurd estimates. And to my understanding, this is a widely accepted method for determining how subgroups vote in courts across the country. I don't think it's controversial.

Q And in light of this analysis you have talked about, would you summarize your opinion

regarding map 13a, which you show on Page 12 of your expert report?

A So, as you can see from the table on Page 11, the estimate is that the black vote in this district enacted by the legislature, about three-quarters of the black population votes Democrat. About a little more than three-fifths of the Republicans vote Republican, so you have racially polarized voting in the area. So, Dr. Cervas' map 13a would dismantle a functioning Voting Rights Act district causing problems for the legislature enacting that map.

Q Let me refer you to Section V-b. which starts on Page 12 and 13 of your report. Did you perform any analysis of Cervas map 13b?

A Yeah. So, Dr. Cervas mentioned that it had been brought to his attention in his report that this might have caused VRA problems. So there's some additional maps that attempt to address this issue.

The problem with these maps is that as we can see from Cervas map 13a and from the enacted map on Page 10, you can draw a district wholly within Madison County there. And Dr. Cervas' map, which is illustrated on Page 13, while it does

draw a majority "VVAP" district, it does not draw a district that's wholly contained within Madison County.

And we know you can do that while respecting the Voting Rights Act, because that's what the enacted plan does. It draws that Voting Rights Act complied district, while maintaining a district that's wholly within Madison County.

Q Okay. And referring you now to Page 13 and 14 of your expert report, did you do analysis of Cervas map 14a?

A Yes. So, Dr. Cervas' map in 14 doesn't bind itself by the legislature's districts elsewhere. But once again, it creates the same problem of not drawing a district that could be contained wholly within Madison County. So it's run into the same problem as the preceding map.

Q Does 14a create any problems with Shelby County?

A So that, I believe, is later in the report where it crosses --

Q Maps 13.5a and 13.5b, I'm sorry.

A So, maps 13.5a and 13.5b have the same issue with Madison County. They don't create maps that are wholly within. In addition, if you look at

the illustrations, the blowups on Pages 17 and 18, this map includes a district that traverses the Shelby County, Tipton County boundary, which to my understanding you are not allowed to do without offering some sort of justification. And I didn't see a justification offered in the Cervas report.

Q And on Section V-e. of your report, it's entitled "Dr. Cervas' maps do not Account for Legitimate Districting Considerations." Could you explain what those considerations are, if any?

A Yes. So, I was asked by counsel to look at other considerations that Courts have employed besides minimizing county splits. So there's a couple factors that States take account of. The first is core retention, which at least in some federal courts has been recognized as a legitimate redistricting principle. And the second is avoiding incumbent parings.

So, if you look at the tables included on Page 19, you can see the various maps that have been proposed: The enacted map, A13, B13, A14, and then A and B13.5 and compare the amount of core retention in those maps versus the enacted plan. And you can see in every situation the enacted plan offers higher core retention than any

of Dr. Cervas' alternative plans.

Q And you didn't get to write a rebuttal report in this case, did you?

A No, I did not.

Q And did you do any further review of Cervas map 13c after Dr. Cervas appended his rebuttal report December 2nd, 2022?

A I did read Dr. Cervas' rebuttal report, the initial one.

Q Okay. Did you find any problems with map 13c?

A So, as I recall that, map had contiguity issues with it. There were a couple of noncontiguous districts that were drawn.

Q Going back to your Exhibit 16, the expert report you filed in this case, did you have an opinion regarding the enacted map, which is the map that the legislature approved?

A Yeah. So, if you look, for example, at the core retention table on Page 19 -- I probably should have explained. Core retention is the percentage of the population in the earlier district benchmark plan that is maintained together in a single district in the subsequent plan. It's a measure of how much a subsequent plan breaks up the

districts contained in earlier plans.

The enacted plan pays some attention to county splits, but it also, unlike the Cervas maps that were offered to that point, pays attention to core retention. Another thing, on Table 19 is that the maps that were offered by Dr. Cervas we call it double bunking incumbents, putting two incumbents in the same district. They double bunked between 16 and 24 districts, where as the enacted plan double bunks 6.

So to kind of summarize, in my experience, and I think everyone who draws maps would agree with this, drawing maps involves balancing a large number of complicated considerations. It's one of the things that I tell my students when they come to me and say, We want to do A, B, and C but we couldn't do A.

And I say, You are doing a great job with the assignment because that's the lesson, is that mapping is hard. And it involves balancing various competing situations that trade off.

And the enacted map balances these considerations. It double bunks very few incumbents. It retains a high degree of district cores. It respects the Voting Rights Act. And it

pays attention to county splits.

Q Thank you. And does your report on Pages 19 and 20 accurately reflect your conclusions regarding this case?

A Yes, sir.

Q Now just briefly, compared to the situation in Virginia, when you were working there, that redistricting wasn't because of a census being done, but it was because of gerrymandering issues; is that correct?

A Well, the redistricting was occasioned, of course, by the census, but it was done in a very unique circumstance. Virginia had just passed a constitutional amendment banning political gerrymandering. And it set forth very specific criteria that had to be followed. And it was supposed to be drawn by an independent redistricting commission consisting of members of the majority-minority parties, but that commission deadlocked and didn't pass maps.

So Dr. Grofman and I were appointed by the Supreme Court of Virginia, and we worked closely with the Supreme Court of Virginia in drawing those maps. And since it was the first pass on this, we had -- I can't go into details because

of a gag order or nondisclosure statement. But, you know, it was a collaborative process finding out what Virginia Law meant since it was the first pass on this constitutional amendment.

Q Is it fair to say if there are gerrymandering issues, that changes the way you look at trying to keep core retention when you are redistricting?

A Yes. So in a state like Virginia, which honestly had just terrible district lines. It was like a Rorschach inkblot, because the Democrats had gerrymandered the senate. The Republicans had gerrymandered the state house. The Democrats controlled the state senate in 2011, and Republicans controlled the house of Delegates. So there was kind of an agreement: We'll just draw our own maps.

And if we had respected core retention and tried to avoid pairing incumbents there, we would have validated the political gerrymander that the voters of Virginia had rejected. So in that circumstances, you wouldn't want to take consideration of either of those things.

These traditional redistricting criteria really are context specific, and in

different context, Courts might look different at them. But core retention in a non-gerrymandered situation just has a different role than in a really aggressive gerrymander like we encountered in Virginia.

Q Thank you.

MR. HART: No further questions, Your Honor. Pass the witness.

CHIEF JUDGE: Thank you.

MR. HART: Before I do, we would like to move Exhibit No. 16 to be admitted into the record.

MR. GARRISON: No objections, Your Honor.

CHIEF JUDGE: Exhibit 16 is admitted without objection.

(The above-referred to document was thereupon marked Defendant Exhibit No. 16, and is attached hereto.)

MR. GARRISON: Your Honor, David Garrison on behalf of the Plaintiffs. May I proceed?

CHIEF JUDGE: Yes.

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CROSS EXAMINATION BY MR. GARRISON:

Q Mr. Trende, I just want to be clear, your

task in this case was to examine Dr. Cervas' report, correct?

A That is correct.

Q Okay. And so you did not examine whether the legislative house districts passed by the Tennessee legislature could have resulted in fewer than 30 county splits, correct?

A Well, I did by examining Dr. Cervas' map. There are more maps that can be drawn than there are quirks in the universe. There's no way I could have looked at every individual map to determine whether it's possible to draw a legal map with fewer county splits. All I can look at reasonably are the maps that are presented.

Q Right. And so what I'm asking you is you looked at Dr. Cervas' maps, which of course some of them do divide fewer than 30 counties, but you didn't on your own determine whether you could draw state house maps for Tennessee with fewer than 30 county splits that still met federal constitutional standards and met other requirements, right?

A I didn't go looking for maps that you described. And I could never prove that such maps don't exist, because there's just such a mind-boggling large number of maps out there.

Q Okay. I'm going to try this again. I didn't ask what you looked for. I asked what you did. I just want to make clear --

A Yeah.

Q -- you did not look at the Tennessee house legislative maps and determine whether fewer counties could be split while still meeting federal constitutional standards and other standards that you have described here today, right?

A Right. I didn't engage in that exercise, because ultimately there's no way I could have proved that one way or the other. So that's why I did not do that.

Q Well, you weren't asked to do that, right?

A I wasn't asked to do that.

Q Did you do everything you were asked to do?

A Oh, I don't know about that. Sometimes I'm asked to do things, and I say, I don't know if I can do.

Q What's an example that you were asked to do that you don't know that you weren't able to do?

A My point is just I can't remember anything here.

Q You don't recall anything?

A I don't recall.
Q Okay. So your task here was to examine Dr. Cervas' maps, correct?
A That's correct.
Q All right. I want to go back to your report. Do you still have it in front of you?
A Yes, sir.
Q All right. And counsel has asked you to describe your summary of opinions set forth here on Page 7. Do you see that?
A Yes, sir.
Q And do you recall walking through those?
A I do.
Q Now, you also, after drafting this report, you reviewed Dr. Cervas' map 13d, correct?
A Yeah. The letters kind of blur together at this point, but I do believe that I looked at maps that were drafted subsequent to my report.
Q Okay. And I want to get to that map in just a second. Would you agree with me that subsequent maps that were produced by Dr. Cervas address some of the concerns you lay out here in these bullet points?
A They purport to, yeah.
Q Okay. So, for example, do you agree that

maps that were produced by Dr. Cervas subsequent to your opinion, for example on this first bullet point, Dr. Cervas produced a map that's labeled 13d that preserves the same Voting Rights Act district in Madison County, correct?

A I would have to review the map but I will -- I have no reason to believe that you are misrepresenting it so.

Q Okay. Well, would you like to review the map?

A I would.

Q Okay. I would like for you to turn to Exhibit 9 that I believe should be in front of you.

A Yes, sir.

Q And if you could turn to Page 5.

A (Witness complies.)

Q And so this is the map 13d that I was referring to. And you had this map that was produced by Dr. Cervas after you produced this report, right?

A That's correct.

Q Okay. And so, you would agree that this map doesn't, quote, play chicken, end quote, with the Voting Rights Act the way that the maps that you were reviewing when you produced your report

allegedly did, right?

A That is correct.

Q Okay. And then, you would also agree that Dr. Cervas' map 13 did not create the same difficulties that you described in your second bullet point in your report involving Madison County, right?

A Yeah, I think that's right. I think there's a line. I think that's two blue districts above District 80 so, yeah.

Q Right. And you would agree that Dr. Cervas' map 13d are the same as the State's enacted map which respected core preservation and incumbent protection, correct?

A I haven't done the calculations myself, but I have no reason to believe Dr. Cervas is misleading me.

Q Okay. And I think you were aware that Dr. Cervas didn't have the benefit of having the incumbents' addresses when producing his initial maps that you examined in your report, right, you're aware of that?

A Um, I am now.

Q Okay. And it's impossible to take into account incumbent protection without having the

benefit of knowing where the incumbents reside, right?

A That's correct.

Q And you would agree that 13d has similar core preservations as the enacted map, right?

A Again, assuming the calculations are correct, yeah.

Q Well, do you remember when Mr. Tift took your deposition?

A Yes.

Q And do you recall when he asked you, do you agree that 13d has similar core preservation to the enacted map?

A I have no reason to dispute you.

Q Okay. And do you recall that your response to that question was "Yes"?

A I again have no reason to dispute you, but assuming that the calculations are correct, they are the same.

Q Okay. Could you look at Tab 6 in front of you?

A (Witness complies.)

Q And do you see that's a copy of your deposition?

A Yes, sir.

Q And could you turn to Page 42, and I'm going to read from line 18:

"Q. And do you agree that 13d has similar core preservation to the enacted map?"

"A. Yes."

Did I read that right?

A Yes.

Q And then, I'm going to read further on line 21:

"Q. You agree that 13d has similar incumbency protection to the enacted map?"

"A. Yes."

Did I read that right?

A Yes.

Q And 13d refers to the map labeled 13d that was drawn by Dr. Cervas, right?

A That's correct.

Q And enacted map refers to the state of Tennessee enacted house map, correct?

A That is right.

Q Okay. Now, you referred to Dr. Grofman earlier, right?

A Yes.

Q You and Dr. Grofman used Dave's Redistricting App as co-special masters in Virginia,

right?
A Yes. Dr. Grofman had access to it. And for two people drawing maps across the country from each other, that made the most sense.
Q Going back to District 80 in Dr. Cervas' maps, you only performed a voting rights analysis for District 80 in Dr. Cervas' maps, not statewide, right?
A That is correct.
Q And in your report you agree that maps 13b and 14a include a District 80 maintained as a 50 percent plus black district where the Democrat would likely win?
A That is correct.
Q Now, I also --
A By candidate of choice.
Q Yes. I want to move back to your testimony on 13c, which is a map produced by Dr. Cervas, right?
A Yes.
Q And I think you provided some testimony earlier about whether that map had noncontiguities or not. Do you recall that?
A Yes.
Q And I think you testified earlier when

State's counsel was asking you questions that it might have had some; is that right?

A Yes.

Q I want to circle back to on Tab 6, your deposition. You were asked about this in the deposition taken by Mr. Tift. I want you to turn to Page 40.

A Okay.

Q Line 11:

Q. "Did counsel, well, let's say you stated that one of the two maps in this report had a noncontiguity, which map is that?"

"A. I believe that's 13c."

"Q. Okay. Where is the noncontiguity?"

"A. I don't remember. I looked at it briefly."

Did I read that right?

A Yes.

Q And is your testimony today the same as it was then on this issue?

A Yes.

Q Okay. Now, Mr. Trende, you have no opinion concerning whether the General Assembly could have created a house map with fewer county

splitting districts than the enacted map while still complying with federal constitutional requirements?

A That is correct.

Q You also have no opinion concerning whether the General Assembly actually tried to create a house map with fewer county splitting districts than the enacted house map while still complying with federal constitutional requirements, right?

A That is correct.

Q And you have no opinion on whether the enacted house map demonstrates on its face that the General Assembly sought to divide as few counties as necessary to comply with federal constitutional standards?

A That is correct.

Q Now, we have been talking a lot about the enacted map. You have no opinions about the state senate map, correct?

A I was not asked to look at it and I have not. I have no opinions.

Q I'm glad you answered that way. That made for a quick examination on the senate map.

Now, you understand Dr. Cervas is an expert retained by the Plaintiffs in this case,

correct?

MR. SWATLEY: Your Honor, objection to the extent that they call Dr. Cervas an expert. We dispute that.

CHIEF JUDGE: Okay. Thank you.

MR. GARRISON: Well, that's how Plaintiffs have retained Dr. Cervas, and you have admitted him as an expert.

CHIEF JUDGE: That's an objection to the form and I'll overrule the objection.

THE WITNESS: I admit you have retained him to be an expert on your behalf.

Q (By Mr. Garrison) Right. You understand that's his role in this case, correct?

A Right. I understand that's why you have retained him, as an expert in that role. I don't know how the Court has ruled on that.

Q What's your understanding about what Dr. Cervas' role is in this litigation?

A I understand he was retained by Plaintiffs to provide an opinion on the constitutionality of the Tennessee house maps.

Q Okay. And what's your role in this litigation?

A I was retained by Defendants to examine

Dr. Cervas' report and the maps that he drew.

Q Okay. And do you understand that Dr. Cervas has put together a number of maps?

A Yes.

Q Not just one, right?

A That's right.

Q And do you understand that Dr. Cervas, his role here is not to draw a map for the state of Tennessee to enact or for this Court to enact?

A Yes. Like I said, they are demonstration maps similar to the VRA step one Gingles.

Q And would you agree that what Dr. Cervas' maps attempt to do is show that Tennessee house districts could be drawn such that fewer counties than 30 are split while still meeting federal constitutional requirements?

A I do understand that is what he is offering opinions to try to do, yes.

Q And would you agree map 13d does that?

A I couldn't give that opinion.

Q But you agree that 13d maintains the same core preservation and the same incumbent protection that the State's enacted map does?

A Yes.

MR. GARRISON: Nothing further.

MR. HART: There's nothing else for this witness, Your Honor. And may he be excused?

CHIEF JUDGE: Any objection to the witness being excused?

MR. GARRISON: No.

CHIEF JUDGE: You are excused, sir.

THE WITNESS: Thank you, Your Honor. Thank you for accommodating my schedule.

CHIEF JUDGE: Yes, sir. Happy to do so.

Next witness.

MR. TIFT: Your Honor, Plaintiffs' counsel would ask Dr. Cervas to return to the witness chair.

MR. HART: Your Honor, may I just have a moment to thank him before he leaves.

CHIEF JUDGE: You May.

MR. HART: Thank you, Your Honor.

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DIRECT EXAMINATION BY MR. TIFT:

Q All right. Dr. Cervas, we'll continue in your Direct Examination and just confirm, as you have already heard today, you are still under oath.

Dr. Cervas, at any point in time have you identified or has anybody identified for you any

noncontiguities in your map 13c?

A No. Nobody has identified noncontiguities in 13c. And I have checked multiple times over and over, and I have not identified any myself.

Q Okay. When we left off, we were on map 13d and the report of yours from January of this year that is in Tab, I believe, 10. Let me grab it to confirm. And again, Tab 10 was your January 9th, 2023 response to the Defendants' deposition expert testimony. Do you have that back in front of you?

A I do.

Q And you just talked about the concern about a double split in Sullivan County. Did we leave anything out? Anything else you need to say about that about dealing with the double split going from 13d to 13e? Have we covered that topic fully?

A I have nothing else to add about that. But just a reminder that I believe that 13d is a fine way of drawing a map.

Q Okay. And so we have talked about the concern of the double split. Now I believe you stated that was other criticism that you were made aware of through Defendants' experts depositions was a few more noncontiguous census blocks issues; is that correct?

A Yes. On the map on Figure 4 on Page 3, you will see that I have shown the blown up region of 13d_e. What you can't see from here are noncontiguities because they are not plain to the eye. But they do exist in 13d_e in District 1 and between District 1 and 3, two noncontiguous census blocks with zero population.

Q Okay. So, 13d_e we are now speaking about. Sorry, I think I said 13d. Concerning 13d_e were you made aware of any noncontiguities in 13d_e?

A I was after the fact. The two I just mentioned, the two, zero population noncontiguities.

Q And were you made aware of in 13d_e any populated noncontiguities?

A There was the one that was between Districts 69 and District 78, Dickson County.

Q Okay. We don't need to get up and go through in detail, but does your demonstrative that's before us showing Sullivan County Districts 1 and 3 represent the two non-population, noncontiguities that you were made aware of for 13d_e?

A Yes.

Q And we walked through yesterday, but are you able to assign these to their correct district

without having any effect on the map's total variance?

A Yes. It would be very easy to make these corrections in a matter of seconds, and it would have no effect on my analysis or my overall conclusion.

Q You may have said before. When you removed the double split from Sullivan County, did that change the number of county splits in the overall map from map d to map d_e?

A It did not change it at all.

Q And would correcting these two noncontiguous, zero population census blocks have any effect on the number of splits in your maps 13d, d_e and d_e after correction?

A No, it would have no effect.

Q And then, concerning the third, noncontiguous census block in 13d_e does your second demonstrative now before everyone here showing Districts 78 and 69, are you able to assign this noncontiguous district to the district that it actually abuts?

A Yes. It would be a matter of seconds to make the change.

Q And I understand that census block has 11

people in it?

A Yes.

Q Okay. And does assigning those 11 people to the district that they are actually abutting affect the total variation at all in your maps 13d, d_e?

A It would not.

Q And would assigning that census block to the district that it actually abuts affect the total variance of the map at all?

A It would not.

Q And why would that not affect the total variance?

A The total or overall variance is the largest and the smallest district. And when reassigning that 11 persons to District 69, neither of those districts would be among the top or the bottom. So it would have no effect on the total overall deviation.

Q Okay. So, after the contiguity corrections, what would be the total variance of the map?

A It would remain the same, 9.89 percent.

Q And how many majority-minority districts are in 13d_e.

A It would still be the same 13 as exist in enacted map.

Q And would that change in any way after reassigning the three, noncontiguous census blocks?

A Not at all.

Q Okay. And how many county splits are in 13d_e?

A There are 24.

Q And would that number change at all based on reassigning the three, noncontiguous census blocks?

A No.

Q After reassigning the three, noncontiguous census blocks would the map be contiguous?

A Yes.

Q Or contain contiguous districts?

A All districts would be contiguous.

Q Would the process of reassigning the three, noncontiguous census blocks affect the core retention at all as compared to 13d_e?

A It doesn't have a meaningful effect. It may have a very small in the very far out decimals. But population wise, the zero population would have no effect. The 11 one would have a very tiny effect. But even rounded out, it's not going to

have an effect that's going to be measurable.

Q In map 13d, which had as you have testified one or more noncontiguous census blocks, when you created that map, did the Dave's Redistricting software show to you any noncontiguities?

A No.

Q I guess what I mean is did the noncontiguity tool in DRA reflect noncontiguities when you created map 13d?

A No.

Q And when you created 13d_e did Dave's Redistricting App noncontiguity tool reflect any noncontiguities?

A No.

Q Is there anything else from your January 9th report that we haven't discussed that is part of your opinion in this case?

A My opinion remains that the state could have enacted a plan with far fewer county splits than they did.

Q Let's go back to your October report, which is Exhibit 8. So we have been talking about what I would call your 13 series of maps. Now I would like to ask about 14a. If you could, remind

us what's the difference between the 13 being at the start of the name or 14 being at the start of the name.

A The difference between this and the 13 plans are going to now be 14 total districts in Shelby County with no district in Shelby County being placed with any other county.

Q Does having 14 districts in Shelby County cause Shelby County itself to have one person, one vote problems?

A It does. Shelby County's population does not fit neatly between having 13 or 14 districts. In either case, either all the districts will have too many people or too few people.

Q In having too many or too few, will they cross the 10 percent number that you have been speaking about?

A No. So, as long as you balance all the populations between the districts, they can be within the range acceptable by the Court.

Q And so, under one person, one vote can Shelby County support 13 whole districts or 14 whole districts?

A According to the allowable deviations established after the 1960 series of

malapportionment court cases, Shelby County can have between 13 or 14 districts.

Q And what were you trying to illustrate with map 14a?

A The major illustration here is that legislature could have opted to draw 14 districts in Shelby County, and in doing so, could have reduced the number of overall splits in the plan compared to what the enacted plan was.

Q And your map 14a, what is its total population variation?

A 14a has a total overall population deviation of 9.98.

Q And how many county splits are in your map 14a?

A It has a total of 24 county splits.

Q And how many majority-minority districts are in 14a?

A There are 15 districts with a black voting age population majority.

Q At some point were you made aware of any zero population, noncontiguous census blocks in map 14a?

A I was, yes.

Q And did you subsequently correct those

noncontiguous census blocks?

A I did.

Q And did you publish the link to the correction in the rebuttal we looked at previously?

A In Exhibit 9, I provided a link and a footnote to that map.

Q Okay. Now I would like to look at your 13.5 series, and can you again explain to us what's the meaning of it being called 13.5?

A As I indicated, Shelby County can have based on its population between 13 and 14 districts. Of course, if you are not going to break the county line, it has to be either 13 or 14. But one could also draw the plan where there are 13 complete districts and one that will connect to an adjacent county. And these two maps, 13.5a and 13.5b do exactly that.

Q And from a mapmaking perspective, why would you want to explore breaking this Shelby line as you stated?

A The major consequence of not breaking the county line is that all of the districts are going to be either overpopulated or underpopulated. And if you allow for population from another county to be used in one of the districts, you can reduce the

variance of each individual district as close as possible to the ideal, which is the spirit of the Equal Protection Clause as interpreted by the US Supreme Court.

Q And on map 13.5a now walk us through what you did to get to that.

A So essentially, we have a new map. As I have stated, all the maps that are under the 13 series, the Shelby County districts don't change at all. Under these, because you are by necessity having to change Shelby County, because the districts are going to have fewer people closer to the ideal and an adjacent county is going to be included in those districts, all of the surrounding counties are also going to need to change.

As we have indicated earlier in testimony, redistricting is like a big puzzle. So once you make one change, there needs to be changes in other areas, as well. So I did continue to make those changes. And in 13.5a the overall deviation ends up going up slightly, but the number of county splits is the lowest I was able to find in any plan.

Q And to break those two down, what is the total variance in your map 13.5a?

A The total variance is 9.98.

Q And what are the total number of county splits in 13.5a?

A County splits, 22.

Q And then, you have also included map 13.5b. What led you to 13.5b?

A So the difference between 13.5a and 13.5b is how I treated Montgomery County. Montgomery County is the county that the legislature did not allow the districts to go beyond its border. It contains three districts. And all districts have the deviation that are above 5 percent. They are at 5.09.

In this plan one of the things I did was I took extra population from the surrounding districts of Montgomery County to alleviate that pressure that existed, the pressure of the populations there. So those districts are no longer the top districts in the state.

Q And then, what about looking back to Page 16 on 13.5a, did your work moving to 13.5b have anything to do with the number of black voting age population districts in 13.5a?

A Yeah. Again, I wasn't drawing with any kind of racial motivations. And that's how districtors are supposed to act. The US Supreme

Court says that we should not have racial targets. Racial targets are unconstitutional. So in this particular case, the drawing that I did in 13.5a resulted in 11 districts that have black populations that exceed 50 percent and another two that are between 47.56 and 49.19 percent. That's black voting age population.

Mr. Trende used the term block opportunity districts. That's actually the term that is used in voting rights litigation. Districts need not actually be drawn above 50 percent. In fact doing so, stating that I drew this district to be above 50 percent is really a potential problem with the US Supreme Court. So the question is whether these districts would give the opportunity to elect the candidate of choice for voters in this area.

And I say in my report that one would want to ensure this with a clear factual analysis, but I believe that these districts would still allow for the voters to elect the candidates of their choice in these districts.

Q Did some of your changes for 13.5b speak to that question?

A Yes. So as I say on Page 17, 13 districts

have black voting age populations above 50 percent consistent with the enacted plan.

Q So is what you are saying is the enacted plan has 13 districts where the black voting age population is above 50 percent?

A The enacted plan has 13 that are above 50 percent. This plan has 13 that are above 50 percent.

Q And what's the total population variation in 13.5b?

A The total deviation of this plan is 9.82 percent.

Q And how many county splits are in plan 13.5b?

A This plan includes 24 county splits.

Q Now, for this report, did you also review a map that had been proposed by Representative Freeman during public hearings? I believe you refer to it as a senate Democratic Concept map?

A It would be the house Concept map?

Q Yes.

A I was asked by Plaintiffs' counsel to review that plan.

Q And to correct my language there, on Page 12, you refer to it as the house Democratic Concept

map, correct?

A That is correct.

Q And does the house Democratic Concept map cross Shelby's border?

A Yes.

Q And so it would be a 13.5 map?

A Yes.

Q And what's the total population variance of the house Democratic Concept map?

A The overall deviation in this map is 9.72 percent.

Q And how many counties are split in the house Democratic Concept map?

A I believe and I'm going to search for it in the text just to make sure, but there are 23 county splits in this map.

Q Okay. And then, about 13.5a and 13.5b at any point were you made aware of zero population, noncontiguous census blocks in those two maps?

A Yes. I was and I made those corrections in the supplemental report that I filed after the fact in the footnotes that I identified earlier.

Q And that's in your rebuttal report from December of 2022?

A That's right.

Q All right. And looking at 13.5a and 13.5b, is it your opinion that they both support your overall opinion as an expert in this case?

A Those plans do further support my opinion that the state could have enacted a plan with far fewer county splits.

Q All right. So, looking back to your map 13d_e, which again is in Exhibit 10, is the population variance better than, the same than, or higher than the enacted house map?

A The overall deviation in 13d and its successor, 13d_e are lower than the enacted plan at 9.89 percent.

Q And is that still the case after correcting the three, noncontiguous census blocks?

A That's still the case, yes.

Q And how do your map 13d_e and the enacted map compare on majority-minority districts?

A These maps are going to have the same 13 as the enacted map.

Q And does that change in any way after correcting the three noncontiguous census blocks?

A The census blocks will not have any effect on majority-minority districts.

Q And how does map 13d_e compare to the

enacted map on county splits?

A The 13d_e has 24 county splits compared to the enacted map's 30.

Q And does that fact change at all after reassigning the three noncontiguous census blocks?

A It has no effect.

Q And how does map 13d_e compare to the enacted map in terms of percentage of core retention?

A Map 13d_e has the exact same core retention as the enacted plan.

Q And how does 13d_e compare to the enacted house map once corrected on noncontiguities?

A Neither plan will have any contiguity problems.

Q And how does map 13d_e compare to the enacted house map on the amount of incumbency protection?

A Both 13d_e and the enacted plan have six districts that have incumbents paired against each other.

Q On any metric other than contiguity, does correcting the three identified noncontiguities effect the statistics of map 13d_e?

A As listed on Table 1?

Q Correct.

A It almost certainly will have the effect of increasing marginally the compactness scores. And going up is better, so it will make those scores better. And the two zero populations could have no effect on average deviation. The 11 may have a very small effect one way or the other, but no meaningful difference at all.

Q Does any noncontiguous census block identified by Defendants throughout this litigation in any way affect or undermine your expert opinion in this case?

A Not at all. In fact, any noncontiguous census block can be corrected and the plan remains exactly the same, which is why instead of giving new names to these plans, I simply put an _e indicating that they are corrected for these technical errors.

Q All right. Dr. Cervas, can you let the Court know what is your expert opinion on the question of whether the General Assembly could have created a house map based on 2020 census data that crossed fewer county lines in the enacted house map and still complied with federal law?

A I have given a number of different illustrative plans all looking at different

criteria. And any justification given by the state for having created their plan none of them justify having more than at most 25 county splits and as few as 22 county splits and certainly not 30 county splits. So my overall opinion is that the state absolutely could have drawn a plan with far fewer than 30 county splits.

MR. TIFT: Consult with counsel for a brief second.

[Thereupon, a discussion off record was had.]

MR. TIFT: That concludes our Direct questioning of Dr. Cervas and certainly invite the Panel to ask any questions of Dr. Cervas now that we are at the close of the proof.

CHIEF JUDGE: We're going to take a ten-minute break. But before that, can the lawyers give a roadmap for the rest of the day?

MR. TIFT: Yes, Your Honor. Following Cross and Redirect, Plaintiffs rest their case, and I'll pass it to Defense.

MR. SWATLEY: We'll have Doug Himes and that probably gets us through the end of the day. We'll see if he carries on into tomorrow.

CHIEF JUDGE: Is that your only witness?

MR. RIEGER: Apart from Mr. Trende, yes.

CHIEF JUDGE: I meant additional witness.

MR. SWATLEY: Yes.

CHIEF JUDGE: And then, at some point we'll need to take up the deposition Motion in Limine issues that we reserve ruling on unless you think it's worked out.

MR. RIEGER: Certainly, Your Honor, I'm sure.

MR. TIFT: It will get sorted out.

CHIEF JUDGE: Thank you.

[11:14 A.M., a recess was had until 11:35 A.M.]

MR. SWATLEY: Your Honor, Jacob Swatley with the Defendant. I'll be doing the Cross Examination here.

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CROSS EXAMINATION BY MR. SWATLEY:

Q Just a reminder, you are still under oath, same rules apply as before.

So this is your first time being an expert witness?

A That's right.

Q And first time ever testifying in court?

A Yesterday was the first time I have ever testified in court, yes.

Q And you're not a lawyer, right?

A I'm not a lawyer.

Q Never been to law school, never crossed the bar exam, not sworn in to practice by the Tennessee Supreme Court or any other Supreme Court?

A I have walked through law schools. They are often very beautiful. I have audited a class on election law, but I am not a lawyer. I do not have a J.D., and I have no plans to get one at the moment.

Q So, I believe it was in your rebuttal report on Page 3, you stated you do not respond to Mr. Himes' or Mr. Trende's legal conclusions because their legal arguments are the purview of counsel for the Court to resolve. That was your statement?

A You haven't turned me to that but I do remember writing that, yes.

Q And you agree that Mr. Himes and Mr. Trende are both lawyers?

A My understanding. I have not seen their law degrees, but I understand they are both lawyers, yes.

Q And you also testified in your deposition

on Page 106 that you are not a lawyer, so you usually don't get into issues of law?

A Where did I say that? I'm sorry.

Q We can refer to it. It's Tab 3, Page 106. So if you look at line 23 -- and you recall this deposition that you took in December?

A I do.

Q And you were under oath for that deposition?

A That's right.

Q Just as if you were testifying here in the courtroom?

A Yes.

Q And you agree that on Page 23 you said, "I'm not a lawyer so I usually don't get into issues of law."

A Right. I do not make judgments about what is legal and not legal. Those are for the Court to decide legal issues.

Q So this time I'll refer you to your house report that you did in October. I believe it's Tab 8 on Page 2. And it's the section right below the bolded three lines. Could you read your sentence right there for me?

A "My illustrative plans adhere to all state

and federal laws."

Q That's a legal conclusion, isn't it?

A It might be. I understand the Law. I can read the Law. The Courts always are the last say of what is legal and not legal. I'm not a Court. I'm not a judge. The Court determines those things.

Q You say, "My illustrative plans adhere to all state and federal laws." But your testimony earlier was that your map 13a did not?

A Right.

Q So is that statement untruthful?

A It's not complete. That's right.

Q When you say all your plans adhere to state and federal laws that's not accurate?

A Plan 13a is not one that I would suggest as adhering to federal law as I understand it.

Q Is there anything else in any of your reports that you want to identify now as inaccurate?

A There's nothing that I can say off the top of my head that I find inaccurate.

Q Okay. And your opinions here are based primarily on the alternative maps you drew in your reports?

A My conclusion that the state could have drawn a plan with fewer county splits than they did

to comply with all federal law?

Q Is that based on the alternative maps you drew?

A The maps I drew is evidence that the state could have done it. I have other reasons to believe that they could have drawn fewer splits.

Q Did you arrive at that conclusion before or after you drew the map?

A Like I just stated, my illustrative maps are evidence to that point. I didn't know prior. I think I say somewhere in my reports that you can't analytically determine what is the minimum. So you have to actually try to do it.

Q So you just stated you can't analytically determine the minimum number of county splits?

A I said that in my report. I know no way analytically to do it. And I know nobody who knows analytically how to calculate that.

Mr. Himes testified that there are more plans possible than atoms in the universe. There are trillions. We can't know them all. So it's very hard to know what the absolute minimum is. What we know is you can have plans that have 30 or you can have plans that have 22, and you can have plans that are somewhere in between those.

Q Is it fair to say that your maps are only as good as the criteria according to which they were drawn?

A I don't understand that question.

Q Okay. As we know, there are certain state and federal laws related to drawing redistricting maps. If you don't know those state and federal law, you can't draw a map that complies with them, right?

A No. I disagree with that completely actually.

Q Okay. So, you can draw a map that complies with state and federal law without knowing what the state and federal laws are?

A Absolutely. Somebody could draw a map that complied with all federal laws without understanding what the Laws are. Absolutely, 100 percent.

Q Do your alternative maps comply with the plain language of the Tennessee Constitution?

A Can you repeat the question?

Q You drew 20 plus maps in this case, around there?

A That's not correct, no.

Q How many maps did you draw in this case?

A In both the senate and the house?

Q Total.

A As I have stated already, I consider each iteration not to be a separate map. Map 13a stands on its own. Map 13b and Map13d _e, that's one map with technical corrections. So I believe there's a total of eight maps.

Q So the ones you just said, 13b and 13d_e, if I click on a hyperlink in your report, will it go to just one of those maps?

A No. There's two separate links. And the links that they originally identify, should go to those plans. The corrective versions I have created new links for. I did it for the purposes of having the original and then having the corrective one, but I do consider those one plan.

Q So just for this question, if we consider each time you made a new label for a map as a different map, do you know how many there were in this case?

A I don't have that calculation, but I did offer the original maps: 13b, 13.5a, 13.5b, and map 14 all had those corrections to the zero population, noncontiguous census blocks.

Q So we're over ten at this point?

A So there would be the five plus the four so that's nine. And then we have maps 13c, 13d, and map 13d_e.

Q And then, at the preliminary injunction stage, you offered TN Apple Test 1 through 5, and TN Orange Test 1 through 5?

A Those maps are illustrative. Those came from an algorithm that created 60,000 maps. Those were not maps that were drawn by hand. It's a type of analysis that some social scientists and mathematicians use to give a representation of possibilities. So that's what those set of plans were. Those don't really fit in the same category as these other plans.

Q Are they not as good?

A They are certainly not as good because they were not drawn by hand. I don't know anybody in redistricting who would rely on a computer to draw a plan. Computers are inferior to human beings when it comes to drawing plans.

Q Didn't you use a computer program to draw every one of these?

A A computer program is different than having a computer draw a plan.

Q Okay. But you had a computer draw the

maps that you submitted to this Court at the preliminary injunction stage and signed an affidavit that it was your report and those were drawn by a computer?

A I gave instruction to the computer algorithm to draw plans to try to reduce the number of county splits. I was asked by Plaintiffs' counsel to determine if the state could have drawn plans that had fewer county splits than what they enacted. That report is additional evidence that they could have drawn the plan. Though, those plans are not great plans and are not plans that if I were special master that I would ask a Court to adopt.

I would not deliver those to my boss if I were a redistricting consultant in Pennsylvania. And I would not suggest that the Tennessee legislature pass any of those maps without doing the kinds of things that redistricting analysis requires, such as VRA analyses or ensuring that everything is contiguous.

So keeping in mind that I was asked to do that on a very tight deadline, and we were asked because there was almost no time between -- I'm sorry. I don't know what all the legal terms are, summary judgment or temporary injunction.

There was very little time. So I was asked to do a very quick analysis to see if it was possible. And I was working with an undergraduate student that had expertise on the algorithm that was created by someone else and we drew these maps.

I mentioned the precincts are sort of larger geographies that have approximately 2000 people in them, and they combine those to create districts. And that's not a great way of doing it either because the precincts are noncontiguous, and they are quite large, meaning that it limits the possibility. Again, those are just used as a demonstration that the state could have done something different. They are not perfect plans.

I'll additionally say, there are no perfect plans. There's lots of tradeoffs in redistricting. The plans that I offer include different amounts of splits. Some have 22, 24, 25. But the ultimate conclusion that the state could have drawn a plan with fewer splits, even using the criteria that they have stated and then they've added to after the fact, you can still draw a plan that complies with state law and federal law and draws fewer county splits. My conclusion is unchanged.

Q Is that a legal conclusion?
A Whether the plans actually adhere to all federal and state law, that's not my conclusion.
Q But you just said that was your conclusion.
A Well, if the enacted plan is compliant with the state law, then these plans are compliant with the state law.
Q And those are legal conclusions?
A I'm not a lawyer. I am an expert on redistricting. I understand redistricting law. I have drawn plans for Courts. Not one of my plans has ever been challenged. So it's my opinion that these plans, at least assuming that the enacted plan does not violate federal law, that these plans also don't violate federal law. I am not making a conclusion about whether the enacted plan is compliant with federal law just to be clear.
Q We'll move on. So you weren't specifically aware of any particular provisions of the Tennessee Constitution before engaging in this project?
A I'm a redistricting expert nationwide. I follow sometimes closely, sometimes less closely with the redistricting process. I had never done a

lawsuit. This is my first time ever testifying. And I have never participated in redistricting in Tennessee prior to this engagement.

Q Okay. So when I asked the question, you were not specifically aware of any particular provisions of the Tennessee Constitution before engaging in this project, your answer is no?

A Specific provision in the state Constitution, no.

Q Okay. And I believe you testified earlier and you also said at your deposition that when you accepted this job, you looked up the constitutional rules in the NCSL book, you looked up the Tennessee house redistricting committee website, the Tennessee Constitution, and nothing else?

A So, Tennessee Constitution, NCSL book I know just generally. We use it in my class and we read it every year. Then, there was the state house Guidelines. I don't recall anything else. I talked to counsel about what the law requires in Tennessee.

There's case law -- as there is case law probably on every issue. I know redistricting better. The case law on redistricting goes back to at least to 1962 Baker vs. Carr. There's much less before that. But I'm familiar with most of those

cases. Do I know every single redistricting case that has ever happened? Absolutely not. I don't know that anybody on Earth has followed every single court case that has ever happened.

Q Well, I'm not asking about everyone. I'm asking just about what you looked at here. And my understanding is that you testified that you only looked at the NCSL book, this book, right?

A Yes, that's exactly the book I used.

Q The Tennessee house redistricting website and the Tennessee Constitution and nothing else that you looked up, right?

A And also the census data.

Q Well, let's look at your deposition on Page 111 and Page 112, Tab 3. If you'll look at line 16, could you read that line, please.

A "Upon accepting this retainer, I looked up the constitutional" [unintelligible] "referenced in the NCSL book and on the Tennessee website pertaining to the Constitution."

Q Okay. And if you could on the flip the page for me, on line 10, you were asked the question, "Did you look at anything else besides the website and the NCSL red book to determine what the guidelines for redistricting would be in Tennessee?"

And what did you say?

A The state Constitution.

Q And then you were asked, "Anything else?" And then you said?

A "No."

Q So, when you were asked if you looked at anything besides the state Constitution, the NCSL red book, and the house Redistricting Committee website you answered no?

A True.

Q But today you just said you looked at census data and other things?

A Well, I said that in my report actually.

Q But in your deposition you didn't?

A I'm not so sure you are asking the same question here.

Q Let's look at the deposition again. On line 10, "Did you look at anything else besides that website and the NCSL red book to determine what the guidelines for redistricting would be in Tennessee?"

And you said, "The state Constitution."

And then when you were asked, "Anything else?"

You said, "No."

MR. TIFT: Your Honor, I'm going to place an objection under using depositions for impeachment. The next question and answer should be read concerning the data that he also looked at. When there's additional testimony that clarifies, it should be read. Could I have us read 17 through 22 at this time?

CHIEF JUDGE: In the interest of completion, that should be done contemporaneously.

MR. SWATLEY: Your Honor, I would point out the line 17 talks about the data, and that doesn't have anything to do with the guidelines, but he said he was looking up the data for the guidelines. So, to the extent that he looked up the Census Bureau for data, we'll stipulate to that, but that's not with this says.

MR. TIFT: Okay. His previous question asked, said that you didn't look at the data, and this next one addresses the data he didn't look at. So, if they are not saying that he didn't look at the data, then we don't need to read that.

CHIEF JUDGE: Okay, then.

Q (By Mr. Swatley) It's is it fair to say you didn't read a single Tennessee case before you started drawing maps here?

A No, I did not read the Tennessee court cases, nor am I sure if I had access to them.

Q Okay. Do you believe that Plaintiffs' counsel has access to those cases?

A Yes. And I asked for their advice on what the Tennessee Law says as far as things that are not in the Constitution or in the state house guidelines.

Q So did Plaintiffs' counsel give you the line that was from Lockert v. Crowell that you cited in your house report saying, "Cross as few county lines as necessary to comply with the Federal Constitution"?

A Yes, I think that's right.

Q Did they give you anything else?

A As far as what?

Q Legal advice. They gave you advice on how it complied with the Law, right?

A I asked counsel what the Law requires in Tennessee, and I read through court documents at the time, whatever I had available to me, to say what the challenges were. I certainly didn't know going

in that Shelby County couldn't be split.

Q But you do now?

A There's an interpretation of a Court case that says that Shelby County cannot be split. The Tennessee Constitution absolutely does not say that Shelby County cannot be split.

Q Isn't it true that in federal redistricting, the criteria of the highest order are the ones mandated by federal law, and it's the one person, one vote and that race can't be predominant motive in drawing, it's true that those two are the criteria of the highest order?

A So anything in the Federal Constitution is the highest order. Anything that is found in federal law is right below that in the order. And anything in state Constitution is below that.

Q So, now that your opinion is based on what Plaintiffs' counsel says the legal standard is for county splits, but you didn't read it yourself, I have that accurate?

A So Mr. Himes has summaries of the Lockert cases in his reports. I have read all of those, but I did not read all of the record from those court cases. I don't know that I have access. I can't even find access to current dockets often. So, no,

I did not read the whole docket for Lockert cases.

Q So you relied on Plaintiffs' counsel, what they said the standard is and what Mr. Himes put in his report?

A Among other things. I have a generalized expertise in redistricting, as I said. I cannot account for where I found every single thing I know in my entire life.

Q I'm not asking you for that. I'm asking specific to Tennessee. You just said other things to what Plaintiffs' counsel told you.

CHIEF JUDGE: I'm going to ask you to stop interrupting the witness. Let him finish.

MR. SWATLEY: Yes, Your Honor. I'm sorry.

Q (By Mr. Swatley) Do you have more?

A I cannot recall where I have received all my information for about every single law regarding Tennessee or any other law. But what I will say is I have been provided with a substantial amount of information about what the Tennessee Law is, and there are certain circumstances in my illustrative plans where Defendants' experts have suggested that I have violated Tennessee Law, and I have made those corrections and landed eventually on plans 13c and 13d, which apparently do not violate the Tennessee

Constitution as Defendant experts read those laws.
As I said in my rebuttal report, that I am not a lawyer. I can read law. I can read court cases. I can interpret them. But ultimately, the Court determines what is legal and what is not legal.

Q So, back to one person, one vote and race not being the preponderant motive. Are the words one person, one vote in the US Constitution?

A They are not.

Q Are the words race cannot be the preponderant motive in line drawing in the Constitution?

A They are not.

Q You only know those by reading US Supreme Court cases Reynolds v. Sims and Reno v. Shaw, right?

A That's right.

Q But you didn't read any Tennessee case yourself here before you started drawing?

A I did not.

Q You know an undergrad student by the name of Zach Griggy?

A I do.

Q And Zach Griggy is an undergrad student

and poly sci major at UC Irvine?
A Yes.
Q And how old is he?
A Approximately -- he's graduating college in a month, so what's that? About 22, 23.
Q And Zach Griggy worked on these maps with you that you put in these reports?
A He did.
Q Do you typically rely on undergrad students to do your work?
A To do my work? I don't know how to answer that question. That's -- Zach Griggy did not do my work.
Q But he helped you with the substantive map drawing here?
A I love to collaborate with people. I often write peer-reviewed papers with co-authors. I collaborate with my undergrad students often. We do research together. So I absolutely love to work with other people and including students.
Q And you charged $200 an hour in this case, right?
A I did.
Q Did you charge for Mr. Griggy's time?
A Mr. Griggy charges for his own time.

Q Did you bill that directly to the Plaintiff, or did you pay for that yourself?

A The Plaintiffs paid that.

Q So it's a separate line item?

A Yes.

Q And you drew all these maps using Dave's Redistricting?

A With the qualification that the first set of maps were drawn with an algorithm that wasn't using Dave's Redistricting.

Q But all the other maps were drawn using Dave's Redistricting?

A Yes.

Q And Mr. Griggy also used Dave's Redistricting?

A Yeah, he's brilliant on it.

Q And he's not the expert in this case?

A He's not.

Q And he didn't use any other program besides Dave's?

A I can't be 100 percent certain that he wouldn't have used any other program for any purposes, but we used Dave's Redistricting for the purpose of drawing maps.

Q He didn't use any program besides Dave's

to work on any of your maps that you have produced in this case?

A As far as I know, absolutely not. We always use Dave's Redistricting App, yes.

Q Okay. Do you know if he has access to any other map software besides Dave's Redistricting?

A Well, there are a quantity of programs that are out in the public space that are free to use. So we all have access to those. He does not have a license for Maptitude as far as I am aware.

Q Do you know if UC Irvine has a license for Maptitude?

A I have no idea.

Q And Zach Griggy is also a student of Bernie Grofman, your mentor?

A That's right.

Q Does Mr. Griggy collaborate often with Bernie Grofman?

A He does.

Q Do you know if Bernie Grofman has a license for Maptitude?

A I can't speak for Bernie. He's not here right now. I don't believe he does. We heard Mr. Himes testify earlier that when he worked with Mr. Grofman, they worked in Dave's Redistricting

App, and that's all I'll say about that.

Q And you agree it's important for a self-proclaimed expert to use the best tools available?

A I don't agree with that.

Q You don't need to use the best tools available?

A I would prefer to drive in the safest car in the world but I don't. I drive in a car that's safe. I drive in a car that gets me from A to B.

When I redistrict, I use the tools that are available to me that allow me to accomplish the job at hand. And Dave's Redistricting is a suitable tool for the purpose of doing redistricting, as evidenced by the fact that it was used in New York by the special master, me, in drawing their congressional and state legislative districts.

It was used by the special masters, Mr. Himes and Dr. Grofman in Virginia when they were appointed special master to draw their congressional and state legislative districts. It is a tool that is plenty sufficient for this task.

Q Just to clarify, you are not an expert in driving a car, right?

A I hope I'm an expert in driving a car.

Q Do you hold yourself out to this court as an expert qualified --

MR. TIFT: We have gone pretty far field. Obviously, he is not a car driving expert.

MR. SWATLEY: But he opened the door to it.

CHIEF JUDGE: Objection sustained.

Q (By Mr. Swatley) You are familiar with the various tools available in Dave's Redistricting?

A I'm pretty familiar with the website, yes.

Q Is Dave's easy to use?

A I think the benefit of Dave's Redistricting App is that it is easy to use.

Q Is it comprehensive?

A Can you define comprehensive?

Q Can you do all your work necessary in redistricting on Dave's Redistricting App?

A I use almost no other tools in the process of drawing these maps.

Q Okay. And would you describe it as accurate?

A Accurate in what terms?

Q Is it accurate for when you were drawing redistricting plans, is it accurate given the data

that is in that program.

A So, I'm going to assume you mean is the data underlying Dave's Redistricting App accurate. And I always verify that the data in Dave's matches the US Census data. And I have never even once found a problem with it matching.

Q Did you do that in this case, where you compared the data to what's in Dave's Redistricting App?

A I did.

Q And you have used Maptitude before?

A I have used Maptitude when I did redistricting for the Federal Courts, and I used Maptitude in my capacity as redistricting consultant for the state of Pennsylvania.

Q And is it easy to use?

A I find it to be more difficult to use than DRA. There is not as much data built into it. It's not as user friendly. With Dave's there's no support system. With Maptitude, you pay a yearly fee in addition to your license, and that includes some technical support. If I were to be hired by the Pennsylvania Commission in the next decade, I would not have paid for Maptitude in that next round. I would use Dave's Redistricting instead.

Q Is Maptitude accurate?

A I don't think we have had any problems with Maptitude in accuracy. As Mr. Himes said, it is the gold standard. A lot of States pay a lot of money to use that software.

Q And I believe you testified yesterday that you made the decision to not pay $10,000 for the access to the Tennessee data here?

A Yes.

Q Did you ever ask Plaintiffs' counsel to pay for that?

A I told the Plaintiffs' counsel what it would cost to get a license, and we talked about the tradeoffs between having the Maptitude program and being able to do it in DRA. And we came to the conclusion that DRA was sufficient for the task at hand, as I have already stated.

Q But yesterday you testified that you made the decision. Did you make the decision after input from Plaintiffs' counsel?

A I don't remember exactly how the decision was made. I know we made the decision not to use Maptitude.

Q Today you said you don't know how the decision was made, but yesterday you said that you

made the decision?

A I don't know that I said I made the decision. The decision was made, whether I made it or it was made.

Q All right. We'll move on. Could I refer you to Exhibit 34. Before that, do you remember the first time you used Dave's Redistricting App?

A It's existed for decades. I believe it was not very suitable prior to a few years ago when they made significant upgrades. So I have been using it now for several years. I don't know when I started.

Q But you used it before 2020?

A It was around 2020 when they made the significant upgrades. The nickname of it on the website is DRA 2020.

Q And when did you first use Maptitude?

A It would have been 2017 or 2018.

Q Okay. So if you look at Exhibit 34, the maker of Maptitude is Caliper Corporation, right?

A Yes.

Q And if you flip to Page 2 on this, you have a quote on Maptitude's website. Do you recognize this quote?

A Yeah, I said that to them.

Q Could you please read your quote.
A "There is an increasing large number of products on the market. I have used several of them with mixed results. Maptitude for redistricting is all-in-one easy to use, most accurate product available."
Q And that's your picture?
A That's me.
Q And that's your name right there?
A That's me with my title.
Q And your employer?
A Yes.
Q But earlier you said Maptitude wasn't user friendly?
A I said it's not as user friendly as DRA, and again, DRA has changed over time.
Q When did you give this quote?
A I don't remember. It was a while ago.
Q Would it have been 2021?
A I will say it was before I used DRA as special master in New York.
Q But you were familiar with DRA before you were special master in New York?
A Yeah, I used it in my class.
Q Did you receive any compensation in any

way for this quote?

A No.

Q And you decided after conferring with Plaintiffs' counsel to use Dave's Redistricting and not Maptitude here?

A That's right.

Q And you saved all your alternative maps in this case not on Dave's Redistricting, but you saved them this your computer as block files?

A Or shapefiles.

Q So some were saved as block and some saved as shapefiles?

A And some of them as both. I have files for all the plans under one of those two.

Q But you never filed those files with the Court here?

A I was never asked to.

Q But you also never did it?

MR. TIFT: Your Honor, objection for clarification. Of course, Dr. Cervas doesn't file things with the Court. The Plaintiffs do. So, I don't know that he would have knowledge.

Q (By Mr. Swatley) To your knowledge, you never requested Plaintiffs' counsel file these files with the Court?

A I don't know the process. I delivered reports with links, thinking that that was the most transparent way of doing things. If it was the wrong procedure, I regret that, but I feel very strongly in transparency. When I delivered maps to the Supreme Court or New York, I gave them links to DRA in the identical fashion as I did in this case.

Q Looking at your map 13a, you testified earlier that it eliminated a VRA protected, majority black district in West Tennessee?

A Yes.

Q And this majority rural black West Tennessee district was the subject of extensive federal litigation in the 1990s known as the Rural West Tennessee cases?

A Yes, I was made familiar of that case.

Q After you drew the map?

A I believe so, yeah.

Q And you did no VRA analysis in this case?

A I was not hired to do a VRA analysis.

Q And when you drew the map in New York, you hired someone else to do the VRA analysis?

A As I was in my deposition, we are careful about what we are requesting of a VRA analysis. There's no such thing as a VRA analysis on a map

being drawn, right? Maps are supposed to be drawn with race not as a predominant motive. And then, the VRA requires that States not dilute the votes of protective groups.

And if a Plaintiff is challenging a map that was enacted as a VRA violation, then there's a set of tests known as the Gingles Test and the Totality of Circumstances Test that they would have to be proven. So, if the state were to adopt one of my maps, then it would be subject to a potential VRA challenge. But the state does not necessarily need to do some kind of VRA analysis ahead of time.

Retrogression, as I said yesterday, is one way that the state can avoid a VRA claim, by saying we haven't reduced the number of majority-minority districts. Though that's clearly not necessarily enough. The state needs to ensure it hasn't diluted the votes of its citizens.

Q Okay. So from what I understand, you just said that when you are enacted a map, they aren't expected to do the VRA analysis, but in this case in your report, you bemoan the fact that the Defendants didn't give you any VRA analysis.

A I don't know if I bemoan the fact. I say

that the Defendants did not give VRA analysis, and it appears as if the state did not do any kind of VRA analysis. So to justify the drawing of a district, so if there's a justification, which the state seems to have suggested that there was a justification for drawing District 80, then you have to justify it based on a VRA analysis.

You can't just draw to a racial target and say, we think that there ought to be a district here that's some racial percentage. That would be really pushing up against the Law when it comes to the Shaw v. Reno line of litigation that says you can't use race as a predominant motive.

Q So, when you say it doesn't appear to you that the state didn't do any VRA analysis on these maps, is that speculation?

A I was not provided with VRA analysis, and there was none provided on the state website. So whether the state did or not, it was not made public.

Q Okay. So besides map 13a, this isn't the first time one of your maps has been questioned for potentially disenfranchising black voters?

A You're going to have to tell me what you are referring to.

Q When you were special master in New York -- by the way, the New York Supreme Court is the Trial Court there, right?

A That's right.

Q So, the judge was from Steuben County?

A That's right.

Q So, you released a preliminary map of your New York congressional districts on February 16th of last year, correct?

A Yes.

Q And that preliminary map split two historically black neighborhoods in Brooklyn, Bed-Stuy, and Crown Heights?

A That's right.

Q All right. And you corrected that on your final map that you submitted four days later, right?

A Yeah. I took public feedback in this process, and received thousands of emails and testimony from members of Congress from the political parties represented through counsel in a lawsuit. And with that public feedback made changes subject to criticism.

Q And your preliminary map there also of the seven black Congressmen in New York, it double bunked four of them?

A I have no idea. I was not provided incumbency information. There were newspapers that reported such thing. Keeping in mind that in congressional districts in New York, no incumbent needs to live in their district. And also, the New York Constitution in its plain language says that you cannot favor nor disfavor any incumbent. So, I don't want to reveal private conversations I have had with judges on these court cases. So, I'm going to not say anything else about that.

Q That's fine. Do you know if incumbents have to live in their districts in Tennessee?

A I have been told that they do, but I haven't seen the actual language of the law.

Q So, turning to your Tennessee Apple Test 1, Tennessee Apple Test 3, Tennessee Apple Test 5, Tennessee Orange Test 1, Tennessee Orange Test 2, Cervas house map 13a, Cervas house map 13b, Cervas house map 14a, Cervas house map 13.5a, Cervas house map 13.5b, Cervas house map 13d, and Cervas house map 13d_e contain noncontiguous districts, correct?

A You haven't told me where to turn to find these.

Q Well, they are your maps.

A I don't know all the details -- there were

60,000 maps that were created in that. If the maps were discontiguous, it was because the precincts were discontiguous.

Q Okay. So, if any of your maps were discontiguous, including 13a, 13b, 13b_e, your testimony here is that if there was a noncontiguous census blocks, it's because the precinct was not contiguous?

A That is not the testimony I said. You asked me about specific plans that were generated by a computer, and that computer algorithm was instructed to keep all districts contiguous. So, because they were building out of precincts, if the precinct was considered contiguous but it actually was not, then that would have caused the noncontiguity.

In the plans that I created by hand, we may have used precincts to build the plan, but the precincts themselves would not have been necessarily the cause of the noncontiguity. I testified yesterday that I'm not sure what caused those noncontiguous. And when I asked Dave's Redistricting App, the people who run that website, they were a little perplexed about what was causing that to happen.

Q So every time we see an e on one of your map labels, that stands for errata?

A That is correct.

Q Earlier I believe you testified that you found the noncontiguities in 13b_e, 14a_e, 13.5a_e, and 13.5d_e, right?

A Those maps are the corrections, yes.

Q And the Dave's Redistricting tool for finding noncontiguities was not working at that time correctly?

A Again, I contacted the folks at DRA to say that we were continuing to have this problem, where even though the maps were being built as contiguous that it was causing these noncontiguous census blocks and we couldn't figure firing out why. And the tool was not identifying them, which prompted them to look into the situation and then rewrite that tool.

Q So you were able to find the noncontiguities in those four maps but not in 13d or 13d_e?

A Well, I didn't find those noncontiguities. Defendants' experts found them, listed them in their depositions or reports. And then I went and identified where they were based on their geo ID.

Q And you earlier heard Mr. Trende's testimony, correct?

A I did.

Q And you recalled that he said he didn't use Dave's to find the noncontiguities, he used R statistical analysis?

A He did testify to that.

Q Do you know how to do an R statistical analysis?

A R is a computer program that does statistical analysis.

Q Is that computer program $10,000?

A That is an open-source software, so.

Q So it's free?

A Can I finish?

Q I'm sorry.

A So, keeping in mind that it's a free piece of software, but all it is is a program by which somebody can write programs that can do other things. Okay. So you cannot find noncontiguities in R without some program or function loaded into it. I do not know what program Mr. Trende uses. I do not use R to do redistricting.

Q But there are ways to find noncontiguities without spending $10,000?

A If one wanted to, you could go through every one of the 179,000 census blocks and identify the noncontiguities with unlimited time. I know that people have developed programs in R that do these kinds of things. I don't know how to operate that particular software.

I actually have tried and the computer programming that I know, that I believe Mr. Trende uses, because he used it in his testimony in New York is called Redist. I have attempted to use that. It's written in something that's called tidyverse. It's something that I don't use; therefore, I don't use that software.

Q And you agree that contiguous districts was one of the statutory requirements in TCA 3-1-103, the enacted house plan?

A Contiguity is typically one of the required criteria in every state.

Q Okay. And you read the Tennessee Constitution, right?

A Right.

Q You testified to that earlier. Did you see the part where Article 2, Section 5 says that you have to have contiguous multicounty districts?

A Yes.

Q If we could look at your rebuttal report real quick. I believe it is Tab 9, Page 2, footnote 2. Could you please read footnote 2 of Page 2?

A "Several of Tennessee's counties are themselves noncontiguous, e.g., Davidson. This makes detecting noncontiguity blocks more difficult."

Q None of the blocks identified in any of your maps that were noncontiguous were these blocks, were they?

A No. Again, this is simply saying that a program like DRA would have to tell its software or any of the programs in R or anywhere else would have to say that even though that census block or set of census blocks isn't actually contiguous, that because of Tennessee Law, we are going to treat them as contiguous, or because of the guidelines that the house adopted.

Q Right. But that particular quirk is not the reason that your census blocks were noncontiguous?

A The island districts in the counties were not associated with mine. What I'm saying in that footnote is that because there are these quirks, it means that software has to be written correctly to

identify those, including Maptitude or Dave's Redistricting or any other software.

Q And you agree now that all it takes to find a noncontiguous district in Dave's Redistricting App is to click a mouse twice?

A Again, computer programs sometimes have problems, but it appears based on the maps I have developed for this case in which I have tested DRA, that they have now fixed that problem that allows you to identify these noncontiguous districts in a quite easy and visually satisfying way actually.

Q So just to be clear, you chose a software that had a persistent statistical flaw?

A I did not know at the time.

Q Okay. If we could look at your March 6th, 2023 Affidavit. I believe it is Tab 85. So Tab 85 is your first report you produced in this case; is that accurate?

A So it's the March 29th, 2022 report?

Q Okay.

MR. TIFT: If I could just clarify, you stated March 6th.

Q (By Mr. Swatley) I apologize. I told you to look at the wrong one. We should be looking at Tab 87, so just a couple more flips. This is your

affidavit that you filed on March 6 of 2023, correct?

A I don't see a date on it, but it is an affidavit that I filed.

Q And on Page 2, under No. 4, I believe five or six lines down, you stated that a persistent software flaw on DRA related to contiguity had been remedied?

A Yes.

MR. SWATLEY: Your Honor, I would like to move Exhibit 87 into evidence.

MR. TIFT: No objection.

CHIEF JUDGE: Exhibit 87 is admitted into evidence.

(The above-referred to document was thereupon marked Defendant Exhibit No. 87, and is attached hereto.)

Q (By Mr. Swatley) Do you know roughly what day this was solved?

A It was sometime after the New Year. Their team had went away for Christmas. I don't know exactly what day. It was sometime in the future. I don't know what day.

Q Okay. And you agree that you drew your map 13d_e, the data on your supplemental report is

January 9th, 2023?

A That sounds correct, yes.

Q When did you learn of this persistent software flaw with Dave's?

A Well, I learned of it through this court case and the fact that we continued to have these contiguity issues. I wasn't at the time aware that it was the software. At the beginning I thought it was an error that I had made, and I was regretful of those errors. And later learned that there was something in the software that was either causing these census blocks to be assigned wrong in the program or something that when we were combining the precincts it was doing it automatically and failed to alert us to that fact.

So, the software flaw probably has -- it's like any computer program. They have to be updated constantly when you learn about problems. And this is just another issue that was there that they fixed. This is a feature of the DRA that you can find your noncontiguous blocks real simply with that tool only if it works.

In New York, we didn't have this problem. But the difference between New York and Tennessee appears to be that in New York all the

precincts are contiguous. And in Tennessee, they are not.

Q And do you know if these contiguous precincts in Tennessee correlate with any of the census blocks that you left noncontiguous?

A I didn't check. When I asked DRA or suggested there might be something wrong, they thought it might have to do with that. But I think even as sit here today, no one was positive what was causing that to happen in DRA. My understanding is that they remedied it by re-writing the algorithm to do some other procedure for identifying these things.

Q And that one census block right there that you looked at earlier on the Plaintiffs' demonstrative, that's a contiguous census blocks?

A Contiguous to what?

Q Your example yesterday, you could start walking in that census block and walk to anywhere else in that census block without leaving that census block?

A I believe every census block in America are all contiguous within themselves. They are the smallest level of geography.

Q Let's go back to your October house

report. I believe it is Tab 8. And on Page 11, footnote 6, you stated that more restrictive population deviation standards would require a tradeoff that would, in effect, increase the number of county splits.

A I would have to read what text it's referring to. But, yeah, I mean, that is true. If one wanted to have every district have exactly equal population standard of the US congressional district standard, you would have to have close to 98 county splits.

Q So you trade off lower population deviation for more county splits?

A Lower population deviation typically means more -- that's the whole reasoning behind the Reynolds v. Sims, allowing the States to have the 10 percent overall deviation.

Q Okay. So if you could flip to Page 19 of that report, the second to last sentence at the bottom starting with "The Tennessee Constitution" could you please read that sentence.

A "The Tennessee Constitution guides legislature to limit the harm to political subdivisions and in particular, counties by prohibiting splits, unless necessary to comply with

conflicting state or federal law."

Q Okay. And then, if you could flip to Page 7 of the same report. Do you see at the bottom of the Roman numeral IV background, the last sentence there, and here you quote the Lockert v. Crowell case. And could you read that quote, please.

A "Cross as few county lines as necessary to comply with the Federal Constitution."

Q Why does your county splitting standard change in the same report?

A What do you mean standard change?

Q Well, on Page 19, it says, "prohibiting splits, unless necessary to comply with conflicting state or federal law." But here you say, "Cross as few county lines as necessary to comply with the Federal Constitution." Which one is it?

A I'm not sure that those are contradictory. One just includes more.

Q Okay. Well, which one is the standard?

A Well, that's a legal question. But the Federal Constitution is always the most important thing no matter what.

Q But you answer, when I asked you what the standard is, is that that's a legal question?

A What is the standard?

Q That you said in your report.
A Well, the legal standard as quoted is "Cross as few county lines as necessary to comply with the Federal Constitution."
Q But you said something different on Page 19?
A So it says "conflicting state or federal law." So state law would actually not take precedence over the state Constitution. The state Constitution would be before statutory state law. But there might be other provisions of the state Constitution that it conflicts with, and then it's up to the Court to decide which one is more important.
Q All right. Let's talk briefly about your senate maps in this case. Your senate report is Tab 7. Now, you recognize this as your senate report?
A Yes.
Q And you drew three alternate reports here, correct?
A I drew one map with two alternatives to that map.
Q And you submitted this report in October of 2022?
A October 10th, 2022.

Q And that was after you were aware that the enacted senate plan would be used for the 2022 elections?

A I believe that -- and forgive me, a lot of things go on in the course of a year. I have had several jobs. But this particular senate map was originally ruled under preliminary injunction, but that was overturned by the state Supreme Court. And because there was not enough time to have a full trial, the Court had said that they were going to allow the enacted plan to be used in 2022.

Q So when you drew this report, you knew that these plans could not go into effect until at the earliest the 2024 election?

A I guess that's true, yes.

Q And you are aware that because the senate has staggered terms that a byproduct of redistricting is that some create six-year voters and some create two-year voters?

A The state senate in Tennessee is exactly the same as the state senate in Pennsylvania with a different number of Senators.

Q So, you are familiar that because of redistricting depending on the year when the senate voters are switched from an even to an odd or odd to

even, they map end up voting in two years or not vote for a Senator for six years, correct?

A It's normal in redistricting. People have to move between districts. If population changes in differences across the state, some voters are going to end up in different districts than they were previously, and that includes being sometimes an odd, sometimes an even. It's unavoidable.

Q And you would agree that if there was a remedial map that this senate planned, there's the potential that a voter would have been moved from an odd to an even to an odd district, making them an eight-year voter?

A Well, unfortunately, with redistricting that's the consequence. If the state had enacted a legal map to begin with, those voters would not have been harmed. But the voters are harmed now, now that they are only entitled to a remedy, which is, in this case, sequentially numbered districts inside of Davidson County.

Q Do you know if any of your maps would create eight-year voters if they were adopted --

A I do not know. My maps are going to be different than the enacted map by necissity, because the enacted map is unconstitutional.

Q So you are saying the lines have to be different to be constitutional?

A I don't have an opinion on that. The numbers have to be different.

Q And you agree in your senate report on the bottom of Page 6, you testified that you made efforts to avoid placing an incumbent who has two years left on their term in a district, where they would need to run for reelection early, though there's no mandate in the Tennessee Constitution to do so; is that correct?

A Yes. Whether I was successful at that, I don't know, because I wasn't provided information on where the incumbents live.

Q And your testimony is also that your plans here were the most narrowly tailored redrawing of the Legislature's chosen lines?

A I don't want the say that it's the most narrowly tailored. I said it's narrowly tailored. In plan one, without any A or B, was a minimal amount that can be done. There are lots of definitions of minimal. Just see the Wisconsin Supreme Court case from last year. But this is a very, very minimal change, narrowly tailored to correct the constitutional violation.

And that said, there are probably lots of ways to correct the constitutional violation. The point was this is one way, and my evidence shows the state could have done something different. The state can choose to remedy the situation however they like.

Q Right. But we have had an election since then, and that changes due to staggered terms the nature of how changes must be made to comply with the laws, correct?

A That is beyond the purview of my expert report.

Q And would you agree that no court in the country has ever allowed an eight-year voter?

A I have absolutely no idea on that question.

Q Okay. You agree that in your deposition you testified that your expressly disavow making any opinion that the General Assembly acted in bad faith?

A Say that one more time.

Q You expressly disavow making any opinion that the General Assembly acted in bad faith enacting the house map.

A We are back on the house map now?

Q Yes.

A I stated in my deposition and I believe in some of my reports that I believe, my expert opinion is, that the state did not provide a good-faith effort to reduce the number of county splits in the enacted plan.

Q And the reason that you did that on Page 19 of your October house report was for not splitting Shelby County correctly; is that correct?

A You are going to have to flip me to the page.

Q Tab 8, Page 19, last paragraph.

A Sure. So would you like me to read the quote from Reynolds v. Sims that talks about good faith here?

Q Sure.

A "By holding that as a federal constitutional requisite both houses of state legislature must be apportioned on the population basis. We mean the Equal Protection Clause of the 14th Amendment requires that a state make an honest and good-faith effort to construct districts in both houses of its legislature as nearly as equal as is practicable."

Q Could you read the next sentence?

A "In over populating each district in Shelby County, the legislature has not given a good-faith effort to balance the constitutional criteria in state and federal law."

Q So Reynolds v. Sims has to do with malapportionment, correct?

A That's right.

Q And you are not a lawyer?

A I am not a lawyer.

Q Can you tell me the legal meaning of good faith?

A Nope.

Q What about the legal meaning of honest?

A I cannot.

Q Okay. So, you accused the Legislative Branch of the state of Tennessee of not giving a good-faith effort, because they did not split Shelby County?

A In saying in this report that I had developed two plans that do split Shelby County, they reduced the average population variance in the plan so that consistent with the words here, that population is as nearly as equal as practicable, that even with the competing interest in the state Constitution that counties not be divided, that the

enacted plan does not satisfy the federal requirement of equal population.

And therefore, I do not believe that it was a good-faith effort under my definition of good faith. In my opinion that they did not give a good faith to comply with federal law. And if the justification was that the Tennessee Constitution requires counties need not be split unless necessary to comply with federal law, it's not justified by the actions of the legislature.

Q You agree that there's no claim here for violation of one person, one vote or population deviation?

A I'm aware that there's not.

Q And you didn't know in your deposition whether there was a requirement to not split urban counties in Tennessee, did you?

A As I said, I did not read those cases, and the Constitution doesn't explicitly say that. Well, there is a provision in the Constitution that says you cannot split counties. So again, going back to Baker v. Carr, no counties were split at all. And so as I have said on numerous occasions today, counsel has provided me with what they understand to be the Law, and I used that in conjunction with the

text of the Constitution to draw these illustrative maps.

Q So on the top of your Conclusion there on Page 19 of your October house report, it states that you were initially asked by Plaintiffs' counsel to keep Shelby County districts whole and not split Shelby County?

A That's right. That's why we have the 13 series maps.

Q And earlier you testified that Shelby County can split 13 or 14 house districts without being split?

A I have said that.

Q And either way keeps the overall population deviation of the entire map within 10 percent?

A The overall population deviation can stay within 10 percent. That is right.

Q And referring back really quick to your March 22 report, in that you provided a table where you stated what the ideal district number for Shelby County is, correct?

A The ideal is the same anywhere in the state.

MR. TIFT: I'm sorry. Which are we

referring to?

MR. SWATLEY: We'll go back real quick.

Q (By Mr. Swatley) Let's go to the Tab 85. Look at Page 4, Table 1.

A So I list in Table 1 here that Shelby County has a population of 929,744.

Q And the ideal district's number for Shelby County?

A So if you divide this by the State's ideal, so the ideal population of the state is 69,806. So if you divide the population of Shelby County by the population of a single house district, there can fit 13.32 districts in Shelby County.

Q And for the record, 13.32 is closer to 13 than 14, isn't it?

A You want me to do rounding? 13.32 is larger than 13 and smaller than 14.

Q But it's closer to 13 than it is to 14?

A I have opined in these reports saying that when you create 13 whole districts, it creates an average population of the Shelby County districts of some number. And then, when you divide it by 14, it gives you some other number. And when you split the county and include population from the surrounding county, it gives you a number that's much closer to

equal.

MR. SWATLEY: Your Honor, I request to strike that answer as non-responsive. I'll repeat my question.

CHIEF JUDGE: I'm not going to strike it.

Q (By Mr. Swatley) Is it closer to 13 or 14, 13.32?

A It's closer to 13.

Q And looking at this March report, just flipping to Page 1.

CHIEF JUDGE: Counsel, at a convenient spot -- I don't want the stop your flow -- we'll take a lunch break.

MR. SWATLEY: Okay. I'm really close, Your Honor.

Q (By Mr. Swatley) Right under Introduction, the first words you put in the report in this case, could you read it for me?

A We're on Page 1 of the March 29th exhibit, "Counsel has asked me to prepare a report after creating demonstrative plans adhering to the following criteria."

Q What is No. 1?

A "Shelby County should have exactly 13 or 14 house districts. No portion of Shelby County

should be combined with any adjacent county in creating a district."

Q Did Plaintiffs' counsel give you these instructions without giving an honest and good-faith effort, or did they give you these because it is the law?

A They gave me these instructions because the state claimed that they were not allowed to split Shelby County.

Q And you were testified earlier that you followed the instructions of Plaintiffs' counsel?

A I did deliver maps 13a, 13b and map 14a following that No 1.

MR. SWATLEY: Your Honor, just a minute to confer with counsel.

[Thereupon, a discussion off record was had.]

MR. SWATLEY: Your Honor, I think now may be a good time to take a break for lunch. We may have just a few more questions.

CHIEF JUDGE: Okay. I'm not trying to rush your questioning by any stretch. I want you to feel completely unrushed.

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[12:47 P.M., a recess was had until 2:00 P.M.]

CHIEF JUDGE: You may proceed.

MR. SWATLEY: Thank you, Your Honor.

Q (By Mr. Swatley) Dr. Cervas, we are back after lunch. You understand you are still under oath and all the same rules still apply?

A Yes.

Q All right. I would like to start off by referring you to Tab No. 13. It's Exhibit 13.

MR. SWATLEY: It has been agreed upon, Your Honor.

Q (By Mr. Swatley) Dr. Cervas, do you recognize this screenshot?

A This is Dave's Redistricting App.

Q What is the map label at the top?

A "TN house 13d_e."

MR. SWATLEY: Your Honor, since this is agreed upon by the parties, I would like to move this into evidence.

MR. TIFT: No objection.

CHIEF JUDGE: Exhibit 13 is admitted into evidence without objection.

(The above-referred to document was thereupon marked Defendant Exhibit No. 13, and is attached hereto.)

Q (By Mr. Swatley) And do you notice the toolbar symbolized by a crossed wrench and hammer in the top, left corner?

A Yes.

Q And you notice how it's clicked to pull down the various tools available?

A Yes, sir.

Q And you notice how two rows down it says the words "Find unassigned precincts"?

A Yes.

Q And one below it, it says Find noncontiguous districts"?

A Yes, sir.

Q You realize it's black. Do you know what means?

A When they are grayed out, that means there's nothing to find.

Q And the find noncontiguous is black symbolizing there is something to find?

A That is correct.

Q Okay. So, what this means, based on your understanding of Dave's Redistricting is that this map has noncontiguous districts?

A Yes. This is the algorithm we talked about earlier that they have corrected.

Q All right. Do you know when I took this screenshot?

A I have no idea. I know this map was not delivered until after January 7th or 9th, so it would have been after that.

Q All right. And I would like you real quick to flip to Tab 30. And do you recognize this to be a screenshot of Dave's Redistricting of the TN 2022 state house map?

A Yes.

Q And we have been referring to that map as the house plan?

A Yes.

MR. SWATLEY: Your Honor, this has also been agreed upon. I would like to move this into evidence, as well.

MR. TIFT: No objection.

CHIEF JUDGE: Exhibit 30 is admitted into evidence without objection.

(The above-referred to document was thereupon marked Defendant Exhibit No. 30, and is attached hereto.)

Q (By Mr. Swatley) And you'll notice that the same toolbar is displayed here?

A Right.

Q And three lines down it says, "Find noncontiguous districts."

A That's correct.

Q And it's grayed out?

A That's right.

Q And that symbolizes that there are no noncontiguous districts according to that?

A That's right.

Q We'll move on. Dr. Cervas, of all the maps you have created here for the house, which map is your best map?

A I actually said earlier today that there are no perfect maps. Best is not a quantity that can be defined in redistricting.

Q If you had to pick one of your maps to be the new map of the ones you have created here, which one would you pick?

A I'm sorry. I would have to know what capacity I'm serving in. There's no way for me to pick a best map.

Q Well, let's assume you are special master, but you have to pick one of the maps you have created in this case, and you follow the guidance that you have stated on Page 2 of your October house report stating that all your maps comply with state

and federal laws, just off that criteria complying with the Law to your understanding, what map would you pick?

A I would have to consult with the Court on that. There is no best map. And I'm not sure I would pick any of these sets of maps. These are illustrative maps as evidence that the state did not create a plan that has as few as possible county splits.

The best plan or plan that I would submit to the Court would be in coordination with the Court on what the objective was. The fact that I have seven different plans that do seven different things suggest that there are trading off options. The overall evidence that I have given is that all of these options have far fewer splits than the enacted plan.

Q Your testimony was that you would not pick any of the maps that are in any of your reports in this case?

A I did not say I wouldn't. I said I'm not sure.

And you asked which was the best, and I am saying that there are tradeoffs. And determining what is best is impossible unless you

determine what the tradeoffs are.

Q Towards the end here. I will refer you back to Tab 8. It is your October house report. I'll refer you back to Page 19.

So, Dr. Cervas, you agree that the only time you use the words good faith in any of your expert reports submitted in this case is to quote the language from Reynolds v. Sims and then to say, "In overpopulating each district in Shelby County, the legislature has not given a good-faith effort to balance the constitutional criteria in state and federal law."

A I'll say that I said that in this document there. I can't tell you whether I said it anywhere else. I simply don't remember.

Q If I said, I don't see the words good faith anywhere else, do you have any reason to doubt that?

A No. In my deposition, I'm almost certain I did use the words good faith in saying that this legislature did not use good faith.

Q Okay. And if I ask you the legal meaning of good faith, as you testified earlier, you still do not know that?

A No. I was saying that in my capacity as

an expert. I was asked whether something was good faith, and I was giving my opinion on whether something was good faith.

Q In your report, you said the legislature had not given a good-faith effort in overpopulating each district in Shelby County?

A The words here are what I said, right.

Q Okay. And earlier you admitted that at the time you submitted this October report, you had not read Lockert II?

A In full, no, I had not read Lockert II.

Q In your expert opinion based on your report here, as it pertains to the county splitting issue, is your expert opinion in your report based on the standard of splitting as few counties as possible?

A I was retained by Plaintiffs' counsel to determine whether it was possible to draw a plan for the house that had fewer splits than the enacted plan while complying with federal and state law.

Q And so your goal in drawing these maps was to split as few counties as possible?

A In my capacity as expert here, we were attempting to draw plans that split as few counties as possible.

Q Have you read Lincoln County v. Crowell?

A I have not read that court case.

MR. SWATLEY: No more questions. I will pass the witness.

MR. TIFT: Just one second, Your Honor.

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REDIRECT EXAMINATION BY MR. TIFT:

Q Dr. Cervas, to start off, you just testified that you believe you discussed good faith in your deposition; is that correct?

A Yes.

Q What do you recall saying about good faith in your deposition?

A I believe I was asked about whether, if I recall, whether the legislature acted in bad faith. And I don't remember exactly the words. I would have to go to the deposition, but I said that they did not act in good faith.

Q Would it help to review your deposition to help you refresh your recollection?

A That would be great.

Q I will direct you to your deposition, which is Tab 3. And once you get to Tab 3, I'll direct you to Page 131. And you can read it to

yourself starting with that final paragraph that starts with "My conclusion" and see if that refreshes your recollection concerning what you testified at your deposition.

A (Witness complies.)

Q Have you read that?

A I have.

Q All right. And does that refresh your recollection on what you testified about good faith at your deposition?

A Yes.

Q All right. What did you say at that point?

A I said that my conclusion that the state enacted a plan with 30 splits, which was the maximum in the guidelines that the house itself gave via the Redistricting Commission was not a good-faith effort, because with relatively little work, I was able to create plans which had as few as 22 splits, which I say then is significantly different than those 30 splits.

Q All right. I would like to direct you back to these two tabs that are document printouts from Dave's Redistricting. We can look at Tab 13 first. That's the 13d_e that you just looked at.

A Yes, I'm here.
Q And is this a map that says "TN house 13d_e" on the top?
A It is.
Q Take as much time as you need to look. Is there any indication on here as when this screenshot was taken?
A No. There's no data on here that I can see.
Q Okay. And is there a copyright date on this document, perhaps in the bottom, left?
A Yeah, it says "Copyright 2023 Dave's Redistricting, LLC."
Q So, there's no screenshot or print date on here that you see, but there is a 2023 copyright date?
A Yes.
Q And then, the other Tab was Tab 30. Have you made it to Tab 30?
A Yes, I'm here.
Q And is that a map that states "TN 2022 state house"?
A It is.
Q And the same question, do you see any date on here reflecting the screenshot or the print date?

A There's no date for this map on this screenshot. There is the 2023 Dave's Redistricting LLC copyright at the bottom, left.

Q Okay. Now, Dr. Cervas, earlier you testified that you believed it is possible for someone without knowledge of the Law to draw a compliant map, correct?

A That's correct.

Q Can you explain what you meant by that?

A Well, I could mean several things actually. For one, there are around the country many Independent Redistricting Commissions that include citizens that draw maps that become Law and are included in the elections, presumably Constitutionally according to all the Law; otherwise, they would not be put into place. So, certainly somebody without the knowledge of the Law can draw those plans.

Additionally, maps can be drawn blind to the Law. Any of us could go and draw a map that could be consistent with the Law without having to have understood what the Law is. This is not an exercise of legality. This is an exercise of using a computer mouse to draw districts. I just simply believe that it is possible for somebody to draw a

map without knowing the Law.

Q But are you someone who doesn't have any knowledge of the Law in redistricting?

A I believe I understand the Law on redistricting as well as probably anybody else in this country.

Q Document 85 is your temporary injunction report. Can you look to that?

A Yes.

Q Counsel asked you a good number of questions about your use of a computer as the map drawer here, correct?

A Yes.

Q Did you in any way hide the fact that a computer did the map drawing in this report?

A Absolutely not. I talk about the algorithm chain and describe what it is in this report.

Q Can I direct you to Page 11 of this report. Does 11 reflect in detail some of the computerized process that was used in this report?

A It does.

Q Earlier you testified to your belief that the state did not do a Voting Rights Act analysis of the enacted house map?

A Yeah, I was not provided one. I do not know. It wasn't made public.

Q Did you review the transcript of Doug Himes fact witness deposition when counsel sent it to you?

A I did, yes.

Q Do you recall whether or not Doug Himes testified that he performed a Voting Rights Act analysis?

A I do not.

Q Would it help you to look at his deposition?

A That would be helpful.

Q His deposition is under Tab 4. And once you are at Doug Himes' fact witness deposition at Tab 4, I direct you to Page 79 of his transcripts. Then, take your time to do this, but starting at line 16, if you could read to yourself that page and the next page and a half that talk about whether or not Mr. Himes performed a Voting Rights Act analysis.

MR. SWATLEY: Your Honor, we would object because it's hearsay. It's not Mr. Himes testifying here. It's an out of court statement for the truth of the matter asserted.

MR. TIFT: Your Honors, we are not offering this as the truth of the matter asserted. Under Rule 612, a witness may be provided a writing to refresh their memory. Mr. Swatley asked Dr. Cervas on what bases he believes that the state had not performed a Voting Rights Act analysis.

He has testified that he did review Mr. Himes' testimony on this point and that it would refresh his recollection to look back at it. So that would inform his knowledge to Mr. Swatley's question. That's the intent of him looking at this to refresh his recollection. And if so, testifying if that informed his knowledge of whether or not the state performed a Voting Rights Act analysis.

CHIEF JUDGE: The Court will allow you to go a little bit further with this.

Q (By Mr. Tift) All right. Dr. Cervas, it starts on Page 77 at line 16. So I'm not asking you to read this aloud, but to yourself to see if it refreshes your recollection. Start at line 16 and read to the next two pages, and let us know once you have completed your reading.

A (Witness complies.)

Q Have you reviewed the section?
A I have.
Q And has reviewing this portion of Mr. Himes' deposition refreshed your recollection about whether your belief that the state did not perform a Voting Rights Act analysis, did his deposition inform your belief in that fact?
A Yes.
Q And we're done with that. You can put that one away.
A few times earlier with questioning from opposing counsel, you referred to Mr. Himes' testimony this morning. I'm wondering if that was a slip of the names, and you were meaning to refer to Mr. Trende's testimony this morning?
A Yes, my apologies. If I referred to Mr. Himes this morning, it would have been actually Mr. Trende.
Q You were asked some questions by opposing counsel about whether or not it's always a tradeoff of lower deviations for more splits. Do you remember that question?
A I actually don't remember that phrase in the question.
Q Well, let me ask you, your map 13d_e has a

lower total variance than the enacted house map, correct?

A Yes, 9.89.

Q And does it also have six fewer county splits?

A It does.

Q And finally, you have heard throughout the trial and opening an articulation that Defendants are expected to demonstrate that as few counties were crossed as necessary to comply with federal requirements, correct?

A I have heard that.

Q And you have watched the whole trial so far?

A Yes.

Q As an expert witness on redistricting, have you heard or seen anything in trial that demonstrates to you that the enacted house map crossed as few county lines as necessary to comply with federal constitutional requirements?

A I think it's unequivocal that the legislature did not enact the plan that crosses as few lines as possible to comply with the Federal Constitution.

Q And has anything during trial changed your

opinion about that thus far?

A That is still my opinion.

Q And so, you just testified to your opinion. Are you suggesting to the Court that any specific map in your report is the map that the legislature should pass?

A Unequivocally, no. I do not believe that these maps are necessarily suitable for the legislature. If the legislature believes that they are good maps, they are welcome to adopt one of these maps, so long as they do the proper voting rights in that, ensure that they haven't diluted people's votes. But again, those choices were all made by the legislature already.

But I would not personally consider any of these maps to be best or ideal or one that I would submit to a Court. I would want to work from a more blank slate and make sure that every citizen in Tennessee is treated equally under these plans.

Q And so remind us, what is the utility of your illustrative maps to your opinion in this case?

A The question that was posed to me by Plaintiffs' counsel upon me agreeing to be their expert was, is it possible to draw a plan for the state house in Tennessee that divides fewer counties

than the enacted plan while being consistent with federal law? And I have answered that question through any demonstrative maps, and that's the purpose of those demonstrative maps.

MR. TIFT: I have no more questions.

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RECROSS EXAMINATION BY MR. SWATLEY:

Q Dr. Cervas, do you still have your deposition in front of you?

A Yes.

Q Tab 3, Page 130. In your deposition, you were asked the question:

"So, along with compliance with state and federal requirements for redistricting, is it your belief that it is a Tennessee constitutional requirement that as few counties can be split that's the most you can split?"

And what was your answer to that on line 6?

A Well, there's two parts. The whole thing? Because it was objected to.

MR. TIFT: I'll make a quick objection. I'll allow it on this question, but expert deposition testimony is only allowed to be used

for impeachment. So it should only be following a countervailing answer to a question that you first asked him under the Rules, Use of Depositions in trial, Tennessee Rule Civil Procedure 32.

So, he can certainly answer you. But we would ask that in the future this only be used for impeachment after a prior question.

CHIEF JUDGE: You can answer this question.

THE WITNESS: Okay. And so line 6, I say, "Yeah." And then, it was objected to. And it continues on line 9, "Let me see. Page 7 of this report, I have a line quoting from state ex Rel. Lockert v. Crowell: Cross as few county lines as is necessary to comply with the Federal Constitution."

Q (By Mr. Swatley) And when you quote Lockert v. Cromwell there, was that I, II, or III?

A I don't have the full citation here.

Q And earlier you testified you never read Lockert II in its entirety before drawing these maps?

A That's right.

Q You never read Lockert III?

A In its entirety, no.
Q And you never read Rural West Tennessee cases?
A In its entirety, no.
Q You never read Lincoln v. Crowell?
A In its entirety, no.
Q Have you read Moore v. State?
A I'm not sure.
Q Are you confused because you think Moore v. State is this case?
A No. I'm not sure which case you are talking about. I'm sorry.
MR. SWATLEY: Your Honor, I'll confer with counsel real quick.
CHIEF JUDGE: Of course.
MR. SWATLEY: I'm done.
MR. TIFT: No Redirect.
CHIEF JUDGE: You can step down, sir.
THE WITNESS: Thank you.
MR. TIFT: Your Honor, Plaintiffs rest at this point.
CHIEF JUDGE: Thank you.
MR. RIEGER: Your Honor, at this point, Defendants move for a Directed Verdict as to the senate claim under Tennessee Rules of Civil

Procedure 50.01.

MR. TIFT: Are you going to argue it?

MR. RIEGER: Certainly.

If the Court would like me to argue it, I will.

MR. TIFT: We certainly object. [Inaudible].

CHIEF JUDGE: I'm not sure Rule 50 is the right rule. We might be talking about Rule 41, Involuntary Dismissal. But go ahead.

MR. RIEGER: Yes, Your Honor. I apologize. The Panel is certainly not a jury.

So, Defendants are moving for directed verdict as to senate claims, because Plaintiffs have not met their burden to demonstrate standing. And we know that because of the examination of Ms. Hunt, including what she was asked by her own counsel and what she was asked on Cross Examination.

So during the Cross Examination, Ms. Hunt was asked whether or not she was denied in the 2022 election the benefit of staggered terms. Her answer was no. So under the new map, she has not suffered an injury. That's not necessarily fatal for standing, because she can

show that an injury is imminent. She testified that she lived in Davidson County from 1999 to the present. Davidson County was non-consecutively numbered from 1990 to 2010 and again from 2020 to the present.

Plaintiff's own counsel asked her if she knew of an incumbent losing a primary. The answer was no. Then, Plaintiff's counsel asked her if she knew of any incumbents losing their general election. Her answer to that question was no. And what happened in 2002 according to her testimony, two of the three incumbents won, and the other, which was Brenda Gilmore, retired. That is the opposite of imminent. That's unlikely.

Ms. Hunt's own testimony elicited from both Cross Examination and Direct Examination confirms that there was no actual denial of the benefits of staggered terms by the new senate map. And the possibility that it could occur is not imminent. It is remote. That doesn't get you standing under the applicable Tennessee precedence of City of Memphis and ACLU v. Darnell.

Plaintiffs proof by their own witness's

testimony fails to meet the standard. And their proof is now closed; therefore, we move for involuntary dismissal pursuant to Tennessee Rules of Civil Procedure 41. Thank you.

MR. GARRISON: Your Honors, I'll be brief. The state is arguing this case to depart from well-settled Law on standing and asking this Court to adopt a dangerous principle. The citizens in this state don't have standing to bring constitutional claims until they have somehow faced election consequences and have some sort of political retribution based upon them by the State's unconstitutional actions.

The theme of this case, which Your Honors have heard for over a year. I'm talking the senate claim hearing, which Your Honors issued a temporary injunction on, which the Tennessee Supreme Court did not touch with respect to your findings of the likelihood of success, but rather said this shouldn't be applied to the 2022 election.

This case is as simple as it sounds. The state of Tennessee has drawn senate districts that are not consecutive in number in Davidson County, the only county in the state where this

has happened, even though the state Constitution requires it.

Now, Plaintiffs put on proof in this trial in every possible way we thought Your Honors may be interested in hearing about Ms. Hunt: Her background, her voting history, her advocacy, why she cares about her rights as a citizen, why she has exercised her rights as a citizen. But we didn't need to. All we needed to do is show that Ms. Hunt is a voter in Davidson County and in the district that's improperly numbered.

That should be enough in any state but certainly the state of Tennessee, because all citizens have rights that are defined by the Tennessee Constitution, and the Tennessee Constitution says that senate districts should be consecutively numbered in a county. These are not. Ms. Hunt is a voter and a citizen in that very misnumbered district. If she doesn't have standing to bring this case, then imagine how that principle can be applied to all other provisions of the Tennessee Constitution.

She doesn't have to recite her voting history dating back to the '90s or recall how

elections shook out; although, I would point out to you, I can name how there's been turnover in Ms. Hunt's voting lifetime in Tennessee in every senate district in this county. We could go back in the history of that. So the public record shows there's been turnover.

But to require that there be somehow some sort of circumstance where voters in the state have said, you know, because of the state not following the Constitution, my representation did not seem right because of the turnover of my representation at the General Assembly. That's a requirement that is made up. It's not based on case Law, and citizens in this state should be allowed to enforce the provisions of the Constitution as they have for years.

And so this motion should be denied.

CHIEF JUDGE: Thank you.

MR. RIEGER: Your Honor, to start, injury in fact that requirement for standing is not novel. It has existed in federal and Tennessee jurisprudence for decades. It's Tennesseans for Sensible Election Laws III. It's City of Memphis v. Hargett. It's ACLU v. Darnell. In

the federal world, it's Valley Forge. It's not novel. It is the standard. And, yes, she may very well have an injury in Law, but standing does not ask that question. Standing says, what is your injury in fact.

She has testified that she was not denied the benefit of staggered terms in 2022. That was her harm. That's what she complained she was deprived of. She says in the 2022 election she was not deprived of that harm. She has an out. She can show that that harm is imminent, but that's where it comes into play as to the historical data.

To show that, she would have to show that there is some reasonable possibility that all three seats in Davidson County could turn over at once. And she says very plainly, she does not know of any incumbents ever losing a primary. She does not know of any incumbents ever losing a general. So she can't show imminence and that's her burden. Now, Plaintiffs have come up here and said, well, we have got what is a violation of the Tennessee Constitution, that Davidson County is non-consecutively numbered.

Unfortunately for Plaintiffs, standing defeats potentially meritorious constitutional challenges all the time. That was the case in Tennessee for Sensible Election Laws III. Tennessee has all sorts of Laws on the books that if they were applied to someone, may very well be constitutional, but we don't just allow someone to show up and say, that's unconstitutional. They have to show that somehow it harms and affects them.

And Ms. Hunt has disclaimed both of those in her examination testimony. And for that reason and since Plaintiffs' proof is closed, the Defense is entitled to judgment. Thank you.

CHIEF JUDGE: Thank you. The Court respectfully denies the motion consistent with the Court's ruling in the summary judgment motion, that it was reserving ruling on this. And we have a pretrial order that contemplates posttrial briefs.

As you can see, we have got three judges up here, and the judges decided we wanted all the briefing, all the proof that have we could have before we decided this issue. Given this

unusual situation, where going forward with a trial would not necessarily prejudice the Defendants, given that a defense on the constitutional grounds, on the merits has not been offered. So we haven't asserted in an affirmative sense jurisdiction over this.

But the Panel wants to see every briefing that can possibly be made on this issue before we make a definitive issue. So, the well-argued standing arguments made by the Defendants are not falling out of the case because the Court wants the opportunity to get additional briefing and also full opportunity to confer among the judges.

So, we are denying your motion. The issue is not falling out of the case. The Court in the summary judgment motion indicated that it wanted to reserve ruling. In this particular situation, the Panel concluded that Defendants would not be prejudice if we did not rule on this subject-matter jurisdiction. As you know, subject-matter jurisdiction can be ruled upon at anytime. It can be ruled upon on appeal.

So given this situation, that's where we stand. And certainly if this Panel was going

to rule today on standing, we would have to take time from the trial, go out and confer, and we're not going to do that. Rather, we're just going to deny the motion with the expressed statement that standing is not falling out of the case. It is a viable claim that will considered in the Court's final ruling.

MR. RIEGER: Thank you, Your Honor.

Your Honor, at this time the Defense calls Mr. Himes.

And, Your Honors, with your permission, when Mr. Himes was here yesterday, he had some issues reading the copy of the map that was in the record already. He's provided these additional demonstratives. Plaintiffs have agreed to their use and if I may, I would like to pass them out, so that way they can be available to review.

CHIEF JUDGE: Sure.

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DIRECT EXAMINATION BY MR. RIEGER:

Q Welcome back, Mr. Himes. My name is Alex Rieger, and I'll be asking you a few questions

today. If you could, go ahead and reintroduce yourself to the Court.

A Sure. Your Honors, good afternoon. My name is Doug Himes. I'm the Ethics Counsel for the Tennessee House of Representatives.

CHIEF JUDGE: And you're still under oath.

THE WITNESS: Yes, sir.

Q (By Mr. Rieger) Mr. Himes, if I could start by directing you to Exhibit 15 please, which I believe had been previously admitted. Are you there?

A I am, yes.

Q Excellent. If I could get you to flip to the back, please, until you reach the page that starts "Douglas David Himes."

A I'm there.

Q Is this your CV?

A This is.

Q When was this CV created?

A It was created in -- it was updated, I would say, in, gosh, I'm trying to find the date of the report. I would be -- I don't know if there is a date on the report. But it would have been updated before the report was filed.

Q Is there in anything on the CV you need to

add?

A No, I do not believe so.

Q Would you walk us through your CV starting with your education, please.

A Under "Education" which is Page 48, I went to Lambuth University in Jackson, Tennessee for undergraduate studies. I majored in history and theater as a minor. I was fortunate enough to get a rotary ambassadorial scholarship to attend the University of Saint Andrews for graduate studies. I had a problem. They thought I knew Latin when they admitted me. I do not know Latin. I did not get a Masters but received a diploma in arts and medieval history. I studied society in England from roughly 1000 to about 1111, I guess it was, basically the Norman Conquest period of time. And then, I attended law school at the University of Notre Dame, graduated there in 1997.

Q Thank you. And if you could just briefly walk us through your job history again.

A Certainly. I graduated from Notre Dame on, I guess it was, a Saturday, maybe a Sunday. I can't remember. It's a long time ago. And started at the Attorney General's office on a Monday after graduation starting as a clerk in the Attorney

General's Office, and worked in the criminal justice division for about a year and a half.

After that, I had the opportunity to return to legal services. I mentioned to y'all yesterday that I had worked in legal services as a session researcher for one session in the early mid '90s drafting resolutions. They had an opportunity for a lawyer, a full-time position. And I left the Attorney General's Office to go back and work at the General Assembly. Of course, I worked in criminal justice division, but when I got back to the General Assembly, I was assigned to work on transportation committees.

And over the years, I worked on transportation committees in both houses and various other committees until spending most of the time as the house finance attorney for a little bit over a decade. During that time, I also served beginning in 2003, I served as the attorney for the house ethics committee, which is what I do now, except as an employee of just the house. But during my time in legal services, I was in that role.

I also, legal services provides counsel to the speakers, and I served as counsel to Speaker Jimmy Naifeh, Speaker Kent Williams, and

Speaker Beth Harwell. Also during that time, I was assigned to be the lead attorney for the 2010 rounds of redistricting for the House of Representatives.

And I would just say that then in June or July of 2018, I left legal services and went to work with the Bureau of Ethics and Campaign Finance under Drew Rawlins, served as his assistant director. And then, I had the opportunity to come back to the General Assembly in June of 2019. The house created this position for me to be the house ethics counsel to help members with compliance with statutes and legislative rules.

Q What if any experience do you have with redistricting?

A So when I was a Legislative intern, which is here somewhere in this resume in 1992, Steve Cohen, who I was assigned to then state and local government committee. Then state Senator Steve Cohen, now Congressman Steve Cohen, asked me to work with legal services on senate districts in Shelby County. That was the first time I had any chance to work in redistricting, and that was the first redistricting that legal services went from having big paper maps with crayons to a big Sun system computer. And I had the opportunity at that time to

kind of get my feet wet and work on the senate districts in Shelby County. And I found it was fascinating. And that was the first opportunity.

When I went back to legal services in '98, the house was still in litigation in the Rural West Tennessee cases, and the then assistant director of legal services at that time, Ellen Tewes, asked if I would help her as that case was proceeding to the Sixth Circuit and then on to the Supreme Court. And I used our old system to produce the maps of Plan A and Plan B. I didn't have a whole lot else to do on the Rural West case on the house side.

Assistant Director Tewes quickly became Director Tewes of the office of legal services. She encouraged my participation with NCSL, which is the National Conference of state legislatures. They have a particular staff section, kind of a focus area on redistricting and elections. It has had various names over the years. And I started participating with that section in 1999, I think was the first NCSL I went to. I got to know more about the census, work with the Census Bureau. And then, Speaker Naifeh appointed me under her advice to be the lead counsel for that 2000 round of

redistricting.

After that, by the 2010 census, Director Tewes had retired. Joe Barnes was then director of legal services. Speaker Harwell was the speaker. And I was asked to be the lead attorney from legal services again to work on the house redistricting in the 2012 round. And then when we advanced to 2020, I come back in the role of house ethics counsel. And Speaker Sexton, when he appointed the ad hoc committee, he appointed me to serve as the counsel to that committee.

In between that, my involvement with the NCSL's redistricting task force continued. I served as a staff co-chair for a period of time. I'm still active in that and helped Tennessee when Tennessee years ago edited part of the red book that you have heard about. We did some of the equal population part of that. And I helped with that. And I think I added the case note in the red book the last round for the Moore decision. So that's sort of the history.

Q Is it fair to say you have been involved with redistricting process in Tennessee for 30 years?

A Yes, that's fair.

Q Is that on a partisan or nonpartisan basis?

A Nonpartisan.

Q Can you explain that a little more?

A Sure. So in my current role and in all the roles I have had in state Government have always been nonpartisan roles. Legal services nonpartisan counsel to the house and senate. Legal services works for 132 members and takes the nonpartisan side of it very seriously. So when I was in that office, I was the nonpartisan counsel to the redistricting committee.

Fast forward to this current position, I'm nonpartisan ethics counsel. I work for 99 house members and I take that very seriously. I have served at the pleasure of Democratic speakers and Republican speakers. And it's something that I think is important to this process, that the house utilizes nonpartisan staff to help in the process.

Part of that is, is we don't keep any partisan data in our database for redistricting. Maptitude could have it. I think it could be imported, but that's something that we have never done as a nonpartisan employee. That's not something I would utilize. So I feel it's an

important process that makes how the Tennessee house process, makes it unique.

MR. RIEGER: Your Honor, at this time, Defendants move to have Mr. Himes qualified as an expert witness in Tennessee Redistricting Law procedures and practices by virtue of his three decades of experience and that he may testify and form an opinion.

MR. TIFT: No objection.

CHIEF JUDGE: No objection and so the Court determines that Mr. Himes can be an expert witness and testify in the categories that you mentioned.

MR. RIEGER: Thank you, Your Honor.

Q (By Mr. Rieger) So I want to talk about the redistricting process generally, so not specific to this map that we are all here on today. Can you walk us through the relevant authority that might set out requirements for redistricting maps?

A Okay. I think I can follow that. You are not talking about the process of when we get the census data. This is more of what we would look at after we have that data.

Q What are the rules?

A What are the rules, good way to say it.

The number one rule population equality, one person, one vote. That's what we are drawing a map to comply with, and that is the number one rule, to fit that. Now, how you get there, what's the justification in a state redistricting plan to have any kind of deviation, why isn't it zero? There's got to be a legitimate state interest. And that's where factors like county splitting and core preservation play a big part of, because those are both legitimate state interests to have that deviation.

But beyond population equality, then underneath of that, the Voting Rights Act. That is in my opinion, having done this for 30 years and having the experience on the outside of Rural West Tennessee cases, I think that's of utmost importance, compliance with the Voting Rights Act. Obviously, race cannot predominate a redistricting plan, and it's important that it doesn't. But compliance with the Voting Rights Act is almost right there with the population equality.

And then, you know, there's the factors that are listed in 3-1-103, and there's the six other factors that we have listed. Contiguity is also a state constitutional requirement. That's

one of the other four. We want to make sure that we use the census data. We want to use the most recent census data, both the population and the geography.

Several years ago there was the idea that they would adjust data and they didn't. They used the actual count. But somebody might produce data that is adjusted, and we're not going to use that. We're going to use whatever the census data produces.

I think I've got four of the six. I'm going to try to think of the others off the top of my head. We're not going to do multimember districts. At one time, Tennessee did have some multimember districts. Some states still have a form of multimember districts.

And then, the last one, it's there somewhere, and it's in here somewhere.

Q We'll see if we can get to it as we go through. Are any of the requirements you listed --

MR. TIFT: Your Honor, just for the record wanted to state basically the same standing objection that certainly Mr. Himes can continue testifying as our expert did his understanding of the Law. But of course, we all recognize the Court will determine the actual Law in the

case.

CHIEF JUDGE: Thank you. So noted.

Q (By Mr. Rieger) So Mr. Himes, out of the requirements you just listed, how do you determine which is more important?

A The Federal constitutional provisions are the Law of the Land. So we'll comply with the Federal Constitution provisions, then the federal law provisions, and then we will work with the state constitutional provisions, and then the practices, the criteria that the house has set, not only in TCA 3-1-103 but also in the two practices that we have used over the 30 years.

Q To your knowledge, are there any constitutional provisions that limit what factors the General Assembly can use in redistricting?

A I would say to the contrary, there's a constitutional provision that anticipates that the General Assembly will set the criteria for redistricting, and that's Article 2, Section 4 of the Constitution. I think it's the second or third sentence. It says, Nothing in this section, nor this Article 2 -- essentially, I'm paraphrasing -- shall deprive the General Assembly from redistricting at anytime based on geography

population or other criteria.

And I think that allows the General Assembly to take those six factors that are articulated in 3-1-103 in the two practices, which is core retention and minimizing incumbent pairing. Those eight are the criteria that I think envisioned Article 2, Section 4.

Q So again, I'm not asking about the specific map at issue here. So generally, how does the redistricting process begin in Tennessee?

A So, the redistricting process in a non-COVID year -- this was a different census and a different redistricting process because of COVID.

But the process starts before the Census Bureau produces the results. Our state comptroller works with the bureau to make sure that localities have all the boundaries and census blocks they need. They work with them throughout the decade leading up to the census. It's a program on the called the Block Boundary Suggestion Survey that they work with the comptroller's office. They work in hand with the Census Bureau. They work on things like, we have recently changed a few county boundaries, the legislature has, and the Comptroller's Office will work to make sure those

are incorporated into the next round of geography.

From a planning level, the General Assembly, we are going to make sure that we have the technology that we need, that when we get the census data, that we will be able to use technology for people who aren't GIS experts, which is Geographic Information Systems. Something that somebody that's a lawyer can use to draw maps and to explain and produce maps for the members that they can understand easily.

So we'll look at our technological needs. We'll look at our staffing needs. I was hoping this time we could have some folks that worked in GIS. We didn't hire anyone that had any experience until very late in the redistricting cycle. And hopefully, those employees who didn't have a whole lot of experience this time will have experience going forward. It's hopefully building some institutional knowledge going forward.

You want to make sure you have staffing. So I had some attorneys in legal services that I worked with before COVID to just talk about the red book and some of the concepts of redistricting in the hopes that, again, there can be some continuity going forward. Weren't utilized

this round but hopefully they will have a little understanding of what redistricting is. So we do all that preparation work and we get that ready.

And then, in a normal decade, census date is April 1st of the year ending in zero, so April 1st, 2020. And of course, COVID is happening right about the same time this time. In a normal decade, the federal law requires that those results should be reported by January 1st of the year ending in one, so January 1, 2021. And what's reported is the apportionment data, which is the resident population of the United States and the states.

And with that you can determine, you know, what your ideal populations. We looked at that yesterday. What's Tennessee's total? And divide it by 9, 33, and 99 and come up with the ideals for the US house and senate and state house. So that data usually is there by January 1 of 2021. This time we didn't receive that data until, I think it was, in April of 2021. So there was a significant delay in getting that data out there.

And knowing that we were going to have the delays for the last couple rounds, we have established a website on the house side to try to give people updates. In a normal year, that website

isn't established until we get the state level redistricting data. But knowing there were going to be delays because of COVID, we started that website in January of 2021. And had me on there as a point of contact for people that had questions about what was going on. And I tried to keep that updated.

So when we got that apportionment data in April, I did a letter to the Speaker and laid out what the Tennessee population was and what the ideal numbers would be, and we put that up on the website as soon as we could. So in a normal non-COVID year what we are waiting for is the state level redistricting data. That's the micro data that goes down to the census block level of geography that includes all the different demographic characteristics of the population.

Now, there's some adjustment to that for privacy reasons, but that's the data we typically get in a non-COVID year in February or March, but it's been February when we get it. Unfortunately, because of COVID that was delayed until the middle of August essentially in 2021, which shortened the period of time that we had to work with data by about half. So that data comes to us in August and in a normal year and in this year,

once we have that data, the Speaker has traditionally appointed a committee to take up redistricting.

This was the first time that the committee included members of both parties. It was not balanced. It was unbalanced. I think there were 16 members: 12 Republicans and 4 Democrats if I remember correctly. That committee met in September. It met in October. Both those meetings taking public comments. And then met again in December to review the plans.

Importantly at the September meeting, the committee looked at criteria and guidelines and they adopted criteria and guidelines, and we talked a little bit about that yesterday. But it was also giving the public the opportunity to draw a map and present that and see if they could help us with this puzzle that is redistricting. And they had from September 8th to November 12th to submit plans. We only had four plans submitted.

Leading up and through this process, I tried to encourage this every time I could for people to submit a plan, offered to assist people in helping that. I met with the legal women voters. I met with Think Tennessee before we had any data on

their brief that they did just to get people interested. But at the end of the day we had four plans submitted. When we took up those plans in December then, we had not only those four plans to discuss but then the Democratic caucus also had a plan.

I think that's sort of the process of what a normal process would look like without COVID and then also at the end there sort of what the process has looked like in the past redistricting cycles of a committee, an opportunity for the public to submit plans. This time we had more public hearings than we had ever had.

We did not get to do meetings around the state, which was hopefully a goal that we can do the next census time, but it wasn't possible because of the COVID restrictions that we had at the time. But that's essentially how we got from what we had in the past and how we got to this plan.

Q Was your contact information on the General Assembly's website?

A Yes, it was. And what we did -- and this is the difference between -- this is why I said we put more out there this time. Ten years ago, after the 2010 census, we had a redistricting hotline,

which we had a phone that you could record a message on, and we had only one message ever, and it was a clerk at the time testing it to see if it worked.

So we felt that this time, I felt that it was important when we put the website out there that the people had a real contact. So we put my name, my phone number, my office address, my email all straight to me and only me. And I had contact. We had people call from around the state, Women Voters, Think Tennessee. And I was able to have that contact with those people leading up to it. And I participated in some of their forums that they had just to get the topic out there and get people talking about it.

Q Do you have any recollection of whether or not any of the Plaintiffs in this case attempted to contact you?

A I do not believe that either of the Plaintiffs in this case contacted me.

Q Okay. We'll come back to the enacted map, but I would like to start with your expert report since we have got that in front of you. In your role as an expert in this case, did you review alternative plans provided by Dr. Cervas?

A I did.

Q How did you review his alternative maps?

A As those reports were submitted over the course of a year, I would go to the report, look at the map that was in the report but then follow the link, the link that was a link to Dave's. From Dave's, I would export report the CSV file where I could then import it into Maptitude, which is the program that the House of Representatives uses to do the redistricting and the GIS, which is a bit more technical and probably a little bit more sophisticated tool than what Dave's is.

Q So what are your thoughts, if any, on Dave's Redistricting?

A So, I think Dave's is a fun -- it's a fun website to play with. You can entertain yourself by going to any state and draw a congressional plan for Arizona, and it's kind of a fun thing to do. I would not use it in any professional capacity.

And I also don't like it for the fact that unlike how the house does redistricting, Dave's has a lot of information, as do some of the other public platforms, that are more of a partisan nature, scoring districts. They have factors in Dave's and the others that have nothing to do with Tennessee redistricting. While I think it's a

useful tool, I think that sometimes those tools can confuse folks, as well, and makes it a little bit more partisan that it needs to be.

Q What do you use?

A Maptitude exclusively.

Q Why do you exclusively use Maptitude?

A Because I have confidence in its reliability. I have confidence in the track record that we have with that program in Tennessee. Ellen Tewes, who I mentioned, the former director of legal services, worked with the developers of Maptitude when they were just getting into the redistricting field. There's not many professional programs out there, but Maptitude is probably one of the five star ones.

Q Do you know, if there are any, any of Maptitude's clients?

A So, Maptitude has been used by the Census Bureau, the Department of Justice, multiple states, multiple local governments. In my opinion, it's the gold standard of redistricting tools.

Q Mr. Himes, if I could direct your attention to Page 19 of your expert report. Did you review in your role as an expert Cervas Plan 13a?

A I did.

Q And did you form an opinion about that map?

A I did.

Q What was your opinion?

A Is it okay if I refer us to Page 41 of my expert report?

Q Certainly.

A It's a little bit easier. So, all the plans that the house had and with the Cervas one, I tried to copy the same sort of format that's a basic evaluation of how plans are evaluated on the house side. It's traditionally what we have used for the last three redistrictings. And that is to look at whether it's a statewide plan, and 13a is. It has 99 districts. It had 12 majority-minority districts, which is one less than both the 2010 plan and what the 2020 enacted plan in 598 has.

It has a population range of 9.96 percent. Its overall range of population, which is higher than what the 598 was enacted with, 9.90. It split 24 counties. It was not contiguous. There were bits that were not assigned correctly to the districts they could have been or should have been assigned to. And it paired 15 incumbents. And both of those factors, the contiguity and the incumbent

pairing that is illustrated in footnotes, and it's the same standard evaluation that would have been used on the four public plans, the Democratic caucus plan, and then also the house plan.

Q In your expert opinion, do you think that the 12 majority-minority districts poses a problem compared to the Enacted maps 13?

A It poses a significant litigation risk, and I would not recommend this plan to the House of Representatives.

Q How does it pose a litigation risk?

A It dilutes majority-minority voting districts from 13 to 12. This particular plan eliminates the Rural West Tennessee district, which is a significant problem.

Q Who represents that district?

A Currently and historically it's been Representative Johnny Shaw.

Q If we want to move on to the next page, Page 42. Did you review Cervas Concept 13b?

A I did.

Q Did you form an opinion about Cervas Concept 13b?

A Yes.

Q What was that opinion?

A So this one, too, not did comply with the Constitution. It had a little bit better -- we talked a little bit yesterday about majority-minority districts and what's the proper metric: Is it voting age population, either a single race or ethnicity or a multirace, any part minority or ethnicity?

As I mentioned, the house has historically looked at these as single race. There's also the multirace, any part. And I don't know if either one of them is wrong. We look at them and scored all these plans when we went through it based on the single race. We would have counted it the same under a multirace.

And under a multirace category, any part African American in this case, District 80, is 50.94 percent voting age any part African American. Under single race, 49.54 percent. So, it satisfies the majority-minority district perhaps. It's pretty close. And depending on the turn out of an election, you don't know. But giving the benefit of the doubt, it's very close to the 13 majority-minority districts.

But 13b has a higher overall range of 9.9.6 percent. It splits 25 counties. But the

significant thing here with the splits is it splits Madison County. Madison County is sufficient enough that has population that has enough for one full district, and it's always had one full district. And it's significant in the way that it also helps us comply in Rural West Tennessee with the Voting Rights Act. It has historically been since Rural West one of the counties included in the District 80, which is represented by Representative Shaw.

So while this plan almost creates a majority-minority district in West Tennessee, it does it also by splitting Madison and not giving Madison County a full representative, and I think that's a significant problem. It's not contiguous. There were a number of census blocks that were not assigned correctly. And it also paired 30 incumbents.

Q Can you walk us through in a little bit more detail and explain the difference between using any part of racial identification versus the alternative?

A Sure. So, folks can respond to the census however they like or not at all, unfortunately. But when it comes to the race and ethnicity and race in particular, folks can select any combination of

1 races. A person can put white, black, Asian and
2 that's perfectly acceptable. Under any part African
3 American, which is what we are concerned with in
4 Tennessee, because it's the one racial minority that
5 is sufficient enough in population and compact
6 enough to have a majority-minority district.
7 You can have any part African
8 American. Somebody could respond white and black
9 and that would be counted that way. Using black
10 alone, which is the category the Census Bureau has,
11 the person who responded white black or Asian black
12 would not be included. It's just the people who
13 respond a single race of African American.
14 Does that help?
15 Q It does. And help me out with this. So
16 if you take all of the any part responses, do they
17 add up to 100 percent or would it be greater?
18 A You might have to help me with what you
19 are asking.
20 Q We'll come back to it. We'll move along.
21 If I could direct you to Page 43. Did you review
22 Cervas house Concept 14a?
23 A I did.
24 Q Did you form an opinion about it?
25 A I did.

Q And what's your opinion?

A So 14a was a plan that instead of doing -- I think the difference between the 13s and the 14s are the number of districts in Shelby County. So the 13s have 13 districts in Shelby County, which is the number that are in Chapter 598. And the 14s have 14 districts in Shelby County. I would note just to start, this one, too, has the majority-minority districts.

You know, under the evaluation, it's scored 12 majority-minority districts. You will see in the footnote the explanation again that using the any part black designation, you can see how that changes some of the districts when you look at them. And again, those are majority-minority districts. I would say that many of those that are created in 14a are very narrowly majority-minority districts within a very, very small range of 50 percent plus one. This plan has an even higher overall range of 9.98 percent, and it splits 24 counties.

But again, like the previous plan, it splits Madison County. It doesn't create that full district in Madison County, which is something that the house has always strived to have. Full counties have their one representative. If they are a whole

county, have it. If they divide evenly into two, to have those two without splitting them. But if they have too much population for two, to create that full district. And this plan does not create that full district.

It's not contiguous. It also has problems with the contiguity. And it pairs even more incumbents together at 41.

Q So far we have seen in these concepts, 9.96 in two maps and 9.98 percent for the overall range. Does Tennessee safely stay under 10 percent?

A No.

Q Why not?

A It's not a bright line. There needs to be equal -- sorry. Equal population is again that top standard that every plan is trying to achieve. And the lower you get, the closer to zero you get, the better. But there are going to be in state Legislative districting, you are allowed some variance, as long as there's justification for it. But it should be as low as you can. Anything higher is a litigation risk.

Q If I could get you to turn the page. Look at Page 44. Did you review Cervas house Concept 13.5a?

A I did.
Q Did you form an opinion about it?
A Yes, I did.
Q And what was that opinion?
A This particular Concept had probably some of the more significant problems of any of the concepts. I would not recommend it to be a guide for anyone. 13.5 and the plans that are 13.5 signify splitting of Shelby County.

Shelby County doesn't need to be split. It's a whole county that either has 13 or 14 districts in that fall within that overall range of a 10 percent. 13 districts is actually closer to the ideal than 14 district, the 13. But 13.5, having half the population exit the county and split the county, there's just not a justification for it.

In fact, if anything is clear in the Article 2, Section 5 of the Constitution, I think the second sentence says that in counties that can have more than one representative, that they be divided evenly into districts. So this from just a basic start is a faulty concept in my opinion.

But more importantly using the most favorable metric any part black population, it only creates 11 majority-minority districts. It also

splits beyond Shelby County. It continues the split in Madison County. It doesn't create that full district in Madison. It has a significant number of noncontiguity issues throughout the plan, in particular, quiet a few in Shelby County. And it pairs 35 incumbents at the end of the day.

Q In the past four maps that we have discussed, have they all been the same high deviation of 5.09 percent?

A Yes.

Q What is the enacted map's high deviation percentage?

A The same, 5.09 percent.

Q What explains why all of those are the same?

A These four concepts, along with Chapter 598, all maintain the boundary of Montgomery County. Again, you have a whole county that's devisable very close to that standard five and five deviation. Montgomery can be divided into three complete districts within the county boundary without splitting it. And it takes you to that high of 5.09.

Q Okay. If I could get you to flip to the next page. Did you have an opportunity to review

house Concept 13.5b?

A I did.

Q Did you form an opinion about it?

A I have.

Q And what is that opinion?

A That I would not use this plan. I would not recommend this plan as a guide either primarily for the unnecessary split of Shelby County.

This does have some positives to it, this plan. It's 11 majority-minority districts under a single race, black alone analysis. But using any part African American it does equal the plan that's 13, but again they are very close to 50 percent plus one. It has a slightly better overall range.

But again, it splits Shelby and splits Madison. It does not provide for that full district in Madison County. It has a significant number of noncontiguous areas and it pairs 39 incumbents.

Q Is it fair to say that all of these maps that we just discussed would create additional litigation risks for the state of Tennessee?

A I think it's fair to say that. And I would also say that none of them are constitutional

just based on the fact that they are noncontiguous.

Q All right. If we could leave your expert report behind, and if we could take a look at Exhibit 89.

A I'm there.

Q All right. Are you familiar with this exhibit?

A I am.

Q And what is it?

A It is an affidavit from myself regarding a rebuttal report of the Plaintiffs' expert and a January 9th response to Defendants' expert deposition. So it was a report that was filed by the Plaintiffs' expert in rebuttal.

MR. RIEGER: Your Honor, at this time we would like to move this into evidence if it's not already as Exhibit 87. And we understand there's no objection.

MR. TIFT: I think it's 89.

MR. RIEGER: I apologize, 89.

CHIEF JUDGE: It is admitted without objection.

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(The above-referred to document was thereupon marked Defendant Exhibit No. 89, and is attached hereto.)

Q (By Mr. Rieger) Now, if I could please direct you to Exhibit A of that exhibit. Did you review Dr. Cervas' map 13c?

A I did do that.

Q Did you form an opinion about that map?

A I did.

Q And what was that opinion?

A That 13c did have 13 majority-minority districts, had a higher overall range, split 24 counties, was contiguous, and had no unassigned areas.

Q And how did that compare to the enacted house map?

A It has a higher overall range of population than the house map and splits less counties.

Q Would you agree with the statement that it is a tradeoff between deviation and county splits?

A That can be a factor of having a higher overall deviation by reducing the number of county splits.

Q Do you think this map does that?

A Yes. I do believe it does raise the range and lowers the splits.

Q Do you believe that this map trades a higher litigation risk on deviation for a greater litigation risk on county splitting?

A The rise in population overall deviation would create a risk that you would have to consider.

Q If I could get you to turn the page to Exhibit B to Exhibit 89. Did you have an opportunity to review Dr. Cervas' house Concept 13d?

A 13d, yes, I did review it.

Q Did you form an opinion about that map?

A Yes, I did.

Q What is it?

A It creates 13 majority-minority districts. It's overall range is slightly better than the house enacted plan at 9.89 percent. It splits 24 counties and it's important to note that it double splits Sullivan County and that's a not insignificant issue. What I mean by double split is Madison is big enough to have one full district and has excess population, and currently that makes up part of the majority-minority district, District 80.

In Sullivan County, there's enough population for two complete districts, and then

there's this extra population that needs to be attached somewhere else. Instead of creating those two districts, this plan splits Sullivan in a way that part of the population goes one direction, and part of the population goes in another direction. And we have consistently split counties if they have to be split only a single time. We don't double split. And it's an issue. This was an issue just because of the census data.

If you think about upper, East Tennessee, Washington County came back as a perfect two districts. It's a county that has a population that if you divide that population evenly, you are going to have two districts that fall within the range, so we're not going to split that. Washington County has a stop sign. And then right below Washington is Greene County, which grew a little bit unexpectedly, but it moved itself into a single district county. It fell within that range. Another stop sign.

So you had Unicoi and Carter and Johnson, and it forces that population. There's too much. There's like an extra half a district. And it's a puzzle. What do you do with it? Without splitting a whole county that has perfect

population, you have to exit through the bottom of Sullivan. And the enacted plan does do it that way, and many of the Plaintiffs' experts plans do it this way.

For some reason, this reverts back to a double split of Sullivan and doesn't do that. But there's no other way to do that. And that drives county splitting for quite a bit of East Tennessee, just the fact that there's extra population up there that has to come out. So that's probably the most significant problem with 13d, and it also was not contiguous. There were a few census blocks, including populated census blocks, that were not assigned correctly.

Q And if I could get you to turn the page, did you have an opportunity to review Dr. Cervas' house Concept 13d_e?

A I did.

Q Did you form an opinion about that map?

A I did.

Q What was that opinion?

A So 13d_e was a plan that created 13 majority-minority districts, was slightly, you know, 9.89 instead of an 9.90 overall range, a split 24 counties, but again, was not contiguous. And it

solved the problem of Sullivan County, but in doing so, there were a couple blocks up there that weren't contiguous.

Q In your opinion, are either of these three maps acceptable alternatives to the enacted house map?

A So d and d_e are clearly not. C is one that, you know, has a litigation risk that you would have to think about, but somebody could consider it. And I don't have on here, unfortunately, the number of incumbents that were paired in this one, and I do not recall what it was.

Q So just to make sure I've got it correct, is it your opinion that d and d_e are unacceptable and that c requires a tradeoff?

A That's correct.

Q Did you review any of Dr. Cervas' maps that were presented during the temporary injunction phase of this case?

A I did.

Q What were your thoughts about those?

A Those maps were not useful in illustrations of alternative concepts.

Q Why not?

A There was multiple issues, and I think I

provided an affidavit at the time with some of the issues. There were contiguity problems, double splitting, shapes that were unusual, to say the least.

Q As an expert in Tennessee Redistricting Law procedures and practices, did you form an opinion about Dr. Cervas' work as an expert in this case?

A I believe I have.

Q What was it?

A And I would say this with all due respect to Dr. Cervas, I don't know if his plans are useful alternatives. I think some of the errors that continue throughout. The contiguity after being pointed out throughout the stages of this, it surprised me that that was continued throughout it. The double splitting issues were pointed out at the beginning of this and then would reappear. And I think that's problematic, as well.

I think to the extent that they are illustrative of a plan that may split fewer counties, I think I have said that -- I have said yesterday and I'll say it again. I think theoretically it's possible, but I don't think that that precludes any plan. I think they can all be

constitutional in the sense of in that trading off that folks have. And that's part of the discretion. But I don't think that these plans are as useful as they could be.

Q Is there anything else that you have an expert opinion about regarding anything that is related to the alternative maps or performance of Dr. Cervas that we have not covered?

A I think that's probably all I would say. I understand that Dr. Cervas is not an attorney, and I think some of the analysis of a majority-minority district is probably a little bit outside of his expertise. But as to the plans that were presented, I just don't know if they are that helpful at the end of the day.

Q Do you believe that it takes a great deal of knowledge about Tennessee Law and Tennessee geography and Tennessee demographics to draw a constitutional map?

A I think it's extremely important. I think that is a hurdle. There's very few people that have worked in Tennessee in redistricting and have the experience of working in a state that has the unique geographical features than we have, has unique population demographics, has historical districts

and historical representation that you don't get when you just look at something from a snapshot.

Tennessee is not New York. Tennessee is not Pennsylvania. Tennessee is not Virginia. I would not do a good job drawing districts for the Nebraska senate. There's one house there, but I wouldn't be good at that. You wouldn't have to worry about some of the factors that we have in Tennessee. But every state has different considerations, and I think it takes some time to understand what those considerations are and how to balance them all.

Like I said, I wouldn't make a good expert in another state, and I think that it's important that when drawing redistricting plans, that someone have an understanding of the state and the history of the state and the history of redistricting in that state.

Q Would that history necessarily include the Tennessee judiciary's guidance on how they interpret Tennessee constitutional requirements?

A Of course.

Q Would you expect that an expert would need to familiarize themselves with the holdings of the Tennessee Supreme Court in order to properly design

a constitutional map?

A Yes. I think an expert would need to understand what those are or have the particularities of Tennessee explained to them. I don't think you could just draw Tennessee just to draw it. I don't think a citizen in California can go up to Dave's and draw a plan of Tennessee and without any knowledge of Tennessee, provide anything that's useful.

Q Would you expect an expert to read Tennessee Case Law in redistricting?

A I would expect that, yes.

Q Would you as an expert think that it was enough to simply read Lockert I?

A No.

Q Why not?

A Because I think you need to -- first, I would start off with reading the constitutional provisions. I would want to try to have an understanding of that, Article 2, Section 4; Article 2, Section 5. Then, I think I would want to look at all the case Law, not just Lockert I, but the Lockert trilogy. I would want to read and understand Lincoln County. I would want to understand more for the part of it that helps us

understand county splitting. I would want to look at Rural West Tennessee cases to make sure I had an understanding of the very complicated history that the state of Tennessee has had with the compliance of Voting Rights Act. And those would be the minimal cases.

Q I would like to ask you a few questions about Lockert II, if I could. Have you read Lockert II?

A I have.

Q Okay. Did the Chancery Court in Lockert II find that there was an optimal number of counties that could be split?

A Yes. I felt that they were around 25 is what they were looking at.

Q Is your understanding of Lockert II that the Tennessee Supreme Court required that the state stick to that 25?

A No.

Q Have you read Lincoln County v. Crowell?

A I have.

Q Did that case involve a split of both Lincoln and Marshall Counties?

A It did.

Q Was the Supreme Court presented in that

case with a map that only split one of those two?

A It seems when you read that opinion that it was offered in some way that that four county area that was part of the case could have only one split. And that's in the opinion.

Q Did the Supreme Court invalidate the map?

A They did not.

Q Okay. Is it your understanding as an expert that perfection is not required?

A That is my understanding.

Q At this point if you could, I would like you to take off your expert cap for us, and I want to ask you some factually-based questions about your experience with the enacted house map.

A Okay.

Q Now, can you walk us through the Legislative process about how the map we are talking about today got enacted?

A How Chapter 598 got enacted?

Q Yes, sir.

A So, 598 is based on the state level redistricting data that we received in mid-August of 2021. And once that data was received and once our vendor was able to put it in Maptitude, once we had the data just from the Census Bureau, I'm able to

pull out from the raw census data the county populations, because that's what we are getting when we get the state level redistricting data. We are getting the county populations, the voting district populations. We know them as precinct normally. We can get those populations. Then, we get the census block, which is the smallest level of census geography.

There's also block and some other geographies, but in Tennessee, we have traditionally used three levels, which is the county, VTD, and the census block.

But when we get that data, I will pool the county populations, and then I am able to look at those based on our state and what the ideal district is and see which counties are either whole on their own or evenly divide into multiple districts. And that I can do as soon as I can pull that data.

And when you do that, there's ten. There's ten counties that come up in that category, and that's including Montgomery, which is going to then pool our plus minus 5 a little bit higher than a plus 5 to a plus 4.09. But it's worth it because you are going to keep a county whole. So there's

ten of those.

And then, I can also see from that initial just looking at the county level, you can see where the population growth is and where the population loss is. And it was pretty significant. And after the 2010 census, we had eight counties that actually lost population. But after the 2020 census, we had 30 counties that lost population. And that's in my presentation I did to the committee. There's a map that shows that loss. That was significant. I have never seen that before, that many rural counties.

It's not just Tennessee. A lot of States' rural populations are decreasing but significant for us. Two-thirds of the counties in West Tennessee lost population, which is problematic when you are trying to make this work.

So looking at that data and looking at the 2010 data, just the county population, you can see the explosion of population around Nashville. Nashville itself grew but it didn't grow in the way that was so significant that it created more districts within it than it had before. What did happen is the suburban counties exploded in population, double-digit explosions all around

Nashville.

And you could see, at least knowing that Montgomery County was whole, it essentially contracted a district just within itself. We knew from that county data, too, that Rutherford County grew enough from 2010 to 2020 to have a completely new district. It had done the same thing a decade before. So Rutherford has gone from three to four in 2010 to five full districts within its boundary after '20. So, you know there's two there. There's absolutely two.

Then, there's another district that the population has swollen around Nashville so much that you know there's going to be another district in Middle Tennessee. And then, the legislature has discretion to figure out where that district is going to be. And it's all based on population, and it's based on the census, and it's based on equal representation. So, three districts to Middle Tennessee.

Then, the question becomes, where do those districts come from? And that's a decision, again, that's within the discretion of the legislature, and it's based on this population shift.

Shelby County, you have to look at it. It divided evenly either 13 or 14. But 13 is closer to the ideal number, so one of the districts would come from Shelby County. We talked a little bit about the population bubble in upper, East Tennessee. That's because of a loss of population, and that pushes the county splitting down to about Hamblen County. Hamblen County, you've got to figure out what to do. And that's where one of the districts came from, that general area.

And finally, I mentioned Montgomery County. Montgomery County grew enough to essentially contract a district that had spilled outside of it. That was a multicounty district within its boundary, which created a pressuring that with the loss of population in West Tennessee, with Montgomery County growing, that there is a contraction of a district in that part of the state in District 74 and 75. So that's where districts are moving from.

And help me where you want me to go from here.

Q Sure. So, one question I have is was there any pressure -- earlier you testified about COVID 19 and the census data. Was that unusual?

A Yes. It was incredibly unusual because instead of having 11 months to work on this project and work with the members of the General Assembly with the eight criteria that the house uses in redistricting, we had five months. And one of the things that was important in this process was not only to try to have more public meetings, to have more opportunities for public comment, to provide even with COVID as much as time as we could for people to submit plans to the General Assembly, was also to have this finished before we got into session so people could see it.

In the time I have been at the General Assembly, a redistricting plan has never been presented publicly before January 1st until this cycle. And on December 17th, the committee published a plan for people to see.

MR. RIEGER: Your Honor, this might be a good time to take a break; if that works?

CHIEF JUDGE: All right. Let's take about ten minutes.

[3:55 P.M., a recess was had until 4:13 P.M.]

MR. RIEGER: Your Honors, before we begin, I do not think that we are going to conclude

the Direct Examination today. I just wanted to make the Court aware of it. I'll try to choose a good stopping point as close to 5 as I can.

CHIEF JUDGE: Good deal.

Q (By Mr. Rieger) Mr. Himes, please remember that you are still under oath.

A I do.

Q If I could get you to take a look at Tab No. 15.

A (Witness complies.)

Q Are you there?

A I am there.

Q Do you recognize this document?

A This is an affidavit of myself from March of 2022.

Q And I do not know if this has been admitted already, but if it has not, I would like to admit it as Exhibit 15. And I don't believe there is an objection to it.

MR. TIFT: No objection. I'm not sure if you admitted 14 earlier.

MR. RIEGER: Yes, Your Honor. If I had not admitted Exhibit No. 14 at this time, Defendants would ask to do so.

CHIEF JUDGE: Okay. Exhibits 14 and 15

are admitted into evidence without objection.

(The above-referred to document was thereupon marked Defendant Exhibit No. 14, and is attached hereto.)

(The above-referred to document was thereupon marked Defendant Exhibit No. 15, and is attached hereto.)

Q (By Mr. Rieger) Now, Mr. Himes, if I could get you to turn close to the back to a page that's entitled "General Redistricting Timetable."

A I got it.

Q Would you mind walking us through this information and explaining it a little bit?

A Sure. I would be happy to. So this would be something that would be prepared after any census during the decades I have worked in redistricting just to give the committee members and the public an opportunity to know sort of what the timeline is for what's ahead of them.

And so in 2020, this just reflects after that census that this timetable -- it's when the second annual session of the 112th General Assembly at the time was scheduled to come back, which was Tuesday, January 11th, 2022. So this was

the PowerPoint that was presented to the select committee on redistricting at the September meeting at that initial meeting. So I'm going through this timetable with them. So, they will convene again in January. And then I put out some deadlines, the qualifying deadline and then some days out from qualify.

Because it's important that a redistricting plan in any decade become law as soon after session starts as possible to give citizens an opportunity to know what districts they are in, to give candidates an opportunity to know if they want to run in those districts, and to give the election coordinators and staff an opportunity to make sure that folks are assigned to the right districts.

So, I put the qualifying deadline as the drop deadline, which is in statute, the Thursday, April 7, 2022. That would be where you didn't want to get to. Obviously, a bill could be passed to change that qualifying deadline, but if you were getting redistricting that close, it would be problematic for a lot of reasons.

Then, I just gave them some dates: 90-days out from qualify, which was Friday, January 7th, 2022, which is before they convene;

60-days out from qualifying Sunday, February 6, 2022; and 30-days out from qualifying, March 8, 2022. That just, again, to give them some knowledge about when these dates are and hopefully hit between the 90 and the 60 days to give people the opportunity to know the districts, the coordinators the chance to get them in the system.

And then, also, just the primary and general election dates for 2022, which are August 4th and November 8th of 2022.

Q Earlier you spoke about COVID 19 and the census data. Did that create additional pressure in meeting your goals of having a map between the 90-days and 60-days out from the qualifying deadline?

A Yes, it put pressure on the committee and it put pressure on me, the committee's counsel, because it compressed the schedule, not this schedule. The qualifying deadline is what it is. But what it did compress was the time that the committee had to get the data, to analyze the data, and pass a constitutional plan. Instead of the 11 months roughly that they would have, we had five months if we were going to put it out as soon as we could, which the goal was to do it before Christmas.

Q During the legislative process, did anyone submit house maps for consideration?

A Are you saying, did people submit plans to be considered?

Q Yes.

A Yes.

Q If I could get you to turn to Exhibit No. 23.

A I'm there.

Q Are you familiar with that document?

A I am.

Q What is it?

A It is the concept that was submitted by Brett Windrow. It's a house map.

MR. RIEGER: Your Honor, at this time, we would like to introduce this into evidence as Exhibit 23.

MR. TIFT: No objection.

CHIEF JUDGE: Exhibit 23 is admitted without objection.

(The above-referred to document was thereupon marked Defendant Exhibit No. 23, and is attached hereto.)

Q (By Mr. Rieger) And we'll talk about this a little bit more later, but if I could get you to

turn to Exhibit 24. Are you familiar with this document?

A I am.

Q What is it?

A Both 24, the Brett Windrow concept -- these were the four plans that were publicly submitted by the November 12th, 2022 deadline to the house, to committee. So Exhibit 24 is the house concept that was submitted by four gentlemen from, I believe, Memphis: Mr. Cardell Orrin, Aerris Newton, Jeffrey Lichtenstein, and Kermit Moore.

MR. RIEGER: Your Honor, we would like to submit that as Exhibit 24.

MR. TIFT: No objection.

CHIEF JUDGE: Exhibit 24 is admitted without objection.

(The above-referred to document was thereupon marked Defendant Exhibit No. 24, and is attached hereto.)

Q (By Mr. Rieger) If I could get you to turn to Exhibit 25, please.

A Yes.

Q Are you familiar with this document?

A I am. This is another plan of one of the four. It's a house plan with 99 districts submitted

by the Equity Alliance in Memphis house concept.

MR. RIEGER: Your Honor, at this time we would like to introduce that as Exhibit 25.

MR. TIFT: No objection.

CHIEF JUDGE: Exhibit 25 is admitted without objection.

(The above-referred to document was thereupon marked Defendant Exhibit No. 25, and is attached hereto.)

Q (By Mr. Rieger) And if I can get you to flip to Exhibit 26, please.

A (Witness complies.)

Q Are you familiar with that map?

A I am.

Q What is it?

A This was a plan submitted by a gentleman from Knox County named Zach Wishart. It's a house concept map.

MR. RIEGER: At this time, Defendants would move Exhibit 26 into evidence.

MR. TIFT: No objection.

CHIEF JUDGE: Exhibit 26 is admitted without objection.

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(The above-referred to document was thereupon marked Defendant Exhibit No. 26, and is attached hereto.)

Q (By Mr. Rieger) Apart from those four maps and, of course, the enacted house map, did anyone else submit a map for consideration?

A Yes.

Q Who?

A The Democratic caucus submitted a concept for the December 17th meeting.

Q Any other maps besides that single map?

A That were submitted and were considered by the house, no.

Q Now, if I could get you to return to Exhibit 15 for me and turn to the last set of documents that has a sticker in the corner, that says Exhibit Himes 4.

A Yes, I'm there.

Q And what are these documents, what are these pages?

A So, these are the standard evaluations that have traditionally been prepared for all plans that are submitted to the house in the decades I have worked in redistricting. And it's the same information that we saw earlier with some of the

plans that the Plaintiffs' expert -- evaluation of the same form as those that Plaintiffs' expert had submitted. But these are the ones that were actually submitted by the committee.

And the only difference between these and the ones the Plaintiffs' expert submitted is you won't see these using the metric of any part African American. These will be scored on the single race. At the time that's what the house used as a comparison from decade to decade. Again, not saying using either one is right or wrong. They both create majority-minority districts, but that's the only difference between the two.

Q What if any were you thoughts on the Brett Windrow house concept map?

A Well, I can read the evaluation. I can say that it's not one that the house could consider. It wasn't constitutional. It had multiple deficiencies. It did create 99 districts, but it only created five majority-minority districts.

It had an overall population range of 24.23 percent. It had county splits that were equal 26 but they were double splits. It had splits of Davidson, Hamilton, Knox, Rutherford, and Shelby Counties, which were all whole counties that could

be divided within their boundary into multiple districts. And then, Knox and Rutherford were double split, so you have that issue of pieces of the county going in different directions and being attached to different districts. It was not contiguous. This one had multiple populated and unpopulated census blocks. And it had unassigned areas. And lastly, it paired 46 incumbents together.

Q Okay. If I could get you to turn the page.

A (Witness complies.)

Q And could you walk us through the evaluation of the Equity Alliance house concept?

A Sure. This concept, again, I would not recommend to the committee. It had multiple constitutional deficiencies and major litigation risks. It has 99 districts. It created two majority-minority districts. As it turned out, it had a better population deviation than the state house plan at 9.75 percent.

It split 30 counties and you can see in the footnote that it split multiple counties that were either double splits or triple splits, and then, I think Shelby County was a quintuple split of

Shelby. It was forking off in multiple directions in various districts. It was not contiguous. It didn't have any unassigned areas. And it paired 51 of the 99 incumbents.

Q So in terms of ranking the Equity Alliance map, was it your evaluation that the major issues for this Equity Alliance house concept that it reduced 13 majority-minority districts down to 2?

A I believe that would have put us into Federal Court pretty quickly.

Q Okay. If I could get you to turn the page again. And what were your thoughts on the Zach Wishart house concept map?

A In fairness to Mr. Wishart, he wanted to withdraw this plan and not have it considered. I think I say that in the transcript of that meeting. But it was already presented. It was already publicly noticed.

And you'll notice that there's a member, and the member is the person that isn't the sponsor of it but -- and I should have explained this earlier. It's a person who it's being put forward for that entity. Just the citizens cannot introduce bills, and just like this process, there has to be somebody that will do it for a

constituent, and that was the case here. In fairness to him, he did not want this considered.

So this was a state-wide plan. It had 99 districts. It had 6 majority-minority districts. It had a 9.02 percent overall range. It split 30 counties, but it had a problem of double splitting counties and splitting counties that were whole on their own. It triple, quadruple, quintuple, and Davidson County was sextuple split with different fingers going out in all different directions. It was not contiguous. It didn't have any unassigned areas, and it paired 26 incumbents.

And for the same reason as the previous one, I think one of the major concerns, besides the county splitting problems with this map, is the six majority-minority districts is problematic.

Q And if I can get you to turn the page, and if you can give me your thoughts on the Orrin, Newton, Lichtenstein, and Moore house concept.

A Yes. This concept I don't think I would recommend as an alternative for multiple reasons, including the fact that it doesn't balance population equality and county splitting. In fact, it makes both worse.

It only created 10 majority-minority districts. It's overall range was 19.28 percent. It split 58 of Tennessee's 95 counties, including the same problems of splitting counties that shouldn't be split because they are whole with either single and multiple districts and then also the problem of splitting counties up to four times in different directions. Rutherford County was split that way. It wasn't contiguous and it had unassigned areas that weren't populated and it paired 20 incumbents.

Q And if I could get you to turn the page.

A Uh-huh.

Q And I believe the next two pages, there are two that are labeled Democratic caucus house concept. The first one is listed as received at 12:09 p.m. 11/12/21. Can you describe why there are two in here?

A Yes. So, the public was able to submit from September 8th, the September meeting, until November 12th. The public was able to submit plans until 12 noon on the 12th. This plan was submitted after that deadline. This was not considered, in fairness, by the committee but was publicly submitted.

The second one was the revision to that first attempt, because members -- the caucus did not have to file this by the noon. They had the latitude to be able to file it at the same time as the concept committee proposed, which was before that December 17th meeting.

So the difference is, the first one was the initial attempt at a public submission, but it was too late. And the second one was the one that was submitted at the December 17th meeting.

Q If you could tell us a little about your evaluation of the late-filed one.

A So, the late-filed one had only eight majority-minority districts. Again, these were evaluated, unlike the Plaintiffs' expert's opinions, these were evaluated as we were going through the process, so they are compared to the single race. So this wasn't compared to any part racial minority or ethnic minority.

But under a single race analysis is 8 majority-minority districts. And while the overall range was 6.71 percent, which is maybe the best of the ones that were publicly submitted, it split 35 counties. And some of those counties that were split were either whole counties that didn't have to

be split or were a double split, I believe, of several of these counties. It was not contiguous was and it paired 24 incumbents.

Q Okay. And if I could get you to turn the page.

A Uh-huh.

Q And can you give us your thoughts on the Democratic caucus house concept that was considered?

A Sure. So, this was the concept that was considered at the December 17th meeting. Statewide plan, 13 majority-minority districts, had an overall range of 9.72 percent, split 23 counties but importantly one of those counties was Shelby County. It was contiguous. It did not have any unassigned areas, and it had 15 paired incumbents.

In fairness to the caucus, I think they may have not had the right location. I don't think they wanted to do that. I think they wanted to do two less, but nonetheless it was 15 that were paired in the plan. And the majority-minority districts, I just note that they were -- some of those districts were just barely over the 50 plus one percent voting age African American.

Q Why do you think that they did not intended to pair 15 and instead pair 13 incumbents?

A There was a member in upper, East Tennessee had moved residences during the process, and I don't think that they understood that.

Q Did anyone submit a map to the General Assembly apart, of course, we are not talking about the enacted house map. But did anyone submit a map to the General Assembly that did not have clear constitutional problems?

A No.

Q Now, if I could turn you to Exhibit 20, and let's talk about the numbers.

A I'm here.

Q Do you know what this document is?

A Yes. Exhibit 20 appears to be the County Growth Table, which reflects the population growth from the 2010 census to the 2020 census, and then it states that as a percentage change either positive or negative. And this was a document that is still on the General Assembly website and was presented to the committee.

Q And if you could flip to the last two pages and identify that for us.

A The last two pages is the census 2000 population by county.

MR. RIEGER: Your Honor, at this time I

would like to move Exhibit 20 into evidence. I understand that there is an objection to the last two pages.

MR. TIFT: There is no longer an objection. That's fine.

CHIEF JUDGE: Exhibit 20 is admitted into evidence without objection.

(The above-referred to document was thereupon marked Defendant Exhibit No. 20, and is attached hereto.)

Q (By Mr. Rieger) Can you explain where the numbers in the 2020 population column came from?

A The results of the state level redistricting data.

Q Is that the same data that is in Maptitude?

A Yes.

Q Is that answer the same for the 2010 population column?

A Yes. 2010 population would be the state level redistricting population for the counties that was reported in the 2010 census.

Q And is that true for the last two pages, the 2000 census column?

A That is true for that, as well.

Q Going back to the first page, can you explain the column that is marked percentage change 10 to 20?

A So, that's reflecting the difference that the two censuses reported. And that's useful for the members from an initial standpoint to just see what counties they represent and see if they are losing or growing population.

So what you will see reflected here is what I talked about earlier, is that instead of just 8 negative growth, that we had 30 counties that actually lost population as reported in the 2020 census. And so, that reflects the percentage loss in those counties. And in the ones that gained, it reflects that positive growth. And the minus sign would be the negative growth ones. There's not a plus sign for the positive.

Q And if I could get you to turn to Exhibit 22, please.

A I'm there.

Q Do you recognize this document?

A I do. Standard of the house after the census is to prepare a malapportionment table, and a malapportionment table reflects the census results that we received overlaid on top of the districts

that we have in place at that time. It's going to show the 2012 districts with the 2020 census result population. And it will show what the actual number is and then a percentage from that ideal of 69,806, whether they are above or below and a percentage of how much.

Since many times in this we are thinking about overall population, we are looking at what's five over and five below. And this gives members an idea of where their district is and how much they either have to lose population or to gain population.

And you can see that there are some districts that exploded with population, especially in Rutherford County, which as I mentioned, gained an entire new district because of the census. And then, you will see some of the West Tennessee districts that loss a significant amount of population, almost 20 percent below the ideal compared to 40 percent above the ideal in Rutherford County.

MR. RIEGER: Your Honor, at this time, we would look to admit this as Exhibit 22.

MR. TIFT: No objection.

CHIEF JUDGE: Exhibit 22 is admitted

without objection.

MR. RIEGER: Thank you.

(The above-referred to document was thereupon marked Defendant Exhibit No. 22, and is attached hereto.)

Q (By Mr. Rieger) Mr. Himes, is it fair to say that if your district is a plus or minus five percent from ideal in this column, that the district is likely to have to change significantly?

A Would you repeat that one?

Q If in the plus or minus percentage column from ideal, if that number beside the minus and the positive sign is higher than five percent, does that reflect a problem that needs to be solved?

A So I would say this. This helps them with illustration but it's a snapshot. Every one of these is a problem because it's a 99 district puzzle. So you can be perfect. I don't think there is a perfect one. I'm just looking here. You could be .36 percent positive, which is District 24, but your district may have to change.

It happens that that one did not change for core preservation and because of where it's located. But just because you are at 40 positive, yeah, you are going to have to lose

population. But some of the ones that are in that range, even 5 percent, are going to have to change dramatically.

Q Throughout this case, redistricting has been described as a puzzle, and we have had various witnesses speak on it. If I could get you to put on your expert hat for one question. How many solutions to Tennessee's redistricting puzzle are there?

A How many solutions there, I don't think I can answer that. Because I don't think that you would ever know. I don't think you would ever have a perfect map.

Q Would it be fair to say that there could be an infinite number of workable solutions to the puzzle?

A Yes.

Q Okay. If you take your expert hat off again. This number in parentheses in Exhibit 22 that's next to the positive or minus percentage from ideal, 69,806, could you just one more time go over how we got there?

A How we get to the percentages from ideal?

Q Yes, please.

A So, you are taking what the districts were

before the redistricting, so the 2012 districts that were drawn, and then taking the results of the census, they are reported and you can aggregate them by those old districts. And you're measuring the new populations based on the 2020 census on those old lines. And then, you are taking that number, dividing it from the ideal and getting that percentage of whether it's a positive or negative number.

You can do the raw math, as well. I think most of the member and most of the folks in redistricting are used to seeing this overall deviation. I think it means more to them to see it as a percentage. And that's why it's this way on this one. I think the percentage speaks a little bit louder than just the raw number.

Q So, earlier we spoke about the high deviation number of 5.09 percent in a number of the Cervas concept maps. And the enacted map had the same deviation, and you explained that was to keep Montgomery County whole. What does that leave you for the low deviation?

A I can tell you what it is in the enacted plan, but I don't think that's what you are asking.

Q I'm asking if we use the 10 percent, not

bright line but guidance, from the federal cases what does that leave us?

A It's going to be -- my math is not my necessarily my strong point, but I believe it would be 4.91 negative if you took it to the extreme. I think that adds up right.

Q In your mind having a 4.91 percent low deviation safe?

A No.

Q Why not?

A I mean, equal population is the number one thing in any plan. And you want to balance those legitimate state interests and justify that deviation. So, the low point should be justified by the districts that are on the map. If you can keep it to the lowest low or the highest low, I guess it would be, it's better.

So, in Chapter 598, I think I mentioned the other day, the low districts are two that are composed of four counties with one split. And it's Districts 78 and 69, which are Cheatham, Dickson, Hickman, and Lewis Counties. That combination with one split -- and the split is kind of we're backed up against a bunch of counties that are whole counties. Cheatham has got to go

somewhere. Those county combination takes you to 4.81 negative. And that's the lowest on this map in the enacted plan.

So instead of going and thinking, well, we could do a little bit lower here, this concept has it with this pairing and only one split of that area takes you to the negative 4.81. And there's not a real good reason after that to justify going to the higher, the other 4.85 negative or even lower than that. There's not a need to do that. So try to keep it all on equal population and keep it as under 10 as you can get.

MR. RIEGER: And, Your Honor, I'm about to turn to another topic, but it is 4:50. I anticipate the topic will probably take -- we are going to walk through the enacted map and talk about every single split, so this might be a good spot, if the Court would agree?

CHIEF JUDGE: I agree.

(4:50 P.M.)

(Thereupon, a recess was had until the following day.)

- - -

STATE OF TENNESSEE)
COUNTY OF WILLIAMSON)

I, Katy Beres Melcher, a Licensed Court Reporter within and for the State at Large, do hereby certify that the foregoing proceedings were taken at the time and place set forth in the caption thereof; that the proceedings of said were stenographically reported by me in shorthand; and that the foregoing pages constitute a true and correct transcription of said proceedings to the best of my ability.

I further certify that I am neither a relative nor employee nor attorney nor counsel of any of the parties to this action, and that I am neither a relative nor employee of such attorney or counsel, and that I am not financially interested in the outcome of this action.

WITNESS MY SIGNATURE, this 3rd day of May, 2023.

Katy Beres Melcher, LCR #521
LCR Expires: 6/30/2024

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