

**IN THE CHANCERY COURT OF TENNESSEE
FOR THE TWENTIETH JUDICIAL DISTRICT**

TELISE TURNER, *et al.*,

Plaintiffs,

v.

BILL LEE, Governor, *et al.*,

Defendants.

Case No. 22-0287-IV

Expert Report of Sean P. Trende

I. Expert Qualifications

Primary Employment

I serve as Senior Elections Analyst for RealClearPolitics. I joined RealClearPolitics in January of 2009 after practicing law for eight years. I assumed a fulltime position with RealClearPolitics in March of 2010. RealClearPolitics is a company of around 50 employees, with its main offices in Washington D.C. It produces one of the most heavily trafficked political websites in the world, which serves as a one-stop shop for political analysis from all sides of the political spectrum and is recognized as a pioneer in the field of poll aggregation. It produces original content, including both data analysis and traditional reporting. It is routinely cited by the most influential voices in politics, including David Brooks of *The New York Times*, Brit Hume of Fox News, Michael Barone of The Almanac of American Politics, Paul Gigot of The Wall Street Journal, and Peter Beinart of The Atlantic.

My main responsibilities with RealClearPolitics consist of tracking, analyzing, and writing about elections. I collaborate in rating the competitiveness of Presidential, Senate, House, and gubernatorial races. As a part of carrying out these responsibilities, I have studied and written extensively about demographic trends in the country, exit poll data at the state and federal level, public opinion polling, and voter turnout and voting behavior. In particular, understanding the way that districts are drawn and how geography and demographics interact is crucial to predicting United States House of Representatives races, so much of my time is dedicated to that task. I am also currently a Visiting Scholar at the American Enterprise Institute, where my publications focus on the demographic and coalitional aspects of American Politics.

Publications and Speaking Engagements:

I am also the author of *The Lost Majority: Why the Future of Government is up For Grabs and Who Will Take It*. In this book, I explore realignment theory. It argues that realignments are a poor concept that should be abandoned. As part of this analysis, I conducted a thorough analysis of demographic and political trends beginning in the 1920s and continuing through the modern times, noting the fluidity and fragility of the coalitions built by the major political parties and their candidates.

I also co-authored the 2014 Almanac of American Politics. The Almanac is considered the foundational text for understanding congressional districts and the representatives of those

districts, as well as the dynamics in play behind the elections. PBS's Judy Woodruff described the book as "the oxygen of the political world," while NBC's Chuck Todd noted that "Real political junkies get two Almanacs: one for the home and one for the office." My focus was researching the history of and writing descriptions for many of the newly-drawn districts, including tracing the history of how and why they were drawn the way that they were drawn. I was assigned Texas as one of my states. I have also authored a chapter in Larry Sabato's post-election compendium after every election dating back to 2012.

I have spoken on these subjects before audiences from across the political spectrum, including at the Heritage Foundation, the American Enterprise Institute, the CATO Institute, the Bipartisan Policy Center, and the Brookings Institution. In 2012, I was invited to Brussels to speak about American elections to the European External Action Service, which is the European Union's diplomatic corps. I was selected by the United States Embassy in Sweden to discuss the 2016 elections to a series of audiences there and was selected by the United States Embassy in Spain to fulfill a similar mission in 2018. I was invited to present by the United States Embassy in Italy, but was unable to do so because of my teaching schedule.

Education:

I am currently enrolled as a doctoral candidate in political science at The Ohio State University. I have completed all my coursework and have passed comprehensive examinations in both methods and American Politics. In pursuit of this degree, I have also earned a Master's Degree in Applied Statistics. My coursework for my Ph.D. and M.A.S. included, among other things, classes on G.I.S. systems, spatial statistics, issues in contemporary redistricting, machine learning, non-parametric hypothesis tests and probability theory.

In the winter of 2018, I taught American Politics and the Mass Media at Ohio Wesleyan University. I taught Introduction to American Politics at The Ohio State University for three semesters from Fall of 2018 to Fall of 2019, and again in Fall of 2021. I am slated to teach it again in Fall of 2022. In the Springs of 2020, 2021, and 2022, I taught Political Participation and Voting Behavior at The Ohio State University. This course spent several weeks covering all facets of redistricting: How maps are drawn, debates over what constitutes a fair map, measures of redistricting quality, and similar topics.

Prior Engagements as an Expert:

In 2021, I served as one of two special masters appointed by the Supreme Court of Virginia to redraw the districts that will elect the Commonwealth's representatives to the House of Delegates, state Senate, and U.S. Congress in the following decade. The Supreme Court of Virginia accepted those maps, which were praised by observers from across the political spectrum. "New Voting Maps, and a New Day, for Virginia," *The Washington Post* (Jan. 2, 2022), available at <https://www.washingtonpost.com/opinions/2022/01/02/virginia-redistricting-voting-maps-gerrymander/>; Henry Olsen, "Maryland Shows How to do Redistricting Wrong. Virginia Shows How to Do it Right," *The Washington Post* (Dec. 9, 2021), available at <https://www.washingtonpost.com/opinions/2021/12/09/maryland-virginia-redistricting/>; Richard Pildes, "Has VA Created a New Model for a Reasonably Non-Partisan Redistricting Process," *Election Law Blog* (Dec. 9, 2021), available at <https://electionlawblog.org/?p=126216>.

In 2019, I was appointed as the court's expert by the Supreme Court of Belize. In that case I was asked to identify international standards of democracy as they relate to malapportionment claims, to determine whether Belize's electoral divisions (similar to our congressional districts) conformed with those standards, and to draw alternative maps that would remedy any existing malapportionment.

I served as a Voting Rights Act expert to counsel for the Arizona Independent Redistricting Commission in 2021 and 2022.

I previously authored an expert report in *Dickson v. Rucho*, No. 11-CVS-16896 (N.C. Super Ct., Wake County), which involved North Carolina's 2012 General Assembly and Senate maps. Although I was not called to testify, it is my understanding that my expert report was accepted without objection.

I also authored an expert report in *Covington v. North Carolina*, Case 5 No. 1: 15-CV-00399 (M.D.N.C.), which involved almost identical challenges in a different forum. Due to what I understand to be a procedural quirk, where my largely identical report from *Dickson* had been inadvertently accepted by the plaintiffs into the record when they incorporated parts of the *Dickson* record into the case, I was not called to testify.

I authored two expert reports in *NAACP v. McCrory*, No. 1:13CV658 (M.D.N.C.), which involved challenges to multiple changes to North Carolina's voter laws. I was admitted as an expert

witness and testified at trial. My testimony discussed the “effect” prong of the Voting Rights Act claim. I did not examine the issues relating to intent.

I authored reports in *NAACP v. Husted*, No. 2:14-cv-404 (S.D. Ohio), and *Ohio Democratic Party v. Mated*, Case 15-cv-01802 (S.D. Ohio), which dealt with challenges to various Ohio voting laws. I was admitted and testified at trial in the latter case (the former case settled). The judge in the latter case ultimately refused to consider one opinion, where I used an internet map-drawing tool to show precinct locations in the state. Though no challenge to the accuracy of the data was raised, the judge believed I should have done more work to check that the data behind the application was accurate.

I served as a consulting expert in *Lee v. Virginia Board of Elections*, No. 3:15-cv-357 (E.D. Va. 2016), a voter identification case. Although I would not normally disclose consulting expert work, I was asked by defense counsel to sit in the courtroom during the case and review testimony. I would therefore consider my work de facto disclosed.

I filed an expert report in *Mecinas v. Hobbs*, No. CV-19-05547-PHX-DJH (D. Ariz. 2020). That case involved a challenge to Arizona's ballot order statute. Although the judge ultimately did not rule on a motion *in limine* in rendering her decision, I was allowed to testify at the hearing.

I authored two expert reports in *Feldman v. Arizona*, No. CV-16-1065-PHX-DLR (D. Ariz.). Plaintiffs in that case challenged an Arizona law prohibiting the collection of voted ballots by third parties that were not family members or caregivers and the practice of most of the state's counties to require voters to vote in their assigned precinct. My reports and testimony were admitted. Part of my trial testimony was struck in that case for reasons unrelated to the merits of the opinion; counsel for the state elicited it while I was on the witness stand and it was struck after Plaintiffs were not able to provide a rebuttal to the new evidence.

I authored an expert report in *Pascua Yaqui Tribe v. Rodriguez*, No. 4:20-CV-00432-TUC-JAS (D. Ariz.), which involved early voting. My expert report and testimony were admitted at trial.

I authored expert reports in *A. Philip Randolph Institute v. Smith*, No. 1 :18-cv-00357-TSB (S.D. Ohio), *Whitford v. Nichol*, No. 15-cv-421-bbc (W.D. Wisc.), and *Common Cause v. Rucho*, NO. 1:16-CV-1026-WO-JEP (M.D.N.C.), which were efficiency gap-based redistricting cases filed in Ohio, Wisconsin, and North Carolina.

I have only been excluded as an expert once, in *Fair Fight v. Raffensperger*. The judge concluded that I lacked sufficient credentials to testify as an expert in election administration.

I authored an expert report in the cases of *Ohio Organizing Collaborative, et al v. Ohio Redistricting Commission*, et al (No. 2021-1210); *League of Women Voters of Ohio, et al v. Ohio Redistricting Commission*, et al (No. 2021-1192); *Bria Bennett, et al v. Ohio Redistricting Commission*, et al (No. 2021-1 198). That case was decided on the written record.

I authored two expert reports in the consolidated cases of *NCLCV v. Hall* and *Harper v. Hall* (21 CVS 15426; 21 CVS 500085), two political/racial gerrymandering cases. My reports and testimony were admitted.

I authored two expert reports in the consolidated cases of *Montana Democratic Party v. Jacobson*, DV-56-2021-451 (Mont. Dist. Ct.). These cases involve the elimination of same-day registration, use of student identification to vote, and the restriction of ballot collection.

I authored an expert report on behalf of amicus curiae in the consolidated cases of *Carter v. Chapman* (No. 464 M.D. 2021) and *Gressman v. Chapman* (No. 465 M.D. 2021), which were redistricting cases before the Supreme Court of Pennsylvania.

I filed an expert report in *Harkenrider v. Hochul*, (No. E2022-0116CV), which is a partisan gerrymandering challenge to New York's enacted Congressional and state Senate maps. My reports and testimony were admitted.

I filed an expert report in *Szeliga v. Lamone*, Case No. C-02-CV-21-001816 (Md. Cir. Ct.) and *In the Matter of 2022 Legislative Redistricting of the State*, Misc. No. 25 (Md. Ct. App.), political gerrymandering cases in Maryland. My reports and testimony were admitted.

I filed an expert report in *Graham v. Adams*, (No. 22-CI-00047) (Ky. Cir. Ct.), a political gerrymandering case. I was admitted as an expert and allowed to testify as trial.

I filed an expert report in *NAACP v. McMaster*, (No. 3:21-cv-03302-JMC-T,11-1- RMG), which is a racial gerrymandering challenge to South Carolina's enacted state House maps.

II. Scope of Engagement

I have been retained by the Attorney General of Tennessee on behalf of defendants in the above matter, to evaluate Tennessee's maps, passed in light of the 2020 decennial census ("Enacted Plan" or "Enacted Map"). I have also been asked to respond to the "Report of Plaintiff's Expert Regarding Tennessee State House Reapportionment," dated Oct. 10, 2022. ("Cervas Report"). In the course of this comparison, I have also been asked to evaluate the districts that were used for

the previous decade, which I will refer to as the “Benchmark Plan” or “Benchmark Map.” I have been retained and am being compensated at a rate of \$450.00 per hour to provide my expert analysis.

III. Summary of Opinions

Based on the work performed as addressed in the following sections of the report, I hold to the following opinions to a reasonable degree of professional certainty:

- Dr. Cervas’s maps would have the state “play chicken” with the Voting Rights Act, by either dismantling a performing ability-to-elect district in an area with highly racialized voting, or by reducing the Democratic vote share in the area substantially, while drawing the Black Democratic incumbent out of the district.
- All five of Dr. Cervas’s maps create difficulties in the Madison County area. In particular, all maps except 13a fail to contain a district that is wholly within Madison County, notwithstanding the fact that Madison County has adequate population to do so.
- Dr. Cervas’s final maps – 13.5a and 13.5b – raise additional constitutional concerns by traversing a county boundary without justification.
- Dr. Cervas’s maps are also indifferent to core retention and incumbents, placing large numbers of incumbents in the same district as other incumbents, and dismantling existing districts.
- Because of this, Dr. Cervas has not demonstrated that he has created legal districts that could pass the legislature and would withstand VRA scrutiny.

IV. Data Relied Upon and Construction of Datasets

For purposes of this report, I reviewed and/or relied upon the following materials:

- Mapping data made available from Dr. Cervas in his report, via Dave's Redistricting App;
- Shapefiles for Tennessee political materials and demographic information at the block, precinct, and county level, downloaded from the Redistricting Data Hub, available at <https://redistrictingdatahub.org/>;
- The Supreme Court of Tennessee's three opinions in *State ex rel. Lockert v. Crowell* (631 S.W.2d 702 (1982); 656 S.W.2d 836 (1983); 1986 WL 1649 (1986));
- Other documents referenced in this report.

Third parties are eliminated from all election results, resulting in a calculation of two-party vote share. This is standard practice in the study of elections.

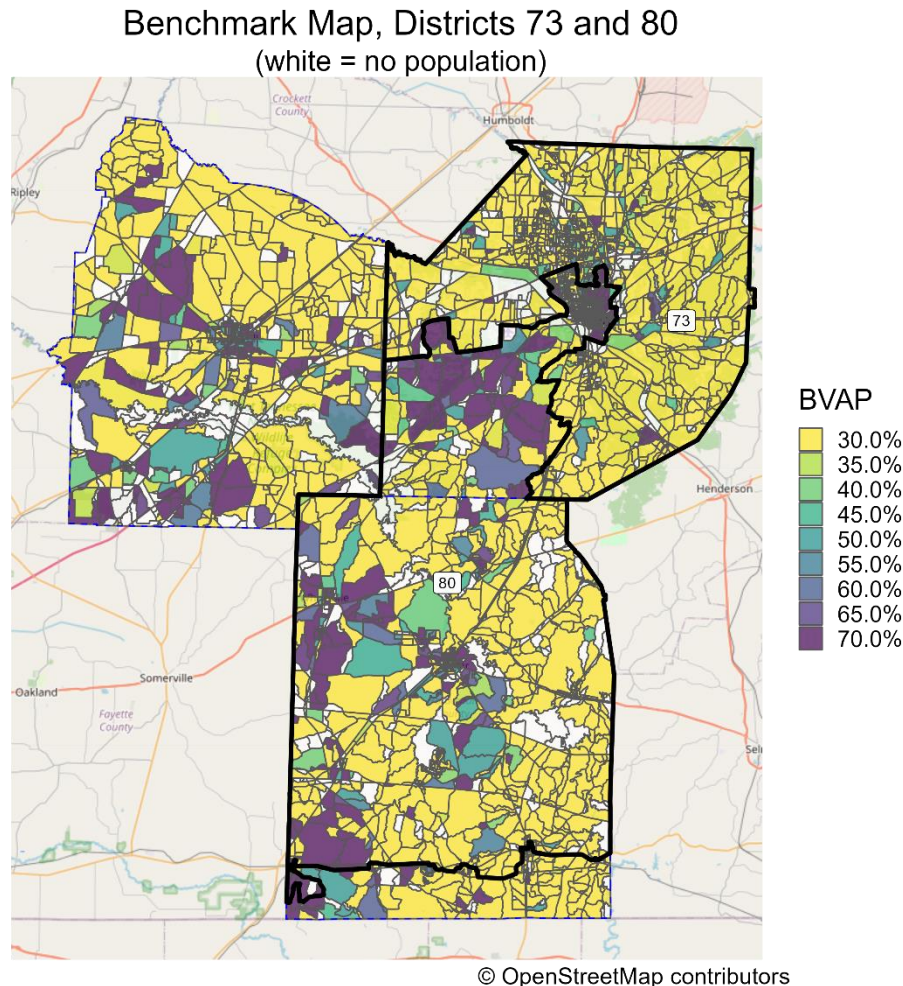
All shapefiles are projected using the WGS 84 projection.

V. Analysis of the Cervas Maps

a. Map 13a

Dr. Cervas' demonstration map 13a does, as the Cervas Report claims, decrease the number of county splits vis-à-vis the Enacted Plan. However, in doing so it increases the number of Republican seats and dismembers a performing ability-to-elect district.

Since 2000, Rep. Johnny Shaw of Bolivar has represented a rural West Tennessee District. Rep. Shaw is African-American. Under the Benchmark plan, Rep. Shaw represented a district that included much of Hardeman and Madison Counties. A substantial portion of the district's population resides in Jackson, but it extends southward to include Rep. Shaw's residence in Hardeman County.

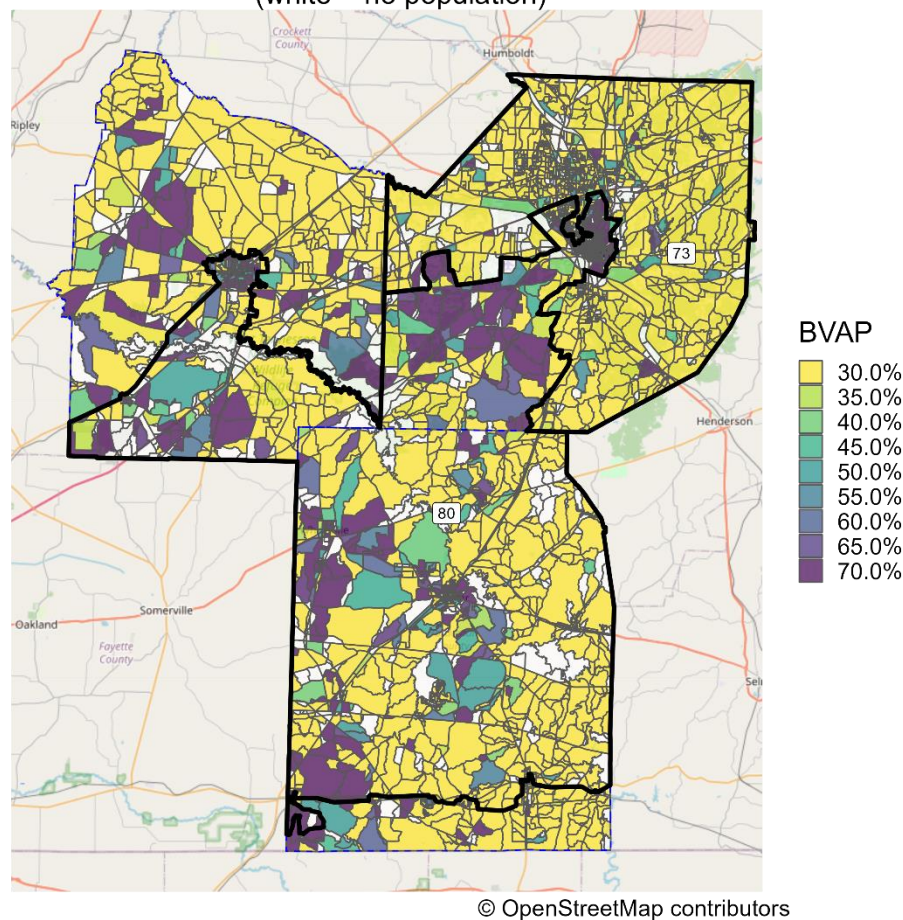


In the existing configuration, District 73 is contained entirely within Madison County, while District 80 takes in the bulk of the county plus a portion of Hardeman County. District 73 was heavily Republican, giving Donald Trump 65.8% of the vote in the last election, while

District 80 would favor Democrats, having gone 58.5% for Joe Biden. The latter district was also majority Black Voting Age population, with a BVAP of 54.4%.

District 80, however, was badly underpopulated by the end of the decade. Its population was just 56,918, 18.6% under the ideal population. Its population obviously had to be increased. Mapmakers did this by extending Shaw's district into neighboring Haywood County. The resulting district configuration is shown below:

Enacted Map, Districts 73 and 80
(white = no population)



This district maintains the core of Rep. Shaw's district, but extends it into Brownsville. District 73 is wholly contained within Madison County. The resulting district 80 has a BVAP of 57.5% and gave President Biden 58.8% of the vote in 2020. Based on my experience as an elections analyst, any Democrat running in this district would be strongly favored, except perhaps in the most heavily Republican years.

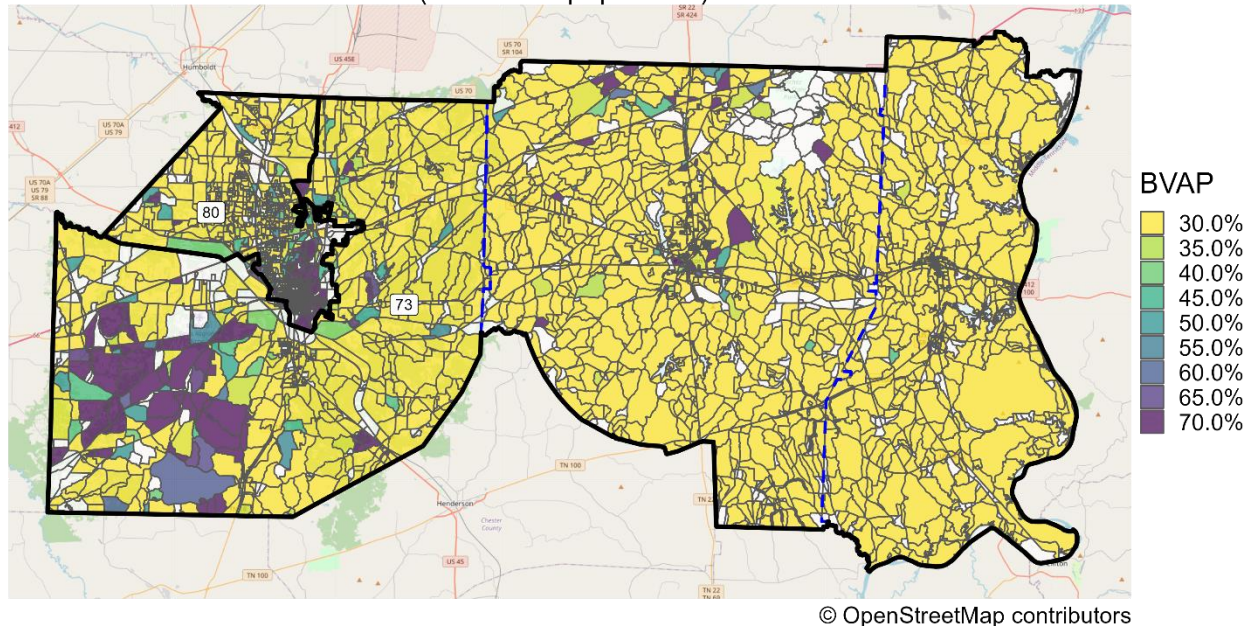
This is important, because there is significant racially polarized voting in the area contained in District 80 in the Benchmark Plan. I performed an ecological inference analysis on

the blocks in the area. Ecological inference is a technique that is often utilized to determine if racially polarized voting is present. As you can see from the estimates below, Black voters in the districts are estimated to give approximated 76% of their vote to Democratic candidates, while non-Hispanic White candidates give approximately 36.83% of the vote to Democrats. This indicates racially polarized voting is likely present.

EI Estimates, District 80				
Race	Party	Estimate	Lower 95%	Upper 95%
Black	Democratic	76.39%	75.29%	77.47%
Black	Republican	23.61%	22.53%	24.71%
NH White	Democratic	36.83%	35.37%	38.33%
NH White	Republican	63.17%	61.67%	64.63%
Other	Democratic	53.76%	44.49%	62.87%
Other	Republican	46.24%	37.13%	55.51%

Map 13a dismembers this district. District 80 is wholly contained within Madison County, but sees its BVAP drop to 40.9%. It also gave President Trump 51.5% of the vote, meaning that it would tend to favor Republicans in most neutral-to-favorable-Republican environments. District 73 is extended eastward; it is now 13.9% Black and gave Donald Trump almost 76% of the vote. Rep. Shaw is actually placed in the 94th District, which now consists of Hardeman and Fayette counties; it is 31.2% Black and gave Donald Trump 65.7% of the vote.

Cervas Map 13a, Districts 73 and 80
(white = no population)



In other words, Map 13a dismembers a functioning ability-to-elect district, converting it into a district where Republicans would be favored. Strangely, the map increases the number of Trump districts from 72 under the Benchmark Map and 74 under the Enacted Map to 75. In other words, in the service of reducing county splits, the Cervas map places the legislature on a collision course with the Voting Rights Act. It is difficult to see how this map would pass the legislature, or that it would pass muster under Tennessee Supreme Court precedent.

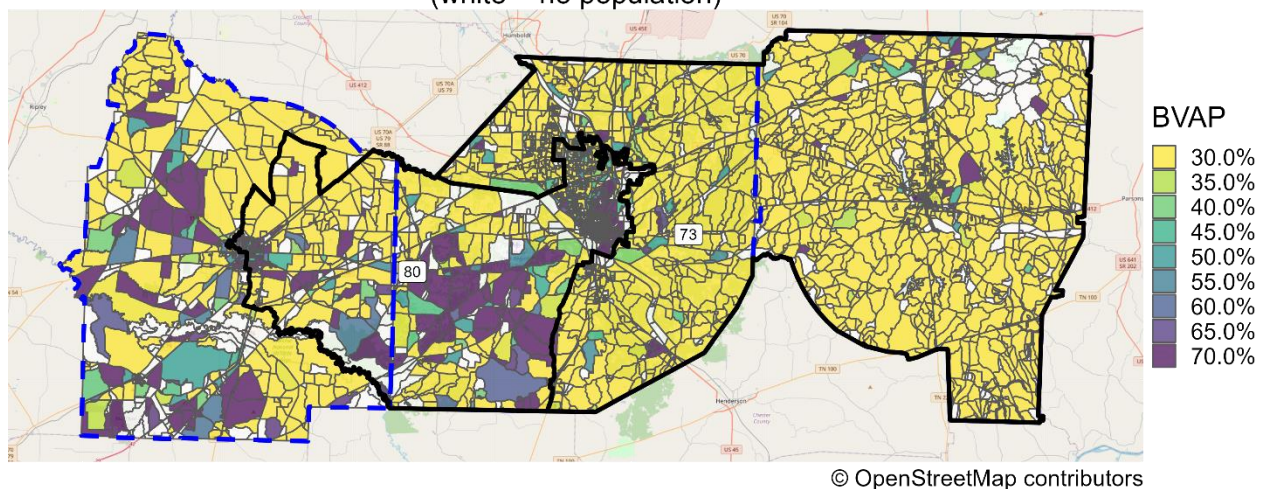
b. Map 13b

Seemingly aware of this issue, Dr. Cervas tries different configurations of the area that would maintain a functioning minority-majority district in the area. For example, Map 13b keeps district 80 at 50.9% BVAP, and places the Biden vote share at 58.5%. It is configured by combining Jackson with Brownsville.

There is, however, a problem with this configuration. As Dr. Cervas notes, Madison County has sufficient population to contain an entire district, plus a portion of another. *See*

Cervas Report, at 9. This configuration, however, does not. Instead, portions of both district 80 and district 73 are contained in this district, with district 73 also taking in Henderson County. This is not a minor change; placing district 73 wholly within Madison County would require placing an additional 28,000 Madison County residents in that district. This, in turn, would have second-order effects on district 80, which would then have third- and fourth-order effects on the remaining neighboring districts. Note too that Rep. Shaw's home county of Hardeman is still placed within the heavily Republican 94th.

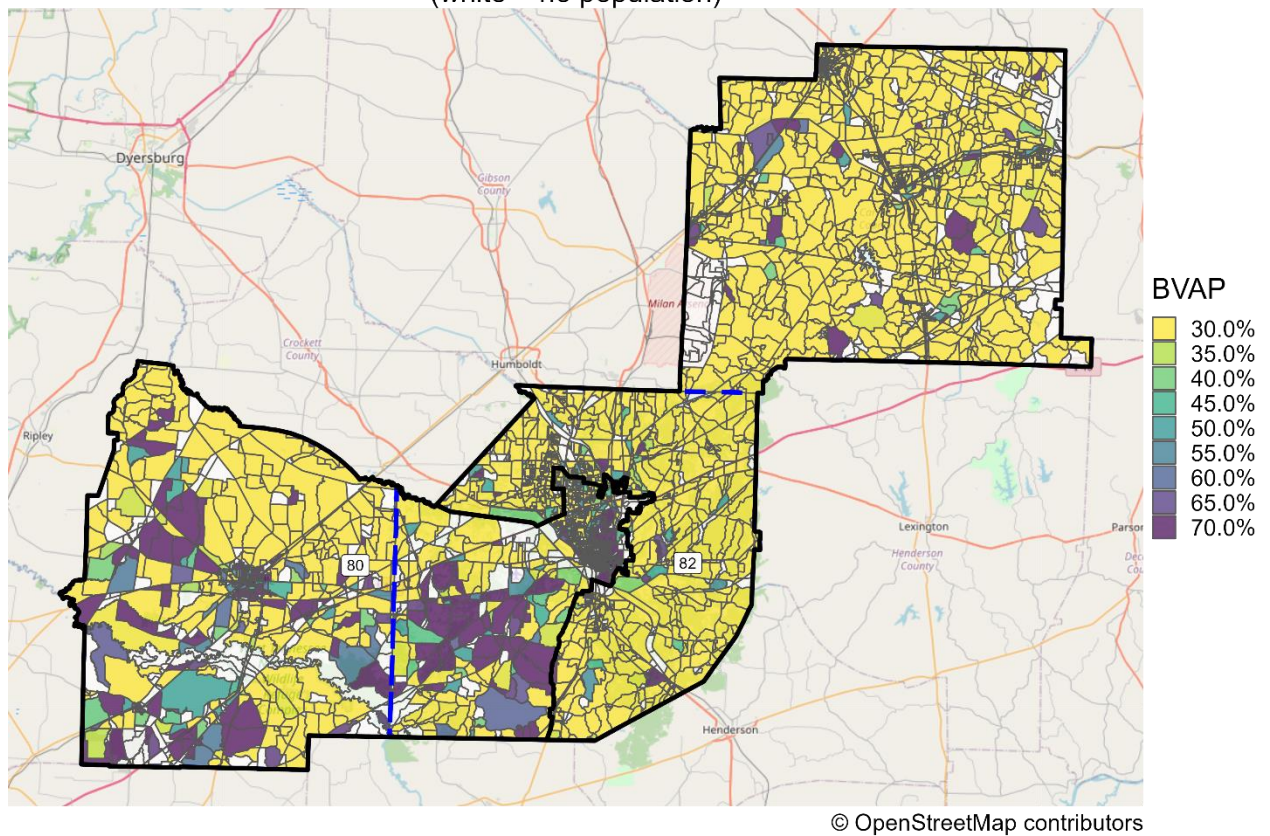
Cervas Map 13b, Districts 73 and 80
(white = no population)



c. Map 14a

The preceding maps had the virtue of keeping many of the legislature's choices in place by freezing the districts in Shelby, Rutherford, Davidson, Hamilton and Knox counties. In the remaining three maps, Dr. Cervas abandons this approach. In Map 14a, he increases the number of districts in Shelby County by one. But this again creates difficulties in the Jackson area.

Cervas Map 14a, Districts 73 and 80
(white = no population)

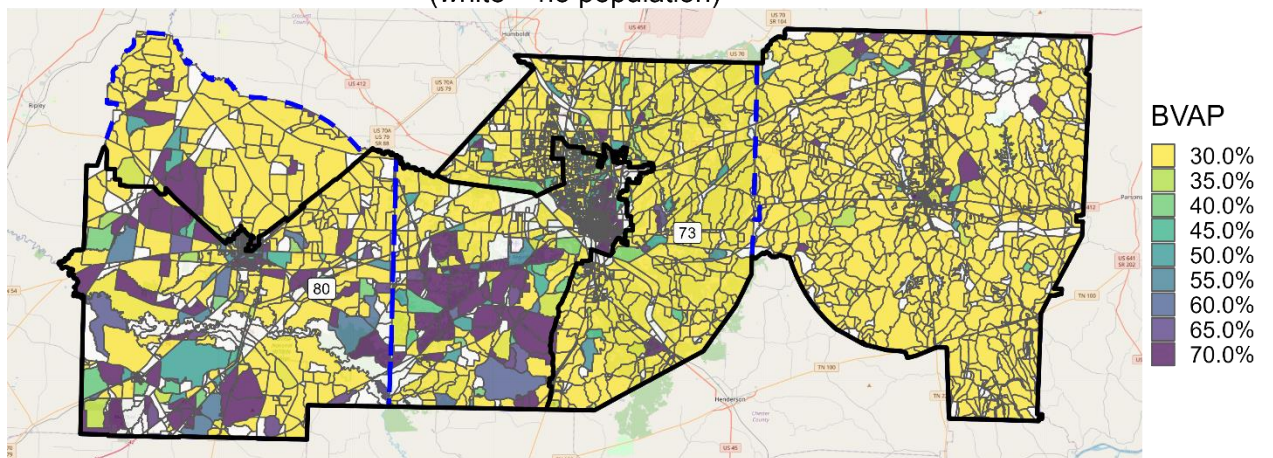


Once again, district 80 is maintained as a 50%+1 Black district where the Democrat would likely win. However, Madison County still does not contain a district wholly within its boundaries. Instead, district 82 is extended into Carroll County. In other words, although Madison County could contain a district wholly within its borders, it does not do so.

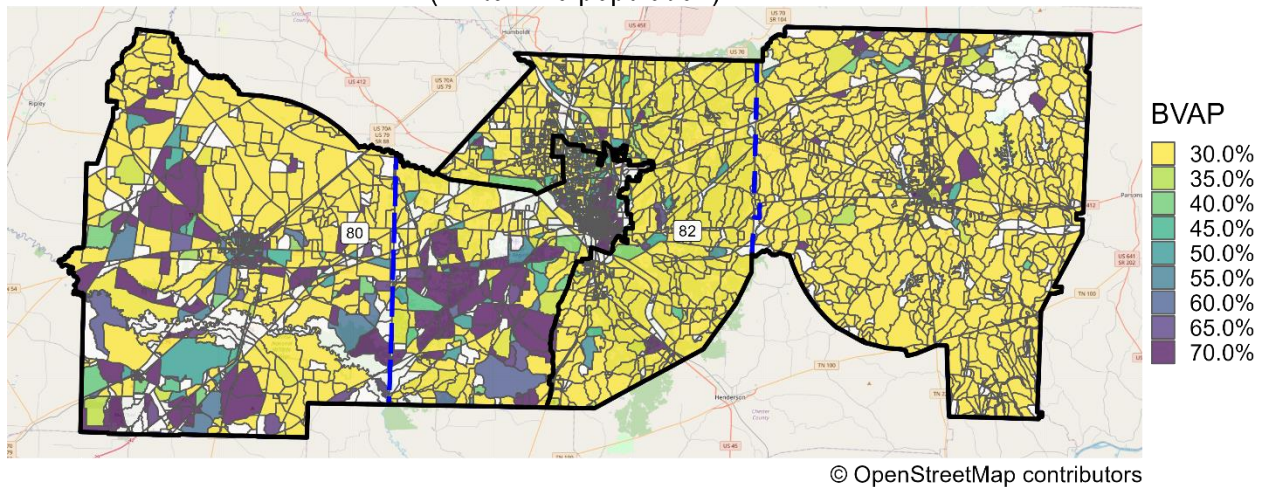
d. Maps 13.5a and 13.5b.

In maps 13.5a and 13.5b, Dr. Cervas allows the Shelby County boundary to be breached. Before turning to that, consider, once again the Madison County area. In both Cervas map 13.5a and 13.5b, Madison County does not contain an entire district, even though it has sufficient population to do so.

Cervas Map 13.5a, Districts 73 and 80
(white = no population)

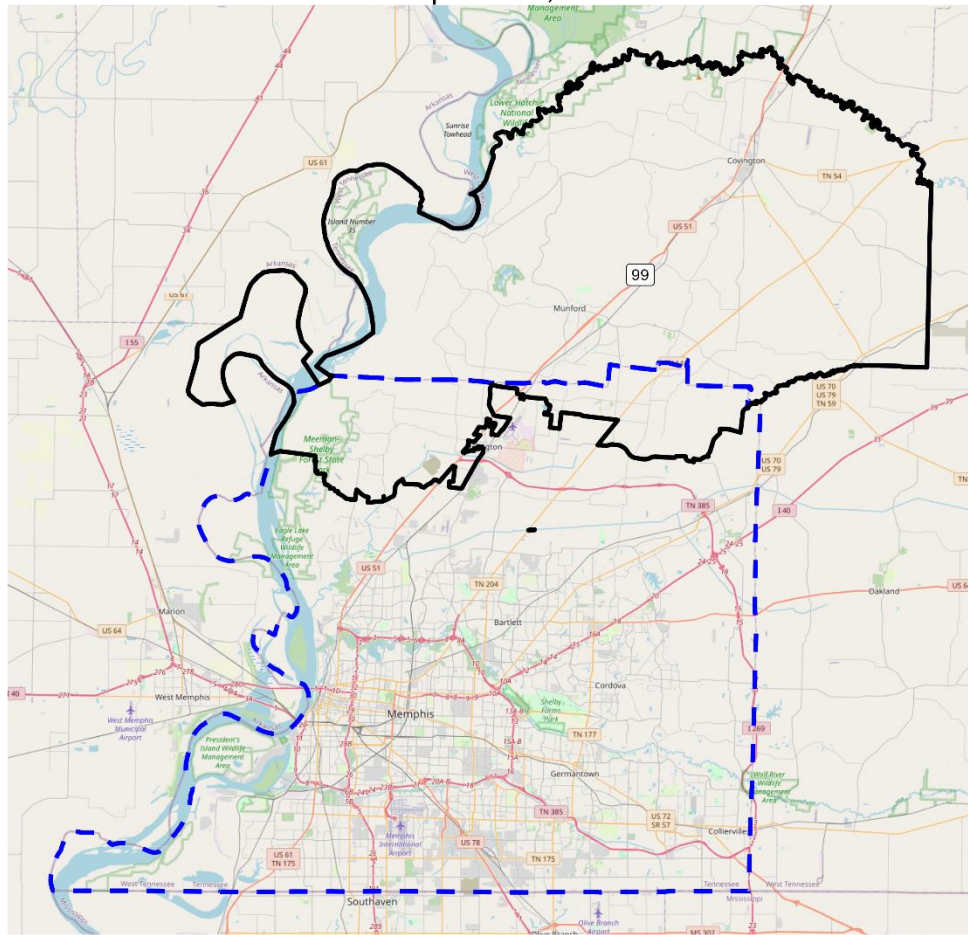


Cervas Map 13.5b, Districts 80 and 82
(white = no population)



Moreover, both maps cross the Shelby County boundary, without any justification offered. In map 13.5a, district 99 is based in Tipton County, but crosses into Shelby County, spitting the City of Millington in the process.

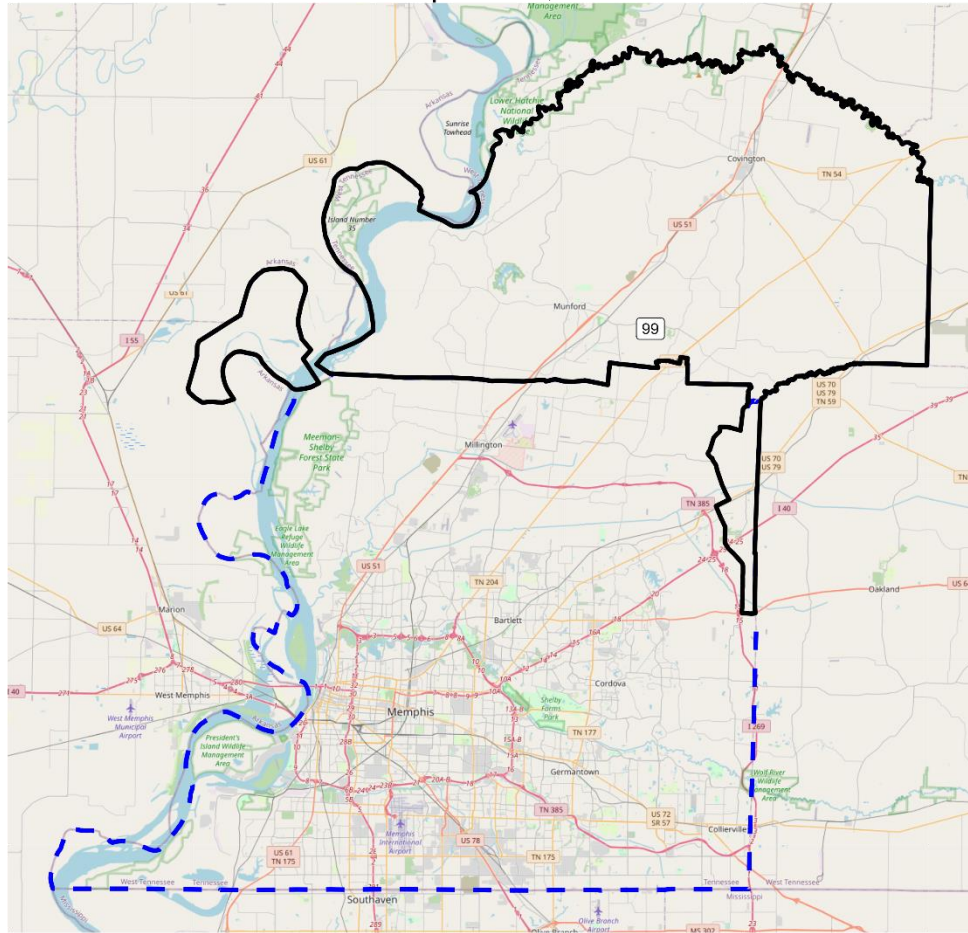
Cervas Map 13.5a, District 99



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In map 13.5b, district 99 is likewise based in Tipton County, but again crosses the Shelby County boundary. This time, it extends down into portions of the Town of Arlington.

Cervas Map 13.5b, District 99



© OpenStreetMap contributors

Regardless, Dr. Cervas demonstrates that none of these traversals are needed, because you can draw maps that do not traverse the Shelby County boundary, and include 13 or 14 districts wholly within Shelby County.

e. Dr. Cervas' maps do not account for legitimate districting considerations.

Finally, Dr. Cervas's analysis seemingly boils the analysis down to county splits, and elevates that consideration above all others. I have been asked by counsel to examine other traditional redistricting criteria that map drawers could consider. One such factor is core retention. Core retention is simply the percentages of voters from an old district who are kept together in their new district. To calculate this metric, I utilized the computer programming package R. The results are demonstrated in the following table:

Core Retention, Enacted Map & Cervas Maps						
Metric	Enacted	A13	B13	A14	A13.5	B13.5
Average	79.8%	71.4%	71.3%	68.7%	70.3%	67.3%
Min	37.5%	36.6%	36.6%	25.5%	32.4%	29.6%

As you can see, the Enacted Map retains a substantially higher share of district cores, on average, than the alternative maps presented. Moreover, it retains a substantially higher minimum core retention rate than other maps. In other words, Dr. Cervas’s maps disturb district populations at a much higher rate than the Enacted Plan. In addition, if anything, this understates the nature of the problem, because many of these maps retain substantial portions of the Enacted Map.

The maps also pay little heed to pairing incumbents. The following table reports the number of incumbents placed into districts with other incumbents. As you can see, the Enacted Map “double bunks” six incumbents with other incumbents. This compares with Dr. Cervas’s maps, which all pair large numbers of incumbents. Again, this understates the differences, because Dr. Cervas’s maps duplicate a large number of districts drawn in the Enacted Map.

# of Double Bunked Incumbents, Enacted Map & Cervas Maps					
Enacted	A13	B13	A14	A135	B135
6	16	16	24	20	21

f. The Enacted Map Balances Many Considerations Constitutionally

Against this background, it is easy to lose sight of the Enacted Map. But it should not be forgotten as it is the only constitutional map that balances the various considerations. There’s little dispute that it is sufficiently compact, using Dr. Cervas’s maps as comparators. It pairs very few incumbents together. It exhibits core retention at a much higher rate than the proposed alternative maps. Dr. Cervas does not claim it fails to comply with the Voting Rights Act.

Dr. Cervas’s only critique is that it is possible to eliminate some of the county splits. But the map still splits only 30 counties, among the 99 districts that are being drawn. It does so, unlike Dr. Cervas’s exemplars, without subordinating all other legitimate considerations to the goal of reducing splits. It does not force the legislature to play chicken with the VRA. In other words, it is the only clearly legal plan that could pass the legislature in the discussion.

VI. CONCLUSION

Dr. Cervas’s maps are all deficient. 13a raises serious legal questions by intentionally destroying a district that had been electing a Black candidate of choice, without any replacement.

The remainder of the maps fail to contain a single district wholly within Madison County. In addition, maps 13.5a and 13.5b cross the Shelby County boundary. It subordinates most other redistricting considerations in the service of redistricting county splits. The Enacted Plan, on the other hand, balances multiple considerations, while still keeping county splits low.

APPENDIX A