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IN THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF MICHIGAN SOUTHERN DIVISION

DONALD AGEE, JR., et al,
Plaintiffs,

VS.
JOCELYN BENSON, et al,
$\qquad$ / TRIAL

HELD BEFORE THE HONORABLE JANET I' NEFF, PAUL L MALONEY, and RAYMOND KETHLEDGE

Kalanazoo, Michigan November 2, 2023

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November 2, 2023

8:53 a.m.

PROCEEDINGS

THE CLERK: All rise, please. The United States
District Court for the Western District of Michigan is now in session. The Honorable Paul Maloney, the Honorable Raymond Kethledge, and the Honorable Janet Neff presiding.

All persons having business with this Court, draw near, give attention, and you shall be heard. God save these United States and this Honorable Court.

You may be seated.
JUDGE MALONEY: We are back on the record in 22-cv-272, Agee, et al.versus Benson, et al. We are ready to proceed. Counsel for the parties are present.

Mr. Bursch, you may call your next witness.

MT2 BURSCH: Thank you, Judge Maloney. We call Sean Trende to the stand.

JUDGE MALONEY: All right. Mr. Trende, please step forward and be sworn.

> SEAN TRENDE,
having been sworn by the Clerk at 8:54 a.m. testified as
follows:

THE CLERK: Please be seated. State your full name and spell your last name for the record, please.

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THE WITNESS: It's Sean, S-E-A-N, Patrick Trende, $T-R-E-N-D-E$.

DIRECT EXAMINATION

BY MR. BURSCH:
Q. Good morning, Mr. Trende.
A. Good morning.
Q. We'll jump right into it. Can you tell us about your education through 2001?
A. Yeah. I graduated with a bachelor's degree in history and political science from Yale Universjty in 1995. I graduated from Duke University with a JD in 2001 , and Duke offers a joint degree program where ifyou do some summer work you can get a master's degree. So at the same time that $I$ earned my JD, I also earned a master's degree in political science.
Q. Okay. And then what did you do after law school graduation?
A. I clerked for Chief Judge Tacha on the Tenth Circuit for a year. I worked at Kirkland \& Ellis in Washington, D.C. for three years, and then Hunton \& Williams in Richmond for another three years.
Q. And then after that?
A. After that $I$ retired from the legal profession and started writing for RealClearPolitics.
Q. And what's your title there?
A. I'm senior elections analyst.
Q. Okay. And if I use the term RCP to refer to RealClearPolitics, you'll know what I mean?
A. Yes.
Q. Okay. What is RCP?
A. So, RCP produces a website and has for the past 20 years that aggregates articles, political data, and produces original product as well.
Q. Okay. And you produced some of this original content?
A. That's right. I've been a writer -s I've written for them for 12 years now.
Q. Okay. About how many employes?
A. About 50 employees.
Q. And a physical office?
A. There's a physica office in Washington, D.C.
Q. Okay. Any other employers that you're currently affiliated with?
A. I'm a Enterprise Institute and have been for six years now.
Q. Okay. Now, we left off with your education in 2001 when you got the double degree. You've done some more since then?
A. Yeah. So in 2016 I enrolled in a PhD program at -- and I'm sorry I have to say it this way -- The Ohio State University. I -- when I got there, I looked at -- they looked at my stats work that I had done for my master's degree and suggested that rather than go through the political science

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statistics progression, $I$ go do some work in the statistics department. And so three years and 40 credit hours later I emerged with a master's degree in applied statistics, and I've also completed comprehensive exams in political science in both political methodology and American politics.
Q. Okay. And were Bayesian statistics part of that curriculum as well?
A. They were.

MR. BURSCH: Bayesian, B-A-Y-E-S-I-A-N.

BY MR. BURSCH:
Q. And can you explain what --

MR. BURSCH: Statistjcs.
THE WITNESS: Yes.
BY MR. BURSCH:
Q. Can you explain what that is?
A. So just like in legal constitutional thought there's kind of a split between living constitutionalists and originalists. The main split in statistics is between what we call frequentists, just the word frequent with $I-S-T-S$ on it, and Bayesians. And it is really just two different ways of looking at the uncertainty we're studying and how to approach it.
Q. Can you tell the panel about your PhD work?
A. Yes. So I have been working on my dissertation and completed it this summer. I defended my dissertation

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successfully a few weeks ago. So I will be receiving my PhD in mid December.
Q. Okay. So if we were in Europe, you would be Doctor Trende, but here in the states I can -- I have to wait until December 17 th?
A. We have to wait, yes.
Q. All right. I know that part of your work covered political methodology. Could you please describe what that is?
A. So political methodology is the application of statistics to political work. It's basically statistical analysis, what we call it in political science.
Q. Okay. What was the format of your dissertation?
A. So it's a three-paper dissertation. Rather than the typical book length dissertation there's an alternate form you can do where you write three papers and use that as your dissertaticn.
Q. And the first paper was?
A. The first paper was looking at Supreme Court voting patterns from 1900 to 1945 and the development of -- the advent of what we might call ideological voting on the court.
Q. Okay. And number two?
A. Number two was the application of a Bayesian technique for estimating spacial relationships to voting patterns in the United States.
Q. And number three?
A. And the third was incorporating communities of interest into redistricting simulations.
Q. Okay. Did you study a variety of simulation techniques for this?
A. I did.
Q. And did you write your own simulation codes?
A. I did.
Q. Have you taught college level courses?
A. Yes.
Q. Why don't you tell us about frose.
A. So, I taught mass meeting United States politics at Ohio Wesleyan University for asemester. I taught intro to American politics at GSU for four semesters. I have taught survey methodology one semester and I'll be teaching it again next semester. And I taught kind of my own class, voting participation and turnout, three times now.
Q. Did I hear you say that you're going to be teaching next semester after you get your PhD?
A. That's right. I've been asked to stay on as a lecturer.
Q. Okay. Tell me about the political participation and voting behavior class. Does it cover gerrymandering?
A. It does. The first half of that class looks in depth at the literature on why people choose to turn out and how they make their choice on how to vote. The second half of the
class looks at the interaction between those decisions and the law. So it looks at gerrymandering. It looks at racial gerrymandering, the Voting Rights Act, and then some of the -photo ID and those types of situations.
Q. All right. Have you ever been appointed by a Court as an expert?
A. Twice.
Q. Okay. What was the first?
A. The first $I$ was appointed by the Supreme Court of Belize as the Court's own expert in their version of Baker $v$ Carr, and then was also asked to draw three sets of remedial maps for the Court.
Q. All right. And the seciond?
A. The second time I ras appointed by the supreme court of Virginia along with Bernie Grofman to redraw the maps at the State House, state Senate, and congressional level for the state commonwealth of Virginia.
Q. Are those maps still in effect?
A. They are.
Q. Okay. Ever been appointed by a Redistricting Commission?
A. Yes. I served as one of the Voting Rights Act experts to counsel for the Arizona Independent Redistricting Commission this cycle.
Q. Okay. Now, aside from Court appointments as an expert, have you served as an expert witness for parties?
A. Yes, multiple times. I served -- I served -- in the gerrymandering context $I$ was involved in both the Wisconsin and the North Carolina cases that went to the Supreme Court. At the state level, I've done quite a bit of work, but the -I guess the biggest cases were the New York case this cycle that redrew those lines and then the Maryland case in state court as well that caused those lines to be redrawn.
Q. Have you ever been excluded from testimony?
A. I have.
Q. Tell the Court about that case.
A. I was excluded once in Georgat. It was the case that was brought by Stacey Abrams' poletical group challenging redistricting -- or challerging the voting registration practices in that state.
Q. Okay. So did inat involve redistricting?
A. It did notr.
Q. Okay.

MR. BURSCH: Your Honors, at this time I would like to tender Mr. Trende as an expert in the fields of political methodology with an emphasis on Bayesian methods, American politics, and an emphasis on voting behavior, redistricting, and the VRA.

## JUDGE MALONEY: Any objection?

MR. LEWIS: None from the Commission, Your Honor.
JUDGE MALONEY: Mr. Grill?

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MR. GRILL: None.
JUDGE MALONEY: Thank you.
JUDGE NEFF: Mr. Bursch, just to make sure I
understand where we are here, political methodology and what else?

MR. BURSCH: With an emphasis on Bayesian methods, American politics with an emphasize on voting behavior and districting, and the Voting Rights Act.

JUDGE NEFF: Bayesian, spell it.
MR. BURSCH: $B-A-Y-E-S-I-A-N$.
JUDGE NEFF: Thank you
JUDGE MALONEY: The witness may express his opinions pursuant to 702 .

MR. BURSCH: Thank you. And also pursuant to agreement with the commission's counsel, we tender the admission of Mr. Trende's initial report, which is contained in Plaintif£' Exhibit 20, and that also contains a supplemental report. We're not moving for the admission of that, although $I$ will talk about the first five pages of that.

It's pages 120 of Plaintiffs' Exhibit 20.
JUDGE MALONEY: Mr. Lewis.
MR. LEWIS: Your Honor, the parties did reach an agreement if experts testify, that their reports can come in evidence. So the Commission has no objection to the admission into evidence of the initial report. We just note that what
plaintiffs have marked for identification purposes as Plaintiffs' Exhibit 20 contains both the original expert report and the supplemental and rebuttal report dated September 26th. It sounds like counsel is going to remove the latter part of that document. And with that, we have no objection.

MR. BURSCH: Correct.
JUDGE KETHLEDGE: So the supplemental report is not in evidence? Is that where we are at, though? I mean, the excluded portions not --

MR. BURSCH: Correct. Teah. So the first five pages I think you allowed in, and we'll be talking about that --

JUDGE KETHLEDGE: Okay.
MR. BURSCH: later in the presentation. But, yes, the rest of it is out.

JUDGE KETHLEDGE: Okay. I just want to make clear that hadn'techanged based on stipulation.

MR. BURSCH: Correct. No.
JUDGE KETHLEDGE: Thank you.
MR. BURSCH: I don't believe they stipulated to the part you excluded.

JUDGE MALONEY: Pursuant to the stipulation, you may proceed.

MR. BURSCH: Okay. If we can dim the lights a little bit, we're going to be going through a bunch of slides here,
and these are all from that initial expert report.
JUDGE MALONEY: The exhibits are received.
(At 9:04 a.m. Exhibit No. 20 was admitted.)
BY MR. BURSCH:
Q. And, Mr. Trende, before we get to your opinions I would
like to walk through some background on the Hickory and Linden maps with you.

On page 12 of your report we have this figure 1. Can you explain what this is?
A. Yes. So, this is Michigan precznets, the 2020 version, and they're shaded by black voting age population or BVAP.
Q. And why is this important?
A. Well, it shows the ravial geography of the state of Michigan. You can seethat there are a couple clusters of black residents or the western side of the state, more prominent on the eastern side in Saginaw, Flint, Pontiac, and then the big cluster around the city of Detroit.
Q. Okay. In your report you gave some further perspective on this. Can you explain?
A. Yeah. Outside of those clusters in eastern Michigan, Saginaw, Flint, Pontiac, and Detroit, 96 percent of the precincts in Michigan are -- are less than 30 percent BVAP, so we -- when we're talking about racial redistricting in Michigan, we really are talking about those few areas of the state.
Q. Okay. And just so we have our acronyms clear, what does BVAP, $B-V-A-P$, mean?
A. It's black voting age population.
Q. And I noticed with your color chart here the BVAPs cut off at 30 percent and 70 percent. Why is that?
A. Well, it's because if you -- I found that if you let the -- two reasons. First, if you let the range run from zero to a hundred, gradations in the zero to 5 percent or 5 to 10 percent range will overwhelm the map and you can't see the gradations in the places you really care about, which are the places that are kind of towards the center.

A change from BVAP from zero to 10 percent for redistricting purposes doesh't mean nearly as much as a change from 40 percent to 50 percent, so this just emphasizes that range.
Q. Okay. We'll also be talking about compactness today. Can you talk a bit about compactness metrics?
A. Yeah. I reference three in the report. The first is -the three are the Reock score, the Polsby-Popper score, and what we've come to call the Magik score.
Q. Why don't you start with Reock.
A. So the Reock score asks you in effect how circular the district is. It's a -- thank you. So the idea is you take the district, and that came out a little oval, but you draw a circle.
Q. They were round.
A. Yeah, they were round. You draw a circle around the district, the smallest circle you can draw without cutting off part of the district and you look at the area of that circle. You compare it to the area of the district.

So, all the Reock score is is the percentage of that minimum boundary circle that the district would fill. And so you can see from these two examples here, you know, the kind of long distended Hickory District 5 only fills up 17.2 percent of that minimum bounding. circle.

The Hickory District 43, which I think just from the eye test most people say looks more compact. That fills up 54.6 percent of that minimum bounding circle. So the Reock store is kind of captring the intuition that the more box-like or circular a district is, the more likely people are to consider it compact.
Q. The second compactness method, the Polsby-Popper, tell us about that.
A. Yeah. So, the Polsby-Popper metric says, well, that's all well and good but you can imagine a circular district. It's actually -- it's more Pac-Man shaped. A wedge is taken out of it. That district would still have a pretty good Reock score, because the Pac-Man portion is going to fill in most of that district and yet there's a -- that circle, but there's a huge chunk missing from it.

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So what the Polsby-Popper district says that, instead of the minimum bounding circle, let's find a circle that has the same perimeter as the district. So as you increase the perimeter of the district, that circle is going to get bigger and bigger and bigger. And so the Polsby-Popper score measures arms and inlets, basically.

If you draw tentacles coming out of the district or take out a Pac-Man like wedge it's going to increase the perimeter of the district and make it harder for that district to fill the circle with the same perimeter.
Q. Okay. And so the scores here 1,527 versus 7,857, that's because of these cutouts?
A. Yeah. District 5 has lot of arms and inlets and so doesn't fill the circle as well, whereas the square district has no arms and infets and so it fills the circle, you know, 80 percent.
Q. Okay. And just to make it clear, we're not talking about hypotheticals here. This is the actual Hickory District 5 versus the benchmark District 35?
A. Yeah. So it's an illustration of how these metrics actually fill -- they aren't just numbers. They fill an intuition about what compactness is. The districts with fewer arms and inlets look more compact to us and the Polsby-Popper score captures that.
Q. The third method, the Magik score, and that's an acronym,

M-A-G-I-K, named after the creators' authors, can you just tell us about that score?
A. Yeah. It's a more recent metric by Aaron Kaufman, Gary King, and Mayya Komisarchik. And what they said was, well, you know, there's an opinion on maybe it should be circular, there's metrics for squareness, there's metrics for arms and inlets, but why should we let mathematicians make those decisions?

And so what they did was actually generated thousands of computer simulated districts and showed them to judges and attorneys and experts and lay peeple and asked them to give an opinion on how -- on whether the district was compact or not, which district -- you know, they would show comparisons and ask people which do you think is more compact.

And from inat, they used that as the data that they drew the -- that they ran the computer program on to determine what peoplewere looking for when they're compact and not. So it just kind of -- it incorporates real world persons and actual subject matter experts' ideas of compactness into the metric.
Q. Great. Now let's turn to the Hickory and Linden plans. You understand that Michigan drew new maps in 2021 for the state legislature?
A. That's right.
Q. And those maps are named?
A. The Hickory and the Linden plan.
Q. And Hickory is the House?
A. Hickory is the House, Linden is the Senate.
Q. Have you compared the BVAPs for the Hickory and Linden maps to the previous maps?
A. I did, and I called them -- even though this isn't a Section 5 case, I just referred to the previous map since they weren't named as the Benchmark plan, but just for point of reference. Obviously, it's not Section 5 .
Q. Okay. And what do you see -- what do you see here with this chart?
A. So you can see from 2010 from 2011 to 2020 there were a number of districts drawn this area that were majority black, and the Hickoryplan reduces that down to seven districts that were majority BVAP.

The either thing you notice is that between District 6 at 50.9 percent BVAP and District 29 at 34.3 percent BVAP on the Benchmark plan, there's only one district that falls in that range. That also is the range that a lot of the Hickory plan districts fall into, so in terms of determining whether districts would perform, what was required, there's not a lot of data from those districts directly for us to draw on or for the Commission to have drawn upon.
Q. So is it fair to say that based on the historical
statistics, the Commission is flying blind with respect to
districts drawn in the 35 to 40 percent range?
A. That's right.
Q. Okay. Now turning to page 14, figure 3 of your report, what are we looking at here?
A. So this is a zoom in of that first map we looked at. This
is Detroit precincts from 2020, and I removed the precinct boundaries because they clutter up the map, but the shapes that are filled in are precinct shapes for Detroit in 2020 by BVAP.
Q. Okay. What about the cities?
A. The city -- the blue dotted ines represent -- the county lines are fairly simple. It's an upside down $T$ between Oakland, Macomb, and Wayne Counties. The other dark blue lines are municipalities.
Q. So moving from this, same map but using dot density, can you explain what this shows?
A. So oneof the problems with the previous maps, we call those Choropleth maps, is that you can have a district that's a hundred percent BVAP but there's only one resident in it, and it will show the same as a district that as a thousand residents in it that's a hundred percent BVAP.

So to try to illustrate this, and it's really a belt and suspenders thing, you want to do -- you want to look at both, but to illustrate that, what this does is for every 50 residents in a precinct who are white it places down an orange

X, and for every 50 black residents of voting age it places down a blue dot. For every 50 Hispanic residents of voting age, it's a teal dot. And for every 50 Asian residents of voting age, it's a black dot.
Q. Great. Now let's talk about the map drawing process. This is figures 5 and 6 from page 17 of your report. What do these represent?
A. So this allows us to see how the districts actually changed with respect to the black population of the Detroit area, between the Benchmark plan and the Hickory plan.
Q. And what does this tell you?
A. So, you can see under the Benchmark plan, the Wayne County borders almost never crossed. The districts are centered on the black population. And then Hickory -- the Hickory plan takes a completely aifferent approach drawing these bacon-like districts that stretch out from the black population, combine them with almost entirely white portions of Macomb and Oakland Counties.
Q. So when you're referring to bacon, I guess like 5, 6, 7, 8, 4, 1, 10?
A. Yeah.
Q. 14, 13, 12, 11? Pretty much all of these?
A. Yeah. It's more the districts that are on the Wayne County, Oakland and Wayne County, Macomb boundary, but it also curves, to some extent, on the western portion into the south.
Q. Moving ahead to figure 7 and 8, what do these show?
A. So this is the same map, except instead of shading the precincts, the districts themselves are shaded. So you can see on the left, figure 8, you have some very dark blue, purple districts that are very high BVAPs. It illustrates what happened with these districts; again, showing them transforming to districts with relatively low BVAPs, particularly on that Wayne County, Macomb County boundary. Q. Okay. Moving to the Senate plan, Linden, we've got another one of these tables here. This is table 2, page 22 from your report. What do you infer from this?
A. So it's much the same story. You can see that there were five districts with BVAPs aioove 45 percent under the previous plan. Under the Linden plan there's no districts with BVAPs higher than 45 percent. And only one district -- if you look at those top six -- there's kind of a cluster between 43 percent and 52 -- 52 and a half percent in the Benchmark plan. There's only one District in the Linden plan that falls into that range and the rest are all drawn below that. Q. Okay. And so if I'm looking at, say, the top, you know, five or so, we can even go to six in the Linden plan, you're not going to find a lot of data over here for districts in that range, are you?
A. That's exactly right.
Q. So the Commission was flying just as blind with the Senate

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plan as they were with the House?
A. That's exactly right.
Q. And then these maps tell the same story for the Linden map?
A. That's right. This is the precincts in the Detroit area with the Linden and Benchmark plan overlaid. The Benchmark plan actually never traversed the Wayne County boundary, whereas the Linden plan traverses the Wayne and Macomb and Wayne and Oakland County boundary alone eight times total. Q. Now, as I'm looking at this I see, you know, six right here, eight right here, two rightChere, one right here, three right here. It's almost like a pinwheel. Is that fair?
A. That's right. It spl-ts up the black population around Detroit in a pinwheel population so that that population is split up or crackea between multiple districts in this version of the plan.
Q. Okay. Now we know the lay of the land. Let's get into the Fourteenth Amendment qualitative analysis. As you know, plaintiffs have brought claims under the Voting Rights Act and the Fourteenth Amendment, as well as the VRA; is that correct?
A. That's correct.
Q. And you teach those in your classes?
A. I do.
Q. So you'll know what I'm talking about here?
A. Yes.

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Q. Great. Let's talk about the Fourteenth Amendment claim. What are your opinions?
A. It's -- that these districts, both the Hickory and the Linden plan, were drawn with race as the predominate factor. Q. What approaches did you use to come to these conclusions?
A. I used both a qualitative approach and a quantitative approach.

MR. BURSCH: Let's start with Hickory, the House plan. And this is figure 15, page 15 of your report. There we go, figure 15.

BY MR. BURSCH:
Q. Why don't we start with this. What do you see here?
A. So what you can see is that under this map the black population of Detroit arid then around Southfield on southern Oakland County is split up between -- depends how we count District 27, but it's split up between either 10 or -- I'm sorry -- 11 or maybe 12 state legislative districts.
Q. Okay. Moving to 16 , this is the Hickory plan, that changes dramatically, doesn't it?
A. That's right. It depends how you want to count District 19, but $I$ count -- if you count 19 as one of the districts, splitting that population up, there's 18 districts that -- or -- yeah, 18 districts that this population is split between. If you want to call it pinwheel or bacon-shaped districts or spaghetti-shaped districts, these
districts all function to take the black population of Detroit, crack it between multiple districts, and then pair that population with almost exclusively white portions of Oakland and Macomb County.
Q. Okay. Now, bacon-mandering is the term that you used in your report. What does that mean?
A. So among map drawers that is a term that is frequently used for drawing these bacon-strip districts that connect portions of a city with outlying areas.
Q. Now, Chair Szetela, when she was testifying yesterday, said that it looked like strings of spaghetti.

For a layperson, is that an accurate characterization?
A. Strings of spaghetri, spokes on a wheel. There's lots of different ways you can describe this, but they all tell the same story.
Q. Okay. And is bacon-mandering sometimes -- is it a sign for gerrymandering?
A. It can be, because, you know, if you're drawing neutral, you just tend to draw more compact districts. To draw -there has to be a reason you draw a district that looks like this, and as we'll see, race is the story here.
Q. Well, yeah. What do you notice with respect to race?
A. So, you can see that those districts, like $I$ said, in the Detroit area all take in heavily black populations, and

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then in -- where they can -- where they have to they actually go out of their way to avoid black populations in Oakland, Macomb Counties. So that fifth district goes up and it skirts the black population of Southfield, then it actually goes into Southfield where it takes that west turn. That's actually in the city of Southfield but avoiding the heavily black population before proceeding out to some more heavily white areas around Birmingham.
Q. So it goes into Southfield but avoids the black precincts in Southfield?
A. That's correct.
Q. Okay. As a factual matter, how many municipalities does this district go through in Oakland County?
A. In Oakland County alone it goes through seven municipalities.
Q. Seven? Is that typical?
A. $\quad \mathrm{No}$.
Q. Okay. Tell us about Districts 7 and 8, which are right next door here.
A. So you can see they -- they go deeper into Wayne County, although District 8 carefully avoids the white population in Wayne County that's used to dilute the black population in District 9, and then both those districts extend into some of the whitest portions of Oakland County to offset that black population.
Q. Okay. So five, six, seven, and eight, you know, they're all roughly similar bacon strips, they're lying next to each other, they have this same gerrymandering feature to them.

Would data, election data, from one be probative with respect to the others?
A. That's right. It's all part of the same approach, and if I'm wanting to know -- first off, my understanding from Supreme Court law is that you can look at statewide or regional areas, although you want to focus on specific districts. And just in general, if I. want to know what the Commission's thinking, it's usefu to look at the whole, what they were doing consistently $1 n$ this region.
Q. Okay. Why don't you dell us about 10 .
A. So 10 is the same. It starts out by the Detroit River in Detroit and then wanders up through overwhelmingly white cities, the Grosse Pointes.
Q. Okay. How about 11 through 14?
A. So, 11 through 14, they all come down -- 14 in particular comes down right to the boundaries of the white population in Detroit, which, again, is used for District 9. They're a little fatter because they're taking up more of the Wayne -they don't go deep into Wayne County so they're wider, but they have the same feature, then, of going up into Macomb County and taking in heavily white precincts there.
Q. Okay. How about District 1?
A. District 1 is the same scope -- spoke feature where southwestern Wayne County is clustered together and then you go through -- actually, that's a Hispanic portion of Wayne County down into some white areas.
Q. Okay. And, again, just to make the point like we did with five, six, seven, and eight, because these are all coming out of the same core, you know, four and one would be probative of some of these other districts but also of each other and same with 11 through 14?
A. It's -- yeah, it's the same approach to the black population of Detroit.
Q. Okay. So what's your overall takeaway from this?
A. That these bizarrely shaped districts can really only be accounted for by race
Q. Okay. Now, this may skip ahead a little bit and we're going to have to come back, but for Gingles prong one you did draw a samole map, right?
A. I did.
Q. And you were trying to find 50 percent plus one districts?
A. That's right.
Q. And were you able to draw 16 or 17 black majority districts?
A. I was not. I drew 10, and I thought if I had played a little fast and loose $I$ might have been able to do 11 but not 16 or 17.
Q. Okay. So what does that disparity tell you?
A. That these were not -- these are -- you know, the VRA would demand 10 or 11 districts drawn with race consciousness, not 16 or 17 .
Q. Okay. And you did a dot -- dot density map here. Can you tell us about this?
A. Yeah. So this is to allow the Court to view this plan with individuals, not just the filled in districts. And so you can see it's the exact same approach looking at where individuals are located as well as the precincts as a whole. Q. Okay. Now, Mr. Trende, you'fe heard the Defendant Commission say that this is all driven by politics, not race?
A. That's right.
Q. Have you responded to this suggestion qualitatively?
A. I have.
Q. This is figure 19, page 48 of your report. Why don't you tell us what it shows?
A. So, that really is a spurious claim, and the way you can tell it's a spurious claim is by looking at the precincts contained in these districts by politics. And as it turns out, with the exception of the Grosse Pointes and some of the precincts in St. Clair Shores, these are all Democratic precincts. It didn't matter how you drew these districts. You were not going to draw a Republican district here because there just aren't enough precincts to draw a Republican
district. You could draw boxes and you would produce Democratic districts throughout, particularly in Oakland County where they drew the most egregious district lines. These are just all almost -- almost all overwhelmingly Democratic districts that did not demand these bizarre shapes. Q. And if we look back before 2020?
A. If you go before 2020, it doesn't matter because district votes are so heavily correlated.
Q. Okay. Yesterday Chair Szetela testified that the partisanship measure in their software wasn't even turned on until the maps had basically been racially gerrymandered. Is that consistent with what you're seeing here?
A. Yeah. You'll see that. more with respect to the simulations, but for this, I mean, there's just -- even if the politics had been turned on, it wouldn't matter because you would always be drawing Democratic districts no matter what you did.
Q. Okay. What other factors did you look at?
A. So I looked at the compactness of the districts.
Q. Continuity -- continuity splits --
A. Continuity -- yeah. The traditional redistricting criteria, county splits, contiguity. Obviously all these districts are contiguous -- yeah.
Q. Okay. What did you see with respect to compactness?
A. So I looked at the -- looked to see if there was a
correlation between BVAP and compactness, and there was on a statewide level between all three metrics and the BVAP of a district. And in the Detroit area there was a correlation between the Reock score for the district and the BVAP for the district, meaning that as the BVAP increased, the districts became less compact.
Q. Okay. So just so that I'm clear, lower BVAPs, more compact; higher BVAPs, less compact?
A. Correct.
Q. And what does that suggest?
A. Well, again, it suggests thaf there was some particular attention being paid to how these districts were drawn that's different than what was being paid to districts where there weren't heavy black populations.
Q. How about county splits?
A. Yeah. So the county splits, as we -- as I noted here, you have the Macomb boundary -- the Macomb/Wayne boundary being traversed four times. I'm not sure if 10 traverses it or not. It would be five. I don't know if the -- the Grosse Pointe city there goes -- has a little finger going up there. So to make the county -- the city intact you would have to traverse there. And then the Wayne County boundary with Oakland is traversed four times.
Q. Okay. Let's turn to the Linden plan. This is the benchmark?
A. That's right.
Q. Okay. Tell us about it.
A. So, you can see in the Benchmark plan the black population of Detroit and Oakland County is split between six districts, Districts 1 through 5 and then 11 in southern Oakland County. Q. And so this is figure 42. Moving to figure 44, this is the Linden plan, and how have things changed?
Why don't we start with District 1?
A. So, District 1 takes the black population of south Detroit, goes through a heavily Hisparic area, and then into some heavily white areas south of Detroit.
Q. Okay. And three?
A. Three, it goes from the Detroit River all the way to 8 Mile Road and then rosses over into both Oakland and Macomb Counties --
Q. So this is the county line right here?
A. Yeah. <That's -- that's the -- yeah. And goes into heavily white areas to reduce that BVAP.
Q. Okay. And District 6?
A. District 6 takes western Detroit, the black population there, merges it with some heavily white areas of Wayne County before going up into -- I think that's Farmington Hills.
Q. And District 8?
A. District 8 takes just east -- just west of downtown Detroit, the black population there, merges it almost up to

Pontiac through some heavily white spots, again, you know, avoiding Southfield and the black population.
Q. I don't want to get sidetracked by this, but how would you compare the wealth disparity between these black residents and these white residents?
A. It's some of the poorest areas of Detroit matched up with some of the wealthiest suburbs of Detroit.
Q. Is that a community of interest?
A. I don't think so.
Q. Okay. How about District 10?
A. District 10 , more of the same. You can see it takes the black population of eastern Detroit right up to the Grosse Pointes, you know, carefuly skirts that boundary and then goes up well into Macomb County into almost exclusively white precincts.
Q. Okay. And we've seen that same dip with 11?
A. That'sright. Now, 11 comes down, takes in -- soaks in some of that black population and makes it so that none of the black population in -- is it Eastpoint -- goes into either 10 or 12, and then just goes way up into Macomb County through almost exclusively white precincts.
Q. Okay. And just to emphasize the point we made with the House map, because these are all drawing from the same core of voters in the center in these pinwheel-like shapes, you know, we'd expect that if we looked at voting records in six, eight,

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three, one, that those would all be mutually reenforcing?
A. That's right.
Q. Okay. And you did a dot density map for this as well?
A. That's right. And so instead of splitting the black population up between six districts, now it's cracked between nine.
Q. Okay. And how would you compare the benchmark in the Linden in terms of county splits?
A. Well, the Benchmark plan doesn't crpss the Wayne County boundary at all. The Linden plan crosses the Wayne County boundary with Oakland and Macomb Counties alone eight times. Q. Okay. And how about the vay the black population is kept together?
A. Like I said, it's now split up between nine districts instead of six.
Q. All right You also drew Senate districts?
A. Yes.
Q. And were you able to draw nine majority black districts?
A. No. No. To draw -- to keep the districts reasonably compact, getting to five, I'm fairly confident, is the outer boundary of what you can do.
Q. Okay. Can you explain this map by partisanship?
A. No. No. It's roughly the same story as we just saw.
Q. Well, in fact, we've got figure 46 here, and it's all purple and dark blue again?
A. Yeah. It is the exact same story. These are -- with the exception of the Grosse Points, St. Clair Shores, which are now put in District 12. District 11 gets out to some Republican areas but districts -- doesn't matter how you draw Districts $10,3,8,6,1,2$, there aren't even Republican precincts there, so you can draw box districts there and you are not going to draw a Republican district.
Q. Has this always been the case?
A. If you go back to the 2000s it's prpbably a different story, because Wayne County was much more Republican then. One of the big national stories of the last decade is wealth suburbs drifting towards the Democratic party, sharply in 2016. So maybe back then, out today, no, no. Not for most of the last decade has ary of this territory been Republican.
Q. Okay. I want< so all the math majors in the room sit up and pay attention.

Can you explain this a bit more?
A. So for the quantitative analysis I employed computer simulations, which is kind of the emerging way of doing this type of analysis with quantitative metrics.
Q. And did you learn that analysis for this litigation?
A. I did not. I learned this for purposes of my dissertation.
Q. Did you write it?
A. I didn't write the code, no. Doctor Imai at Harvard wrote
it.
Q. Okay. Has it been peer reviewed?
A. $I-M-A-I$.

It has been peer reviewed.
Q. Tell the Court about the simulation analysis.
A. So what the simulation analysis does -- you know, one of the big problems we have is we don't know the counter factual, right? We can speculate what these districts would look like if you're drawing without respect to race or without respect to politics, but we don't really know; and there's so many different maps you can possibly draw. I can hand draw a couple of example maps, but there are literally more maps that can be drawn in this area than there are atoms in the earth.

And so the way to get around that is basically to conduct a poll of maps. And so what these computer simulations do is, you withhold information from them, so you don't give them any racial data, you don't give them any political data so that you know that they're not drawing with respect to race or politics.

And then you tell the computer map, okay, within certain constraints draw a bunch of maps for me, and you can say I want these districts to be compact, I want these districts to minimize the number of times that it crosses county boundaries. You can set all -- there's a variety of restrictions you can place upon them.

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So you have them draw thousands of maps in the same way that you might call thousands of people for a poll, because it's not feasible to talk to all 300 million Americans to get Donald Trump's -- Joe Biden's job approval. And then you use that as the basis for evaluating the districts. Q. And just so I'm clear, those thousands of map, that's called the ensemble?
A. We call that the ensemble, that's right.
Q. So when you refer to an ensemble, ypu're talking about the set of computer created maps?
A. That's correct.
Q. All right. What is the gal of simulation analysis?
A. It's to create that counterfactual. And then after the maps are drawn -- what the computer is doing is generating lists of precincts that go into each district.

Now, I haven't given the computer the political or the racial data, but I know what the political and racial composition of those precincts are. So after the 50,000 maps are drawn, I say, okay, here's the political data, here's the racial data, match it to the districts, add it up and tell me for these districts that were drawn without respect to race or politics, what was their racial composition, what was their political composition.

And the idea is if the -- you know, we have 50,000 options. If the Commission were really not drawing with a
heavy reliance on race it should look like those randomly generated maps. If it looks nothing like that, well, you say race was probably playing a role.

And the same thing with politics. If what the Commission came up with looks like this ensemble, you say, okay. The Commission probably wasn't relying heavily on politics, because if it was, it would have deviated from the politics blind maps.

JUDGE KETHLEDGE: You're doing these separately?

THE WITNESS: You draw them. out -- you have the computer draw them first and then it feeds the political data in.

JUDGE KETHLEDGE: You're doing separate simulations just taking out race, गust taking out politics?

THE WITNESS: They were drawn completely without respect to race and politics.

JTDGE KETHLEDGE: At the same time?
THE WITNESS: At the same time, that's right. And then you feed both sets of data into the same ensemble and compare it.

JUDGE KETHLEDGE: I don't mean to highjack. I just wanted to clarify.

MR. BURSCH: Any questions, we welcome those. We're going to be running through a number of these figures, and I think that will help elucidate once you see these pictures.

BY MR. BURSCH:
Q. Mr. Trende, you used one word that I'm not familiar with; counterfactual. What's that?
A. So the counterfactual is what would happen without the intervention. If -- and here it's what we don't get to see. It's the universe where a Commission draws without respect to maps or a universe where we know the Commission drew without respect to politics. Because this isn't -- well, I'm going to make a Rick and Morty reference, but because it's -- we don't get to see that outside universe, we Rave to try to create it through other means. And the ensemble is one way of doing that, just taking a poll of randomly simulated districts and seeing if the map that was drawn resembles these districts. Q. And if a district rould show up, say, at the 25 th or 75 th percentile of the ensemble, how do we know when that's enough to show gerrymandering?
A. So what's nice about this approach is that it helps us answer the question of how much gerrymandering is too much, which is a question that's bedeviled courts. Because we're taking a poll and we have solid math behind this metric suggesting it is creating a representative sample of maps, we can use traditional techniques of estimation, so the typical cutoff in political science is 5 percent. If it's more extreme than 5 percent, you reject the possibility that it's all random chance.

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So, if we see these maps show up as more extreme than
5 percent of the maps that are drawn, you're sufficiently certain within the guidelines of the political science discipline to say, Yes, this isn't random chance, there really is something at work here.
Q. How do communities of interest fit into it analysis?
A. So, communities of interest are tough, particularly because they can so often -- it's widely understood in political science and the literature that they can easily be used as pretexts. But one way you car program them in and one way that's been suggested in the political science literature is by using municipal boundaries and county lines. Because those -- these municipalities and counties often reflect communities, that is one way to get at them.

Another way to get at them and what I've done here is if the -- if the Commission chose to keep a township or municipality intact, I ran a set of simulations that would also keep those municipalities and townships intact in a hundred percent of the plans. If the Commission split one, the ensembles were free to split them or not split them. But because communities are considered in political science one pure expression of -- of communities of interest, I employed that approach.
Q. Okay. Last prepatory question and then we'll get into the meat of this. Have courts relied on simulations for a racial
gerrymandering analysis?
A. Yeah. The South Carolina case that's before the Supreme Court has used it. They've been used widely in political gerrymandering, but the South Carolina case before the Supreme Court employed them in the racial gerrymandering. And there's a few other cases percolating through the lower courts that used them as well.
Q. Now I would like to ask you about the simulations that you ran. First, where did you run them?
A. I ran them on -- so the three kind of counties we've been talking consistently about, the precincts that are involved in -- the precincts that are contained in Wayne County, Oakland County and Macomb County. And then also the adjacent counties, the districts that are contained there.

And I use the districts -- I used the precincts that are in the districts that the Commission drew, so we are only -- first it's guaranteed to create whole districts that way. If $I$ only ran it in Wayne, Macomb, and Oakland County there might be, you know -- the math might not work out to create whole districts.

So I followed the precinct boundary -- the district boundaries that the Commission drew, pulled all those precincts out and ran the simulations on the appropriate number of districts.
Q. Why not do a statewide analysis?
A. Well, two reasons. The first is that the supreme Court does want us to focus in on the districts that are challenged in this particular area, so it keeps us from going too far afield. The other reason is that if you do see something off, running a statewide analysis, you have no idea whether that's occurring in Grand Rapids or in Lansing or in Detroit. So by keeping it to the metro Detroit area we know any deviations that we see are occurring in the Detroit area.
Q. Okay. So if $I$ think about this like Goldilocks, if you did the entire state, that was too hot, if you did just Wayne, Oakland and Macomb County, that was too cold, but you picked the place in the middle, that just right?
A. Yeah. You don't want to do just Wayne, Oakland, and Macomb districts becalse there are second and third order decisions the Commission may make. So you kind of let the -I use the term you let the simulations breathe a little bit by saying, Okay, you didn't necessarily have to draw it specifically with those boundaries in Wayne and Macomb, maybe you make the districts a little shorter in western Oakland County and push a little further into Macomb County. You're basically limiting the simulations in this region less by taking it to the surrounding counties as well.
Q. Let's start with your analysis of the Hickory map first; 50,000 maps under a variety of conditions. So tell us about the conditions.
A. So, the first set of simulations just required the districts to be contiguous on compact. The second set of simulations say, Okay. Let's keep them contiguous and compact but also minimize the number of county splits that are involved. And then the third set of simulations -- excuse me -- does all that, plus it has the communities of interest that -- constraint that I talked about where if the Commission chose not to split a city or a township or a municipality, the simulations don't split them either.
Q. Now, the Commission's definitions of communities of interest has been a moving target, so how did you decide what list to use?
A. Like I said, I just 700 ked at the --I had the computer look at the Hickory ara Linden maps and it was able to identify communities that were kept intact as well as communities that were split -- or cities or municipalities or townships that were intact or split and those were frozen into place. The precincts were melded together basically so those municipalities couldn't be split.
Q. Now, you present this data in a number of different formats, so why don't you tell us about figure 27 from page 67 of your report.
A. Okay. So, this is a dot plot, and it takes some thinking to get, but once you get the intuition behind how it works, it's pretty straightforward. So, the idea is you have your

50,000 maps. You say, okay, computer, let's take map one and we're going to feed the racial data into all those districts, give me the racial breakdown of all the districts in map one, what is the highest BVAP on that map?

And what $I$ want you to do is take -- and on the far right, put a dot at that BVAP. And then the second highest BVAP, take it, put a dot there. The third highest BVAP, fourth, and so forth.
Q. Can I just stop you there? Just explain to the panel. Like, take this first example right here, the highest BVAP, each of the dots in this bar represents one of the 50,000 sample maps the computer drew?
A. That's exactly right. And in some places it looks solid, just because that's where the maps tended to cluster and so you get over-plotting of the dots, but it gives you the range of what -- and so you do that for map one and then map two, map three, map four through map 50,000. And it will give you the range of the BVAPs for -- that were -- that are in your ensemble for each -- for the most -- most heavily black district, second most heavily black district, and so forth. Q. So I'm looking down here where the BVAPs are low, and here all the districts are falling within the range of the 50,000 simulations. What does that mean?
A. Okay. So the numbers represent the Hickory plan. So the highest BVAP in the Hickory plan is District 4. The second
highest is District 5, third highest is six, fourth highest is -- I think that's 16 , to get to what you're saying, so where the BVAPs are low, where you're in heavily white areas of the state, the Commission didn't draw with respect to race. We can say that pretty confidently because the Hickory map looks almost exactly like a district drawn with -- like the 50,000 maps drawn without respect to race.

All the districts in the Hickory map down on the left end of the tail fall within the range of the ensemble. They look like race blind draws in the heavily white portions.
Q. So if this over here, Hickory District 4, was done blindly like the computer did, where should that number be?

Shouldn't it be $-r$ the band up here?
A. There should be a aistrict way up there, exactly. Of these 50,000 maps, the most -- the highest BVAP district tends to range between 75 percent BVAP and looks like, say, 92 percent or 93 percent up there at the top. The Commission's highest BVAP district was in the mid 50 , nothing like the race blind districts.
Q. So earlier when you said that if the number fell outside the fifth or 95 th percentiles that was good evidence of gerrymandering, that 95 th would be like all the way up here at the 75 percent BVAP line?
A. It would be above the 75 because I think there's one dot below 75 percent.
Q. Okay. So this District 4, I mean, this is so far past anything on the chart you can hardly see it?
A. It is a severe outlier.
Q. And the same with five, six, 16?
A. Right. Now, when you get to, like, District 9, District 9
is somewhere in the middle, but then when you get to the left side you see it on the other extreme. These districts are drawn with much higher BVAPs than you would expect in a race blind draw.
Q. All right. Is there any significance to where they flatten out?
A. They -- they flatten -- that deviation jumps up sharply and then flattens out arourd 40 to 42 percent.
Q. Hmm. How about that.

Would yoy ioe surprised to hear that Chair Szetela testified yesterday that the Commission used a racial target about that very range?
A. I would not.
Q. Okay. So can you tell where the gerrymandering is occurring?
A. The gerrymandering -- so there's two things. The first is this kind of stairstep pattern where you see the district's kind of pushed up toward the 50 percent range and then there's a break and then they start falling below the ensemble BVAPs, that's been referred to as the signature of gerrymandering. I
call it the DNA of gerrymandering where around that kind of crucial area of 50 percent you start to see heavy deviations from what the race neutral ensemble draws, as opposed to the heavily white areas where the Commission was just drawing districts.
Q. And just to put a fine point on this, looking at District 53 again, if the 95 th percentile is about here, we're talking about a completely different planet?
A. Exactly. This is -- this is the cracking of the black population on the right side and then the packing of it on the left side.
Q. Okay. Now, how about when you held county lines intact?
A. It's the same story.
Q. In other words, the high BVAPs are way out of whack there, the lower BVAPs are way out of whack there?
A. Exactly. $I t$ didn't matter when $I$ tried to account for county bourdaries.
Q. What if you keep communities of interest intact?
A. Even granting the Commission that every township, municipality, city that was held together should have been held together, it still shows as an extreme gerrymander.
Q. This is stacking the deck in their favor, and these districts over here, again, they're on a different planet from the range?
A. That's correct.
Q. Okay. So how do you know if race predominated?
A. Well, first, when you have deviations this extreme it tells a pretty consistent story, but if you really want to be sure there's something that I have employed in cases and that has been suggested in the literature called a gerrymandering index.
Q. Okay.
A. Okay.
Q. What cases have you used it where it's been accepted?
A. I used it in both the New York case and the Maryland case.
Q. Okay. Now you can explain the index.
A. All right. So what the gerrymandering index does, it's similar to a common statistical concept called the root mean square error. I know that's a mouthpiece -- a mouthful but I'll explain it. It looks at the ensemble -- actually, can we go back to help explain?
Q. Oh, yeah.
A. So looking at the most heavily -- highest BVAP district, it looks at what the average score is, okay, or the average BVAP is, and then for each of those 50,000 maps it measures the deviation, okay?

So how far -- if the average BVAP for the most heavily black district is around 87 percent, which looks about right, let's say map one, the highest BVAP is 46 percent.

JUDGE KETHLEDGE: Can I ask a question?

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THE WITNESS: Yes.
JUDGE KETHLEDGE: I don't know what you mean by the highest BVAP in the most heavily black district. Is that what you just said? Like, what district and what plan or what part of the ensemble -- I don't know what district we're talking about.

THE WITNESS: Okay. Right.
MR. BURSCH: If you look at the chart up here -- why don't you do that with respect to four?

JUDGE KETHLEDGE: I don't know what district you're referring to --

MR. BURSCH: This isHickory District 4.
JUDGE KETHLEDGE: -- and $I$ just want to make sure $I$ can follow what you'resaying.

THE WITNESS: Right. Now -- and this is an important point. So, for every map it's just looking at the district with the highest BVAP for all the ensemble.

JUDGE KETHLEDGE: For the ensemble maps?
THE WITNESS: Yes.

JUDGE KETHLEDGE: I got it.
THE WITNESS: Okay.
JUDGE KETHLEDGE: So when you say district, you're talking about in a particular ensemble map, the district in that map with the highest BVAP?

THE WITNESS: That's correct, Your Honor.

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JUDGE KETHLEDGE: Thank you.
THE WITNESS: So it looks at the 50,000 ensemble maps and finds the average BVAP for the most heavily black district, and then it looks at the deviation. So the average BVAP in this ensemble for the most heavily black district is around 87 percent.

BY MR. BURSCH:
Q. Right where the laser pointer is?
A. Probably a little higher.
Q. Right. Oh, yeah. Because it's, at the top.
A. There. And so -- then it safys -- okay. The average is 87 percent. Map one, let's say it landed at 86 percent, okay, that's a 1 percent deviation. It's 1 percent off on average what the ensemble prodivced.

Let's say map two is at 93 percent. That's a 6 percent deviaition. So it says, okay, map two, the most heavily black district, was 6 percent off what the ensemble on average produced, okay?

It will calculate -- for each map it will calculate those deviations for all the districts, squares them and adds them up, okay? So it's a measure of how far, generally speaking, these -- the ensemble maps are from the average of those districts. So what it does -- what it's saying is that, look, there's a whole lot of ways you can draw these maps and not be paying attention to race. I mean, the range on that --
on the most heavily black district runs from 75 percent up to, you know, 92 percent. That's a feature, not a bug.

The ensemble is allowing a wide variety of ways for these districts to be drawn without looking at race, okay? But after -- and so it kind of looks at, okay, what is the range of deviations you see in these ensemble districts? Okay. We've done that for the ensemble, now let's do that for the Hickory plan, okay?

So it looks at the average for the most heavily black district in the ensemble, which we said was around 87 percent, and then it looks at District 4 and that is going to be about a 30 point difference. It looks at it for the second most heavily black district in the ensemble, takes the average, compares it to District 5, the second most heavily black district in the Hickory map. That's going to be probably a 25 percent deviation.

And so it adds up the deviations in the Hickory plan and then we can compare that gerrymandering index score, the total of the deviations, we can compare that to what we saw in the ensembles.
Q. So moving to figure 28 , page 70 of your report, is this the visual depiction of what you've just been describing?
A. Yeah. And this is great. This is called a histogram, and basically what the computer is doing is counting up that gerrymandering index, that total of the deviations, and
creating bars, basically, and stacking them on top of each other. So each one of those bars is a very small range for the gerrymandering. This tells you the number of plans in the ensemble that fell in that very small range.

And so you can see the gerrymandering indices here cluster pretty heavily in the ensemble around point -- between zero and. .1, okay? And then there's some outliers that go out and range out to about .3 to .35 , okay?

The Hickory plan is way beyond that. Its deviations -- you could fit an entire. Other set of that ensemble before you even got to the Hickory plan. It's running around . 67 for its gerrymandering index. So it's not even -- we don't even have to look at that 5 percent cutoff because it's just comrletely outside of what the ensemble drew.
Q. And now this particular graph that we're looking at, figure 28 , this was without the restrictions on counties and communities of interest and so forth?
A. Exactly. This is just draw compact districts out of the precincts.
Q. All right. So what happens when you hold the counties intact?
A. It is the same story. It is well outside of the distribution for the ensemble.
Q. And when communities of interest --
A. So this is starting -- you know, we're making a big concession to the Commission on what these maps should look like by keeping the townships and cities intact that they chose to keep intact, but it's still an extreme outlier. Q. Have you used the term reverse gerrymandering before? A. Yes.
Q. And what do you mean by that?
A. So reverse gerrymandering is where -- well, I don't mean to step on his punch line, but Doctor Rodden was part of a famous political science piece called. Unintentional gerrymandering that suggested that due to geographic clustering, you might draw political gerrymanders even if you're drawing without resoect to politics because of the clustering of partisars in this country.

And so reverse gerrymandering is kind of drawing with respect to politics to try to undo that unintentional gerrymandering that might occur.
Q. Okay. So this is to differentiate maps drawn through politics rather than race because sometimes there is overlap?
A. There is.
Q. Okay. So if we use political data, this is now figure 32, page 75 , why don't you tell us about this?
A. So, this allows us, then, to test the idea that what's really going on here is politics, and we should have an expectation that this -- this isn't going to tell us -- there
isn't going to be a huge deviation, because no matter how you draw those districts in the Detroit area, you're going to draw Democratic districts, and that's what we see here.

You know, if they were really trying to engage with the partisan fairness metrics you would expect to see heavy deviations around that 50 percent line trying to take areas that would naturally create Republican districts and instead draw Democratic districts there, and we just don't see that. The --
Q. They're right in the middle of the band?
A. They're right in the middle the band. I think they drew one more Democratic district than you would expect from a politics neutral draw, and even then it is -- even then it's within the band of what you might draw if politics weren't a big factor on how you drew your districts.
Q. So the biggest deviations seem to be up here in the most heavily Democrat districts. Does that make any sense?
A. Not if you're trying to manipulate the partisan fairness metrics because -- for example, the efficiency gap, which looks at wasted votes, if you go from a 51 percent Democratic district to a 49 percent Democratic district, there's a huge shift in wasted votes. That's where you're really going to be able to even out the efficiency gap score, not by the things that are occurring on the right side of the tail. They're just drawing different types of Democratic districts, and not
only that, but, you know, in this area we also know these are the most heavily black areas of the state. So you do see some deviations from politics in these heavily black districts from what you would expect from a politically neutral draw, but not enough to create Democratic districts where you would expect Republican districts. And that makes sense because we know that in these -- this area of the state they were looking at entirely Democratic precincts. So politics just isn't a good explanation here.
Q. Is it fair to say they're just moving Democrat districts around like chairs on the deck of boat but race is what's really driving all this?
A. Exactly. You see huge deviations out here from what you would expect with respect to race, because they're taking white Democrats ana mixing them with black democrats. So the racial composition of these districts is very different from what you wculd expect from a race neutral draw, but because it's white Democrats and black Democrats it looks a lot like you would expect from a politics neutral draw.
Q. And if we keep the counties?
A. Yeah. That's a mislabel. That's --
Q. Use of interest here, right?
A. Yeah.

COURT REPORTER: I cannot understand when both of you are speaking at the same time. And please slow down.

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BY MR. BURSCH:
Q. This chart, figure 37 , page 80 , this is keeping communities of interest intact?
A. Yes.
Q. And you see the same thing?
A. Yes.
Q. The outliers are just moving the Democratic chairs around the deck?
A. Yes.
Q. What about the gerrymandering index?
A. So you do see deviations and it's not surprising that we see deviations, because in the heavily black areas of the state you are reducing the Democratic performance somewhat, but down from 90 percent to 80 percent, not from 90 percent to 50 percent. And so you see gerrymandering index scores that are large, but nothing like what we saw with the racial predominantescores.
Q. So just to put this in the same form that we had before, but what $I$ hear you saying is when it came to race, the red line representing the Hickory plan, you know, was out here in another continent. And here, it's an outlier, but it's still within the acceptable range of a partisan distribution?
A. It's still within the range, yeah. It's still within the range of the partisan distribution there.
Q. So what does that mean?
A. It's consistent with the idea that what was -- what was really driving these maps was race. And that, yes, when you play with the racial composition of districts, you do have some political impact, but it was race that was really doing the work here because they weren't changing things around enough to flip districts from Repulbican to Democrat or vice-versa, because the precincts are all Democratic.
Q. Switching to the Linden plan, and hopefully we can move through these fairly quickly. These are the same bands for the BVAP districts. Why are these numbers all way down here? A. So it's the same story. Yourould expect to see at least one heavily black district and probably three majority black districts if you were drawing completely blind to race. They had to do some work tomake that number zero and to create these three districts that are well below the average of what a race blind draw would create.

And then on the flip side on the left you see these districts where the -- not the far left, I'm sorry, but around Districts 2, 1, 6, 8, those are the districts that are pushed up, so you have the cracking of black voters on the right and they're packing on the left. That's what this represents.

When you get into the heavily white areas of the map, again, it looks exactly like what you would expect from a race blind draw, because race just wasn't important to the Commission there.
Q. You're saying down here they're all squarely within their bands?
A. That's correct.
Q. And same if the counties are kept intact?
A. Exactly.
Q. And this is figure 55. Figure 60 if the communities of interest are kept intact?
A. Exactly.
Q. So then back to these charts. This is just the base ensemble?
A. That's right.
Q. And, again, where do we find the Linden plan?
A. I think there's one ma that had a larger gerrymandering index in the ensemble
Q. So 50,000 maps, and there's one map to the right, is that still well outside the 95 percent boundary?
A. Yeah. Trinat's going to be well outside the 95 percent generally accepted boundary.
Q. So they're not saved by the fact that open -- yeah, okay.
A. No.
Q. And then figure 56.
A. Same story except this time everything -- this is outside all the ensemble maps.
Q. 61, this is with the counties intact?
A. Well outside the ensemble maps.
Q. Again, looking like the House map?
A. That's right.
Q. All right. Tell us about figure 57.
A. It's the same story as we saw with the Hickory plan. You can see that around the $50 / 50$ line where you might expect a politics drawn Commission to be taking a bunch of Republican districts and transforming them -- where you would expect in a politics neutral draw to take Republican districts and transform them into Democratic districts, the Commission didn't do that. It created one more Pemocratic senate district in this region than you would expect from a politics neutral draw.

And even that district fell well within the normal range of what a politios neutral draw -- look, if you showed this to just any póitical scientist, that's politics neutral on the center. The only place you see big deviations is in the heavily Democratic areas of the state, which happen to be the heavily black areas of the state.

So the Commission did achieve some change in the composition of the districts out there, which it would if it's trying to dilute the black population of these districts, but not enough to create a bunch of Republican districts, and, again, that is completely consistent with our qualitative assessment. It was only moving around Democratic districts. It was moving around black Democrats and white Democrats, so
it produced the same number of Democratic districts as you would expect from a politics neutral draw.
Q. Same with counties intact?
A. That's right.
Q. Same with communities of interest intact?
A. That's right.
Q. Back to these fun little mountain charts. You see the same thing here?
A. That's right. The histograms, you fan see now the line is closer to the center of the distribution. There are more districts out to the right. There are deviations, because the Commission did achieve deviations, just not in the place it would achieve deviations it were looking to alter the partisan fairness metrićs.
Q. Okay. Counties?
A. Same story.
Q. All the same story. So why don't we wrap up this portion of the exam. What do you conclude from all these charts?
A. Yeah. Without getting bogged down in the details, the Linden plan and Hickory plan do not look like race neutral plans. They look like plans that cracked the black population in some districts and packed them, because that's where the deviations from the race neutral ensemble occur.

They do not look like districts that were drawn with heavy political intent, because around the place where the
politics makes an impact, that $50 / 50$ political line, the maps look like politics neutral draw. The only place you see deviations, big deviations with respect to politics are in the overwhelmingly Democratic portion of the map, which also happens to be the heavily black areas.
Q. Now, Chair Szetela said that, with frequent reference to the Commission hearing transcripts, that race was the predominant criteria used to draw the maps and that the politics button wasn't turned on until later. Is your analysis consistent with that testimony?
A. That's exactly what this shoris', because the maps are politics neutral. The maps look like politics -- they look like maps drawn with the politics button turned off, because that's what the ensemble is, and that's what these maps look like. They do not Look like maps drawn with the race button turned off.
Q. All right.

MR. BURSCH: At this point I'd like to pivot from equal protection to VRA, and so I guess I would ask the panel -- it's a little early for a break, but do you want to have a stoppage here, because the VRA is going to be another fairly long examination.

JUDGE KETHLEDGE: It doesn't matter to me. JUDGE NEFF: Me either.

JUDGE MALONEY: We'll take a break. 15 minutes.

Thank you.
THE CLERK: All rise, please. Court is in recess.
(Recess taken at 10:08 a.m.; reconvened at 10:25 a.m.)
THE CLERK: All rise, please Court is in session.
You may be seated.
JUDGE MALONEY: We're back on the record in 22-cv-272. Counsel for the parties are present.

Mr. Bursch, you may continue.
MR. BURSCH: Thank you, Your Hpnor.

BY MR. BURSCH:
Q. Mr. Trende, as I'm sure you kriow, the VRA is also part of this case.
A. Yes.
Q. Now, when you strwctured your report, you proceeded with a particular legal framework in mind, right?
A. That's rigit. It's the framework that $I$ teach in my class and that stìl governs Voting Rights Act claims, the Gingles or Gingles framework. People disagree.
Q. Why don't we use Gingles.
A. Okay.
Q. And can you elaborate on that?
A. So, the Gingles case sets forth a three factor -- the Voting Rights Act claim is ultimately about the totality of the circumstances evaluated through the senate factors, but the Supreme Court set up sort of a three-prong gatekeeping

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test that the courts look at before they proceed to evaluate the totality of the circumstances.

The first is numerosity and compactness. Can you draw a district where the minority group would be 50 percent plus one of the population where that population is reasonably compact?

The second prong is whether the minority group votes cohesively. And then the third prong is whether the majority group votes as a bloc sufficiently to defeat the minority candidate of choice. Two and three often get merged together as polarization, but they are distinct factors.
Q. And then is that the end of the inquiry?
A. No. If the Gingles fectors are met, the Court will then proceed to evaluate uraer the totality of the circumstances whether the minorit-y group has an equal opportunity to participate in the political process, but I was not asked to look at the Senate factors that govern that inquiry or guide that inquiry.
Q. Your understanding that Professor Lockerbie will address those?
A. That's my understanding.
Q. Okay. Then why don't we start with prong one. If I refer to numerosity and compactness, you know what I'm talking about?
A. Yes. Numerosity would be whether the minority voting

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group is 50 plus one of the voting age population and compactness has to do with compactness.
Q. What are your opinions with respect to Gingles prong one with respect to the House?
A. That it's possible in the House to draw 10 districts where -- with reasonably compact black populations that would comprise 50 percent plus one of the voting age population.
Q. And with the Senate?
A. That is possible to draw five such districts.
Q. And is that relatively consistert with the way it had been historically done in Michigan?
A. It is.
Q. Okay. How did you demonstrate this?
A. I did this by drawing demonstration plans for both the House and the Senate.
Q. Okay. And with respect to the House, what did you examine?
A. So, with the House, I set forth to draw districts that would be equi-populus laws or within -- since we're talking about state legislatures, within the acceptable boundary of plus or minus two and a half percent population deviation that would be obviously contiguous, that would minimize county splits, and -- as well as municipal splits, would be reasonably compact.
Q. Did you redraw the entire map for the state of Michigan?
A. So, I did not. Again, going back to the very first map we looked at, their Voting Rights Act issues aren't really raised outside of the area that $I$ ran the simulations on, and that's not where the challenges were brought so I just redrew the districts in the greater Detroit area.
Q. Fair to say that the portion of the map that we can't see is the same as the Commission's map?
A. Those districts are basically granted to the Commission or frozen in place, but they're still there.
Q. Okay. So, now, if we can turn the lights down just a hair, we're looking at figure 12 on page 23 of your report. Is this your demonstration map --
A. This is.
Q. -- for Hickory?
A. That's right.
Q. Did you have any other criteria other than the 50 plus one?
A. Like I said, I tried to keep the districts compact, tried to keep them within the acceptable population deviations, kept them contiguous, and then minimized the number of -- tried to minimize the number of times that $I$ would cross county boundaries as well as municipal/township boundaries.
Q. Are you familiar with the phrase traditional redistricting principles?
A. I am.
Q. And in your experience, are those things that you just listed the traditional redistricting principles?
A. They are.
Q. How does this map compare in terms of compactness to the Hickory map that the Commission drew?
A. It's similar in compactness to what the Commission drew.
Q. Okay. And that's based on the Reock score and the Polsby-Popper score?
A. That's correct.
Q. Okay. What about county splits?
A. Well, you can see it dramatisally reduces the number of county splits. The Wayne/Macomb boundary is traversed once with District 1, and then the Wayne/Oakland boundary is traversed once with District 10.
Q. Great. Did you look at the BVAPs for these districts?
A. I did.
Q. And if me look at table 3 from page 24 of your report, are these the BVAPs?
A. That's right. This table continues over four pages because it has all the districts, but for our purposes this is the one that is relevant.
Q. Okay. And if I draw a line right here, that would show that there are 10 districts with a BVAP of 50 percent or above?
A. That's correct.
Q. We didn't talk about this, but there's a 92 percent here, an 81, a 74. These are pretty consistent with what the computer drew in those 50,000 simulations, isn't it?
A. Yeah. As it happens in the Senate -- in the core of Detroit, it's very natural to draw these majority black districts.
Q. What's the significance of the population in deviation columns?
A. It keeps it within the plus or minus two-and-a-half percent.
Q. Okay. Have you also looked addresses for the plaintiffs?
A. I did.
Q. And what can you tell us about those?
A. That all the plaintiffs were either placed in a majority BVAP House district or a majority BVAP Senate district with the exception of Ms. Smith and Mr. Stephen-Atara.
Q. Okay. Now, this was in your supplemental report and there were also two maps that showed where all of the plaintiffs fit within your House and Senate demonstration maps; is that correct?
A. That's correct.

MR. BURSCH: To save time, Your Honors, since your opinion on the expert report already declared the first five pages of the report admitted, I'm not going to go through

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the maps. Again, defense counsel has stipulated to the admission of just those first five pages, and so we'll give you an exhibit that includes the entirety of his first expert report plus those five pages, including the two maps, but to save time we'll just keep going.

JUDGE MALONEY: Thank you.
MR. BURSCH: Great.
BY MR. BURSCH:
Q. Did you look at communities of interest?
A. I did not.
Q. Why not?
A. Well, first, as $I$ said - - should say, not directly.

First, as I said, communities of interest are often, you know, used as a proxy for other ends. Second, as I said, political scientists have considered county lines and municipal boundaries to be pure expressions of communities of interest. So to the extent that these maps reduce and minimize county municipal splits, they do conform with at least what political scientists have considered a valid metric of communities of interest.

And then the third, $I$ just -- as I said before, I'm skeptical that the Commission's maps taking the poorest portions of Detroit, matching it with some of the wealthiest portions of Oakland County are really community of interest driven.
Q. And we'll be talking about the county and municipal boundaries and the comparison between the demonstration maps and the other maps, but before we get there, what about politics, did you take that into consideration?
A. I did not.
Q. How come?
A. Well, first, as we saw, when you're drawing in this area you're going to draw Democratic districts because it is all Democratic precincts. The other is just when I was thinking of traditional redistricting principles, that's not a traditional redistricting principle, and the idea that you could reduce minority opportunity to participate in the political process to achieve partisan ends is exactly what the VRA is supposed to combat, so I didn't consider that.
Q. So partisanship cannot trump the VRA?
A. I -- I meart, that's for you all to fight about, but I cannot imagine it could.
Q. Okay. Did you consider 2020 to be anomalous in the Detroit area?
A. No. As I testified earlier, these elections tend to be correlated, especially in the last few cycles, so it's a good benchmark and certainly the most predictive for political scientists to be using.
Q. Okay. Moving to your benchmark map for the Senate, we've got figure 39 on page 82 of your report. How many majority
black districts are here?
A. Five. Districts 1 through 5 .
Q. Again, consistent with the historical maps in Michigan prior to the most recent maps?
A. Yes.
Q. Now, in this one you do cross the Macomb/Oakland boundary with Wayne County; is that correct?
A. I do, yes.
Q. But does it still reduce the number of splits?
A. That's right. It reduces the number of splits. It doesn't completely eliminate them
Q. Okay. And if we go to table 15 from page 83 of your report, again looking at cire BVAP column, you can see that there are four districts at 50 percent and above. Same story regarding population and deviation?
A. That's right. And this is why earlier I testified that I was pretty confident you couldn't draw more -- that there were no more than five districts demanded by the VRA. You can see these are all close to 50 percent BVAPs. So you couldn't draw more without splitting that population further.
Q. And how does your map compare to the Commission's Senate map, the Linden plan, based on compactness?
A. Again, it's comparable to it.
Q. And same explanations about politics and communities of interest?
A. Yes.
Q. Great. So now I want to move to Gingles two and three, and I'd like to start with the Senate.

Were there unique problems with exploring those factors here?
A. Yes. So, the kind of traditional, at least in recent years, VRA analysis you would look at general elections. There's a Republican candidate, a Democratic candidate. You know, one group is going to prefer one of the other because there's only two choices. And -- and there's typically a candidate -- you know, two candidates running in every election. They'll have at least some level of funding.

The primaries are much tougher because you will have up to 14 candidates runing, so cohesion can mean something very different because you don't need 50 percent to win the election. Some candidates -- you know, because these races are further down ticket, you get candidates that don't even raise $\$ 5,000$ or races where no candidate raises more than $\$ 5,000$ except perhaps the incumbent. And you lack the partisan cue that you have with a general election. You know, you have the label of Republican and Democrat. In the primaries we're talking exclusively about Democrats, so definitely complicates the inquiry, but I think as you examine this you do see the five -- the three Gingles factors emerging pretty clearly.
Q. And the reason that we don't focus on general elections in Detroit is because it's all Democrat. It doesn't matter whether you're talking about black or white voters. We all know how they're going to vote for a President Trump versus a President Biden?
A. It's all Democratic voters, and Doctor Handley shows that there's not much general election polarization in the area we're talking about of Wayne and Oakland County.
Q. So we do the best that we can with primaries?
A. Yes.
Q. Now, there's one thing that gives us an advantage here in a traditional redistricting case. You don't actually have performance under the new fraps, and we do have that here. We've got a '22 election in both the Senate and the House?
A. Yes. So, because this case has kind of dragged on a bit, we now have election data to look at for 2022 so we can see whether there was polarization in these districts. Q. Okay. So this is a chart from the 2022 Senate results under the Linden plan.

MR. BURSCH: Maybe you can dim the lights just a hair so we can see the percentages a little easier. There we go. Great.

BY MR. BURSCH:
Q. So, first of all, these numbers about who black and white voters choose, that's not something you can get from a
database so where do those come from?
A. So, what we do -- there's a variety of techniques that political scientists have used to try to extract the vote shares from the data. The problem we have, it's called the problem of ecological inference, because all you have are vote totals for Moss and Foster, and you have districtwide the number of black residents of voting age and the number of white residents of voting age in the district.

But from that information alone you can't say a hundred percent with confidence who olack voters voted for, who white voters voted for. So, without going into a bunch of jargon, there's a technique called ecological inference that's been developed and is kind of the gold standard approach to statistically extract the information of how different minority groups -- aifferent minority and majority groups voted.
Q. And yoty and Doctor Handley don't really disagree about these numbers, do you?
A. That's right. One thing I did at the outset was to see if my ecological inference estimates -- it's a slightly different flavor of ecological inference $I$ used, whether it produced the same results that she came up with, and we're pretty much in agreement as to what the vote shares were in 2018 and 2020, which she published in her report. So that gave me confidence that in the places I performed estimates that she didn't
perform estimates, that we were still on the same page. Where we both estimated a race, we came up with the same answer.
Q. So let's talk about this table 21, page 89, in some detail. Let's first talk about what the columns represent. Column 1.
A. Column 1 -- so, this chart packs a whole lot of information into one chart. Column 1 is the district number under the newly configured map.
Q. Okay. BVAPs, $I$ think we know what that is?
A. Yes.
Q. What about Columns 3 and 4?
A. So Column 3 and 4 are thesesults of the ecological inference inquiry, and so that is an estimate for every candidate -- well, sorry.

That is wo black voters preferred in that district in 2022 in the primary -- this is all primary data -- and then what percert of the vote they're estimated as having received. Q. So just looking at these first two rows here, Moss and Chang, two popular incumbents?

Is that what the star means, an incumbent -- or an asterisk?
A. Stars are incumbents, yes.
Q. Okay. So, this means that Moss was the first choice of black voters, and roughly 91 percent of the population in Chang was 81 percent?
A. That's right.
Q. Okay. So then we move -- let's see, one, two, three, four -- Columns 5 and 6. Now, these are the white voters?
A. 5 and 6 is the black second choice and their percent.
Q. Oh, I'm sorry. I was going by the big column.

So you're counting -- 5 and 6, second choice of the black voters?
A. That's right.
Q. 7 and 8?
A. So 7 and 8 are the first choice of white voters and their voting share.
Q. $\quad 9$ and 10?
A. 9 and 10 are the second choice of white voters and their vote shares.
Q. And 11?
A. 11 is the gargin by which -- if there was polarization, the margin by which the black candidate of choice won or lost the district.
Q. And polarization is any row that's marked red or green?
A. That's right.
Q. So just sticking with this final column here, what this shows is is that Marshall Bullock was the top black choice in a BVAP with 40.20 percent and yet lost by 37 percent?
A. That's right.
Q. Okay. We'll come back to that.

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Now that we've got our terms down, why don't we start with Linden 1. Senate District 1 has a BVAP of 35 percent. And who was the black first choice?
A. The black candidate of choice there was Brenda Sanders who received an estimated 43.62 percent of the black vote.
Q. And the second choice?
A. Was Erika Geiss who received 18.41 percent.
Q. Would you call this cohesive among black voters?
A. In the context of a multi-candidate primary, the fact that you had a candidate running 25 points, ahead of the second choice in that context is cohesiveness.
Q. Maybe even more so because Geiss was an incumbent?
A. And Geiss is an incumbent, yeah.
Q. So what about the white voters? I don't see Brenda Sanders anywhere crer here?
A. No. She didn't register among white voters. White voters conclusively rejected her, she got 7 percent of the vote.
Q. Wow. So would you say that's racially polarized?
A. That is bloc voting rejecting the black candidate of choice, because Laberki (sic) and Geiss together, you can see add up to 88 percent of the vote.
Q. And what was Liberti's race?
A. Oh, is it -- Liberti is white.
Q. White. And he doesn't show up anywhere in the black first or second choice?
A. No. No, he didn't register among black voters.
Q. So we would say that this is both cohesive and polarized with respect to Linden 1 ?
A. Along with the bloc voting on the parts of the white voters, yes, to reject the minority candidate of choice. Q. Now, this BVAP was 35 percent. The Commission tells us that that's going to be a district that elects a black candidate of choice every single time. The button that they pressed on the software, Chair Szetela told us, will tell them the black candidate always wins. How did that work out for Ms. Sanders?
A. She lost. And that's why-- so the colored lines are where black and white candidates of choice are different. The red line means that tre black candidate of choice lost. The green line means the black preferred candidate won.
Q. Okay. We're going to come back to 6 and 8 in just a moment, but $I$ want to hop up to Linden 3 and Stephanie Chang's race. She seems pretty popular with white and black voters now?
A. She is now, now that she's an incumbent.
Q. Now that she's an incumbent. Now, Doctor Handley talked about Stephanie Chang in her expert report. There was a 2018 Democratic primary for the former Senate District 1 and she was not the black candidate of choice. Do you know who was?
A. It was not Stephanie Chang. I don't remember the name.

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We'll see it in a second.
Q. Was it Alberta Talabi?
A. That's right. That's right. Alberta Tinsley-Talabi.
Q. That race had a 45.1 percent BVAP. Doctor Handley reports, and we'll get into this with her report, that Chang won the support of 76 percent of white voters but was a distant second choice among black voters at 27 percent. Do you remember seeing that in her report?
A. I do.
Q. And so now in this election where Chang is now the incumbent, that black candidate of choice in the previous election, Talabi, endorsed black candidate Reeves who we see right here against the ingumbent. How much support did Reeves get among white voters?
A. Seven percent.
Q. Okay. So even in this race, which isn't that probative because it involves a popular incumbent, we see some racial polarization based on that history, don't we?
A. There are differences in how white and black voters vote there, yes.
Q. Let's go back to Linden 6 now. Cavanagh was the black candidate of choice?
A. That's right.
Q. And how much did she prevail by?
A. She won by eight points.
Q. Okay. Now, if we go back to the 2020 Democratic primary election for former House District 10, Cavanagh was the clear white district -- I'm sorry, white candidate of choice, wasn't she?
A. She was.
Q. But she defeated two black preferred candidates, Kevin Harris and --
A. We will see that in a little bit, that's correct.
Q. So she was not the black candidate pf choice until after she became an incumbent?
A. Until she won her House race, that's right.
Q. So Darryl Brown right here who came in second among the black voters, he was a black man from Detroit?
A. That's right.
Q. Former DetroitPPolice Commissioner?
A. I don't krow that but --
Q. Okay. According to Doctor Handley's data -- Darryl Brown doesn't show up on this chart here -- only 4.2 percent of white voters supported him while 96 percent favored either Vicki Barnett, who's white, or Cavanagh who is White-Hispanic; is that right?
A. That's right. You can see from the support of Barnett and Cavanagh, that adds up to 95.65 percent, which doesn't leave much for Darryl Brown.
Q. So that's why when you look at these percentages kind of

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across this row, they're all kind of in line, but yet if you dig down deeper you see that there is intense racial polarization in Linden 6?
A. Yes. White voters were rejecting the black candidate in that race.
Q. Okay. Now let's move to this red line, Linden 8. Is this one of particular interest?
A. It's pretty striking.
Q. Why is that?
A. So this is a race where you had two incumbents paired together, so --
Q. That's why they both have the asterisks?
 an incumbent state serator from Detroit. Mallory McMorrow is an incumbent white senator from Oakland County, and their two areas were combined together in a single district.

So, what's nice about this race is you only have two candidates. You don't have to deal with the multi-candidate field. You have two incumbents, so you have two candidates who are capable of raising funds and have a base of support, and they're paired together in a 40 percent BVAP district, kind of right in the middle of where the Commission was drawing its BVAPs.
Q. Who was the black candidate of choice?
A. Overwhelmingly, Marshall Bullock.
Q. $80 / 20$ ?
A. $80 / 20$.
Q. Would you say that's cohesive?
A. Certainly the 80 percent support for Bullock is cohesion, yes.
Q. And then how about among white voters?
A. Overall rejection of Bullock. He got 4 percent of the white vote.
Q. 96 to 4, overwhelming, that may be anderstating it?
A. Yes. This looks like somethingout of Alabama in the 1960s.
Q. Polarized?
A. Overwhelmingly.
Q. Okay. So what was the overall margin in this race?
A. Bullock lost this district right in the middle of the racial target the Commission had set by 37 points.
Q. Wait a minute. They set the BVAP at 40. I thought that was an automatic win for the black candidate of choice. How did that work out for Mr. Bullock?
A. White voters bloc voted against the black candidate of choice who was also black.
Q. Okay. Just looking at the numbers, can you give us a rough estimate of what the BVAP would have had to have been for Bullock to have prevailed in this black incumbent versus white incumbent race?

MR. LEWIS: Objection, Your Honor. This goes beyond the witness' expert report.

MR. BURSCH: I think he can look at the math and make that calculation.

JUDGE MALONEY: Rephrase the question, Mr. Bursch. I'm sorry.

MR. BURSCH: The question is, how large would the BVAP percentage have to be, roughly, for Mr. Bullock to have prevailed given these disparities in white and black voting?

JUDGE NEFF: That's going to require some speculation, isn't it?

MR. BURSCH: It's actually just a math calculation, Your Honor. We know how many black voters there were. We know how many white voters there were, and we know roughly how they broke among racial lines.

JUDGE IIALONEY: Counsel, go ahead.
Mre LEWIS: Yeah, Your Honor. So, we renew the objection that the amount needed to elect is a specific analysis that is performed in Section 2 cases. Mr. Trende does not perform that analysis in his expert report in January.

JUDGE MALONEY: Is that right?

MR. BURSCH: That's correct.

JUDGE MALONEY: Okay. Sustained.
MR. BURSCH: Okay.

BY MR. BURSCH:
Q. Now, in their summary judgment briefing the Commission suggested that this lopsided 37 percent loss for a candidate who had 80 percent of the black vote might have been due to McMorrow's impassioned defense of the transgender community.

Is this something that would cause you to revisit
your conclusion about cohesion and polarization?
A. Not at all.
Q. Why is that?
A. Because the fact that there are<issues that white candidates can use to drive a wedge between themselves and the black community is exactly what the Voting Rights Act is trying to forestall. In tire 1960 it was racial areas -racial issues in the south. The fact that a white progressive has their own issues that they can use to drive a wedge doesn't change my analysis.
Q. White erogressive voters and candidates may have different issues of importance than black voters in Detroit?
A. That's exactly what was suggested, and the fact that you can create a $96 / 4$ split by using these issues wouldn't defeat a VRA analysis, $I$ don't think.
Q. Okay. So we've kind of hit 1,6 , and 8 here. You know, 3 we don't have a lot of data, but as we discussed earlier, because of the pinwheel shape of the Linden districts, would you opine that with respect to cohesion and polarization, it's
present with respect to all four of those challenged districts, 1, 3, 6, and 8?
A. Obviously, yes.
Q. Okay. But we don't stop with the 2022 data. There is some older data that we can look at. Was 2018 of interest to you?
A. Yes.
Q. Why is that?
A. So, first off, the challenged districts occupy a lot of the same area as the 2018 districts. Second, it tells us what the Commission might have reason to believe or good reason to believe or not have in 2018. And, third, it's just a general illustration of how primailes in the Detroit area work. And you can see consistently, especially in open races, white voters will not accept black candidates and black-preferred candidates, especially when they're given a white candidate to choose from.
Q. Okay. So this next chart, this is going to be using those ecological inferences. Just as a side light, can those estimates change a little bit on the margins?
A. They can. They're estimates and so they do change over time. Now, this is actual vote shares for the different candidates as well as their race, so this tells you that -that Ms. Alexander was African American, won District 5 with 54 percent of the vote. I will not try to pronounce the

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incumbent Senator's name, but he -- he lost. He got 45.3 percent of the vote, and he was white and so forth.
Q. Got it. And this is table 20 , page 88 , of your report?
A. That's correct.
Q. Okay. I'm going to, rather than go through this in detail, go to a -- I think a more easily digestible chart. This is table 19 on page 87. Does this look familiar?
A. Yes. This is the same chart as we saw for 2022 except used for 2018.
Q. Okay. Why are the BVAPs slichtly different than on the previous chart?
A. Well, these are the 2018 districts. This is the Benchmark plan.
Q. Okay. It looks like almost all of these seats are open. I'm not seeing many asterisks for incumbents.
A. That'scorrect. Because of term limits in Michigan, just the luck of the draw, there were a lot of open seats this year.
Q. Okay. And those are more probative?
A. They are, because you don't have to consider the incumbency advantage.
Q. Okay.
A. And we know that as the district -- as the decade progresses all these seats that are drawn under Linden are
going to become open.
Q. And I don't want to steal your punch line, but with red and green bars representing polarization, this looks like it's lit up like a Christmas tree?
A. Yes. The -- these races polarized -- generally polarized badly.
Q. All right. Let's start with prior Senate District 5 . What race is Alexander, the black first choice?
A. She is black.
Q. And Knezek?
A. He is white.
Q. Okay. And what percentage did the black candidates of choice receive?
A. 68 percent.
Q. To?
A. 32 percent for Knezek.
Q. Okay. Would you say that's cohesive, more than double?
A. Yes.
Q. Okay. How about the white vote share?
A. Overwhelmingly rejected as a bloc. The black candidate of choice and the black candidate --
Q. Completely flip-flopped?
A. -- in favor of the white candidate.

I'm sorry.
Q. Completely flip-flopped?
A. Yes.
Q. The black and white votes?
A. A complete flip-flop, yes.
Q. So you would say this is polarized as well?
A. It is. Knezek received 73 percent of the white vote.

Alexander received just 28 percent of black -- of the white vote.
Q. Okay. Now, Alexander did prevail here by 9 percent, but what was the BVAP?
A. This was a majority black district that could sustain her even with that degree of polarization.
Q. And she would have lost this race most likely if the BVAP had been 42 percent?
A. That's just math, yes.
Q. Okay. And this prior Senate 5, if we did an overlay, that feeds into the current Linden Senate District 6?
A. That's correct.
Q. Okay. Now, I see prior Senate District 3 down here, the Santana race. Who is the black candidate of choice?
A. Sylvia Santana.
Q. And her race?
A. Black.
Q. How about Anita Belle?
A. She got 25 percent. I'd have to look at the previous chart for her race, but I believe she's black as well.
Q. I can confirm to you that she is.

How about the top white choice?
A. So, I apologize if it is not Woronchak, but Mr. Woronchak was the white candidate of choice, and he received 76 percent of the white vote.
Q. Okay. White candidate, top white choice?
A. That's right.
Q. And then here's Ms. Santana again.
A. Bloc voting against her. She received just 19 percent of the vote from white voters.
Q. So you would say this is cohesive and it's polarized?
A. Cohesive, bloc voting rejecting, the black candidate of choice, and polarization.
Q. Okay. Now, I don see Woronchak in the first two choices of black voters. 100 you recall how he did?
A. Well, againt, you can add 60 and 25 and you get 85.7 percert, so he could not have gotten more than 15 percent of the vote from black voters.
Q. Okay. Now, I notice that Santana pulls it out by 2.8 percent with a BVAP of 46.70 percent. She wouldn't have made it in a 42 percent BVAP district, would she?
A. No. That's just math. She did not have much margin for error.
Q. And if we did the map overlay, this district feeds into the Linden Senate Districts 1, 6, and 8?
A. Correct.
Q. Okay. Finally, District 1 right here, the Talabi race, how many candidates here?
A. There were a lot. It was a fractured primary.
Q. Okay. But who is the top black choice with a strikingly high margin for a multi-candidate race?
A. Talabi got 47 percent of the black vote outpacing second choice by 20 points.

JUDGE KETHLEDGE: Counsel, if I could just ask you to just refrain from characterizations y̧ourself, you know, particularly after an answer or something. It just -- it's a cleaner record if the witness Characterizes and not the lawyer.

MR. BURSCH: Happy to do that. Thank you. JUDGE KERTILEDGE: Thank you.

BY MR. BURSCH:
Q. So second choice?
A. The second choice is Stephanie Chang who ran 20 points behind Talabi.
Q. So this is what you were talking about earlier as far as Chang being the voters -- the black voters' first choice? A. Right. When we're talking about 2022, once she took on the veil of -- or the mantle of incumbency it was a different story, but when it was an open race, she was not the black candidate of choice.
Q. And then what happens on the white voters side with this race?
A. So Stephanie Chang is the clear bloc white vote candidate of choice, 77 percent. The white voters rejected the black candidate of choice and also the black candidate.
Q. So would you say this is cohesive?
A. You see cohesion on the black side; you see bloc voting on the white side. As a matter of fact, you can do the math here, 76.7 plus 8.7 is 85.4 , so Talabi gouldn't have gotten more than 14 percent of the white vote. In fact, she got three.
Q. How do we know that?
A. From Doctor Handley'stable and from the ecological inference that was rur.
Q. Okay. Now, this is 43.10 percent BVAP. Under the Commission's theory that's a -- a black candidate of choice always wins what happened to Ms. Talabi?
A. Because Talabi was just overwhelmingly rejected by white voters in the district she lost by 23 points.
Q. And this prior 6 Senate 1 feeds into current Linden Senate Districts 1 and 3 ?
A. That's right.
Q. What would have happened in prior three and prior five if those BVAPs had been lowered into the lower 40s?

MR. LEWIS: Objection, again, Your Honor. This goes

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into percent needed to elect and is beyond the scope of the witness' expert report.

MR. BURSCH: Okay. I'll withdraw that.
BY MR. BURSCH:
Q. All right. Let's move ahead to table 18 on page 86 . This
is from the 2014 Democratic state Senate primary. Can you just briefly describe what you see here?
A. Yes. So this is a year that Doctor Handley didn't estimate, and I should say these data are not provided in spreadsheet form. It had to be recreated from the -- pretty time-intensive process, so it's not like Doctor Handley was hiding the ball. I don't mean to accuse her of anything. Q. We didn't think you weite.
A. We recreated the spreadsheet from the paper file and ran the ecological inference on 2014.
Q. Okay. And then you also made this table 16 which is on page 84 of your expert report?
A. That's right.
Q. So looking at these, prior Senate District 5, who was the black candidate of choice?
A. Shanelle Jackson.
Q. And was she black?
A. She was.
Q. What about David Nathan?
A. I'd have to refer back to the previous page, but I believe
he was.
Q. Yeah. He's also black. I will confirm that. So two black candidates. How did they perform with white voters?
A. So, yeah, Jackson and Nathan combined get 66 percent of the black vote. You can see Nathan is the second choice and got 3 percent of the white vote, which means that Shanelle Jackson got less than 3 percent. Otherwise, she would be second.
Q. And David Knezek is white?
A. Just overwhelming bloc votinć rejecting the two black candidates and the top two black candidates of choice.
Q. So, this is highly posarized?
A. It is highly polarized. You have the black vote in this fractured primary ooll around two candidates, and white voters just overwhelmingly rejecting those choices allowing Knezek to emerge by fight points.
Q. By eight points in a district with what BVAP percentage?
A. $\quad 52.5$ percent.
Q. Rather than going through the rest of the table, I want to move along so that we can get to the House yet.

Based on your analysis of all these races in 2014 and 2018, how many black candidates ran incumbent and nonincumbent?
A. I'd have to look at the tables, but there were a lot.

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Q. Does 30 sound about right?
A. Somewhere in that range, if you added all the black names in those two tables.
Q. And how many times in any of those roughly 30 races did they ever give a candidate who was black more than a third of the white vote?
A. Never.
Q. Well, never. What about Bert Johnson?
A. That's -- Bert Johnson is an incumbent, and I believe he is also running against a black candidate, John Olumba.
Q. Right. So one candidate whggot more than 50 percent was an entirely black field?
A. That's right. And that's also true of Marshall Bullock's race back in 2018.
Q. And then what cibout Erika Geiss?
A. So Erika Geiss received more than a third, but she was not the black candidate of choice in that race.
Q. And she was an incumbent?
A. And she was an incumbent, that's correct.
Q. Okay. So that's who white voters support.

On the black voters side, did they ever prefer a white candidate over a black candidate?
A. I think Moss, maybe. He seems to be a political athlete, but beyond that...
Q. What about Cavanagh?
A. Cavanagh is white Hispanic.
Q. Okay. So, excluding the races involving all black fields, you know, like the Bert Johnson, how many of these races would the black candidate of choice won with BVAPs in the low 40 s? A. Perhaps Bert Johnson where he's an incumbent.

MR. LEWIS: Pardon me, Your Honor. I want to lodge the same objection to the fact that there's not been an opportunity -- you know, percent needed to elect analysis here.

MR. BURSCH: Okay. That'sfine. I'll withdraw. BY MR. BURSCH:
Q. So based on all the data that we've been looking at from 2014, 2018, 2022 for these Senate districts, what conclusions do you draw?
A. Particularly in open seats, and we know that the Hickory and Linden map districts will become open at some point, white voters willcoalesce around a white candidate given the opportunity. They'll reject the black candidate who is an incumbent.

Black candidates, black voters will tend to prefer the black candidate of choice, Senator Moss being an exception. So you have cohesion among -- in the black community around black candidates. You have cohesion in the white community among white candidates, and particularly in these open races, that cohesion, even in a 52 percent

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district, is playing dice with black voters' ability to elect their preferred candidate.
Q. So Chair Szetela yesterday, kind of looking forward, once black incumbents in the Senate have timed out, suggested it was possible there could be zero black Senators from Detroit within a couple of cycles.

Does your analysis confirm that?
A. That is exactly what this analysis shows. By drawing these districts down into the low 40s, there's a real possibility the black Senate caucus from Detroit will fit in the back of a taxi cab, not even Uber $x L$, by the end of the decade.
Q. Let's turn to the Holnse. You did an analysis of the 2022 election here as well?
A. That's right.
Q. And are trose reflected in this table 9 on page 42 of your report?
A. That's correct.
Q. It would take us a long time to go through every line of this so I'm going to try to just do some high level stuff.

First, the red and the green, again, is the polarization, correct?
A. That's correct.
Q. And the red are the districts where the black candidate of choice lost in a polarized election?
A. That's right.
Q. So what was the BVAP where the black candidate of choice lost in Hickory 26 ?
A. 35.8 percent.
Q. Hickory 11?
A. Hickory 11, 42 -- where did I put my glasses? 42 percent.
Q. Hickory 8?
A. There we go. 35 percent.
Q. And Hickory 5?
A. 62 percent.
Q. I think I'm reading 55 up there.
A. 55.3 percent.
Q. That's a high BVAP?
A. Yeah. I was reading Reggie Davis -- yes, 55 percent is a high vote share for BVAP.
Q. Looking aty cohesion, would you say there was cohesion in District $4 z$
A. In almost all these districts -- yes, in District 4 and in almost all these districts black voters are giving one at -giving one candidate 50 percent of the vote or more or thereabouts.
Q. I do want to tick through just a couple of these because it's going to be important for the record. Cohesion in Hickory 5?
A. 62 percent of black voters preferred Reggie Davis so, yes.
Q. Yes, cohesion?
A. Yes, cohesion.
Q. Hickory 7?
A. 90 percent of voters preferred the incumbent Helena Scott, so, yes, cohesion.
Q. Hickory 8?
A. Split field. 35 percent of the voters preferred Ernest Little or Durrel Douglas got another 34 percent. Combined you get 69 percent of the vote for those twa candidates so, yes. Q. You're combining them. Are they both black candidates?
A. They are.
Q. Are McFall and Soltis both white candidates?
A. They are.

JUDGE KETHLEDGE: Can I ask a question on this point? What's your standara for determining whether there is cohesion among black voters in a multi-candidate primary?

THE WITNESS: Your Honor, I looked -- I actually did some research to try to figure out -- I couldn't find anything. I think the panel is writing on kind of a blank slate here, but I think you have to take into account the fact, at the very least -- the reason $I$ show the top two, if the top two are different than white -- than what the white candidates show, I think you do have -- and it's well beyond 50 percent, you do have cohesion and you do have bloc voting by white voters to reject those voters of choice, like you see
in Hickory 8 or 5 -- 8 .
JUDGE KETHLEDGE: Okay. Thank you.
THE WITNESS: Yes, Your Honor.

BY MR. BURSCH:
Q. And cohesion is easy in a district like 12?
A. Oh, yes. Where Kimberly Edwards gets 84 percent, that's easy.
Q. And just to be clear, Edwards is black and Steenland is white?
A. That's correct.
Q. And as we discussed earlier, some of these districts are mutually probative, so the fact that $5,6,7,8,4$, and 1 are all kind of grouped together on the map and fall from the same core, the polarizatior and cohesiveness in those districts are mutually reenforcing?
A. That's rigit. You can see the trend across the entire region, ancy you can see how racially polarized voting works in Detroit.
Q. And so we talked through the chart on cohesion. Now quickly on polarization. Let's go back up to the top with Hickory 4. Whitsett and Turner are both black?
A. That's right.
Q. And Gus Tarraf is Middle Eastern?
A. That's correct.
Q. And then we've got Whitsett again, so that's black again.

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Do you see polarization here?
A. Yes. White voters are bloc voting for Gus Tarraf and only give Whitsett 14 percent of the vote.
Q. There might be a mistake on here. I see an asterisk on Whitsett's name over here but not over here. She is the incumbent, correct?
A. That's correct. I know I got it in the first column but not in the second. Yes, she is the incumbent.
Q. What do you say about a black candidate who is an incumbent who only gets 13.71 percent. Of the white vote in a racially polarized race?
A. She is really rejected, heavily rejected by the white community.
Q. Okay. So Hickory 5 , Davis and Hughes both black?
A. That's correct
Q. Price, Wogadell, both white?
A. That'sccorrect.
Q. Racial polarization?
A. Davis and Hughes, the black candidates combine for 78 percent of the black vote, which leaves only 22 percent between the two white candidates. Natalie Price and Michelle Wooddell combine for 85 percent of the white vote, which means that Davis and Hughes split the remaining 15 percent among them and any other minor candidates, so completely different vote preferences.
Q. All right. Hopping down to Hickory 7, Scott, black, Macey, white, correct?
A. That's right.
Q. And then you see the exact opposite over here, Macey, Scott. Would you say this is racially polarized?
A. Yes. Yes. Overwhelming black support for Helena Scott. Overwhelming white rejection of Helena Scott, two to one against.
Q. And she was an incumbent?
A. And Helena Scott was the incumbent, and the black incumbent is rejected by white voters here.
Q. Okay. Hickory 8 -- so just in case I didn't ask, so Hickory 7 is racially polafized?
A. Yes. I don't think I gave a clean answer. Yes, Hickory 7 is racially polarized.
Q. So 8, justy refresher, Little and Douglas are both black?
A. Yes.
Q. McFall and Soltis are both white?
A. Correct.
Q. Polarized?
A. Yes. The first and second choices are different. Here you have McFall and Soltis combining for 83 percent of the white vote, which means that neither Little nor Douglas could have gotten more than 17 percent of the white vote.
Q. All right. Hickory 11, Williams is black, White is black?

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A. That's correct.
Q. Paiz is Hispanic?
A. Yeah. Paiz, Paiz, yeah.
Q. And Manwell is white?
A. Manwell is white by the last chart, that's correct.
Q. Now, this was a nine candidate race, but does this still show racial polarization?
A. So, again, it's the tricky nature of these multi-candidate fields, but you can see the black candicate -- black voters preferred Williams and White. They don't even register among white voters who give a majority of their vote to Paiz and Manwell.
Q. Okay. Hopping down to Hickory 12, Edwards black, Steenland white?
A. That's right. This is a race with a black candidate taking on a white incumbent.
Q. And then the reverse, Steenland white, Edwards black?
A. Correct.
Q. Racially polarized?
A. It is racially polarized. Clear cohesion for Kimberly Edward. Clear bloc voting on the part of whites, two to one against Kimberly Edwards.
Q. And then, finally, Hickory 26, Chisholm black, Wilson black?
A. That's right. And Chisholm you have -- yes.

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Q. Wegela, white?
A. Correct.
Q. And then Wilson black again?
A. Yes.
Q. Racially polarized?
A. This is racial polarization. The -- of -- you see

54 percent of the black voters preferring Chisholm. Doesn't even appear in the top two for white voters. And, in fact, white voters give around 87 percent of the vote to Wegela or Wilson, which means that Chisholm couldn't have gotten more than 13 percent of the white vote

At the same time white voters -- black voters give very little vote share to Bylan Wegela. And even the second choice of black voters. Allen Wilson, only gets 9 percent of the white vote.
Q. Now, we de have quite a few white lines here, too, where there's no polarization so I just want to touch on a couple of these quickly. Carter, Tobey, that was a black candidate against a black candidate, correct?
A. Yes.
Q. The asterisk, that means these were incumbent races?
A. That's correct.
Q. If we skip up here we've got three more incumbent races out of four?
A. That's correct.

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Q. Hoskins, Jackson, that was a black candidate versus a black candidate?
A. That's correct.
Q. Okay. So notwithstanding that roughly half of the lines are white versus red and green, if you take this as a whole, this entire area is racially polarized, or not?
A. It is. You certainly see consistent cohesion among black voters, and where incumbents are not involved or where you don't have all black fields you see rejection of those black candidates by the white voters.
Q. Okay. So moving to some of frie historical data. We've got this 2014 House chart, table 7, page 40 of your report. Did you prepare this?
A. I did.
Q. And, again, we're going to kind of go through this quickly. Just looking at the black first choice and second choice in these various races, would you say that generally the black voters are voting cohesively?
A. Yeah. Most of these races have a single black candidate that gets the majority of the vote. They all have races where top two choices get a majority of the vote, and often the top two -- you know, even where say Leslie Love comes close to getting 50 percent of the vote in a multi-candidate field, you know, the top two choices among black voters combined for some 80 percent of the vote.

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Q. And the green means every single one of these races is racially polarized?
A. That's right. Where the white first choice is different.
Q. And down here we have two incumbent races that were not polarized and we talked about Stephanie Chang?
A. That's right.
Q. Some of these numbers struck me as a little odd. We've got a 92 percent BVAP in this prior House 7 but only a 19 percent margin of victory. What happened there?
A. Some of that is turnout differential. Some of it is that you do have a fractured field where, nevertheless, Garrett and Stallwroth combine for -- what is that, 78 -- 79 percent of the vote. And then Garrete got less than 19 percent of the white vote.

It's just - - this rejection of black candidates of choice by white voters in this district. It's only -- the only reasor these lines are green is because all these districts are 56 percent BVAP or higher.
Q. So moving down to prior House 3, there's 88.60 percent BVAP, but only a 3.30 margin of victory. Do you need to be a VRA expert or a mathematician to know what would have happened to Wendell Byrd in a BVAP of 35 to 40 percent or 40 to 45 percent?

MR. LEWIS: Your Honor, it's the same objection as before. It's beyond -- it requires analysis not performed by

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the expert in his initial report.
MR. BURSCH: My 16-year old daughter could opine on that.

JUDGE MALONEY: This one is math. Overruled.
BY MR. BURSCH:
Q. Go ahead, Mr. Trende.
A. He would have lost badly.
Q. How about prior House 1, 63 percent BVAP but a 6.7 percent margin?
A. Again, Brian Banks doesn't even register among white voters. He would have lost if the white share had been increased much.
Q. Okay. And looking at the same districts, we've already gone over this, but prior House 7 feeds into current House District 7?
A. Correct.
Q. Prior 4 fouse 3 feeds into current House Districts 7 and 14?
A. Correct.
Q. And prior House 1 feeds into current House Districts 10 and 12?
A. That's correct.
Q. Okay. We're getting close.

2016, this is table 8 on page 41. Again, do you find generally that there's cohesion among black voters in these races?
A. Yes. In every one of these races, except for House District 2, there is a clear candidate who emerges among black voters even in multi-candidate fields, and in House District 2 it's 42 percent in a race where there were at least four candidates running.
Q. And then as far as polarization, if you leave out incumbent Stephanie Chang, who we know is kind of a special exception in all black candidate races, how do you feel about the racial polarization?
A. So, you can see with House District 9 Santana gets 54 percent of the black vote, 15 percent of the white vote, rejection by white voters. In District 1, Brian Banks gets 74 percent of the black vote and 10 percent of the white vote. White voters prefer Pamela Sossi 81 -- or Sossi 81 percent of the vote. She gets less than 10 percent among black voters. Q. And before you go on, just to put a fine point on that, Banks was incumbent?
A. And Banks was an incumbent, that's right.
Q. And he took what percentage of the white vote as an incumbent?
A. 10 percent.
Q. And Banks is a black candidate?
A. That's right.
Q. Okay. So we have cohesion and polarization in 2016 as well?
A. That's right. You see Scott is at 42 percent of the vote, doesn't register among white voters. On District 5 you see Durhal's at 60 percent of the vote. White voters prefer Cynthia Johnson.
Q. Okay. And just to focus on one nonexpert, simple math question, prior House 2, 56 percent BVAP, black candidate of choice, Scott prevails by 6 percent. How does Scott do in a 35 to 40 percent BVAP district?
A. With almost no support among white roters, she loses.
Q. And as we discussed, prior House 2 feeds into current House District 10?
A. Correct.
Q. And right below that prrior House 5, Fred Durhal, that feeds into House Districts 1 and 7 under the Linden plan?
A. That's correct
Q. Okay. So rraving gone through all this data, what conclusions do you draw about black candidates of choice prevailing under the current Linden plan?
A. The Commission was playing dice with black voters' ability to elect their candidates of choice by drawing these districts down into 40 percent. Particularly in open races we consistently see black and white voters coalescing around different candidates, and white voters in particular do not vote for, in these open seat races, black candidates. By drawing these districts down to 40 percent, 42 percent, when

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these seats become open, you're flirting with an environment where the House black caucus will fit into the backseat of an Uber XL by the end of the decade.
Q. And if we put even the black House and Senate representatives, could they fit in that Uber XL?
A. Since we're talking about potentially none in the Senate, absolutely.
Q. Okay.

MR. BURSCH: I have no further questions. JUDGE MALONEY: Mr. Lewis, you may inquire. CROSS EXAMINATION

BY MR. LEWIS:
Q. Mr. Trende, good morrrig. Patrick Lewis for the Commission.
A. Good morning.
Q. One of the principal sections of your report conducts a racially polarized voting analysis of districts in Michigan.

Mr. Trende, would you agree with me that before your work in this case, you had only conducted a racially polarized voting analysis submitted to a Court in one prior case; is that right?
A. That's correct.
Q. Okay. And that was the Moore versus Lee case in Kentucky; is that correct?
A. I think I said Kentucky in my deposition, but I'm pretty

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sure it was Tennessee. But, yes, Moore $v$ Lee.
Q. Tennessee. Okay.

And that was a -- and that case involved an analysis
of a -- of -- or a challenge to one state representative district, correct?
A. That's correct.
Q. Okay. And, Mr. Trende, in preparing your expert report in this case, I understand that you reviewed Doctor Handley's expert reports as well as Commissioner Szetela's dissenting report; is that correct?
A. That's correct.
Q. Okay. But you didn't stidy the transcripts of Commission meetings, did you?
A. That's correct.
Q. Okay. And so. For example, any testimony that Doctor Handley might have offered to the Commission during meetings would not rave been incorporated into your report or relied upon in your opinions in this case; is that right?
A. That's correct.
Q. Okay. So, I'd like to start with the VRA portion of your analysis, and I know I'm slightly out of order from what you did, but let's start there.

In your first task, as I understand it, was to create demonstration maps to satisfy Gingles one.

Was that your understanding of why you drew the

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demonstration maps?
A. Yes.
Q. Okay. And do you agree that when drawing districts to comply with Section 2 of the Voting Rights Act, that where the totality of circumstances require, the district must provide the minority group in question an equal opportunity to elect their candidate of choice?
A. Yes.
Q. But you'd agree that when you prepared your demonstration maps and expert report in this case, you'd not conducted a performance analysis for the demenstration districts that you drew, correct?
A. No. Because Gingles prong one, as I understand it, is only asking whether there is a sufficient minority population to represent 50 percent plus one of the population in a reasonably configured district.
Q. Okay. So you did not conduct a performance analysis to determine if your demonstration maps would provide an equal opportunity to elect; is that right?
A. That's correct, because I understand that to be a different part of the inquiry.
Q. Okay. And is it also fair to say in your expert report, Mr. Trende, that you do not perform an analysis of the majority-minority districts in your demonstration maps to determine if they provide minority opportunity to elect that

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does not exist under the enacted plans?
A. That's right, because I'm only trying to demonstrate numerosity and compactness.
Q. Okay. And I believe you may have testified to this on direct, but just so that I'm clear, when you prepared your demonstration maps and your expert report in this case, is it true that you were not aware of the perform -- political performance of those demonstration maps?
A. Yeah. For the reasons I stated in the direct, that's correct.
Q. Okay.

MR. LEWIS: So I wolk]d like to display Defense Exhibit DTX001 at page 3.Sorry. DTX1 at page 3.

Mr. Williams, I think we're looking for DTX1, and it's called Exhibit-1. There we go. Okay. Go to page 3. BY MR. LEWIS:
Q. Mr. Trende, I'll represent to you that this is a printout of Article IV, Section 6 of the Michigan constitution. Have you seen this before?
A. Yes.
Q. Okay. And do you understand Section --

MR. LEWIS: And I'll ask Mr. Williams to scroll down to Subsection 13. Perfect. BY MR. LEWIS:
Q. Now, Mr. Trende, do you understand Section 6(13) of the

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Michigan constitution to specify the redistricting criteria that the Commission was required to follow under state law?
A. Yes.
Q. Okay. Mr. Trende, the third ranked criterion, which is subsection $C$, describes the state's community of interest requirement; is that correct?
A. Yeah. So, subject to contiguity and then the Voting Rights Act, you would take account of communities of interest, that's right. That's how I read it at least.
Q. Okay. And you'd agree that in preparing your demonstration maps, for example, wou did not consider preserving Detroit neighborhoods; is that correct?

MR. BURSCH: Objection, mischaracterizes.
JUDGE MALONE: He can answer yes or no.
THE WITNESS: Detroit's neighborhoods, not the towns or municipalities, that's correct, but I'm only operating in subdivisior A here for Voting Rights Act compliance which trumps everything below. So I'm -- with this map I'm only trying to demonstrate numerosity and compactness in reasonably configured districts.

BY MR. LEWIS:
Q. Okay. And when you refer to compactness, are you referring to the compactness of the district or the compactness of the minority population?
A. In this case it's both because we're only looking at the

Detroit -- a contiguous group of black residents in Detroit and south Oakland County, but I also tried to keep the districts compact. I know there's some dispute about what the proper measure is, but in this case it's both.

I wouldn't have drawn a compliant district, demonstration district, you know, stretching out to Genesee County or someplace like that.
Q. Okay. And so this is another example. You're familiar with the practice of redlining in terms of housing discrimination?
A. That's correct.
Q. Okay. And you didn't consider Detroit redlining maps in drawing your demonstratioii maps either, did you?
A. I did not. I do know that there's a horrific history of cities and townshios excluding black residents, but considering that as written into the redistricting law, and for better or worse it's a traditional redistricting criteria that I have to consider when I'm drawing reasonably configured districts trying to keep cities and townships intact. Q. And 8 Mile Road occupies a place in the history of redlining in Detroit, does it not?
A. You can see that plain as can be in the demonstration plans that $I$ drew by race, which is part of the reason that, unlike the Commission's maps, my maps don't go across it trying to bring segregated white communities in to overwhelm
black voters in Detroit and deny them their opportunity to elect their candidate of choice.

Why would I want to do that?
Q. So instead you constructed districts that followed a line of historical segregation?
A. Which is also a county boundary.
Q. Okay. And for Section -- subsection E of the Commission's criteria -- I'll just read it. It states, a district shall not favor or disfavor an incumbent, elected official, or a candidate.

## Are you familiar with this criterion?

A. Yes.
Q. Okay. And your report doesn't analyze whether your demonstration maps corsider the incumbency criterion, correct? A. No. Because, Cgain, that's not a traditional redistricting criteria, and I'm operating in subdivision $A$, compliance tolth the Voting Rights Act, which trumps all these. I'm just trying to demonstrate numerosity and compactness in a reasonably configured district.
Q. Okay. What do you understand a reasonably configured district to be for purposes of the first Gingles precondition?
A. That is a really good question under current law. For my purposes, I kept the districts compact. I kept them from excessively crossing city, county, and township boundaries, the traditional boundaries and traditional delineations of

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communities of interest, and I ensured that they had 50 percent plus one black population.
Q. Okay. So you mentioned that you did consider communities of interest, then, in constructing your demonstrative plans; is that right?
A. Well, as I testified earlier, political scientists consider county, city, and township boundaries to be pure expressions of communities of interest. So, insofar as I keep those boundaries intact, which $I$ split them a minimum number of times in these demonstration maps. they will respect communities of interest.
Q. And is it your understanding that the communities of interest that are to be considered when judging if a district is reasonably configured are limited to cities, townships, and counties?
A. There may ovell be other communities of interest. What I do know is that these maps are more respectful of them than maps that combine the wealthiest part of Oakland County with the poorest part of Detroit. It's at least as respectful as what the Commission did.
Q. But you didn't actually study communities of interest in Michigan beyond cities, townships, and counties, correct?
A. Not for the initial report, no.
Q. Okay. So moving on, then, to -- at the risk of redundancy, subsections $F$ and $G$ talk about -- of Article IV

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Section $6(13)$ of the Michigan constitution talk about consideration of city, county, and township boundaries and compactness. You did consider those criteria, correct?
A. Those are traditional redistricting principles and, yes, I made sure that the districts complied with that, correct. Q. Okay. Now, would you agree that Democratic voters in Michigan are more geographically concentrated than Republican voters in Michigan?
A. If you'd asked me that question a decade ago I would say, yes. Today I'm not as sure, because places like Oakland County are now voting 14 points to the left of the state. You know, I testified in my deposition, if you run simulations on a state like Texas, they' 1 show a huge geographic advantage for Republicans in 2012 but not in 2020 because the suburbs have moved against Kepublicans, so I can't say with confidence that today that's true of Michigan. I'm skeptical, in fact. Q. And yow mentioned Oakland County. How do you think the politics of Oakland County have changed in the past decade?
A. They've shifted towards Democrats.
Q. By how much?
A. I don't know the vote shares off the top of my head.
Q. Would you characterize it as a large shift?
A. I believe as of 2012 the state was voting -- or the county was voting three or four points to the left of the state and by the end it was voting 14 points to the left of the state.

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Now, the interesting thing about that swing is that it's occurring more in central and northern Oakland County than in a place, like, say, Southfield, which is, of course, heavily black and has been heavily Democratic all along.

And as those white suburban voters start participating more in Democratic primaries, you're driving up the white vote share, so in a polarized primary, by connecting black voters in Detroit with increasingly Democratic white voters in Oakland County you're diluting the black vote share even more in these districts.
Q. But did $I$ hear you correctlythat the farther north you go in Oakland County the more Republican the voters become?
A. Yes.
Q. Okay.
A. I guess I have to caveat Pontiac as an exception.
Q. Mr. Trende, I'd like to look at a few of the statistics presented in your expert report from the Hickory plan and your demonstration map for the House.

MR. LEWIS: So, Mr. Williams, I'd like you to put up Plaintiffs' Exhibit 20 and turn to page 24 , please. BY MR. LEWIS:
Q. And so this is -- I believe the table that was presented to you on direct was a cutout from this particular -- I have to go off your report, but this is the table you talked about in your direct examination, correct?

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A. Correct.
Q. Okay. And so we look here and we see in the demonstration plan that you've drawn, it looks like, four districts, House District 1, House District 5, House District 10, and House District 62 at between 50 and 53ish percent BVAP; is that right?
A. I'm sorry, I might have misheard. Did you say House District 62?
Q. I did say 62, but that might be on different page. Well, let's start with this. House District 1 is 51.64 BVAP, correct?
A. That's correct.
Q. House District 5 is 50.34 percent, correct?
A. That's right.
Q. $\quad 50.13$ percent in House District 10?
A. That's right.
Q. All right. And -- okay. That is fine. Now, at the same time I think you also testified on direct examination that you had three districts in here drawn at 75 percent or higher BVAP; is that right?
A. Yes, that's right.
Q. Okay. And you don't offer an opinion in this case as to whether black voters in Detroit require a 90 -- for example, House District 8 at 92 percent, require a 92 percent district to have an equal opportunity to elect; is that right?
A. Well, right, because all this is trying to do is to demonstrate Gingles prong one, that there are -- there is a sufficient compact black population to be 50 percent of the population or more in 10 districts. That's it. That's Gingles prong one.
Q. Okay. And you conclude -- and I believe your conclusion was that 10 was the maximum number of such districts you could draw in the Detroit area; is that right?
A. I thought I said that if I played a little faster and looser with compactness I thought I could draw 11 but -Q. Okay.
A. -- 10 is what $I$ felt $I$ could do while keeping it compact.
Q. Okay. So maybe 11 districts would be the outer limit; is that fair?
A. From my experiénce, drawing reasonably configured districts that respect county municipal lines in Detroit, yes.
Q. And soif we turn to page 19 of your report, which is table 1 , this is your computation of the BVAP in the 20 most heavily black Michigan districts under the enacted Hickory plan; is that correct?
A. Under Hickory and the Benchmark.
Q. And the Benchmark. I understand. Okay. So you would agree, then, that Hickory contains at least, I believe, six Detroit area MMDs; is that right?
A. You'll have to explain MMD. I think multi-member

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district.
Q. I apologize. So there are at least six districts in the metropolitan Detroit area that have a BVAP of 60 percent or higher?
A. Yeah. Yeah. Because 70 isn't in Detroit. Yes.
Q. Correct. Okay. So we have six. And the Hickory plan doesn't contain any districts with 74 to 92 percent BVAP, right?
A. Right. Because the black population is cracked.
Q. Isn't it possible that in districts with 90 percent BVAP, that the black population could be packed?
A. It's possible, but when sou saw the distribution of the districts drawn by a racefeutral computer, it produced districts with BVAPs that high. That is just the natural concentration of kIAck voters in portions of Detroit, that if you don't intencionally crack you're going to get some of these higher BVAP districts.
Q. Mr. Trende, do you understand Section 2 of the Voting Rights Act to be an intent based analysis where the Court is looking at the intent of the map maker?
A. As a straightforward claim, I don't believe so. As a defense to the Fourteenth Amendment claim, I think it is intent based.
Q. Okay.
A. Or at least knowledge based.

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Q. Okay. So it's possible, let's say hypothetically speaking, that the state had adopted one -- for example, one of your simulated plans with 92 percent districts, that such a plan could be potentially, under the right circumstances, subject to a Section 2 challenge?
A. It's possible.
Q. Okay. So I'd like now to turn -- kind of do a very similar quick analysis on your Senate plans. I'd like to go to page 83 of your report at table 15. You have a few more variables on here.

JUDGE KETHLEDGE: Can IGsk a clarification? Sir, you said 92 percent in his plan was the highest BVAP just now. Is that accurate or is that just benchmark you're talking about?

MR. LEWIS: I was referring to House District 8 on table 3 of the witness' report which reported a BVAP of 92.15 percent.

JUDGE KETHLEDGE: I guess, just so I'm tracking you, is that the 2010 actual plan or is that his demonstration -is that district in his demonstration district so the actual 2010?

MR. LEWIS: It is in the demonstration districts, Your Honor.

JUDGE KETHLEDGE: Okay. Thank you. BY MR. LEWIS:
Q. All right. Oh, one other question now that $I$ see it with population deviation. You said for your districts in your demonstration plans that you applied a plus or minus 2.5 percent population deviation; is that correct?
A. I believe that's right. I know it's allowable up to 5 percent under federal law, 5 percent either way, but I'm pretty sure $I$ kept it to 2 percent -- or two and a half percent.
Q. Okay. How did you select that number, two and a half percent?
A. I think that's the range the Commission drew in, but if not, $I$ just tried to keep the deviations low. I drew these maps about a year ago so 〕 don't remember exactly what it was, but I thought the Commission kept its population deviations plus or minus two and a half percent.
Q. Okay. Alzright. Sorry for the out-of-order questioning. I forgot tokask it and it showed up on the screen so I felt I had to.

If we look here, these are, again -- this is your demonstration plan and, here again, you're showing the five majority-minority districts that you said you were able to create in the Senate; is that correct?
A. That's right.
Q. Okay. And so here all five of those districts are between 50.01 and 50.88 percent; is that correct?
A. That's correct.
Q. And so is the 50.01 district, is that literally 50 percent plus one person?
A. It's pretty close.
Q. Pretty close? Okay. Now, after you get outside of the five majority-minority districts, is it fair to say that -I'm looking at your chart here, I believe House -- Senate -your -- your Senate District 11 is the next highest BVAP; is that correct?
A. That's right.
Q. And that's 31.77 percent, cofrect?
A. Yes.
Q. Okay. And then beneath that all the other BVAP numbers are -- appear to be w $\mathcal{D} 1$ below 20 percent; is that right?
A. Yes.
Q. Okay.
A. You derinitely have to give race consideration to get it to five 50 percent districts.
Q. Sure. And you believe -- and is it your -- I'm sorry, I'll come back to that.

So you have, then, a total of six districts in your Senate plan that are drawn at a BVAP above 25 percent; is that right?
A. The plan that is demonstrating Gingles one, yes.
Q. Okay. And Linden has seven such districts; is that right?
A. That's right.
Q. So I'd like to turn to your racially polarized voting analysis, and when you analyzed the existence of racially polarized voting for this case, you studied elections under both the prior decade plan and the enacted Hickory and Linden plans; is that right?
A. That's right.
Q. Why did you choose to study both?
A. As I testified, we don't have a very rich data set of stuff for the Linden plan and, like I. said, when you see how elections consistently work, 201^, and 2016, 2018 under the Linden and Hickory plan it's, to me, probative of House in more districts or lower Bug districts perform in the 2022s -or 2020s.
Q. Okay. And when you say the data for Michigan were not particularly rich, what do you mean by that?
A. Well, deally, what you want for a primary is a race where -- a primary race where you have statewide white candidate running against a black candidate or any election, really, where you see a clean division between white voters and black voters. But the truth is the statewide Democratic primaries in Michigan haven't been that heavily contested so we don't have a lot of gold standard data where you can -where you can hold the candidates constant. That doesn't mean we don't have enough data, but we don't have what we would

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normally desire. To kind of paraphrase Donald Rumsfeld, you go to war with the data you have, not the data you'd want.
Q. Okay. I understand. So do you feel if you had had more data that it would have made your conclusions in this case stronger; is that fair to say?
A. I think that's almost always the case so, yes.
Q. Okay. And just to clarify your position briefly, do you agree that a black preferred candidate does not have to be black?
A. It doesn't -- yeah. The black preferred candidate does not have to be black, that's right.
Q. Okay. So I'd like to turn briefly to your methodology for performing your racially polarized voting analysis.

So, when we falk about the ecological inference technique -- we've had a lot of tables, we'll have more tables today -- but it reports an estimate of the percentage of either the black vote or the white vote that went to a specific candidate, correct?
A. That's right.
Q. Okay. Now, that's not like an election return, like, if we were looking at the official election returns for Michigan, right? It's not like a tabulation of votes, correct?
A. That's right. That's the whole problem, that we don't have that.
Q. Okay. All right. So it's a statistical estimate that
you're drawing from data, correct?
A. That's right.
Q. All right. And it has a margin of error around it, doesn't it?
A. Yeah. These are Bayesian techniques. They have credible intervals not confidence intervals or margins of error, but they function in something of the same way, yeah.
Q. Something of the same way. Okay.

How do you define a credible interval?
A. I might have to apologize in adyance to the Court for this one because I'm not really sure how to do this in plain speech, but what you're doing with a Bayesian technique is you're generating multiple, what we call, posterior draws, multiple estimates of what the different variables can be.

And so as you sample these posterior draws, you then look to see --it's a lot like the ensemble analysis in a lot of ways. You look to see what the range of the posterior -the output estimates are, and you pull 95 percent of those draws and that creates your credible interval. It's a lot like the ensembles where you're generating repeated estimates, and you use that to kind of engineer what the counterfactual is.
Q. Okay. So it's an understanding, then, that what you're reporting is -- like, the number may actually be -- it may incredibly be a different number within a certain range; is
that right?
A. Yes. If the estimate is 47 but you say it's 48, I wouldn't have a reason to say you're wrong with a 95 percent credible -- depending where the 95 percent credible estimate lies, but, yeah.
Q. Okay. So as long as you're within the -- we'll call them the guardrails of the 95 percent credible range, any value within that range, the statistical test, you'd have to say that it's credible, that the number is that number, correct?
A. So, this is where it gets tricky. I know. Now it's getting tricky, as if it hadn't been before. The 95 -- the reason we use -- when we talkabout error margins, the reason we use 95 percent is because those are what we call the frequentist analysis, and it's a different way of looking at the data. And frequentists have said if -- if -- because of the different techniques employed, if something is outside of the 95 percent confidence interval, you could run the data 20 times and 19 of those times the true value would fall in the confidence interval.

The nice thing about Bayesian techniques -- and this is the punch line -- the nice thing about Bayesian techniques is you're doing direct estimation. Just like with the ensembles, we're directly generating plans to sample from, and so you can directly say with a Bayesian technique, like, 50 percent is more likely than not, similar to the legal

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standard in a way. You can't really do it with a typical error margin because that has a different interpretation. So the 95 percent credible interval makes it look like the 95 percent confidence interval, but because the interpretations are so -- are different, that 95 percent number isn't as crucial for a Bayesian technique as it is for a frequentist technique, and that is the simplest $I$ can explain it. I apologize.
Q. Okay. All right. So just as a -- so you report a few credible intervals in your range, do you not? And I'll put one up on the screen, but you do report the credible intervals in your expert report, correct?
A. At some places. In gerieral, I followed the approach that Doctor Handley used of doing the point estimates. In her table she didn't dof credible intervals, and since $I$ was trying to recreate --first trying to recreate what she did to ensure that we were on the same page and then expand it to races she did not estimate, I used the same reporting approach. Q. Okay. And, Mr. Trende, just to make sure we're all on the same page, when you're referring to the work of Doctor Handley that you were relying on, you were relying -- is it fair to say you were relying on the report that she submitted to the Redistricting Commission at the time that the plans were being considered?
A. Yes.

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Q. Okay. So we're not talking about her expert report dated in March of 2023?
A. That's correct. That was after I did my report so, yes.
Q. Okay. So, just -- I just want to do one very quick example and then it may be a --

MR. LEWIS: If the Court is amenable, it may be a good time for a lunch break, but if I could just do one quick example?

So, Mr. Williams, if $I$ can have you put up page 30 of Mr. Trende's report, table 4, and if we can zoom into that top bar for District 1?

BY MR. LEWIS:
Q. Okay. So just to make sure I understand this concept, Mr. Trende, so here y report -- this is your ecological inference, 2018 Democratic primary in a House district, and you're reporting the -- an estimate for black support for candidate Thanedar.

Do you see that?
A. Yes.
Q. Okay. And so your estimate is 45.65 percent; is that right?
A. Yes.
Q. Okay. So would it also be then credible for me to say that the true value could be 46.65 percent?
A. Yeah. It's -- I would -- looking at this distribution and

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the 95 percent range, it's more likely than not -- you can't say that -- if you said 46 percent, I couldn't say it's more likely than not that you're wrong.
Q. Okay. And the same would be true until you reached the 95 percent threshold?
A. Well, because it's Bayesian and you're doing direct estimates and you can say more likely than not, it probably -I probably am able to argue with you sooner than 51 percent, but, yes, $I$ will -- certainly by the time you get to 95 percent $I$ would start disagreeing with you if you said they were the same.
Q. Okay. All right.

MR. LEWIS: Yourfionors, I'm at a place where we could take a break if the Court wants.

JUDGE MALOUNEY: We've reached the noon hour. Counsel, if you have other areas and it's a good time to break, we'1, do it now. Thank you. We'll take the noon recess. We'll resume at 10 after 1:00. Thank you.

THE CLERK: All rise, please. Court is in recess.
(Recess taken at 12:02 p.m.; reconvened at 1:13 p.m.).
THE CLERK: All rise, please. Court is in session. You may be seated.

JUDGE MALONEY: We're back on the record in 22-272. Counsel for the parties are present.

Mr. Lewis, you may continue.

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MR. LEWIS: Thank you, Your Honor.
BY MR. LEWIS:
Q. Good afternoon, Mr. Trende.
A. Good afternoon.
Q. So before the break we were talking about credible intervals, and I wanted to talk about one of the tables in your report where you calculated credible intervals.

MR. LEWIS: So if we could put up -- let's start with page 38 of your report, Plaintiffs' Exhibit 20. Okay. Zoom in on this page. BY MR. LEWIS:
Q. And you say here this is the -- the 2008 primary election in -- this would be House Pistrict 5, correct?
A. Yes.
Q. Okay. And here you state that black voters generally back Cynthia Johnson while white voters favored Rita Ross; is that correct?
A. Yes.
Q. Okay. So if we turn to the next page, this is table 6 of your report showing the ecological inference results from this particular race. I'd like to turn to the second set of tables for black voters.

MR. LEWIS: If we could zoom in on that, Mr. Williams? There we go. BY MR. LEWIS:

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Q. Okay. And so to orient the Court and you to this figure, the -- there's three percentages here, and the left one is the ecological inference estimate, correct?
A. Correct.
Q. Okay. And the number immediately to its right is the lower credible interval, and the one to its right is the upper credible interval, correct?
A. Correct.
Q. Okay. So just to make sure I'm understanding this, so do you believe that Candidate Johnson was the black candidate of choice in this primary?
A. Yes.
Q. Okay. Now, the credidle intervals for -- and let me just get this so the recordis clear.

Your estinate for Candidate Johnson is 40.92 percent, yes?
A. Correct
Q. Okay. And your estimate for Candidate Ross is 37.59 percent, correct?
A. Correct.
Q. Okay. And the credible intervals for these candidates overlap, do they not?
A. Oh, yeah.
Q. Okay. So, it's potentially -- it's credible to say that Rita Ross could have been the highest vote getter among black

1 voters, correct?
A. No.
Q. No? Why not?
A. Because that's a common misinterpretation even of confidence intervals, that if the confidence intervals overlap, there's no statistically significant difference. And this is also hard to explain, but the actual interpretation is 1.6 times the error margin, not twice the error margin. The reason is, if Rita Ross is up at 40.56 percent, you don't know where in that credible interval Cyntina Johnson is for a given estimate.

So in a -- it's particularly in a Bayesian approach. You would need to pull the posteriors and see what percentage of the posterior draws Ross is ahead of Johnson in, if any, to make that type of ciaim.
Q. I see. Okay. So there's more analysis you would have to do as opposed to just looking at these two values. Is that what you're saying?
A. If you wanted to tell me that Ross may have been the candidate of choice, you would have to -- if you wanted to rebut my claim that Johnson is the candidate of choice, yes, you would have to do that initial work. But Johnson's point estimate is higher than even the 95 percent credible interval for Ross, so to convince me otherwise you would have to do the work of going in, looking at the posterior draws, and doing

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that calculation.
Q. Okay. All right.
A. But, yeah, it's a common misunderstanding with polls that if the confidence intervals overlap or the error margins overlap that there -- there's not a statistical significant difference.
Q. Okay. And here we're looking at a difference, though, of approximately three-and-a-half percentage points between your estimate for Johnson and Ross, right?
A. Right.
Q. Okay. All right. And if wego down to the NH White portion of this table, the far bottom. Okay.

And just to makesure $I$ understand, when you use the term NH White, that's referring to non-Hispanic white, correct?
A. Correct.
Q. Okay. And so here you have some pretty wide 95 percent credible intervals around both Candidate Johnson and Ross in the white community; is that correct?
A. That's correct.
Q. Okay. So...

MR. LEWIS: Okay. We can move on from this. BY MR. LEWIS:
Q. So I'd like now to turn to table 9 on page 42 of your report.

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All right. And this is the -- your summary of the 2022 House ecological inference analysis that you conducted under the Hickory enacted House plan, correct?
A. That's right.
Q. Okay. And you summarize a total of 16 elections in this chart; is that right?
A. Yeah. There's 16 races, one of them is unopposed, but, yeah, sure.
Q. So 16. All right. And we're just looking at the primary. We're not looking at the general, correct?
A. Well, that's right.
Q. Okay. And for the general elections under the Hickory plan in 2022 in these districts, did you identify any candidates who were black preferred candidates in the general who lost?
A. No. I believe Democrats won these districts.
Q. Okay. So black preferred candidates prevailed in the general election in all 16 of these races, correct?
A. If they made it to the general, yes.
Q. Okay. And is it possible that a black -- you may have a black preferred candidate in a general who is not a black preferred candidate in the primary?
A. Yes. Of the choices that black voters are given in the general, those might be different than the choices that they had in the primary, and it's a two-step process, right? When

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the Voting Rights Act was passed in the south, it was all Democrat so it was all about the primary.

So, yeah, you have to be able to win a primary and then win the general election.
Q. Okay. And of the 16 we have on this list, you identify only four districts where the black preferred candidate of choice did not prevail in the primary; is that right?
A. That's right.
Q. Okay. And specifically in this case, you're aware that there are a total of five House Districts under Hickory that are challenged under Section 2 of the Voting Rights Act and are still at issue in this case; is that right?
A. Yes.
Q. Okay. And if $I$ remresent to you that those districts include House Districts 1, 7, 10, 12, and 14, would you have any basis to disagree?
A. $\quad \mathrm{No}$.
Q. Okay. Of those five House Districts, were there any black preferred candidates that failed to be elected in 2022?
A. No.
Q. So in those elections, then, the district performed for the black candidate of choice, correct?
A. In 2022, yes.
Q. Okay. So I'd like now to turn -- okay. And of the black preferred candidate losses on here, you're aware that House

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District 26 is no longer in this case for purposes of the Voting Rights Act claim?
A. That's my understanding.
Q. Okay. And Hickory District 11 is also no longer in this case under the Section 2 theory; is that correct?
A. That's my understanding.
Q. Okay. And the same is true of House District 8 under Hickory, correct?
A. That's my understanding.
Q. Okay.

MR. BURSCH: To clarify: for the VRA but not the equal protection. It's in equal protection.

MR. LEWIS: House District 26 , Counsel, was removed from the case altogetrer.

MR. BURSCF: But you said 8, I thought.
MR. LEVIS: Yes. 8 and 11 are in the case for the Shaw claim but not the VRA claim. Hopefully that record is clear. I apologize if there was any confusion. BY MR. LEWIS:
Q. So, in other words, of the four candidate -- black preferred candidate failures identified on table 9, three out of four occurred in districts for which there was no pending voting rights challenge, correct?
A. That's my understanding. I'll be honest, I haven't
followed a lot of the procedural stuff in this case, but

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that's consistent with my recollection, $I$ think is the best way for me to put it.
Q. Okay. So I'd now like to turn to page 89 of your report and table 21.

MR. LEWIS: And if we can zoom in on table 21? All right.

BY MR. LEWIS:
Q. Mr. Trende, this is the result of your ecological inference analysis for the Linden Senate plan in the 2022 primary, correct?
A. That's right.
Q. Okay. And in the notes accompanying the table, I believe you indicated you actually $\overline{(y)}$ studied -- or looked at seven different elections ir 2022 ; is that right?
A. That's right.
Q. But you didn't report the results for Linden District 11, did you?
A. Yes. After I'd conducted the analysis I learned that the BVAP was down to 20 percent, which is getting really low to be a VRA compliant district. So, that's right, I didn't include it, but $I$ kept the analysis, because $I$-- it would be unethical to delete analyses.
Q. Okay. All right. And so of these six, you have a total of two black preferred candidate losses out of six; is that right?
A. There's also the unopposed district where I guess -- I don't know how you would characterize that in terms of preferences, but I'd say of the five contested races, black preferred candidates lost two, that's right.
Q. Okay. And I believe that you -- there was some discussion in your direct examination about the Linden 3 Senate District with Candidate Chang and Reeves. Do you recall that?
A. Yes.
Q. Okay. I believe you had testified that Candidate Chang in a prior -- a prior race was not the preferred black candidate; is that right?
A. That's right.
Q. Was that a state Senate or state House race?
A. I believe it was srate Senate.
Q. State Senate.
A. But I woula have to see it.
Q. Sure. T understand. I understand. Is it possible for a candidate who may not have been the black preferred candidate when she was initially elected to office to become a black preferred candidate when seeking reelection four years later?
A. Sure. It's part of my understanding of how elections work in Detroit, that when you take on the mantle of incumbency, it becomes much, much harder to challenge in a Democratic primary to take on the incumbent. And so, yeah, I mean -- if you have only token opposition, you may well become the black preferred

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candidate. But we also know that the -- like Chang has served two terms, that seat will be open next time, and that's why my view is that the open races are the ones that are the more probative.
Q. I understand. But it's possible that Chang, Candidate Chang through her efforts as a state senator earned the support of the black community in that district, correct?
A. Yes.
Q. And you didn't conduct an analysis in this case to determine if she had undertaken such efforts, right?
A. No. I don't know how, at least from a social science perspective, you would do that type of work.
Q. Sure. So I wanted to take a look as well at the Linden District 1, and this rad -- well, multiple candidates, but you'd expressed scme concern about the level of support for candidate -- for now Senator Geiss; is that correct?
A. Yes.
Q. Okay. And Senator Geiss is a -- identifies as a black woman; is that correct?
A. That's my understanding, yes.
Q. Okay. And are you aware that Senator Geiss heads the Michigan Legislative Black Caucus?
A. I'm sorry, can you repeat that?
Q. Yeah. Are you aware that Senator Geiss heads the legislative black caucus in Michigan?

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A. Heads. Yeah. I didn't quite catch that word the first time. Yeah, I was not, but I wouldn't dispute you on that. Q. Okay. So if we look at -- now I would like to turn -- you talked earlier about some of the prior races so I'd like to talk about a few of those.

If we can go to table 19 on page 87 of your report. I think that looks good.

And this is your ecological inference analysis -- or summary from the 2018 Senate races under the prior decade plan; is that right?
A. That's right.
Q. Okay. And so if we startwith Senate District -- so it looks like with Senate DisErict 2, it looks like there was both a special election and then I guess a regular election that occurred in that year; is that your understanding?
A. Yeah. There was a general election and then an election to fulfill to fill the remaining amount of the expiring term.
Q. I see. Okay. And in this case -- I guess -- I guess we'll start with the special first. Who would you identify as the black preferred candidate of choice?
A. I would identify it as Brian Banks, but in a badly fractured multi-candidate field. I think the more salient fact is that you had two black candidates who combined for 55 percent of the vote who -- the main one, Brian Banks, was
completely rejected by the white voters.
Q. But the white vote appears to be fairly split as well in these two elections; is that right?
A. No. I think Abraham Aiyash is the white preferred candidate, although there was, you know, about a third of the vote given to Adam Hollier.
Q. And Candidate Aiyash only earned -- is that 42 percent?

Do I have that right?
A. It was 42.56 in the special.
Q. All right. So less than a majority of white voters supported this candidate, correct?
A. Yeah. If we go up to tak].e 18, though, we can see how many candidates were running, and that was part of my colloquy with Judge Kethledge. 1 mean, $I$ think it's a fascinating question of how you handle Gingles prongs two and three in a situation where you have 10 or 14 candidates running. It's just fundamentally different than your typical -- your classic one-on-one election, but that's a fight for you lawyers I think, ultimately.
Q. Okay. And when you identify the top -- you know, these top two vote getters, did you take into account the credible intervals to ensure that -- to ensure that you can accurately tell a difference between what you're saying is the top two vote getters in the black community?
A. I'm taking the same approach that Doctor Handley took,

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reporting the point estimates -- and reporting the point estimates.
Q. Is there something specific about this district that led to a multi-candidate primary? You don't report anything like that in your report, do you?
A. I'm sorry, can you repeat the last part?
Q. Sure. You don't have any analysis in your report as to any other factors that could lead to a multi-candidate primary, do you?
A. Well, I think I said at the very Jeginning of my Gingles -- of my VRA analysis that, you know, actually the first step -- there's kind of three steps in becoming a representative. The first step is candidate emergence, which is kind of what you'retalking about, how are you getting 15 candidates emerging in some of these races, or 14 . And that's really an understudied phenomenon in political science, so I don't have on overarching theory of how candidate emergence works here.

I'm looking at steps two and three, which are winning -- actually, step two, winning the primary and then Doctor Handley has step three, which is the general election. Q. I see. Are you aware -- I'll move on from that but -- so is this analysis an example -- I believe you talked about before where sometimes you have to go to war with the data you have and not the data you want?
A. Yes. I think all the experts in this case doing the VRA analysis probably agree this would be a lot simpler if we had some good statewide, two-candidate Democratic primaries.
Q. And if we talk, then, about Senate District 11 all the way at the bottom of this chart, you know, would you agree here -I'm sorry, strike that.

I'd like to turn now to table 16 on page 84, and this is your 2014 for the Senate. So, here again, in 2014 you analyze a total of six races and you have only one black preferred candidate failure; is that, correct?
A. I would say I analyzed four since two of those are unopposed, but there is one black preferred candidate failure. It's the open seat.
Q. Okay.
A. Just saw when Senate District 2 became open, the black preferred candidate lost. I think also 11.
Q. And inSSenate District 11 there is effectively no white preferred candidate in this race, is there?
A. Well, this is another one where you see the white voters split, giving 87 percent of the vote for Ellen Lipton and Vicki Barnett. Black voters gave 20 percent to Lipton and Barnett somewhere under 20 percent. In these multi-candidate fields, polarization looks different. Vincent Gregory got 62 percent of the vote and white voters outright rejected him. He couldn't have gotten more than 16 percent of the vote from

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white voters.
Q. Okay. And if we turn to the next page, page 85 in table 17, this is your analysis of -- ecological inference analysis from that fifth Senate district primary that we had talked about. And if we zoom in on the black results here, second chart down, you would agree with me, then, that the black vote was effectively split three ways in this election, correct?
A. We could dispute two or three ways, but I'd say you could make a case for two or three. Jacksor and Nathan are both getting close to a third of the black vote. Stallworth is right around a quarter.
Q. Okay. And if there racd only been one -- if the black community had cohered around, for example, candidate -- if the black community, for example, had shown stronger support for Candidate Jackson, could she have prevailed in that election primary over the white preferred candidate?
A. Oh, I think so. It's a -- I think a 53 percent BVAP district, yeah.
Q. And, again, your report doesn't identify anything specific about this district that induces a fracturing of the black vote in that district, correct?
A. That's right. I don't even know what a social science analysis of this type of candidate emergence would look like just because it is understudied.
Q. All right. So $I$ would like now to turn to your racial predominance testimony that you gave this morning, and if I understand, you used both qualitative and quantitative methodologies to evaluate the enacted Hickory and Linden plans to determine the use of race in those elections; is that correct?
A. That's right.
Q. Okay. So I'd like to now turn to page 45 of your report.

Okay. And although we have the figure here, if you need to see the text beneath, but in your report you principally focus on the fact that the districts in the Hickory plan cross that Wayneloakland and Wayne/Macomb County border; is that fair to say?
A. I don't know about principally, but that's certainly a large part of the analysis, that's right.
Q. Okay.

Ma LEWIS: And if we go down to the text that's beneath the figure and zoom in on that. BY MR. LEWIS:
Q. So you're focusing here on -- on how the county boundaries -- how many times the county boundaries are traversed; is that right?
A. That's right.
Q. Okay. And then you're also looking at the fact that the traversals are pairing Detroit with what you described as

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white areas of the northern counties; is that right?
A. Yes.
Q. Okay. Now, that particular border that we keep talking about, that's 8 Mile Road, right?
A. That's right.
Q. Okay. Now, you'd agree with me -- we talked this morning about how the Michigan constitution was changed in 2018 with the new Article IV, Section 6 criteria.

Do you recall that?
A. That's right.
Q. Okay. And would you further agree with me that one of the changes in that new Michigan constitutional provision was to put city, county, and towinship preservation toward the bottom of the list of criteria for the Commission to consider?
A. I don't know - I mean, I'm -- because this transcript will follow mefor the rest of my life, I'll be a little pedantic. $\frac{1}{1}$ don't know exactly what the previous version said so I don't know what the change was. I will a hundred percent agree with you that it's lower down on the list.
Q. Okay. And do you have any reason to believe that the criteria used in the construction of the 2011 plan did not prioritize city, county, or township preservation?
A. I don't.
Q. Okay. And so the point of putting city, county, and township preservation toward the bottom of the list was to

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make it subordinate to the other higher ranked criteria on that list; is that fair?
A. Yes. It's certainly the effect.
Q. So I want to look at page 48 in figure 19 of your report. Now, you mobilized this particular -- you leveraged this particular figure in your direct examination to suggest that the Commission was not attempting to draw for partisanship when it constructed these districts; is that fair?
A. That's certainly part of it, yes.
Q. Part of it. Okay.

Are you aware of what partisan data the Commission utilized as it was drawing its plans?
A. I believe it had مartisan data from 2012 to 2020 and then it had key races that it was looking at.
Q. Okay. And it wasn't just looking at the 2020 presidential vote, was it?
A. Oh, that's right.
Q. Okay. And, in fact, the Commission was also using partisan fairness measures; is that right?
A. Yes.
Q. Okay. And those partisan fairness measures were not computed using just the 2020 presidential vote, were they?
A. I don't know that.
Q. You don't know that. Okay.

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And so if you were trying to judge whether the -- you know, whether the partisan distribution of voters in suburban Detroit supports an inference that the Commission was not drawing using partisanship, wouldn't it have been better to use the actual election data that the Commission was considering as it was drawing the plans?
A. Well, since you're opening the door with this question, I mean, yeah, that's why I looked at the 2012 to 2020 data and found that you didn't have to draw these bacon-mandered districts.
Q. You didn't report that anywhere in your expert report, did you?
A. Not in the initial report, but you're asking me about it now and whether it would be better, and the answer is, yes. And when you do that, it doesn't change. You still don't end up with Democraic districts even using 2012 to 2020. You and I both know I've done that analysis, and it's factually untrue. A fact, it's untrue that there are enough Democratic districts using 2012 to 2020 to draw even a single Democratic district. There's only a handful of precincts even using the 2012 to 2020 data that average out to be Republican precincts, much less districts.
Q. Okay. None of that analysis is in your report, is it?
A. It's not in the initial report.
Q. Not in the initial report. Okay.

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It was not used to construct your opinions in this case, was it?
A. Not in the initial report, but if we're going to have the conversation, I'll happily talk to you about it.

JUDGE KETHLEDGE: I think we got this point.

MR. LEWIS: Okay.
BY MR. LEWIS:
Q. And in your initial expert report -- I'll move on.

And if we go to page 93 of your report, you go -- and I believe this is down towards the bottom. I apologize.

You then look at the Serate -- you perform a similar qualitative analysis of the Senate plan; is that right?
A. That's correct.
Q. Okay. And here, too, one of the focuses of your report -of your qualitative analysis is the number of times that the county boundary was traversed; is that right?
A. That'scorrect.
Q. Okay. And the next analysis that you perform is district compactness; is that right?
A. That's correct.
Q. All right. I'd like to start with your analysis of the Hickory plan. If we could go to page 49 of your report.

Okay. And here you compare the compactness of the Hickory plan districts to that of the prior decade plan; is that right?
A. That's right.
Q. All right. And you concluded that the Hickory plan's districts in the Detroit region were less compact; is that fair?
A. Can you repeat that? I'm sorry.
Q. Sure. No problem.

And you concluded in this analysis that in the House that the prior decade plans, Detroit regions were, quote, typically compact and that the Hickory plan's districts in the region were less compact; is that corfect?
A. I think that's right.
Q. Okay. But as we discussed earlier, isn't it the case that the Michigan constitutional criteria governing the 2020 process placed compactness as the lowest ranked criterion? A. Yeah, that's ifght. That's why I'm doing this for the constitutional analysis. I just know that typically when you're -- in analyzing districts for racial gerrymandering, this is the type of analysis you walk through so, yeah. Q. So is it any great surprise, then, to you that the plan was less compact if compactness was the lowest ranked criterion compared to the prior decade?
A. Yeah. I think in the deposition when we talked about this, I'm not really that interested necessarily in the comparison to the benchmark. It's a good starting point and gives context, but what I'm -- to the extent I'm interested in

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the compactness analysis, it's how it interrelates with the racial aspect here, which is that you have these horrible bacon-mandered districts with bizarre shapes that are not compact that are cracking the black vote in Detroit. That's how compactness is really interesting for this claim, I think. Q. Okay. And then your point here is that the relationship is negative, meaning as the BVAP increases, the compactness decreases. Is that -- that's your position?
A. Yes.
Q. Okay. So if we turn now to page. 105 , this is where you look at the analysis of the Linden -- you conduct a similar analysis of the Linden Senate plan; is that right?
A. Yes, that's right. So we were just talking about Hickory. Now we're talking about Linden, right.
Q. Okay. And so you report these tables. We don't need to cover those, but if we turn to the next page, 106 , and here you conclucie in the first paragraph that, quote, Note that in all these situations the Linden plan is more compact at least in the Detroit area than the Benchmark plan. Do you see that?
A. Yes.
Q. And you conclude that the fact that Linden is more compact than the prior decade plan is evidence of racial predominance, right?
A. I think I -- all I say here is that under the Benchmark plan, the Detroit area African American districts tend to have strange shapes. I don't see that type of conclusion drawn here. The more interesting thing is that the -- the supposedly VRA performing districts are towards the bottom in terms of compactness in the Linden map consistently. That -that last paragraph where I conclude.
Q. Okay. Now, separately you would agree with me that race and politics are correlated in Michigan, right?
A. There's certainly -- yeah, there's sertainly a correlation overall.
Q. And would you agree that whers race and politics are correlated, that drawing for partisan affect can have a knock on racial affect?
A. It can, yes.
Q. And would you agree with me that in your report in January of 2023 you did not perform an analysis to determine whether the compactness analysis -- you know, the -- you did a regression analysis -- that regression analysis you performed was picking up a relationship between BVAP and compactness or between partisanship and compactness, did you?
A. Well, that's right. Again, this is the Fourteenth Amendment claim. The traditional way you approach this is to look and see if these minority -- heavily minority districts were distorted. It may well be that there's a correlation between partisanship and compactness as well. I mean, one of
the problems with the statewide analysis is that -- it may be that the Commission was having to do partisan gerrymandering in Grand Rapids or in Lansing and draw distended districts there, areas with really low BVAPs but where you kind of have to crack the Democratic core to get the partisan balance that they want, and that can drive a correlation between partisanship and compactness even independent of what's going on in Detroit.

But here I'm just trying to establish that, yeah, race and district shape do correlate, and the heavier the BVAP in a district, the more distended the district tends to become.
Q. But the analysis you performed in your report does not include an analysis todisentangle any relationship between compactness and BVAP and compactness and partisanship, right? A. Right. Ara it may well be that there are other portions of the state that the state drew -- or the Commission drew distended districts purely for political reasons, and that would drive that. But, again, I'm -- the separation analysis or the disentangling analysis is the map we just looked at and the two -- and the simulations, which I assume we'll go to soon.

The -- this is just establishing that, yes, as districts become more heavily black, they became more heavily distended.
Q. Okay.
A. In general.
Q. Since you mentioned simulations, let's turn to those now. MR. LEWIS: So if we go to -- we can take this down for now, Mr. Williams, so we'll be back in a minute to that. Actually, I do want to go to page 63. I apologize. If we can go to page 63 of the report, and I'd like to focus on the last paragraph of the page.

BY MR. LEWIS:
Q. I see where you discuss the ensendle approach and the second sentence you write, quote, l'his creates an ensemble of maps that reflect what we would expect in a state if maps were drawn without respect to a certain criteria, here racial criteria.
A. That's right.
Q. The next sentence says, If the map is drawn without racial intent, itspartisan feature should match those that appear in the ensemble.

And that's what you set out to do here, correct?
A. To disentangle the two, yeah. I think partisan is probably a typo there. It should be, racial features should match the ensemble, since we're just talking about race there, and everything else in the report is disentangling them, but it says what it says.
Q. I see. So if we go -- at the end of the sentence it'll

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show -- go on to the next page begins, the more the map deviates from, and then if we go to page 64 at the top, what we observed in the ensemble, the more likely it becomes that racial considerations played a heavy role.

You don't define what heavy role is in this report, do you?
A. I said it predominated. That's the goal of this analysis.
Q. Okay. But you don't define what level of role is a heavy role, right?
A. I'd have to look at the report. I thought that $I$ said -that I talked about the gerrymandering index and being too far out or being outside the range of the ensemble dot plots. I thought that was all in the report, but it's 120 pages. I don't remember everytring.
Q. It is 120 pages. Now, on page 65 -- and we'll come back to that concept, I promise you, but if we go to page 65, you mention that you instructed the algorithm -- and, again, this -- just to orient everyone, I'm sorry -- I'm just familiar -- too familiar with this. There is a computer program that you run that generates these maps; is that right?
A. That's right.
Q. Okay. And you instruct the computer program what features you want your simulated maps to have; is that right?
A. You -- yes. Yes. From a list of available commands you select what features the maps will have.
Q. Okay. And what is the purpose for imposing those constraints on the creation of the simulated maps?
A. Well, it's to avert an objection that assert the imposition -- it is to avert a comeback, basically, or a joinder that perhaps this other consideration that you didn't account for is the reason that the maps have these partisan or racial features.
Q. Okay. But the purpose -- the ultimate purpose for the test is to attempt to determine if a given parameter was employed by the districting authority, so let me use a noncontroversial example.

If $I$ was attempting to determine if a map drawer was trying to constrain for city boundaries, for example, take something nice and uncontroversial, the way your simulation approach would do would be to not consider that variable and then see how many times the simulated plans were respecting 1 nnes or not, right?
A. I think that's too noncontroversial. I don't know that -I'm just making sure that's right because I've never seen it. Yeah, I'm pretty sure that's correct.
Q. So for race the general idea is that you're going to draw a set of plans that don't consider race, and if the resulting map doesn't look like the simulations, it's an outlier, then that is a signal that race may have been considered?
A. Yes.
Q. Okay.
A. It's a good -- I think it's more than a signal. I think it's good evidence that race was a predominate factor.
Q. And if I'm understanding correctly, the purpose of the constraint is to try to eliminate, like, confounding variables, some other explanation for the -- for the unusual feature of -- or what your simulation is identifying as an unusual feature of a plan; is that fair?
A. That's right.
Q. Okay. So as an example in this case, you mention on page 65 that one of the constraints was that you wanted the districts to have a total maximum population -- well, deviation of plus or minus 2.5 percent. Do you see that, last paragraph?
A. That's correct
Q. Okay. Is that population deviation?
A. Oh, yé
Q. Okay. And I believe you testified earlier that your understanding is that it's permissible under federal law to go up to plus or minus 5 percent; is that right?
A. That's correct.
Q. Okay. And you also instructed the simulation to draw reasonably compact districts. What is the simulation computer attempting to do when you tell it to draw reasonably compact districts?

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A. I believe -- so, I'm trying to think of the most straightforward way. Well, just simple. It's trying to ensure that the districts that emerge from the process have a higher Polsby- -- all other things being equal, we prefer a district with a higher Polsy score which is more compact. Q. Okay. And then we talked about the -- you know, the county splits and then I'll skip past those. And then you ran a second set that tried to reduce county splits, right?
A. That's right.
Q. And then the third set did the ounty splits and then your community of interest control; isCthat fair?
A. Yes.
Q. You mentioned you had written a paper as part of your doctoral process that talked about the use of communities of interest in simulations. Do you recall that?
A. Yes.
Q. And did you attempt to use -- in your -- in your paper, how did you use simulations in the -- how did you use community of interest in the simulations in your paper?
A. So, I was using a different approach to simulation -- the reason -- the type of simulation being employed here is a state-of-the-art concept that was written by Doctor Imai over at Harvard, but it comes with the set of commands -- I guess I shouldn't leave Doctor McCartin out. It comes with the commands McCartin and Imai allow.

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I was using a different type of simulation, actually developed in large part by Doctor Rodden, that you write your own codes. So I wrote 20,000 lines of computer code to generate these simulations, and there were -- to get to answering your question -- I'm sorry, that just really is necessary background. To get to answering your question, there were three specifications for communities of interest that I employed.

The first was respect to county, city, municipal lines. The second was a factor analysis of census data to try to see how, you know -- how people sorted themselves. And then the third one was taking some good government groups who have actually asked citizers what community of interest do you consider yourself to re a part of and had them go online and draw their communities. And so the third specification I incorporated was using those shape files, so that's how I did it for my cissertation.
Q. I see. And then you said that third piece where citizens could go online and talk about their community. Was -- was that part of a group at Tufts University?
A. No. I know the $M C$-- I think it's MCGG or Doctor Dutchin's group.
Q. Yes.
A. No. This is representable.
Q. I see.
A. It's a different set.
Q. But a similar concept to Doctor Dutchin's process?
A. Yes.
Q. And you're aware the Commission used Doctor Dutchin's process to gather public comment, right?
A. I was not.
Q. You were not aware of that. Okay. And in your expert report in January of this year, you don't -- you didn't use either of the factor analysis or the pulolic comment analysis to evaluate communities of interest in these simulations, correct?
A. So, those are not incorporated into Doctor Imai's simulation analysis. The reason I didn't use the simulation analysis from my dissertation is that that approach does not produce an unbiaseá poll of districts. So while it's very flexible and you can incorporate your own ideas or constraints virtually infinite, it doesn't have the math behind it that Doctor Imai's approach does that proves that, yes, you will get a representative poll.

So I don't think it would be appropriate -- in fact, in my expert opinion, it would not be appropriate to use in a redistricting analysis in 2023.
Q. Okay. So, Mr. Trende, given your testimony today about racially polarized voting in Michigan, I believe you testified it was your view that the VRA required racial conscious

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drawing to at least 10 districts in the House. Do you recall that?
A. Yes.
Q. And so you didn't instruct the computer in your expert report in January of ' 23 to draw 10 race conscious districts, did you?
A. No.
Q. Okay. So I'd like to turn to page 78 , figure 35 very briefly. I believe you testified about this figure on direct examination. Do you recall that?
A. Yes.
Q. Okay. And I believe you described the fact that the race blind simulations were draving three House districts in this particular example with very high BVAPs. I believe you described that as a feature not a bug; do you recall that?
A. Yes.
Q. Okay.
A. Well, no. No. The feature not the bug was the wide range of outcomes.
Q. I see.
A. The fact that it's acknowledging that there's multiple ways that the legislature can draw these districts. You wouldn't want up there to be, like, a very narrow band, because then you've over constrained your simulation. So within the realm of race unconscious districting, it's
allowing a wide variety of plans to be produced, and that is a good thing.
Q. I see.
A. I'm sorry if I misspoke there.
Q. If we turn to page 67 of your report, figure 27 . This is reporting -- it appears, if $I^{\prime} m$ reading this correctly, that your simulated -- the range of simulated districts would contain approximately nine majority black districts; is that correct?
A. That's right. And then a tenth that could be very close to 50/50 but, yes.
Q. Could be close. Okay. IJdidn't want to count the tenth. I would give you the nine, out all right.
A. It's not 10 .
Q. Okay. And in rour expert report in this case you did not conduct an analysis to determine whether a plan with nine majority-minority districts would be able to achieve the Commission's partisan fairness goal, did you?
A. No. Because I don't think a state constitutional requirement can subordinate the Fourteenth Amendment. No.
Q. Okay. So I want to talk a little bit about the partisan fairness metrics. I believe you testified on direct examination about one of the three.

But is it your understanding that the Commission relied on three partisan fairness metrics; the efficiency gap,

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the mean median difference, and lopsided margins?
A. Yes.
Q. Okay. Are you familiar with the lopsided margins test?
A. If I -- it's -- of the three it's the less used of the group. But, as I recall, it's the average -- for the districts that are carried by Republicans, it's the average margin there versus for the districts carried by the

Democrats, the average margin there.
Q. I see. And what is that attempting to measure?
A. It's trying to measure packing and cracking, basically. If you're creating a bunch of 53 percent -- more 50 -- more, say, 55 percent Republican districts than they would naturally be -- more 55 -- let me stirt over.

It's trying oo measure whether you are creating a bunch of, say, marginal or just beyond marginal Republican districts by spreading out Republican voters and then packing Democratic woters into a handful of overwhelmingly Democratic districts, and if you were to do that, say, create a bunch of 55 percent Democratic -- or Republican districts and then a handful of 80 percent Democratic districts, you would have a lopsided margin score of whatever 80 minus 55 is. It's getting late. 25 percent.
Q. Where in Michigan are the most politically lopsided margins found?
A. Probably in the City of Detroit.

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Q. Okay. So if the Commission was trying to reduce lopsided margins, wouldn't it naturally go to Detroit to try to do so?
A. It could.
Q. It could, okay.
A. It wouldn't really do that by matching them with a bunch of heavily Democratic precincts in Oakland County, but it could.
Q. Okay. And we'll turn to the second partisan fairness measure which is the efficiency gap. Can you just briefly explain what the efficiency gap does?
 party is -- that when a party is gerry- -- when a political party is gerrymandering, wiat it's trying to do is waste a lot of votes for the opposing party and very few votes for itself. So the way the efficiency gap is calculated is -- in District 1 , let's say, all the votes that the losing party had are considered wasted. And then all the votes past 50 percent that the winning party had are considered wasted, right? Because if you don't win the district, it doesn't matter how many votes you get. You get zero percent of the representation. And if you go beyond 50 percent, well, you would have been better off using those votes somewhere else in the state.

So you calculate the wasted vote for the Democrats and the wasted vote for the Republicans, and then you do that

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for District 2, 3, 4. You add them up, you take the difference, and you can see which party has more wasted votes than the other. You also divide by the total number of votes in the state so that it scales between zero and one.
Q. Okay.
A. The short of it -- you asked me how to calculate, but the short of it is that it's a measure of which party had more votes wasted under a plan.
Q. I see. And if you're trying to reduce an efficiency gap, wouldn't one logical -- as a redistricter, wouldn't one logical place to go would be to places where margins of victory or defeat are very large?
A. No.
Q. No? Why not?
A. Because one of the screwy things about the efficiency gap is that it flips at 75 percent. If you have a district that is 75/25, the losing party -- let's say there are a hundred votes cast and it's a $75 / 25$ district. So the losing party had 25 votes wasted and then the winning party went 25 votes beyond 50 percent. So both parties had 25 wasted votes, there's a zero efficiency gap.

And if you go beyond that, it's all flipped. So these heavily Democratic districts are actually not the place you would go to get the most bang for your buck in the efficiency gap. Where you really get bang for your buck in

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efficiency gap is by taking a marginally Republican district and making it marginally Democratic, because if you have a district where Republicans got 51 votes and Democrats got 49, Democrats waste 49 votes, Republicans waste one. By adding two votes to Democrats and subtracting two votes to Republicans, you completely flip that. All of a sudden the Democrats waste only one vote and the Republicans waste 49. So all the action for the efficiency gap is in the 50/50 districts.
Q. And that was not, however, an aralysis that you performed in your report in this case, right? You were not attempting to minimize in your report incthis case the efficiency gap, were you?
A. No, no.
Q. Okay.
A. I -- you cain -- I mean, you can see, and I, I think, went on at great iengths about how when you look at the partisanship there's almost no changes being made at the $50 / 50$ point. So, I mean, that's where the efficiency gap gets changed.
Q. Sure.
A. If they were really trying to manipulate the efficiency gap you would see a whole lot of districts coming offline at that 50/50 mark, not at the 75/25 mark.
Q. Okay. So we're going to turn now to the gerrymandering

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indexes that you used in this case. And so you introduced that, $I$ believe, on page 68 in the third full paragraph, if we can turn to that?

Okay. And so you describe the gerrymandering index as being proposed in a 2017 paper and endorsed by Professors McCartan and Imai. Do you see that?
A. Yes.
Q. Okay. And that was specifically partisan gerrymandering index, was it not?
A. Yes.
Q. Okay. And you applied this fechnique to race as opposed to politics; is that right?
A. That's correct.
Q. Okay. And you ciefd in your report no peer reviewed publication that vaLidates the use of the gerrymandering index to measure race, do you?
A. Well, 20 , but --
Q. You don't?
A. -- it functions in exactly the same way. It is a way of summarizing ensembles. Whether you're summarizing ensembles with respect to race or you're summarizing ensemble data with respect to politics it's the exact same application.
Q. Okay.
A. I'm sorry. The exact same process with a different angle to it.

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Q. Okay. So if we go to page 70 in figure 28 , this is the racial gerrymandering -- this is the histogram of the racial gerrymandering index for the Hickory -- for the Hickory plan compared to your simulations, right?
A. Correct.
Q. Okay. And so the idea here is that the Hickory plan is an outlier because the red line, which represents the Hickory plan, is outside of the 95 percentile for the districts -- or for the scores of your simulated plans, right?
A. Yeah, that's part of it. It's more than that, though. Like I said, you could take that entire distribution of the ensemble and fit it between you could put an entire whole other ensemble distributiof in between the existing ensemble and the gerrymandering. It's way out there. I don't know how many standard deviations that is, but it's a lot.
Q. Okay. It makes it an outlier, correct?
A. An extreme outlier, yes.
Q. Okay.

And so if we then turn to figure 33 on page 76 , this is the partisan gerrymandering index that you calculated for the Hickory plan and the simulated plans, correct?
A. That's right.
Q. Okay. And this shows the same relationship, doesn't it, the red line being outside of distribution?
A. So, yes and no. Yes, the red line is outside of the

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distribution. No, you can't fit an entire whole other ensemble distribution between the two. And, look, we know that race and politics do correlate somewhat, and if you change the BVAPs of the district you will affect some change in the partisanship of the district, so I'm not surprised that this shows up as outside the distribution although less so.

That's why you really have to read -- you can't just look at the gerrymandering index or just look at the dot plots because they tell different facets of the story. You look at this and say, okay, the racial gerrymandering index is much further out there, much more extreme than political. Then you look at the dot plots and you say, okay, the political story makes no sense because they're not changing values at that $50 / 50$ line, but the racial gerrymandering story makes a lot of sense because theyre making changes at the 50/50 line and lining things up with that 40 percent BVAP target that the fact witness testimony is discussing. It's just a very compelling story when you look at everything together in that sense.
Q. Okay. So I wanted to turn very quickly to page -actually, I'll skip that.

I want to turn very briefly to the first five pages of your supplemental report. This is the part that has been allowed into evidence. And $I$ guess we'll turn first to page, I guess, 121 of this figure, just to orient.

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Do you recognize this as the supplemental rebuttal that you prepared?
A. Yes.
Q. Okay. And so if we turn to the chart on page 5, and this is -- again, this is Plaintiffs' Exhibit 20 -- if we turn to page 5 of the supplemental report, PX20-125, do you see this list of plaintiff addresses and House and Senate district assignments?
A. Yes.
Q. Okay. And you prepared this, correct?
A. For the initial supplemental. yes.
Q. Okay. Was there another supplemental?
A. I thought there was a Second address list that was submitted to address errors for Michelle Keeble and maybe Kenyetta Snapp or Kenyetta Snapp.
Q. Okay.
A. But the rest of it should be identical.
Q. I see. And for plaintiff -- and for Plaintiff Keeble, you've identified her as being assigned -- and these are the assignments to your demonstration plans, correct?
A. Correct.
Q. Okay. So your view is that -- is it your position today that Plaintiff Keeble is still assigned to Senate District 5 and House District 8?
A. I don't know.

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Q. You don't know, okay.

Well, unfortunately I don't have a copy of whatever the replacement exhibit is, but are you aware of the distance that Plaintiff Keeble moved from her prior address that's on this page?
A. I know that one of the plaintiffs moved to 7 Mile Road. I don't know where the other moved to.
Q. Okay. I'll represent to you that Plaintiff Keeble is the one that moved to east -- 7 Mile Road East.
A. Yeah. So -- yeah, it's -- as I<recall, it is near the Grosse Pointes but not in it.
Q. Okay. And where she used to live was not near the Grosse Pointes, was it?
A. I don't believe sol no.
Q. No. And if I Bold you it was about 21 miles away, she moved a distance of about 21 miles, do you have a basis to disagree with that?
A. I would not.
Q. You would not, okay.

So you have confidence as you sit here today that she's in Senate District 5 under your enacted plan?
A. I do not.
Q. You do not. Okay.

And we talk about plaintiff -- plaintiffs -- I
believe you said Snapp. And you agree that her address is

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incorrect on this supplemental report as well?
A. That's right. These addresses were taken from the complaint, and I believe she moved as well.
Q. She moved as well. Okay.

And do you have confidence as you sit here today that her district assignments for the House and the Senate under your -- on this chart are accurate?
A. I don't know.
Q. You don't know, okay.

And you have a third person identified here, Norma McDaniel. Do you see her?
A. Yes.
Q. Okay. Are you aware that she was a plaintiff in the state court Detroit caucus lawsuit that was filed last year?
A. $\quad \mathrm{No}$.
Q. You were rot aware, okay.

Were you aware that the court granted summary
judgment on res judicata grounds for -- as a result of that particular litigation?
A. I knew the Court had granted summary --

JUDGE MALONEY: Counsel, what does this got to do with the witness' testimony?

MR. LEWIS: Your Honor, he has a plaintiff that's identified -- we believe is no longer a plaintiff in this case because the Court granted summary judgment as to all that --

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as to those plaintiffs' claims.
JUDGE MALONEY: Why do we need to go into that on this record?

MR. LEWIS: Your Honor, the issue is -- I can get to it very quickly but --

JUDGE MALONEY: Isn't that a legal issue for the Court? How does it go to Mr. Trende's opinions?

MR. LEWIS: It only goes to the extent that he's documenting where plaintiffs are. If this person is not a plaintiff --

JUDGE MALONEY: Move on tio something else, please.
MR. LEWIS: Understood.
BY MR. LEWIS:
Q. Okay. And, Mr. Trende, do you have any plaintiffs listed in Senate District, 5 in your -- in your plan besides Keeble?
A. Well, it's demonstration plan not a proposed remedial map, but, ro, besides Ms. Keeble, I do not.
Q. Okay. And for Norma McDaniel, do -- she's in Senate district -- you identify her as being in Senate District 4 in your demonstration plan, correct?
A. In the demonstration plan.
Q. Are there any other plaintiffs on this list that you have in your Senate District 4?
A. $\quad \mathrm{No}$.
Q. Okay.

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MR. LEWIS: With that, I have no further questions, Your Honors.

JUDGE MALONEY: Mr. Bursch, redirect?

MR. BURSCH: I have no questions, Your Honor. Does the bench have anything?

JUDGE MALONEY: I'm sorry?
MR. BURSCH: I have no questions. Does the bench have any questions?

JUDGE NEFF: I have one, maybe two.

JUDGE MALONEY: You had a guestion?
JUDGE NEFF: I do. I think only one.
JUDGE MALONEY: Judge Neff, go ahead.
JUDGE NEFF: Thank you.
Mr. Trende, I am by no means schooled in statistics or any of the things that you've talked about here today, but I want to make sure that I understand something correctly. When you ran the computer to get your 50,000 maps, you had 50,000 maps by actual count or close to it?

THE WITNESS: Yes, Your Honor. It takes 50,000 -50,000 draws from the poll.

JUDGE NEFF: Okay. What $I$ want to know is, am I correct in that one of the parameters that you fed into the computer for it to make maps of, is that every one of those maps had to have 50 percent plus 1 BVAPs; is that correct, or not?

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THE WITNESS: No, Your Honor.
JUDGE NEFF: Okay.
THE WITNESS: That was not -- there was no racial
data fed into the simulations.
JUDGE NEFF: Okay. I did misunderstand that
considerably. Okay. Thank you. That's all I have.
MR. BURSCH: Then we'll excuse Mr. Trende with the option of bringing him back as a rebuttal witness next week. JUDGE MALONEY: You have no further questions of the witness?

MR. BURSCH: Oh, no.
JUDGE MALONEY: Mr. Iuewis?
MR. LEWIS: No, four Honor, I do not.
JUDGE MALONEY: Thank you. Mr. Trende, you're excused for now.

THE WITNESS: Thank you, Your Honor. (Witness excused at 2:32 p.m.)

MR. BURSCH: Plaintiffs call Professor Brad Lockerbie.

JUDGE MALONEY: Thank you.
THE CLERK: Please raise your right hand.
BRADD LOCKERBIE,
having been sworn by the Clerk at 2:33 p.m. testified as follows:

THE CLERK: Please be seated. State your full name
and spell your last name for the record, please.
THE WITNESS: Brad Lockerbie, L-O-C-K-E-R-B-I-E.

DIRECT EXAMINATION

BY MR. FLEMING:
Q. Good afternoon, Doctor Lockerbie.
A. Good afternoon.
Q. Could you tell us about your occupation, please?
A. I am a professor of political science at East Carolina University.
Q. And how long have you taught there?
A. I have been there 15 years, believe.
Q. Prior to that, did you teach?
A. Yes, I did, at the Urs Versity of Georgia from 1988 to 2007.
Q. And throughout your time as a professor, what courses have you taught?
A. I've targht research design for political science, statistical methods for political science, voting behavior and pulic opinion, intro to American politics, and religion in American politics.
Q. Could you tell us about your education background.
A. Certainly. I received my bachelor of arts from the University of Georgia in 1984 and I received my PhD from the University of Iowa in 1988.
Q. What was your PhD in?
A. Political science.
Q. Was your doctorate, was it a particular specialization?
A. Yes. Within the American politics subfield.
Q. And beyond your doctorate and bachelor of arts, do you have any other extended training?
A. I've taken several methods classes that were not for credit at the University of Iowa while I was there from someone like EunJung Kim who did factor analysis and was considered the expert on it.

I took probative analysis from -- took a short course, so to speak, from Forest Nelson at the University of Iowa. And I have taken several courses in $R$ programming from Greg Martin who is the head of health protective surveillance at Republic of Irelandónline.
Q. Have you ever Ween published?
A. Yes, I have.
Q. As it relates to this case and your testimony today, in what subjects were you published?
A. I have done a good bit of work on voting behavior. I have done work on race and voting, the intersection of race and religion and voting as it pertains to -- that comes in close to this case, I believe, going back to 1988 through most recent years.
Q. And have you been a peer reviewer of other published work?
A. Yes, I have.

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Q. Have you provided expert testimony in court before?
A. Yes, I have.
Q. On which occasions?
A. Most recently in a case dealing with the joint House districts in Kansas and the drawing of state legislative districts in Arkansas.
Q. Were you admitted as an expert witness in both instances?
A. Yes, I was.
Q. Now, first for that Arkansas case, in what fields were you deemed an expert?
A. I believe the fields listed rere voting, racial polarization, gerrymandering, aggregate recession analysis, and ecological regression ahalysis.
Q. When you were obtained as an expert in that case, were you asked to specificariy review anything?
A. Yes, I was.
Q. What were you asked to review?
A. The primary item $I$ was to review was the report of Doctor Lisa Handley.
Q. Now getting to the Kansas case, what were you deemed an expert there?
A. I was deemed an expert, I believe, on voting behavior, racial voting, racial polarization and, again, aggregate regression/ecological regression.
Q. Beyond those cases have you been retained as an expert in

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other instances?
A. Yes, I have.
Q. And getting back -- forgive me, I forgot to ask, in the Arkansas case, the report that Doctor Handley authored, what did that report cover?
A. That looked at racial polarization in the state making use of homogenous precinct analysis, ecological regression, and ecological inference.
Q. Did you prepare a report in connection with this case?
A. Yes, I did.

MR. FLEMING: If we can roull up Plaintiffs'
Exhibit 19 at page 3, please.
BY MR. FLEMING:
Q. Doctor Lockerbie, wo you recognize this?
A. Yes, I do.
Q. What is it?
A. That is the first page of my report.
Q. And what's the date on there?
A. January 15, 2023.
Q. And if we can scroll down to page 22 , please. And when we get to the end, Doctor Lockerbie, could you tell me if this looks like a true and accurate copy of your report?
A. Yes, it does.
Q. Could you describe the purpose of this report?
A. The purpose of this report was to review the work of

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Doctor Handley and the report -- or memorandum from Bruce Adelson as well as review the transcripts of the public hearings on the redistricting -- or for the Redistricting Commission.
Q. So that's what you reviewed. What were you opining on, the topic?
A. The topic was -- was the Senate factors that relate to redistricting and racial voting.
Q. And tell me about the senate factors. Why are they important to this case?
A. Well, the Senate factors frorn the Department of Justice are numbered as seven. There's some overlap between them but the main ones -- the ones was examining included the economic/educational disparities between African Americans and whites. I was locking at the incidents of racial appeals in campaigns, and was looking at racial polarization.
Q. And yor mentioned there are other --
A. Other factors as well, such as slating of candidates, excluding African Americans from that, and a few others that are escaping me at the top of my mind right now.
Q. Does the history of discrimination sound like one?
A. The history of discrimination, I was lumping that under the educational and economic disparities.
Q. And you mentioned -- could you repeat, again, what did you review to author this report?
A. I reviewed the Handley report from 2021 , I believe. I reviewed the report -- or a memorandum from Bruce Adelson and I reviewed public transcripts from the hearings as well as items that were referenced in all of the above -- or some of the above.
Q. Just to clarify a couple of those topics. So, first the -- the Doctor Handley report you mentioned.
A. Yes.
Q. To the best of your recollection, is that the report to the Redistricting Commission she authored?
A. Yes, it is.
Q. And the Bruce Adelson merorandum, do you recall the title on that?
A. The title is sometning along the lines of memorandum to the Michigan Independent Redistricting Commission, I believe.
Q. Does the fistory of Discrimination in the state of Michigan ard its Influence sound right?
A. That sounds good.

MR. FLEMING: Your Honor, at this time $I$ would tender Doctor Lockerbie as an expert in the field of the factors discussed in the Senate report from the 1982 Voting Rights Act amendments.

JUDGE MALONEY: Any objection?
MR. LEWIS: I apologize for the delay. I was just struggling with the exact field in which the expert was being
offered but, no, we don't have an objection.
JUDGE MALONEY: All right. The witness may give his opinions pursuant to Rule 702 .

MR. FLEMING: Thank you, Your Honors. And because
the Commission has stipulated to it previously before pending
his testimony, tendering the expert report of Doctor Lockerbie as well, which is Plaintiffs' Exhibit 19.

JUDGE MALONEY: Any objection?
MR. LEWIS: None from the Commission, Your Honor. JUDGE MALONEY: Thank you, sir. Admitted.
(At 2:42 p.m. Exhibit No. 20 was admitted)
BY MR. FLEMING:
Q. Doctor Lockerbie, car you describe the overall findings of your report?
A. Certainly. First, with regard to the history of discrimination in the state of Michigan, it is long lasting and pervasire going all the way back to the original constitution in which African Americans were precluded from voting and serving on juries.

Moving forward, we see incidents of discrimination against African Americans with red lining of housing patterns. We see the incidents of race riots where considerable damage to life and property was done. I believe in 1943 there was a race riot where, I believe it was -- I forget the exact number of people that perished in that but it's in the report, as
well in inflation of adjusted dollars, $\$ 32$ million worth of damage.

More recently in 1967 there was an additional race riot where a good bit of damage occurred as well as considerable loss of life. And we move forward and we see educational disparities are continuing. As Bruce Adelson reported, African Americans are much less likely to have a high degree of education.

MR. FLEMING: If we can turn tp the bottom portion of page 7, please, of Doctor Lockerbie's.report?

I'm sorry, can we actuarly move to the next page at the bottom?

BY MR. FLEMING:
Q. Doctor Lockerbie, you mentioned the public comments here towards the end. Fim going to ask that we flip to the next page and then, Doctor Lockerbie, could you describe the public comments submitted to the Commission that speak to this? A. Yes. I reviewed the entirety of the public comments that were made available. And throughout the report $I$ saw many instances where people referred to the impact or influence of African Americans on politics had been diluted quite severely. In fact, I saw reference from one individual who referred to it as, quote, a high tech -- a lynching.

These included elected officials or -- yes, elected officials as well as the executive director of the Michigan

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Department of Civil Rights, the legislative liaison from that office, and I see on the screen there, Sara Howard from the AFL-CIO Fair Maps Project.

Oh, and I neglected to mention with regard to the history of racial discrimination, Adelson makes reference to Detroit as being a home of the Klan.
Q. So why include these public comments in your part about the history of discrimination?
A. Many of these people who spoke spoke over more than just the most recent period. They spoke over the history of Michigan. So it spoke to the totality of what was going on in the state.
Q. How did they relate the totality of that state? Because these were at a publichearing regarding the new district maps, why bring ir the totality that you mentioned?
A. They were speaking to what had happened in the past and how that had an influence on what was happening today with regard to discrimination and the delusion of influence.

MR. FLEMING: If we can turn to page 16 now, towards the bottom there. Oh, I'm sorry. Could we, before that, turn to page 11 at the top of the page there? Maybe the previous page at paragraph 32? BY MR. FLEMING:
Q. Doctor Lockerbie, could you read that first sentence of paragraph 32 and tell me if there's anything you'd like to say
about it?
A. The president of the Troy branch of the NAACP states, these maps do provide for Voting Rights Act.

I'm guessing there is a typo in there. The word not should be in there.
Q. And I know you're a professor. I hate having to call out your typo but have to make it clear for the record.
A. That and the other typo that we caught earlier in the deposition where $I$ said relining and it should have read redlining. I catch them in other people's work but not my own typically.
Q. Now, if we could now turn to page 16 towards the bottom there, I'd like to talk to you about the Senate factor that speaks to the extent racial polarization.

Now, you Rentioned having reviewed the report of Doctor Lisa Handley titled, The Report to the Michigan Independent Citizens Redistricting Committee.

Is that the -- as you understand, the report authored as part of and in preparation of the redistricting process?
A. Yes.
Q. If we could turn to Plaintiffs' Exhibit page -- I'm sorry. Plaintiffs' Exhibit 16 at page 25.

Could you identify this for me, please?
A. That is the report that $I$ reviewed, I believe.
Q. Of Doctor Lisa Handley?

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A. Yes.

MR. FLEMING: And if we could turn now to page 41 of this, please? Up towards the top there. Yep. BY MR. FLEMING:
Q. Doctor Lockerbie, could you read that first full sentence there for us, please?
A. Yes. Because voting in Michigan is racially polarized, districts that provide minority voters with an opportunity to elect candidates of choice must be drawn.
Q. And does that surprise you given the history of discrimination you investigated?
A. No, it did not.

MR. FLEMING: If we can turn back now to Plaintiffs' Exhibit 19, please, at page 5? BY MR. FLEMING:
Q. And, Doctor Lockerbie, looking at paragraph 4B of this report -- $d \mathbb{E}$ your report now, did you find evidence of racial polarization in Wayne County?
A. Yes, I did.
Q. And what about for Oakland County?
A. Yes, I did.
Q. Did Doctor Handley conclude that as well?
A. Yes, she did.
Q. What was Doctor Handley's basis for that conclusion?
A. She made use of statewide general elections from 2012

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through, I believe, 2020 looking at presidential elections, secretary of state elections, attorney general, and such.
Q. Are general elections the most probative?
A. No. I would prefer to make use of primary elections where you can disentangle the effects of race and partisanship. Q. What other reasons would you prefer primary elections?
A. They have the opportunity for new candidates to arise, and we can get a greater bead on the voting of minority candidates.
Q. What are secret ballots?
A. Ones where nobody knows how you vote unless you spout off about it.
Q. Is that what Michigarthas?
A. Yes, it does.
Q. Do secret baliots impact predicting racial voting patterns at all?
A. They make it more -- or they make it difficult to do it with perfection simply because we can't match up a ballot with the race of the person who voted it, so in turn we have to make use of estimates of racial voting.
Q. If we could turn now to pages 13 and 14.

I'd like to talk to you now about the history of any voting discriminatory practices or procedures. Did you find any evidence of this as part of your report?
A. I found evidence that there were racial appeals made that
candidates made reference to, quote, Getting the blacks out of Southfield. I forget whether it was in here or elsewhere that I saw that. I saw evidence of people in these reports arguing that the current process was racially discriminatory.
Q. Do you recall anything about your report about the initial Michigan State constitution?
A. As I think I may have said before, the Michigan -original Michigan constitution prohibited African Americans from serving on juries and $I$ believe from voting.
Q. Do you know if segregation cont inued in the Detroit area post civil rights movement or bans?
A. Yes. I believe the Adelson memorandum made reference to the fact that segregation, for example, in schools was legally prohibited but the school system in Detroit was, nonetheless, segregated. And arso we can look at the residential patterns with regard to redlining and see the same thing.
Q. Do you<recall if Michigan was added as a state covered by Section 5 of the Voting Rights Act?
A. Michigan was added in, I believe, 1976 to the Voting Rights Act preclearance provision.
Q. And was there any activity from the Department of Justice relative to Michigan and Section 5 after that time?
A. I believe in 2006 the Secretary of State's office was stopped from closing a branch office of the Secretary of State's office.
Q. Are there any other discriminatory voting practices or procedures you can think of off the top of your head?
A. I'm not certain what you're getting at there. Nothing that -- $I$ don't have anything that comes to my mind at this point right now. Maybe you can refresh my memory.
Q. I just wanted to make sure we --
A. Oh, as I tell my students, I was -- I'm southern, but I was raised by northerners so we speak at a rapid clip.

To mind at this point, no.
Q. I just wanted to make sure we covered everything.
A. I think we have. But my report was written on -- in January which was a while ago.
Q. If we could turn to page 15 now, please?

Doctor Lockerbie, in your opinion, does the black community still face disparities today?
A. Yes, they ab. For example, educational disparities are quite dramattic. Whites are, I believe, 172 percent more likely to have a college degree. There is still the legacy of the redlining that has taken place in the past carried on to today.
Q. Was Detroit ever -- excuse me, let me restart that.

And have you noticed as part of your report -- did your review any racial harassment findings or statistics?
A. Yes. In the public hearings with regard to the

Redistricting Commission, at least one candidate made
reference to being racially harassed or racial intimidation when he went to door to door in a district. Also, I recall reading about the campaign in, I believe it was Southfield, where one of the candidates in the flyers apparently repeatedly placed said, quote, Let's get the blacks out of Southfield.
Q. Which goes to my next question about if you reviewed evidence of racial appeals in elections to southeast Michigan, so I will rephrase that now to ask you, can you think of other examples of that?
A. We can look at examples from general election campaigns where the courts have held that there were clear racial appeals made in, for example, the 2016 presidential election. I believe that was in the A. Philip Randolph Institute case. Q. Was that out of the Eastern District of Michigan in 2016? A. I believe so, yes.
Q. In your opinion, were black candidates or -- having a low election success rate, will that affect candidate emergence?
A. Yes, it will. We know from the limited studies that have been done on candidate emergence that they go hunting where the game are, so to speak, and if African Americans think that they don't stand much of a chance to win because previous African Americans running for office have had a hard road to hoe, they too will not run and it will become a self-fulfilling prophecy down the road, so it will cycle.

African Americans lose so they -- you don't get the high quality candidates running for office. African American candidates who do run do even worse and it just cycles downward.
Q. Does this affect voter turnout as well?
A. Yes. We know that when there are candidates who are appealing to racial minorities, the turnout goes up. For example, when President Obama ran for office, the African American turnout went up. When he was off the ballot, African American turnout went, comparativelyspeaking, down compared to the white turnout in 2016.

MR. FLEMING: Can we pull up page 9, please? And if we can just zoom in a little bit just so we can see everything towards the middle, that would be great.

BY MR. FLEMING:
Q. Doctor Lockerbie, based on your report and public comments like these; do you think black voters in Detroit think that their elected officials are responsive to their needs?
A. Most certainly not. I think it was -- I don't recall a single incident where a positive statement was made, and I know there were a multitude of negative statements made about the Redistricting Commission drawing plans such that Blacks would not have their voice heard.
Q. That is to say what the -- based on the materials that you reviewed, would the new maps make these fears worse?
A. The new maps made them worse in that there would be far fewer African Americans elected to office by the estimation of the people referenced in the public hearings.

MR. FLEMING: Could we pull up Plaintiffs'
Exhibit 21 , please?
BY MR. FLEMING:
Q. Doctor Lockerbie, could you please identify this?
A. That is the report from Bruce Adelson that I reviewed, I believe.
Q. And could you describe the overall findings from Mr. Adelson's memorandum here?
A. That there is a clear and convincing history of racial discrimination in the state of Michigan. That African Americans suffer severely from economic privation as well as economic privation - or educational privation.

MR. FIIMING: Could you scroll up to the top just a little bit? BY MR. FLEMING:
Q. And just so we're clear, this is a memorandum from Mr. Adelson to the Redistricting Commission. Is that your understanding?
A. Yes, it is.
Q. And, in your opinion, after reviewing this, does this memorandum conclude a pattern and history of discrimination against the Detroit black community?
A. Yes, it most certainly does. In fact, when $I$ read it the first time $I$ thought $I$ may have gotten the wrong report in that it seemed to be very contrary to the interest of the Commission and upholding its district lines.
Q. And do you agree with that overall opinion?
A. I have no reason to dispute anything that Adelson has in his report. Every fact that $I$ see in there that $I$ was knowledgeable of beforehand is confirmed and nothing was contrary to what $I$ know.
Q. Is it your overall opinion that the plaintiffs satisfied the Senate factors?
A. Yes, it is.

MR. FLEMING: Thacrik you. I have nothing further at this time.

JUDGE MATONEY: Mr. Lewis, you may inquire, sir.
MR. Leils: Before I get started, Your Honor, is the Court interding to take a midafternoon break or --

JUDGE MALONEY: How long do you anticipate your cross will take?

MR. LEWIS: Probably 10 to 15 minutes.
JUDGE MALONEY: Let's keep going. Thank you.
CROSS EXAMINATION

BY MR. LEWIS:
Q. Doctor Lockerbie, my name is Patrick Lewis. It's nice to meet you. I represent the Commission.

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A. Good to meet you.
Q. Thank you.

Your report on paragraph -- so if we go to
Plaintiffs' Exhibit 19, PX19-4 -- or excuse me, PX-5, I apologize.

Okay. So your report offers a total of three conclusions as to Senate factors; is that correct?
A. That is correct.
Q. Okay. And so conclusion A, would ypu characterize that as addressing Senate factor one?
A. I don't have the numbers matoried up with the Senate factors, but $I$ would concur tinat it is the history of discrimination in the state of Michigan.
Q. Okay. And you talk about polarization. And we'd agree that's Senate factor two, right?
A. I'll trusty you on that.
Q. Sir, you are the expert in the Senate factors.
A. I understand that but the --
Q. Thank you.
A. -- but the -- there are seven of them and there is some overlap to how the numbers and the subject matter correspond with each other.
Q. Sure, sure. And then you talk about in C, that addresses factor five; is that correct?
A. I believe so.
Q. Okay. And for the purposes of the official discrimination, I believe I heard you testify on direct that you largely concurred with Mr. Adelson's report which we saw earlier; is that correct?
A. That is correct.
Q. And you believe that he did an appropriate job in preparing that report; do you agree?
A. I believe it was, yes.
Q. Okay. And turning to racial polarization, you described reviewing the report of Doctor Lisa Handley, correct?
A. Correct.
Q. Okay. And are you familtar with Doctor Handley?
A. I've met her once or divice. We were on opposite sides in the case involving thestate of Arkansas.
Q. Okay. And are you familiar with her work?
A. Yes, I am
Q. Okay. Would you characterize her as an experienced political scientist?
A. Yes, most certainly.
Q. Okay.
A. Given that we co-authored with the same person at least once, yes.
Q. Okay. And would you broadly agree with Doctor Handley's findings in her report?
A. With regard to racial polarization in the state and the

Detroit area, yes.
Q. Okay.
A. Though I would have expanded it beyond general elections to primary elections to get further evidence on that.
Q. Okay. So what other Senate factors do you believe that your report speaks to here today?
A. I believe just the ones I've outlined here.
Q. Okay. So one, two, and five?
A. I believe those are the numbers, yes.
Q. Great. Okay. Now, in your official -- I don't know if this is the right term for it, weil call it the official discrimination section of your report, history of discrimination beginning of PTX19-7, which is paragraph 10, is it fair to say that the examples of official discrimination that you identify this section of the report up through paragraph 18 refer to events occurring in 1967 or before? A. I'd have to look at the remaining paragraphs there. Let's see. Other than paragraph 18, yes. 18 makes reference to the public hearings where people made reference to history of racial discrimination, sometimes with specific times and dates, other times more general statements of racial discrimination.
Q. Sure, sure. And you testified on direct that you reviewed the transcripts of Commission proceedings; is that correct? A. The public hearings.

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Q. The public hearings, I see. And how many public hearing transcripts did you review?
A. I believe it was all of them.
Q. So if I --
A. A rather laborious process, I can tell you that.
Q. Okay. And you spent between 10 and 20 hours preparing your expert report in this case; is that correct?
A. I don't recall off the top of my head how much time $I$ spent.
Q. Okay.
A. That sounds close, but I wourdn't -- I'd have to go back and look at my billing records.
Q. Okay. And do you recall providing an estimate of 10 to 20 hours in your deposition?
A. I think that'swhat I said then, yes.
Q. Okay. Arey you aware of how many pages of Commission transcripts there are?
A. I did not make a count, no.
Q. Okay. We actually created an exhibit for this case, and I won't put it in front of you other than to say it exists; DTX49. Actually, I'll have my paralegal hold up the first binder containing the first volume of that exhibit. It looks like a lot of paper, doesn't it?
A. Yes, it does.
Q. Nine more where it came from; do you disagree?
A. No. I did not make a count of the pages.
Q. Okay.
A. And that's why I -- I would reiterate that $I$ was making a guesstimate at my deposition because I did not have my actual records with me at that time.
Q. I see. And what methodology did you employ to study using these Commission records, the extent of official discrimination in Michigan?
A. I'm not certain what you mean by that question, other than the fact that $I$ read the reports and looked for statements that expressed attitude about racial discrimination or arguments about it.
Q. I see. And argumentsin favor of the proposition that there was racial discrimination?
A. I looked for statements regardless of the direction of the argument.
Q. I see. And the only ones you --
A. That I recall -- there may have been some, but $I$ don't recall.
Q. May have been some that --
A. That said that these were fine and dandy.
Q. I see. Okay. And you --
A. But $I$ don't recall those.
Q. I'm sorry, I should not talk over you. I apologize, Doctor Lockerbie. But none of the contrary examples made it into your report, did they?
A. I don't believe there were any, but none did.
Q. Okay. And in the study of official discrimination, is the review of public comments in a Commission meeting a generally accepted source to review?
A. As far as getting public opinion on the state of racial discrimination in the state, it strikes me as a quite reasonable way of doing it absent -- or even with public opinion polls. This would be additional evidence on that point, because you have both sort of Citizen responses as well as official responses, such as from the executive director of the Michigan Department of Civil Rights.
Q. Okay. I just had a few more questions for you. So I'd like to turn to page $F(x)-9$ and $I$ want to focus on paragraph 22 , kind $O f$ in the middle of the page.

Do you recall testifying about this particular paragraph in your direct examination?
A. I believe I do, yes.
Q. Okay. And what made you select this comment from Ms. Howard for inclusion in your report?
A. Imagine what prompted me to do it was that she was a named person who was involved in the drawing of maps from an organization that is of some repute, the AFL-CIO is a major labor union in the American labor movement, and their interest in maps and elections is well known.

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Q. I see. And you paraphrase her concern as being that the Commission was, quote, preparation maps that led to a retrogression regarding minority representation. Do you see that?
A. Yes.
Q. Okay. Retrogression is a Section 5 concept, is it not?
A. I believe so.
Q. Okay. And what do you understand retrogression to mean?
A. To reduce the number of elected black officials.

MR. LEWIS: And I'd like nংw to turn to paragraph -to page PX19-11, and the paragraph 31, if we can zoom in on that, please?

BY MR. LOCKERBIE:
Q. Okay. Doctor Lockerbie, I believe you're paraphrasing a member of the Wayne County Commission here; do you see that?
A. Yes, I do
Q. Okay. And this commissioner, you paraphrase -- this commissioner is expressing the concern that, quote, with the maps submitted you would have the lowest number of black elected officials in the state's history. Do you see that?
A. Yes, I do.
Q. Okay. I believe your direct examination testimony is that when Michigan became a state black Americans were not even permitted to vote in the state of Michigan; is that correct?
A. That is correct.
Q. Okay. Do you have any reason to believe that even in the first -- even at any time in the 19 th century that a black elected official was elected in the state of Michigan?
A. I have no reason to believe there were any.
Q. Okay. And the state today retains many elected officials, correct, black elected officials?
A. Yes, I believe so.
Q. And what made you include this particular comment?
A. Because this was an elected official which gave him some credibility of making arguments about racial voting in the state as opposed to -- without purting it -- I don't mean it in a pejorative sense, but the random person off the street compared to an elected official. I would assume an elected official has a little bit more insight.

MR. LEWIS: I have nothing further, Your Honors. JUDGE MALONEY: Redirect, counsel.

M罟 FLEMING: Very, very briefly, Your Honor. JUDGE MALONEY: Go ahead, sir. REDIRECT EXAMINATION

BY MR. FLEMING:
Q. Doctor Lockerbie, you testified on cross exam that you had three conclusions at the beginning paragraphs of your report.
A. (Non-verbal response).
Q. But your report discusses or references all seven factors, correct?
A. I believe it makes reference to them, but it's specifically focused on the -- the major focus was on those, yes.
Q. And you mentioned there was a lot of overlap, right?
A. Yes.
Q. And, finally, turning back to Mr. Adelson's memorandum, Mr. Adelson concludes the Senate factors are met, as do you, and given that, would you agree there's no dispute between the parties regarding the Senate factors?
A. I agree there is no dispute whatsoever between Mr. Adelson and me with regard to that.
Q. And you concluded earlieron -- at the end of direct that Senate factors were met, $\bar{y}=S$ ?
A. Yes, that is corrert.

MR. FLEMING: Nothing further.
JUDGE IALONEY: Mr. Lewis?

Mr LEWIS: Nothing further, Your Honors.
JUDGE MALONEY: Thank you, Counsel. Doctor
Lockerbie, you may step down with the Court's thanks.
THE WITNESS: Thank you very much.
MR. BURSCH: So, Your Honors, we've got Senator Smith and Representative Lemmons here from Detroit. If you want to take a short break, I don't know that we can get them both in within an hour, because I'm not sure how long the cross will be, but if we could just stretch today long enough that we can

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get them both finished, we will then close the plaintiffs' case.

JUDGE MALONEY: All right. We'll get those two
witnesses in.
MR. BURSCH: I appreciate that.
JUDGE MALONEY: For purposes of their convenience, if nothing else.

MR. BURSCH: Thank you, Your Honor.
JUDGE MALONEY: We'll resume at. 3:30. Thank you.
THE CLERK: All rise, please. Court is in recess. (Recess taken at 3:15 p.m.; reconvened at 3:33 p.m.)

THE CLERK: All rise, please. Court is in session. You may be seated.

JUDGE MALONE: We are back on the record in 22-272. Counsel for the parties are present. Plaintiff may call its next witness.

MR FLEMING: Thank you, Your Honor. Plaintiffs call Senator Virgil Smith.

THE COURT: Please step forward, sir, and be sworn. VIRGIL SMITH,
having been sworn by the Clerk at 3:33 p.m. testified as follows:

THE CLERK: Please be seated. State your full name and spell your last name for the record, please.

THE WITNESS: Virgil, V-I-R-G-I-L, Smith, S-M-I-T-H.

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JUDGE NEFF: Now, Mr. Smith, I'm going to caution you, right at the beginning, after listening to you say your name, that court reporter has to write down everything you say so please try to say it slowly so that she doesn't work her little fingers off her hands, okay?

THE WITNESS: Yes, ma'am. Yes, Your Honor, I should say. Yes, Your Honor.

DIRECT EXAMINATION

BY MR. FLEMING:
Q. Good afternoon, Senator Smith.
A. Good afternoon.
Q. Just want to start off with your background. Where do you ress.de?
A. City of Detroit, 19476 Helen.
Q. How long have you lived in Detroit?
A. Basically the duration of my life except for the time I spent at Michigan State.
Q. And other than Michigan State, where did you go to school?
A. Western Michigan.
Q. Before that, how about high school?
A. I graduated from Benedictine High School.
Q. Is that Detroit Benedictine High School?
A. Yes, sir.
Q. And could you tell us about your background in public service?
A. Born and raised in public service. Worked on my first campaign in 1988, got elected to the Michigan State House in 2002 .
Q. And did you run for office after you were elected in 2002?
A. Yes.
Q. Can you talk about that, please?
A. I've run for office 2001, 2002, 2004, 2006, 2010, 2014, and 2017 .
Q. And when you ran, were any of those elections for Michigan State representative?
A. Michigan State House was 200.5 2004, and 2006; Michigan Senate was 2010 and 2014.
Q. But ultimately you wese elected to the Michigan House of Representatives, correct?
A. Correct.
Q. And the same for the Senate?
A. Correct
Q. And did you say that your first campaign experience was in 1988?
A. Yes, sir.
Q. Whose campaign was that for?
A. My father's senatorial campaign. It was a special election in the winter.
Q. Did your father have any other public service?
A. He was a state representative previously to that.

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Q. Other than state representative and senator, any other offices your father held?
A. Yes. My father was also -- he's still a current visiting judge. He was a judge in the Third Circuit Court. He was ultimately the Chief Judge -- the first African American Chief Judge in the Third Circuit Court.
Q. In Third Circuit Court, that's Wayne County, correct?
A. Wayne County Court.
Q. Could you remind me in what years were you in the State Senate?
A. 2011 through 2016 .
Q. And during your time in the State Senate did you serve on the Senate committee on redistricting?
A. Yes, sir.
Q. Did you have any objection -- objectives or -- during your time on that committee?
A. My main objective was to keep our districts over

51 percent. We were starting with the mean around 55 percent African American.
Q. Now, when you say our districts, what do you mean by that?
A. I mean the districts -- African American -- you know, minority, minority seats -- let me back up. Minority -- the majority/minority seats.
Q. In Detroit?
A. In Detroit and Flint, Saginaw. There are others in the

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state of Michigan, but mainly Detroit.
Q. Was keeping Detroit in compliance with the federal Voting Rights Act also one of your objectives?
A. Yes, sir.
Q. And you alluded to this a little bit before, but based on your experience and observations on that committee, what was necessary to achieve that compliance?
A. We had to stay -- we did not cross county lines. We were opposed to crossing county lines in 2011 . Our main focus was to carve out -- with the population loss in Detroit was to carve out five Senate majority/minority seats based on current population at that time.
Q. And you had mentioned Wefore running in the election for Senate District 4 in 2014. What areas made up that district?
A. Northeast, norinwest, North Central Detroit, basically Drexel, Linwooa, southwest Detroit, Lincoln Park, Allen Park, Southgate.
Q. Could you tell us about your experience during that campaign?
A. We campaigned heavily in the Down River section, Lincoln Park, Allen Park, Southgate. I was surprised to only receive 30 percent of the vote in that area, and $I$ was met by a lot heavy -- or I should say, heavy resistance.
Q. And why were you surprised to receive 35 percent of the vote in that area?
A. Because I spent the majority of my time down there. I figured the -- this was the area that they did not know me. I felt I had to introduce myself to these voters. I was just shocked that I could not get over 30 percent.
Q. Based on your observations, was it -- is that a predominantly white area?
A. Yes. Lincoln Park, Allen Park, and Southgate are all predominantly white areas.
Q. And you mentioned resistance earlier. Do any particular instances stand out from that campajgr?
A. Yes. Allen Park directly, the police were called on me. I had to actually get -- they have a no solicitation ordinance in Allen Park. So somebocy reported on me as soliciting. Campaigning and soliciting are not the same thing. My -- I don't want to -- well, I'll say this, my Caucasian campaign worker did not lave the same problem. I had to literally get a pass in flien Park to campaign, which was laughable. Q. And when the authorities were called on you, were you donned in campaign attire?
A. I had my campaign $T$-shirt on. I had a clipboard with what we call walk sheets and my campaign literature.
Q. Moving forward a little bit, 2018, were you involved in any campaigns during that election cycle?
A. Yes. I was the campaign manager for Marshall Bullock.
Q. Were you involved in any campaigns for the 2020 election cycle?
A. Yes. I was the campaign manager for Shri Thanedar for state representative in House District 3 -- Shri Thanedar, House District 3 at the time.
Q. What about 2022?
A. In '22 I was the campaign manager for reelection for Marshall Bullock in the new Senate District 8 and Reggie Davis in the new House District 5.
Q. Let's talk about Senator Bullock's race in District 8 . Can you describe the area of that district?
A. Starting at Schoolcraft at the southern tip, not really going past Woodward, going north all the way to Birmingham, Michigan.
Q. Is that parts of Netroit?
A. When I say part -- starting at Schoolcraft, that is Detroit. So Schoolcraft all the way to the 8 Mile border, going all the way to Greenfield in Detroit, stopping at Greenfield and going north. So this western end is Woodward -- I mean, Greenfield, eastern end around Woodward, southern end Schoolcraft, north -- on the other side of 8 Mile all the way to Birmingham -- City of Birmingham. It includes portions of Clawson, Royal Oak, Ferndale, Royal Oak Township, Oak Park, and Berkley.
Q. In your view as his campaign manager, did the area -- did the makeup of the area impact the campaign for senator

Bullock?
A. Yes. In my opinion, I call it connection rate. Our connectivity on doors -- when I say connection rate, I mean door to door -- our activity on doors is significantly lower in the suburban territory than it is in Detroit. We have a hard time getting them to answer the door for us, and if we can't get them to answer the door for us, how can we sell ourselves as a candidate to the new voters?
Q. And could you speak a little more about campaigning in the primarily suburban areas?
A. I would say our connectivityrate was around 20 percent on doors.
Q. When people would oper the door for you, what was the reception like?
A. It varied but Most -- like, in Berkley, Michigan, they were angry we were out there. Same thing in Birmingham. They felt we hac no business being out there trying to represent them.
Q. Why is that?
A. Because we're out of Detroit and we need to leave -- you know, leave our Detroit problems in Detroit, and we have no business being out there. You know, you don't understand us. How could you represent us? The issues are completely different.
Q. Tell me about that.
A. Give you an example. I've noticed a lot of talk around red line. You know, I chaired the insurance committee in the state of Michigan in 2006 in the State House. Insurance on inner-ring and outer-ring suburbs is sometimes double, if not triple lower in cost than on our side of 8 Mile. So when we're arguing over how do we lower insurance rates, our suburban counterparts don't have the same problems and are not seeing the issue from the same lens that we are.
Q. Can you think of other issues that $5^{-}$
A. Plenty.
Q. -- are likewise not viewed in the same lens?
A. Charter schools. Michigan public school academies. I've seen them -- I've heard a of of talk around education here. In my opinion, charter schools were sent in to destroy our public school system and our suburban counterparts do not want to hear that argument and are not usually willing to vote with us and against charter schools.
Q. Getting back to campaigning for Senator Bullock in District 8, did you notice people that were home but just wouldn't open the door for you?
A. Correct. It happened all the time or they'll come to the door and just close it. I've had that happen a lot.
Q. And who were the other candidates in that race?
A. Mallory McMorrow. State Senator Mallory McMorrow from Royal Oak.
Q. Do you know the race of each candidate?
A. I'm kind of confused by the question.
Q. The Senate District 8 primary --
A. When you say the race -- oh, one was white, one was black.

So Mallory was white, Marshall was black.
Q. And based on your perception and experience as the campaign manager, who did the black community support?
A. The black community supported Marshall Bullock.
Q. And what was the result of the election?
A. Almost $70 / 30$ Mallory McMorrow. RYhe district is basically 65 percent suburb and 35 percent Detroit.
Q. Both candidates, were they incumbents?
A. Correct.
Q. So you talked abour campaigning with Senator Bullock in predominately white neighborhoods. Did Senator McMorrow do that in predomirantly black areas?
A. No. Senator McMorrow doesn't even know who I am.
Q. Let's talk about the other election you were involved with that year, the 2002 Democratic primary for House District 5 . In your time as campaign manager for Reggie Davis, could you describe the area of that district?
A. Similar to Senate District 8 but smaller. A smaller microcosm of it. Starting in Detroit, its southern border is just a little north of Schoolcraft and that district also goes all the way out to Birmingham north, its northern border.
Q. And how did the area make -- area makeup impact the campaign?
A. Reggie Davis was the only candidate in Detroit that received over a thousand votes. Directly he received close to 4,000 votes in the city of Detroit so much so that people thought he won that race, but in the suburban territory, which was more, we barely got 15 percent of the vote.
Q. Did you campaign in those suburban areas in that district?
A. Correct.
Q. Could you talk about that, please?
A. We thought we may have a shof in that race because with the African American population in Oak Park, that makes it a majority/minority seat, but we quickly learned that the population on the other side of 8 Mile, even if they are African American, they do not vote like us in Detroit.
Q. I want to back up a second and then $I$ want to talk more about 8 Mile. You mentioned House District 5 was a majority/minority district. Do you recall the BVAP off the top of your head?
A. I think it's barely over 51 percent.
Q. If I told you it was 55 percent, would that sound accurate?
A. It's a little higher than $I$ thought, but it sounds a little bit accurate.
Q. And despite the BVAP, the black candidate of choice, being

Reggie Davis, lost that election, correct?
A. Correct.
Q. Now, could you speak more about the significance, if any, of that 8 Mile north line?
A. Yes. You know, starting in the 1970 s we had black flight out of the City of Detroit. And in the inner-ring suburbs, what we learned quickly out there is that they move to the suburbs for numerous reasons; education for children, escape violence, but they wanted no part of what, you know, our quote/unquote, Detroit issues were. A And they were more likely to support whoever the suburban candidate was even if they were white, which was shocking to us because coming out of Detroit we're all about electing us.
Q. And people told you from Berkley they didn't want to elect people from Detroit- right?
A. Correct. jive heard that. It wasn't just Berkley. It really was פredominately Birmingham. The more affluent the territory got, the more they did not want us out there.
Q. Are you familiar with the previous district maps?
A. Correct.
Q. Does that include the demographics of the previous maps?
A. I'm pretty knowledgeable on the Wayne County section, and I was very involved in the drawing of the 2011 Wayne County map.
Q. So the maps that were in place previous to the Linden and

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the Hickory plans, you were on the committee that drafted those?
A. Correct.
Q. And as it relates to the Detroit area districts, you're familiar with the geographical boundaries, generally?
A. Correct.
Q. And have you had an opportunity to compare the previous area districts with the Hickory and Linden plans?
A. Yes.
Q. What did you observe?
A. I observed -- one thing in the redistricting process, you cannot recreate the land, so with the population loss in the City of Detroit, where do you go if you want to keep majority-minority seats?

So in 2011 we went south because we were not going to break county lires, because the various issues -- you know, people juste- or, I should say, Oakland County and Macomb County didn't seem too excited about welcoming us out there, so we were not breaking county lines. We went south.

In 2020, the Redistricting Commission, in my opinion, directly went north diluting us in Detroit and making it very difficult for us to win primary elections. And, see, that's the key. These are all what we call winner take all primary elections. The general election does not matter in Detroit, Michigan.

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Q. In your review of the Detroit area maps in the Linden and Hickory plans, did the redistricting committee draw the -- how Detroit is boundaried the same way for other places?
A. $\quad \mathrm{No}$.

JUDGE MALONEY: Counsel, I didn't understand the question.

MR. FLEMING: It was poorly phrased.
BY MR. FLEMING:
Q. As part of your experience on the committee on redistricting, you're familiar with the other heavily populated black areas and how ther are redistricted, correct? A. Yes. I was the campaign manager for Sheldon Neeley, reelection for $\operatorname{Flint}$ mayoi - I shouldn't say campaign manager, but $I$ was a reavily involved campaign strategist. I also worked with hos wife, so that's House District 70, she was the state representative, Cynthia Neeley out of Flint. Q. And based on everything you've observed, how successful can black candidates from the Detroit area be under the Hickory and Linden plans?
A. The longer these maps stay in play, we won't have any black representation in the Michigan Senate. We may have one in District 1, maybe, but we're going to lose District 3, Sylvia Santana. We will also lose -- well, we have -- well, Sarah Anthony is from Lansing, so we only have two, technically, from Detroit. Erika Geiss is from Taylor. She's

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not from Detroit, so we won't have any representation out of Detroit. And I bet after Sarah Anthony is termed out, I don't know if we'll have any black representation in the Senate at all. And then the House would just completely -- will also dwindle.
Q. In the interest of our time here, Senator Smith, do you recall preparing an affidavit in connection with this case?
A. Yes, sir.
Q. Would you recognize it if I showed you it?
A. Yes, sir.

MR. FLEMING: If we can please pull up Plaintiffs' Exhibit 10?

BY MR. FLEMING:
Q. Senator Smith, can you identify this, please?
A. That is my affidavit.
Q. And if we could scroll down to the last page there, page 12. Ts that your signature there?
A. That is my signature.
Q. Could you identify the date on there?
A. March 8, 2023 .
Q. Was everything that you said in that affidavit 100 percent true when you signed it?
A. Yes, sir.
Q. Is it still true today?
A. Yes, sir.
Q. Would you change anything?
A. No, sir.
Q. Does it reflect the testimony that you've given today? A. Yes, sir.

MR. FLEMING: Your Honors, at this time I would move for the admission of Plaintiffs' Exhibit 10.

JUDGE MALONEY: Any objection.
MS. McKNIGHT: Yes, Your Honor, we would object. This is an affidavit. This is an issue that came up in the pre-trial conference about whether affidavits can supplant live testimony, and for a witness they've called live, we object to also submitting an affidavit.

JUDGE MALONEY: fiésponse.
MR. FLEMING: Your Honors, I'm happy to keep going for 30 more minutes and ask Senator Smith about the entirety of this affidarit, but in the interest of time, and clearly that Your Fonors have the authority to admit this, I'm just hoping to get through this as efficiently as possible and not ask him every part of the affidavit.

JUDGE MALONEY: Well, I appreciate the desire for efficiency, but how is -- under what evidence rule is the affidavit admissible?

MR. FLEMING: Your Honor, as a bench trial it's presumed that everything you consider as part of your ultimate decision will be admissible and relevant evidence.

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JUDGE KETHLEDGE: Where does that come from?

MR. FLEMING: I have the citation if you'd like. That is Brown v. Pitcher, 19 --

JUDGE KETHLEDGE: Under the rules -- I'm sorry, I shouldn't talk.

MR. FLEMING: It's from the case law so, granted, it's not a federal rule but it's from a Sixth Circuit opinion.

JUDGE KETHLEDGE: Rules of Evidence or law?

JUDGE MALONEY: The objection is sustained. I recognize that this may require longer examination of the witness, but in light of the objection, I don't think we have a choice.

MR. BURSCH: Carı you give us 30 seconds?
JUDGE MALONE F : Sure.

BY MR. FLEMING:
Q. Senator Smith, you talked a little bit about the 8 Mile Road line becoming blurred as time has gone on. Can you talk more about the impact that will have on black candidates in future elections?
A. I noticed you had Vincent Gregory's race up there. In 2018 and 2014 that was the southern area of Oak Park. With the population loss in Detroit, the migration of African Americans has went north, and whether east side or west side, between 8 and 10 Mile African Americans have populated those inner-ring suburbs to the degree where they're even electing
themselves as mayor and getting elected to city council in a lot of those cities.
Q. You talked a little bit about public policy concerns most important to the black community. Are there any others that come off the top of your head you'd like to mention?
A. I mean, just as recent as Mayor Duggan tried to get this land value tax through the Michigan legislature and failed -I won't say failed yet, but hasn't been able to garner the support that it needed to pass the Michigan House of Representatives. And that is partly due to the fact that we have so many suburban people representing Detroit, they don't understand Detroit issues.
Q. And in your experience, are those voters -- I'm sorry, are those issues prioritized by the Detroit black community also important to white voters from the suburban areas?
A. I wouldn'tsay they're important to the white voters of the suburban areas, but it was a lot easier -- easier for us to get them to vote with us when we had hard numbers. So you have 10 black state reps, you're counting to 56 , so you only need 46 more votes, so to speak, in theory. So now we're down to -- they just don't respect us the way they did previously because our numbers are dwindling.
Q. Who is they?
A. Our colleagues or the colleague -- you know, other -- our counterparts in other parts of the state.
Q. So can -- do you think black representation in the state legislature can help address issues most important to the black community?
A. Yes. I'll give you another one. Emergency manager law. You know, we have a Trifecta. The Democrats are in complete control, and you can make the argument, is what is the African American community gaining? So the emergency manager law has decimated school districts and cities in African American communities throughout this whole state.

The bill was introduced in February by State Representative Brenda Carter out $\sigma$ Pontiac and has not even received a hearing. It's just been sitting there. Meanwhile, we've done Right to Work, we've done Prevailing Wage, we've dealt with LGBT issues. What do we getting?
Q. In your experience, is voter turnout lower in the black community?
A. Yes.
Q. In your experience, is general political engagement lower in the black community?
A. I wouldn't say that political engagement is lower, but our population numbers have dwindled so, say, take Senate District 8, Senator McMorrow actively campaigned on the fact that her precincts outperformed our precincts two to one, so how could Senator Bullock win?
Q. Does loss of population affect the ability to participate

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in the political process?
A. Yes.
Q. And does that have an impact on electing black candidates?
A. Yes.
Q. And will the Hickory and Linden plans impact future political engagement of the black community?
A. I would say in state elected offices -- state legislative races it will affect us because we will have a hard time fielding candidates. That was played out with Senate District 10. You know, you guys noticed we haci that one up. We couldn't even fill a candidate in Senate District 10.
Q. Why is that?
A. The incumbent, Senator Paul Wojno. It's tough running against incumbents. Tncumbents are entrenched, so to speak, in theory. So fieraing a candidate against Paul Wojno, who is my state senator, is hard -- especially on the east side where the population loss -- we don't necessarily have qualified, I'll use that word, candidates to compete sometimes.
Q. Why do you think that is?
A. Brain drain. I can go anywhere in this country from high school to college and $I$ can run into somebody in urban America that I know.
Q. Do you think when -- when black candidates have a low success rate, could that impact finding a candidate for a particular race?

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A. Correct.
Q. In what way? Negatively?
A. Negatively.

MR. FLEMING: Thank you. I have nothing further at this time.

JUDGE MALONEY: Ms. McKnight, you may inquire.
MS. McKNIGHT: Thank you, Your Honor. CROSS EXAMINATION

BY MS. McKNIGHT:
Q. Good afternoon, Senator Smith.
A. Good afternoon.
Q. Thank you for your service to the state and for your time today.
A. Thank you.
Q. You've already touched on a lot of topics I wanted to ask you about so I've been able to pare down a little bit. I'm going to ask you some questions. You currently reside in Senate District 10 and House District 14; is that correct?
A. Yes, ma'am.
Q. In 2010 and 2014 you ran for elected office in Senate District 4; is that right?
A. Correct.
Q. The 2010 election was under the prior decades plan; is that right?
A. Correct.

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Q. You won both those elections, right?
A. Correct.
Q. You believe that -- now turning to the Commission's work.

You believe that the Commission employed a partisan strategy to maximize the electoral success of Democrats generally at the expense of the opportunity of black voters to elect their candidates of choice.

Do you agree with that?
A. Say that one more time.
Q. You believe that the Commission employed a partisan strategy to maximize the electora success of Democrats generally at the expense of the opportunity of black voters to elect their candidates of choice?
A. Yes.
Q. And you would agree that the Commission's plans touching on the Detroit metropolitan area mark a radical change from the State House and Senate maps adopted by the state legislature during your tenure as state senator, right?
A. Correct.
Q. And is it safe to say that most incumbents from the Detroit area districts do not like the Commission's maps?
A. I have not met one.

MS. McKNIGHT: Thank you. No further questions.
JUDGE MALONEY: Redirect, counsel?
MR. FLEMING: One moment.

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JUDGE MALONEY: Certainly.
MR. FLEMING: Thank you, Your Honor.

REDIRECT EXAMINATION

BY MR. FLEMING:
Q. Senator Smith, you testified on cross examination that you believe the Commission engaged in a partisan strategy in drawing the maps. Would it surprise you to learn that the Commission used a racial target in drawing the maps as far as Detroit?

MS. McKNIGHT: Objection, misstates testimony.

JUDGE MALONEY: I'm sorfy?
MS. McKNIGHT: Objection, misstates prior testimony. JUDGE MALONEY: ©rerruled. Go ahead.

THE WITNESS: Can you ask the question again, please? BY MR. FLEMING.
Q. You testified on cross examination that the Commission engaged in a partisan strategy as it relates to drawing Detroit.

Would it surprise you to learn that the Commission set a racial target in drawing the Detroit maps?
A. No, it would not surprise me.
Q. And would it surprise you to learn that when the Commission was drawing the Detroit maps, they didn't turn on the partisan metrics of their software until after the

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thresholds had already been set?
A. That would not surprise me either.

MR. FLEMING: Thank you. I have nothing further.
JUDGE MALONEY: Ms. McKnight?
MS. McKNIGHT: Nothing further, Your Honor.
JUDGE MALONEY: Judge Kethledge has a question.
JUDGE KETHLEDGE: Sir, I just have one question for you so I make sure I understand your earlier testimony.

Did you say that you as a member of the state legislature were part of the body that drew the lines for the 2010 State House and Senate maps?

THE WITNESS: Yes, Your Honor.

JUDGE KETHLEDGE: Okay. Thank you.
JUDGE MALONE: Anything further from either counsel for Senator Smith?

MR. EIIMING: No, Your Honor. Thank you.

ME McKNIGHT: No. Thank you, Your Honor. JUDGE MALONEY: Senator Smith, you may step down. (Witness excused at 4:07 p.m.)

JUDGE MALONEY: Plaintiff may call its next witness. MR. FLEMING: Your Honor, at this time we would call LaMar Lemmons, III.

JUDGE MALONEY: Please step forward, sir, and be sworn.

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having been sworn by the Clerk at 4:07 p.m. testified as follows:

THE CLERK: Please be seated. State your full name and spell your last name for the record, please.

THE WITNESS: Certainly. My name is LaMar, L-A capital $\mathrm{M}-\mathrm{A}-\mathrm{R}$, last name Lemmons, $\mathrm{L}-\mathrm{E}-\mathrm{M}-\mathrm{M}-\mathrm{O}-\mathrm{N}-\mathrm{S}$.

DIRECT EXAMINATION
BY MR. FLEMING:
Q. Good afternoon, Mr. Lemmons. I'd like to start off with just some of your background. Can you tell us where you reside?
A. Yeah, certainly. I reside on the east side of the city of Detroit and have resided there for the majority of my life. I grew up in the Ossian Sweet neighborhood where the Ossian Sweet house was liferally a few blocks, and that was a monument and demarcation of black progress and eventual integratior to the area.
Q. So you've lived in Detroit your whole life?
A. Yes.
Q. Where did you go to school?
A. Detroit public schools. I went to Finney High School in -- was bussed there. I started off at Southeastern and then a bussing order with -- demanded that the students within the city be bussed to another area of the city which still had some white population. So I then went to Finney, and actually

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both Denby because Denby had classes that Finney didn't so I had to go to both schools at the same time.
Q. Other than that, did race have an impact on your upbringing?
A. Well, when I lived on the east side there were unofficial lines of demarcation that we would not cross, such as Chalmers at one point, and it kept moving eastward as the black population, with some pushback and resistance, began to move eastward and take up more parts of the gity.
Q. Now, you mentioned you grew up on the east side?
A. Yes. Near the Ossian Sweet house.
Q. And I'm not from Detroit originally. I don't know it well. Could you describefrore what you mean by that?
A. Okay. Ossian Sweer was the -- a famous case with Clarence Darrow and Frank Murphy. And Ossian Sweet moved into a -- was a doctor who moved into a white working class neighborhood and was -- his home was attacked by the white community. That's significant because I began to live that -- it was passed on. Even though we eventually eclipsed that neighborhood, as we moved eastward, the similar resistance that Ossian Sweet had we met with a similar resistance as we moved into areas that had previously been all white.
Q. Can you recall any instances of that sort that stand out to you growing up?
A. Certainly. I do remember at one point there was a cross

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burnt on the lawn east -- when we were going further east -east of Alter Road within the city of Detroit, and that's ironic because later on $I$ began -- I -- as the demographics changed, I grew up and represented that area as a state representative.
Q. When were you state representative?
A. I was elected as a state representative in 1998. Prior to that I had worked on numerous campaigns. I was part of the original founding of the Black Slate in 1973, which we also supported Coleman Alexander Young. I. was with the youth Coleman Young at the age of 18 , and so that was the -- just two years earlier 18 year olds were granted the right to vote from 21, and so we were able to assist in getting the first black mayor elected.

I started working in politics even as a paperboy delivering for Richard Austin who ran for mayor ill -- in his ill-fated campaign for mayor. He later, of course, became the Secretary of state. When he ran for mayor against Roman Gribbs as the first legitimate candidate for mayor -- African American candidate for mayor, and so I got involved in politics during the civil rights era. That was my entre. Q. Now, you mentioned -- other than serving as a state representative, did you continue to work in the legislature after that?
A. Yes. I worked for Barbara-Rose Collins in 1975. I
assisted Carolyn Cheeks Kilpatrick in 1978. I worked for the Speaker of the House, Curtis Hertel, in 1995, and so I've been involved. I founded the Eastside Slate in 1980 after being part of the original Black Slate at the Shrine of Black Madonna in 1973.
Q. Do you recall ever serving as a chief of staff?
A. I served at -- oh, most recently, because I -- I served as the chief of staff for State Senator Betty Jean Alexander, and that's one of the districts that you have in your model that you showed today.

I also worked for Sherry Gay-Dagnogo as her policy assistant, and she is one of the plaintiffs, believe. Q. Have you -- and you meritioned you got involved in political campaigns.
A. A --
Q. Can you teil us a little bit about that?
A. Yes. $1=$ worked in a myriad of campaigns. The first black woman to become a Congresswoman, Barbara-Rose Collins, I worked on her campaign. Her successor, Carolyn Cheeks Kilpatrick, I also worked on her campaign and have known them since $I$ was a teenager.
Q. And in what capacity have you worked on campaigns?
A. I've worked on -- I primarily worked in the operation -in the fields operations, the strategy, and things have changed with the advent of the internet. So I've been around

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a long time, a lot longer than the internet.
Q. How many campaigns do you think you've been a part of?
A. Probably -- probably 200 in some form or the other, including with the slates, because people still come to me, even to this day, for endorsements.

Most recently $I$ also assisted one of the other candidates. I orchestrated Kimberly Edwards' state representative's campaign. That was one of the models. I also assisted and made sure that in Donavan McKinney's race that he was the sole candidate by geti-ing other people to pull out so that we didn't dilute the black vote in an area that now is no longer a -- had a high BVAP. So we had to make sure we only ran one black candidate to even have a modicum of chance of winning, and we did prevail in that one and -- in both those examples.
Q. And I want to talk more about those, but first I would like to ask you, were you present in the courtroom this afternoon for the testimony of Senator Virgil Smith?
A. I was.
Q. Did you listen to it?
A. I did.
Q. Did Senator Smith's testimony -- did you find it to be truthful?
A. Absolutely.
Q. Do you agree with it?
A. I do.
Q. Now, throughout your time being involved with campaigns, were most of these campaigns that take place in the Detroit area?
A. Yes, for the most part. I have been a hired gun to work in other states in other campaigns in field operation, but my home base has always in the city of Detroit, and I've always believed to be -- believed I should be active in all the campaigns, including as of last year and some campaigns currently going in the local suburbs as we try to increase our black representation in suburban districts.
Q. Could you describe your experience campaigning with black candidates and staff in areas that were predominately white?
A. Yes. On the ground the -- there's been -- there's always some difficulty irsreaching out to the white community, even when it was in the city. They're less likely to open the door. Ever when you can see them inside, they're -- in the suburbs they have been hostile, including pulling guns on people who knocked on their doors, even though they have on aprons, $T$-shirts, hats, buttons, clipboards. So they clearly see that this person is there to talk to them, but $I$ know of several candidates in the suburban areas where guns were pulled on them, they were cursed out, and they were called the $N$ word. It was reminiscent to my earlier childhood where I experienced that within the city and now much of that occurs

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outside the city, and the further you go across -- you go deep into the suburbs, the more hostile you find people to your presence.
Q. Now, when canvassing in these predominately white areas, do you employ any specific strategies?
A. Absolutely. We try to hire white canvassers to work the white neighborhood whenever we can, and we've even noticed that you can be on the -- a white canvasser, they would open the door and a black canvasser had just knocked on the door earlier and -- without response, as iE no one was home. But then a white canvasser working with us doing the same thing, they would get a response and be greeted.
Q. And in your experience and observations conducting campaigns, how do you assess a candidate's level of support from the black community?
A. If it's a jolack/white -- strictly a black/white, then the African American community overwhelmingly supports it. I just did it with a candidate to -- who took out a white Democratic incumbent in favor of a black one by doing a similar strategy, having one candidate and hoping that the -- enough of the white population would not vote in the Democratic primary.

And so our nightmare is that the -- someone in the legislature may try to get a fix, if you will, and then either have runoff where the white community can come together across party lines and that would wipe us out almost immediately or

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come up with some other strategies, nonpartisan primaries, et cetera, which could also have the same effect of eliminating. When you don't have a 50 percent guarantee of African Americans, then there are other strategies that will -- will be -- will be or could be possibly employed by the white majority to assure that seat and completely eliminate most black candidates.
Q. Are you familiar with the previous district maps?
A. I am.
Q. Does that include the demographics?
A. That does.
Q. And the geography?
A. It does.
Q. Have you had an corportunity to compare the previous district maps with Linden and Hickory Plans?
A. Absolutely. The previous district plans ensured that you would have African American -- a probable African American candidate that could -- would prevail or at least if not -- if they were not African American, they would be the African Americans' candidate of choice, depending on policy, neighborhood, et cetera.

MS. McKNIGHT: Your Honor, if I may briefly? We're treading a very thin line between Rule 701 and 702. The 702 -- 701 relates to a lay opinion testimony and where that opinion testimony relies on scientific -- a need to apply
scientific methods and methodology to determine that opinion. That belongs in the realm of Rule 702 , expert witnesses. We have plenty in this case. I'd just like to note that line and to stay clear on the side of 701 .

JUDGE MALONEY: Counsel?
MR. FLEMING: Representative Lemmons has a lifetime of experience in politics and in the area and he's speaking about who the black community supports in all of the elections throughout that time that he's been involved with. He has the life experience and can speak on who the black community in Detroit prefers.

MS. McKNIGHT: Your Honor, life experience talking about who he understands a community to prefer is one thing. What $I$ hear him testifying about now are candidates of choice prevailing at what percentage they need to prevail, and we have plenty of experts on both sides conducting statistical analysis or precisely that point.

JUDGE MALONEY: I'm -- I'm interpreting his testimony to mean that the -- when he refers to candidates of choice, candidates of choice are his opinion based on, what, 50 years of experience in politics in the City of Detroit? I don't understand the problem.

MS. McKNIGHT: The problem is, as I said before, it's one thing to testify about experience, and I'm not denigrating his experience --

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JUDGE KETHLEDGE: Or perception.
MS. McKNIGHT: Or perception. What I'm saying is we have multiple experts, we have at least three in this case who have calculated percentages of BVAP to determine candidates of choice and how -- what percentage they need to prevail, and, Your Honor, again, I understand it's a line --

MR. FLEMING: If I may, Your Honor?
JUDGE MALONEY: Counsel, this -- I appreciate the fact that we're -- have heard and going to hear a lot of expert testimony regarding candidates.of choice, but it just seems to me that given the fact this witness is highly experienced in the City of Detroit politics and how things work on the ground, if you will, in the city, I think the testimony is totally legitimate.

Objection is noted but overruled.
MS. MoiNNIGHT: Thank you, Your Honor.
JTDGE MALONEY: Go ahead, counsel.
BY MR. FLEMING:
Q. Mr. Lemmons, is the historic North 8 Mile Line Road, does that have any significance?
A. Absolutely. In fact, we talked about earlier the rap artist, Eminem, made a whole movie about that line of demarcation and how he crossed that line to get a cultural experience that enabled him to become a billionaire as a direct result of cultural appropriation within the African

American community.
So 8 Mile was an unofficial border, and only when conditions in Detroit became such that they began to creep across 8 Mile, which now $I$ would say it's 696. It's still an unofficial line and things are happening that keep the real estate companies, banking, and lending practices that determine how far we can expand and African Americans can move into communities and at what rate.
Q. What are some of the public policy foncerns most important to Detroit voters?
A. That is key, because when they draw these lines, even black legislators have to take into account that new white community and not to get dheir ire so that all of them will turn against them, begaúse there's always -- as you showed, there was always asmall percentage of white population that voted with the iolack population. Not enough, but sometimes a significant amount just based on the race in a multi-candidate race.

Example, affirmative action. Total difference in how we're seeing. Reparations, total difference in the community. Criminal justice reform, total difference and particularly in the priority. Prison reform. Whether prisoners should be allowed to vote. Prison gerrymandering.

All of these are some of the issues that now some of the African American candidates won't bring up for fear that
it may alienate a part of their constituents and particularly when those constituents are now the majority due to the BVAP. Q. And perhaps related to that, how responsive are white suburban state legislators to the -- those specific needs you talked about of the black voters?

JUDGE NEFF: You're painting with a pretty broad brush, Mr. Fleming.

THE WITNESS: I can tell my experience on that.
JUDGE NEFF: I know, but that's ridiculous to ask that question; how responsive are sulurban legislators. Well, who are they? How many are they? That's -- that's -- you've got to find a better question than that.

MR. FLEMING: Tracrik you, Your Honor. Understood. THE WITNESS: I can testify about what happened in caucus. And so historically when caucus, the suburban candidates, with the 8 Mile line of demarcation, they would always cometo us, and Senator Smith would attest to it as well, and say, I would -- I agree with you, I would support it, but my constituents won't allow me. I said, So your constituents are racist, does that make you racist, because we've had these heated debates within the caucuses of the -within the caucus of the Democratic caucus and $I$ can attest to that. That's why that question was pertinent to me. BY MR. FLEMING:
Q. In your experience and observations, is voter turnout
lower in the black community?
A. Absolutely.
Q. And is the level of political participation lower in the black community?
A. Absolutely.
Q. How does that impact electing black candidates?
A. It means you actively should have a higher percentage of a population until you can engage that -- the black population. I think it's -- also a matter of education and poverty, so if you -- but because we compact it, ther it reflects that -- it reflects that exact paradigm where there's a lower turnout and the white community is more diverse, in general, and so you can have pockets of whitesimilar social economic class that vote the same way at the same low rates but they're not likely to be concentrated in one big city with poverty and lack of educational opportunities.

Í's basically a phenomena called the trailer park versus projects. They're the same social economic thing and they respond the same way except when you're in a concentrated area it's going to be more -- the African American population is going to have a greater percentage and the trailer parks are scattered throughout the state.

MR. FLEMING: If $I$ can have a moment, Your Honor?
BY MR. FLEMING:
Q. Are you familiar with the Senate District 10 primary

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election on the Democratic side of 2022?
A. I am.
Q. Were you ever involved in that race?
A. I was. My wife was a candidate. Is that the Paul Wojno; is that the district?
Q. That is the district, yes. Could you tell me a little bit about that?
A. Certainly. My wife was going to run. She felt it was her time. She was a member of the Detroit school board. We were the first husband and wife team to serve both on the school board at the same time.

Anyway, she was -- IJdidn't even mention that whole history on that political in that 50 years, but anyway, she was going to run, and because I worked as chief of staff for State Senator Betty Jean Alexander, there was pressure put on us to get her to withdraw from the race.
Q. Why dosyou think that was?
A. Because it was essentially an incumbency protection plan and we were running because we were a great -- running because we were in fear that there were not going to be any black state senators from Wayne County. Fortunately two did prevail.
Q. Who was the incumbent in that district?
A. The -- the lines were drawn before -- Adam Hollier had been our state senator, but the lines were drawn and so --

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redrawn and so he would not have been.
Q. So you mean under the new district maps?
A. Under the new district being redrawn they went well into Macomb County.
Q. You mentioned it, but just to clarify, you were -- you were your wife's campaign manager?
A. I was a campaign manager. She was a 30 -year public school teacher. She retired and was a school board member at the time.
Q. Did she complete the race?
A. No. She was -- we -- the prossure was enough to get us to withdraw.
Q. In addition to the pressure, why -- why did you feel the pressure was that you had to dropout, other than people telling you not to ao so?
A. Well, actially, remember, $I$ worked for the senate so the Senate --
Q. Did you -- did you think she could win?
A. Absolutely. I thought that she could win. Even if she couldn't win, we needed to see exactly where -- where the votes were for the African American population. Absolutely she would have been the black candidate of choice.
Q. But given that, did you think that the BVAP was high enough for her to prevail in the primary?
A. I wasn't sure based -- let me say this, even though the

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BVAP was low, we were hoping enough would vote on the other side. And so if enough people voted on the other side of the aisle, the other -- the other party, then we could prevail. That was our only hope.

If it was open, then, no, the BVAP would have been too low, but because our -- the African Americans are more loyal -- strictly loyal to the Democratic party to a point of 90 percent. And the white population -- and there actually was at least 60/40 for the Republicans, we thought we had a shot.
Q. And what was the race of the incumbent for the primary?
A. White and Polish.
Q. Did he run unopposed frime the primary?
A. He ran unopposed.

MR. FLEMING: Thank you. I have nothing further at this time.

J̌idGE MALONEY: Ms. McKnight.
MS. McKNIGHT: Thank you, Your Honor. CROSS EXAMINATION

BY MS. McKNIGHT:
Q. Good afternoon, Representative Lamar.
A. Good afternoon.
Q. Thank you for your service and for your time today. Could I start by asking you has the population of Detroit dropped meaningfully in recent years?
A. Absolutely.
Q. Okay. And if there is a requirement when drawing districts to equalize population around the districts, how would that impact Detroit representation?
A. Could you rephrase the question?
Q. Sure. If there's a requirement to balance population equally across districts and Detroit population has dropped in recent years, how would that impact Detroit representation?
A. Well, obviously if it was strictly petroit it would be reduced.
Q. Okay. A question about the 8012 plan. You agree that the 2012 plan compacted African American districts to a greater degree than need be, right?
A. I do.
Q. Okay. And by inat do you mean that the 2012 districts in the Detroit area concentrated or packed black voters in a higher degree than necessary?
A. Probably so.
Q. Now, for the 2022 plan, to fast forward a decade, you believe that the Commission chose partisanship over black electoral opportunity, isn't that right?
A. That is correct.
Q. And you believe that the majority of the Commission was motivated by partisanship; is that right?
A. I do.

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Q. Okay.
A. Of my party, too, by the way.
Q. Is it your belief that black voters need a minimum of 48 percent BVAP to have a performing district?
A. I would say 50 percent.
Q. Okay. Would it be safe to say that most Detroit area incumbents do not like the 2022 plans?
A. I would agree with that.
Q. Would you agree that over time the fine of residential segregation that resided at 8 Mile has moved north to 10 Mile or further?
A. Absolutely. That's what ve said, yes.
Q. I'd like to go to theissue of canvassing. You would agree that when $a$ voter does not answer the door, you don't know why they don'A open the door, right?
A. That's triae.
Q. And yourwould agree that it is not race alone that affects a door open rate in canvassing?
A. I would agree.
Q. Now, you live in House District 13, correct?
A. Correct.
Q. Okay. And you live in Senate District 12, right?
A. That's correct.
Q. Okay. Do you know that neither of those districts are at issue in this case?

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A. Senate District 10 is my district, right? Paul Wojno is my senator.
Q. Okay. So you're in Senate District 10 not 12?
A. Right. 10 , not 12 .
Q. Okay.
A. And 10 is -- was one that you showed.
Q. Yes, that's correct. There may have been an error in the deposition transcript, so thank you for clarifying that now.

Representative Lemmons, I have no further questions. Appreciate your time.
A. Thank you.

JUDGE MALONEY: Counsel, redirect?
MR. FLEMING: Orie moment, please, Your Honor.
REDIRECT EXAMINATION

BY MR. FLEMING:
Q. On cross examination you testified that the Commission chose partisanship over black voters. Are you aware that the Commission used racial targets to draw those maps?
A. I was not aware.
Q. But you're aware now?
A. I am.
Q. And are you aware that the Commission did not turn on the partisan metric when drawing the maps until after they were decided?
A. I am aware of that now or earlier today.

MR. FLEMING: Thank you. I have nothing further. Thank you.

JUDGE MALONEY: Ms. McKnight?
MS. McKNIGHT: Nothing further, Your Honor.
JUDGE KETHLEDGE: Nothing.
JUDGE MALONEY: Thank you, Representative Lemmons. You may step down. Thank you, sir. (Witness excused at 4:38 p.m.)

JUDGE MALONEY: Mr. Bursch.
MR. BURSCH: Plaintiffs close their case in chief. There is evidence that we're going to put in through cross so it's not as though our cake is baked quite yet. For example, the cross of their experts is going to be important to our case, but we're done $\mathrm{m}^{\mathrm{I}}$ ling witnesses at this point.

JUDGE MALONEY: Thank you. We've reached 4:35 in the afternoon so we'll break for the day. We're going to start at 8:30 tomorrow morning so, sorry, we're going to cut your time having coffee, but we'll see you at 8:30 tomorrow morning. Thank you.

THE CLERK: All rise, please. Court is adjourned. (Whereupon, hearing concluded at 4:39 p.m.)

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