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IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF MICHIGAN SOUTHERN DIVISION
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DONALD AGEE, JR., et al,
Plaintiffs,
vs.
Case No. 1:22-cv-272
JOCELYN BENSON, et al,

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Kalamazoo, MI
November 7, 2023
8:48 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 Jane M. Beckering, United States District Judge, presiding.

All persons having business before 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: TH are back on the record in 22-2272. Counsel for the parties are present, and we are ready to proceed with further direct examination of Doctor Handley.

Counselor, you may proceed.
ME McKNIGHT: Thank you, Your Honors. DIRECT EXAMINATION (Continued) BY MS. McKNIGHT: Q. Good morning, Doctor Handley.
A. Good morning.
Q. Yesterday afternoon there were some questions from the Court about the timing of when you received certain analyses, when you -- pardon me, not received, but you relayed certain analyses to the Commission or its counsel. Do you remember

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those questions?
A. I do.
Q. Okay. I'd like to address the timing of when you provided the Commission or its counsel with the results of your analysis. Let's pull up DTX number 1 and -- and let this guide some of our discussion here.

Doctor Handley, do you remember seeing this demonstrative yesterday in court?
A. Yes.
Q. Okay. And, now, I'm going to talk to you about four different pieces of your analysiscand when you completed it or relayed it to counsel.

The first type of analysis I'd like to ask you about is your analysis of ald statewide general elections and the sole statewide democratic primary. By when did you relay the results of that analysis to the Commission or its counsel?
A. The analysis was done in August, completed by the end of August, and counsel and the Commission got the results at the same time on September 2nd, 2021.

The presentation -- the second determining if a redistricting plan complies with the Voting Rights Act.
Q. I'd like to move on to a second type of analysis you did or second type of information you analyzed.

Your analysis of congressional and state legislative general elections, do you have a sense of when you relayed
that -- the results of that analysis to the commission or its counsel?
A. I did the analysis in the first couple of weeks, thereabouts, first three weeks, maybe, of September and was -I was talking to counsel on a regular basis. I would say at least once a week, sometimes more than once a week, and relaying the information -- relaying my progress and then the information as $I$ received it, so certainly by the end of September they had heard all about the legislative general elections.
Q. Okay. I'd like to move on to the third type of elections that you analyzed and when you conveyed your results of the analysis to the Commissioii Or its counsel. That is your analysis of legislative primaries. Do you remember conducting that analysis in the fall of 2021?
A. Yes. Now again, that data had to be collected county by county. It was more complicated to put together. The database was ready maybe about the third week in September, so I had begun the analysis by the time I came to Michigan on October 1st, and at that point I could discuss some of the preliminary results. I completed it by about mid October. And, again, in phone calls that were at least weekly with the counsel of the Commission $I$ was relaying what was happening and what $I$ was finding.
Q. Okay. And about how many calls did you have with counsel
to the Commission on the topic of your analysis of the legislative primaries?
A. I would say that $I$ spoke to counsel at least a couple of times a week through October, and some of that was about the primaries, some of that was about the next set of elections that $I$ would be doing, which was sort of a complicated analysis of select minority groups that they had asked me to do.

I would say over, maybe, September and October, at least a dozen calls.
Q. Okay. And, finally, the forifth type of analysis you conducted, the analysis of select minority group voting patterns, do you remember oy when you shared the results of that analysis with counsel to the Commission?
A. Either right beiore or maybe not until the presentation that I gave on November 1st. I might have completed the analysis right before November lst, because that was also a complicated piece of work to put the database together. Q. Okay. And now of the middle two types of analysis that you were describing you did, the analysis of congressional and state legislative general elections and your analysis of the legislative primaries, I heard you discuss that you were working on that throughout September and October; is that fair?
A. Yes.
Q. Okay. And do I understand correctly that you were conveying those results as they were coming about to the Commission's counsel?
A. Yes.
Q. Okay. And did anything about those results change the conclusions that you made and provided to the Commission in your September 2 nd report?
A. No.
Q. And, pardon me, by report I think $I$ mean presentation.
A. Yes.
Q. Okay.

JUDGE KETHLEDGE: Can I ask a question since we're going through this? This is helpful. Doctor Handley, the second and third categories we're talking about, the analyses of, I guess, primaries that you're doing, as you said, kind of throughout October, is it fair to say that that information was not prayided to the Commission itself -- commissioners? THE WITNESS: Now, that $I$ don't know. JUDGE KETHLEDGE: By you, I guess? THE WITNESS: By me, that is correct. JUDGE KETHLEDGE: And it was not -- we don't -- we don't see that in any written form before the December report; is that accurate? THE WITNESS: Yes. JUDGE KETHLEDGE: Okay. Thank you. I'm just trying
to understand the facts.
BY MS. McKNIGHT:
Q. Thank you, Doctor Handley. We can take this down.

I'd like to move on to the topic of threshold of representation. Let's pull up a document so I can ask you some questions about it. Let's pull up the September 2nd report at DTX48 page 19 .

Now, Doctor Handley, we heard some testimony last week from Commissioner Szetela on the threshold of representation table so I'd like to get an explanation from you about what this table actually shows.
A. This table was provided in the presentation that $I$ gave after I had gone through the percent needed to win tables, one of which we visited yesterday. The idea behind this is simply a sort of check or the percent needed to win tables.

This simply looks at the -- the results of the last general elfction and it indicates the percent black VAP of the district, the person who won that district, and the race and the party of the person who won, and the percentage of the votes that they won by.

So, again, the idea was this is a check on the percent needed to win numbers. This reflects the 2020 election for the State House in the chart that's up. Q. Okay. I'd like to start with the testimony that the court has heard so far from Commissioner Szetela about what this
shows. I'd like to start with her testimony and make sure -get a sense of whether she got it right or if she had a misunderstanding of what this showed.

We're going to pull up a transcript from day one of the trial. This is ECF number 100, page ID 2373, and we'll start at line 13.

Doctor Handley, I'm starting at line 13 to orient the Court that this testimony is related to a draft map in September 28, 2021. Do you see that?
A. I do.
Q. Okay. Now, let's go to the next page and I'll ask Mr. Williamson to highlight lines 10 through 18.

And during this teestimony plaintiffs' counsel asked, But what evidence did the Commission have at this time that black candidates in Detroit could win the polarized primary elections if the BVAP was between 38 and 47 percent?

Der you see that?
A. I do.
Q. Okay. And to summarize Commissioner Szetela's understanding at the time, Commissioner Szetela claims that as of September 28 th and, quote, as shown by Doctor Handley's threshold tables; do you see that?
A. Yes.
Q. The Commission, quote, just really had nothing, end quote, to support the drawing of districts in Detroit at BVAP levels

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between 38 and 47 percent. Do you agree that the Commission had nothing at this point on September 28th?
A. They had the presentation $I$ gave on September 2 nd and the percent needed to win tables that were presented in that presentation.

I think that she is misusing the threshold tables here and ignoring the percent needed to win tables. Q. Okay. And so for reference also let's go back to one of those percent needed to win tables that was in your September 2 nd presentation.

MS. McKNIGHT: Can we pril up DTX48, page 17? BY MS. McKNIGHT:
Q. The information proviged in this analysis, turn out -sorry, pardon me, pereent black VAP needed to win, does this provide the Commission with anything as far as support to draw districts at BriP levels between 38 and 47 percent?
A. When - as I discussed when I discussed this table, this includes all 13 general elections, the elections in which I concluded that voting was racially polarized and, therefore, the relevant elections for drawing these districts. That at 35 percent black, the black-preferred candidate won all of the contests that $I$ had analyzed.

JUDGE KETHLEDGE: You're talking about that last table there?

THE WITNESS: The last column in that table indicates
the percentage of the vote given the turnout levels of black and white voters, given the cohesion of black voters, and the crossover of white voters. That is the percentage of votes that a candidate preferred by black voters would receive in a 35 percent black VAP district.

JUDGE MALONEY: If I may, who were the white crossovers in this table?

THE WITNESS: This is white voting age population voters who came out and voted for the candidate preferred by the black voters.

JUDGE MALONEY: Do we know what the partisan makeup of that group was?

THE WITNESS: Wedon't know that they're registered to vote -- in fact, I aon't even know if you have party registration in Michigan, but the crossover vote is the vote for the Democratic candidate.

JTDGE MALONEY: Could a large portion of that population be white Democrats?

THE WITNESS: The percentage reflects in the column $B-P$ under white votes, those are only white voters.

Presumably they are all Democrats or at least voting Democratic in that particular election.

JUDGE MALONEY: Did they not vote Democrat in any of those elections?

THE WITNESS: They voted Democrat in -- well, all of

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them by a certain percentage, so in the first election, the 2020 presidential election, 47.5 percent of the white voters voted for President Biden.

JUDGE MALONEY: But I'm not sure that's responsive to my question. My question is -- you talk about white crossovers. What percentage of the white crossovers are Democrats and what does that say about the efficacy of this table as it relates to the issues before the court?

THE WITNESS: This tells you the percentage of the whites who are voting for the Democraicic candidate. You can see that it varies as you go down the column, so in some instances you're talking about a minority of the white voters and in some instances you re actually talking about a majority of the white voters voting for the Democratic candidate.

JUDGE MALONEY: Thank you.
THE WITNESS: In Wayne County. Sorry.
BY MS. MCKN1GHT:
Q. Let me ask you this, Doctor Handley, this chart focuses on general election. Would your analysis have changed if you analyzed primary elections?
A. So, this analysis is based on the statewide general elections. As I mentioned, there's only one statewide primary election, and in that election minorities -- black voters were not cohesive. In fact, they preferred -- depending on the county you looked at, the preferred candidate varied, and at
no point was a majority supporting any of the candidates, I believe.

In terms of the primaries, as I mentioned, a majority of the primaries were not polarized, and you couldn't have calculated percent needed to wins in a primary with more than two candidates anyway because the way this algebraic model works is that you have to set the vote to 50 percent, and in a primary you don't necessarily need 50 percent to win. Certainly when there are more than two gandidates you don't, so you couldn't do a table like this for a number of reasons, and you wouldn't because voting wasn't polarized in the majority of elections.
Q. And so earlier when you were saying that your analysis in September and October of local primary elections wouldn't change the results of your September 2 nd presentation, does that mean that it wouldn't change any of the -- your conclusions related to this chart?
A. That's correct.

JUDGE KETHLEDGE: I would say kind of what $I$ said to counsel on the other side, which is that it's better for us to have the witness characterize than have a question that characterizes what we've heard. It's just their original characterization is more useful.

MS. McKNIGHT: I appreciate it, Your Honor. Thank you.

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JUDGE KETHLEDGE: That's fine. Thank you.
BY MS. McKNIGHT:
Q. Let's go back to the threshold of representation table at DTX48-19. Why did you produce a table like this and provide it to the Commission?
A. Again, this was a check on the percent needed to win numbers that I calculated.

MS. McKNIGHT: Let's turn to page DTX26, pages 24 -sorry, Defendants' Exhibit 26 at pages 24 to 25 , so this is tab B, DTX26 at pages 24 and 25. BY MS. McKNIGHT:
Q. Doctor Handley, what is this?
A. This is the report I pepared that summarized all of my analysis. I prepared it and presented it to the Commission on the 28th of December, 2021.
Q. And as your were compiling this December 2021 report, did you have a discussion with legal staff and other Commission staff about your review of all proposed maps?
A. Yes, I did.
Q. And we heard Commissioner Szetela say that the Commission's general counsel received information from you in this meeting that the BVAP of the districts drawn was far too low. Is that what happened in this meeting?
A. That is not what $I$ said in the meeting, no.
Q. Okay. Was Commissioner Szetela in the meeting?
A. Commissioner Szetela was not in the meeting. She was, obviously, provided either misinformation or misunderstood what was discussed in the meeting.
Q. Do you think the districts as proposed by the Commission needed to be drawn at higher BVAP levels?
A. No, I did not.
Q. Did you think the districts as proposed by the Commission needed to be drawn at 50 percent BVAP?
A. Certainly not.
Q. Let me ask you, Doctor Handley, Commissioner Szetela claimed that she started to have concerns about Voting Rights Act compliance in early October and so she started to dig into things. Did she reach out to you in October with questions about your september and report?
A. No, she did not.
Q. Did she reach out to you at all in October?
A. She has not -- she did not reach out to me at all until I received an e-mail from her in mid December, maybe.
Q. And would other commissioners reach out to you with questions?
A. I believe that I've spoken to every commissioner while I was in Michigan or in discussions on Zoom except for Commissioner Szetela, and I also probably -- I never met the two commissioners who were attending the meetings via Zoom. Q. And who were those two commissioners?
A. Commissioner Lange and Commissioner Wagner.
Q. Okay. Let's move on to a next topic, Doctor Handley. I would like to ask you some questions about partisan fairness.

I understand that you presented to the Commission at least twice on partisan fairness; is that right?
A. At least three times, I think.
Q. We heard testimony from Commissioner Eid about the idea of unpacking Democratic voters from the City of Detroit. Was this something you discussed with the Commission before they began drawing maps?
A. This subject came up, I think, in the first presentation that I gave on partisan fairness with the Commission, maybe in August.
Q. Okay. Could you ave given a presentation in early July on this topic?
A. Even earlier than I thought, yes.
Q. Let's iook at a clip and then I'll ask you some questions about it.

MS. McKNIGHT: This will be a clip of the video of the public meeting of the Commission on July 9, 2021, and we are starting at timestamp 2 hours 45 minutes, 10 seconds.
(9:11 a.m., audio played.)

BY MS. McKNIGHT:
Q. Commissioner Handley, do you remember participating in this meeting on July 9, 2021?
A. Vaguely. I certainly now know that part of it.
Q. And what does this clip tell about the timing of when the Commission was aware of the need to unpack Democratic votes from packed Democratic districts?
A. Well, they certainly had been told this as of $--\quad$ I think you said this was in July, but $I$ think that the Commission had already heard from other experts -- I know that the Secretary of State's office had put together quite a list -- impressive list of people to speak to the Commission beginning when the Commission was first formed, so this was the latest at which they would have heard about packing.
Q. And under your understancijng, was this before map drawing even began?
A. I don't think the started drawing until September -- it was certainly before they started drawing, yes.
Q. Okay. And did you have a second presentation related to partisan faitrness on August 6, 2021?
A. Probably, yes. I'm not great with dates here.
Q. Let's look at a clip from August 6th to see whether you presented on partisan fairness on that day.

MS. McKNIGHT: This will be clip 1 from August 6, 2021, timestamp 44 minutes and 40 second.
(9:14 a.m., audio played.)

MS. McKNIGHT: Can you pause it? Just pause. Pardon me. I want to set the table a little bit. We're diving right

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in the middle of things.
BY MS. McKNIGHT:
Q. Are you on this screen as participating in the meeting?
A. I think I'm not on the screen. You can maybe see my hands. I'm way over on the left side.
Q. Is that you?
A. Yes. I think this is after the presentation that I gave or during the presentation $I$ gave, but the person speaking is not me.
Q. And who is the person speaking?
A. This is the head of Election Data Services, the firm that brought me in on this project.
Q. Okay. And is he sittsrig nearby you in the meeting?
A. He's sitting next me.
Q. Okay.
A. I can see inm better than you can see me.
Q. Is tha*Mr. Brace?
A. Yes.
Q. Okay. And so down in the lower left-hand corner, was this a presentation that you gave on August 6, 2021?
A. It's a slide from the presentation, I think.
Q. Okay. And so it says efficiency gap. Can we understand that the topic was partisan fairness?
A. Yes.
Q. Okay.

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MS. McKNIGHT: Please start again.
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    (9:15 a.m., audio played.)
    BY MS. McKNIGHT:
Q. So, Doctor Handley, what does this clip show about whether the Commission was advised about looking at recompiled election results for statewide elections as part of their effort to create fair maps?
A. Mr. Brace described to them how it would be an automated tool, as they're drawing they would see recompiled election results each time they made a change. Each time they assigned a bloc they would see the impact of that on the recompiled election results.
Q. Okay. So we heard testimony about the map drawers needing to wait until they hada final map to rely on the partisan fairness tools. Dô you recall that testimony?
A. I believe so.
Q. And then -- but this is a little different in that they don't have -- please correct me if I'm wrong. I'm trying to understand if this is right. Is it correct to say that they did not need to wait for a final map in order to check recompiled election results for the districts as they were drawing them?
A. As they were drawing the districts they could get recompiled election results which indicated, essentially, the Democratic performance of the districts as they drew them
according to these recompiled results.
The partisan fairness measures themselves are designed to be calculated over entire plans, so they would have to finish an entire plan before they could get things like the efficiency gap, but in terms of Democratic performance of a particular district or groups of districts that they had drawn, that was shown on the screen.
Q. Okay. Let's look at another clip from that day. This is clip 2. So this is August 6, 2021, minute mark 46, seconds 48, so 46-minute 48 second.
(9:19 a.m., auciio played.)
BY MS. MCKNIGHT:
Q. Who was that speaking, Doctor Handley?
A. That's Kent Stiga who was also brought in by EDS and was -- there were two mappers -- at any given point there was a mapper working with the Commission that EDS brought in and the two regular mappers were Kent Stigall and John Morgan, and that was Kent.
Q. And what does this tell the court about the use of recompiled election results to assess political performance and whether it was a standard practice for map drawers?
A. We've been using recompiled election results since I've been doing this, which is a very, very long time. I think Kent mentioned the 1990s. Certainly we had recompiled election results as soon as we had GIS.

JUDGE NEFF: Could you just define that term for me? Somewhere along the line I missed that.

THE WITNESS: You take existing elections, like the 13 elections that I analyzed, you take the results of those, which are reported at the precinct level, and you disaggregate them down to the bloc so that each time you draw a map you can add the election results for each of the candidates to follow the boundaries. So you're just simply taking those election results, bringing them down to the bloc level, then automatically -- the computer does this for you -- automatic so that you know how many votes each candidate got in the district as you draw it, because you've brought the election results through an algorithm down to the bloc level. JUDGE NEFF: Which is the lowest common denominator? THE WITNESS: It's what you have to draw. You can't -- well, ${ }^{\prime}$ guess you could split blocs but not using GIS. So when you're drawing these maps, you're usually using blocs to draw them, census blocs.

JUDGE NEFF: Right.
THE WITNESS: And so this is a way of taking the election results down to the bloc level so you can know what's happening every time you make an assignment because you're making an assignment with the bloc, not with the precinct. JUDGE NEFF: Okay. Thank you.

JUDGE KETHLEDGE: Just while we are at it here, this
is very interesting. So my understanding was that the precinct level was the smallest level at which we receive a batch of results in an election; is that right?

THE WITNESS: That's correct.
JUDGE KETHLEDGE: So are you doing some kind of estimate, then, sort of -- I think we've heard about these sorts of estimates where you're then trying to figure out, okay, what was the composition for this particular bloc?

THE WITNESS: Yes. So you're going to use an algorithm. You're -- an allocation formula, and you're going to say, okay, so for this precingt we know that candidate A got 50 votes and candidate $B$ qot 60 votes, and then the bloc makes up, in terms of population, say, 20 percent of that precinct, so 20 percert of candidate A's votes will go to that bloc.

JUDGE KETHLEDGE: Okay.
THF WITNESS: And 20 percent of candidate B's votes will go for that bloc.

JUDGE KETHLEDGE: I see. So you're not changing the vote allocation within the precincts. You're just -- if you divide that precinct, you're just giving a -- that proportionate share to each candidate?

THE WITNESS: That's exactly right. So, if you created a district and, say, 90 percent of the precincts weren't divided, you have an exact count, an accurate count,
for those 90 precincts that weren't divided --
JUDGE KETHLEDGE: Okay.
THE WITNESS: -- and you're only using the algorithm.
JUDGE KETHLEDGE: So you don't have to do an
estimate. You're just dividing it -- you know, you're just assigning a share to the new district. You know, if it's 20 -- if it has 20 percent of the precinct, you just give 20 percent with that same vote per, you know, share between the candidates to the new line you're drawing?

THE WITNESS: That's right, Now, it would only -when a precinct is kept whole, and it's often by accident because you're drawing with - but, you know, in the center, most of a district -- most of those precincts are whole, so you're -- that's not $\in$ ven an estimation process. The estimation processonly comes in if you've divided a precinct, and then you use the allocated votes to determine what you think the gandidate would get in that newly formed district. JUDGE KETHLEDGE: Okay. Thank you.

BY MS. McKNIGHT:
Q. On the topic of partisan fairness, we heard testimony last week from Commissioner Eid about testing maps on certain third-party websites, and I'd like to ask you to take a look at a clip and answer some questions about that practice.

MS. McKNIGHT: So, let's look at clip number five. This is from August 6, 2021, time stamp is minute 54 , second
57.
(9:25 a.m., audio played.)
BY MS. McKNIGHT:
Q. So, Doctor Handley, what does this tell the Court about whether the Commission had access to partisan fairness information prior to september 2021?
A. They were certainly aware -- at least Commissioner Eid was certainly aware of the kinds of websites. I think that the -some of these websites were discussed yesterday with Doctor Rodden, too. Political scientists turn to these websites. They're pretty well known if you're a redistricting -- if you're interested in redistricting.
Q. And did you vouch for the practice of loading maps onto these third-party sites to test these numbers?
A. Yes.
Q. Okay. Letis move on to another topic, Doctor Handley. I'd like tokask you questions about complying with the Voting Rights Act, and specifically about how your analysis helps that happen. In all these questions I'm not looking for a legal opinion, I'm looking for your expert opinion when you provide advice to commissions or map drawers.

Is it fair to say that complying with the Voting Rights Act is not a simple exercise?
A. It is not. It's not -- the analysis that I do is not simple, and I think they -- the job of the lawyers is even

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more complicated these days, but, no, it's not simple.
Q. Can you describe at a high level how your analysis ties into the Gingles three prong test?
A. The analysis that $I$ do in terms of racial bloc voting is related to the second prong and the third prong of Gingles. The second prong of Gingles says that the minority group must be politically cohesive, so racial bloc voting analysis will tell you if, for example, in the Detroit area, if black voters are voting cohesively; that is, are they supporting the same candidates.

And the third prong is are white voters bloc voting against these candidates, and the racial bloc voting analysis is telling you whether whice voters are supporting the candidates preferred
Q. And you conducted a racial bloc voting analysis for the Commission, corfect?
A. That's correct.
Q. And did that inform your September presentation and any other analysis you did for the Commission?
A. That's correct.
Q. And what did you conclude as part of that racial bloc voting analysis?
A. That voting in the general elections across the four counties was polarized by varying degrees and that -- I think I mentioned that -- I'm sorry, did you ask me about general
elections or elections in general?
Q. Yeah. We can -- it's okay. We can start with general and then let's break it down by general and primary elections. So in general, what did you find?
A. In the general elections I found that voting was polarized in all of the four counties for which I could produce reliable estimates.
Q. Okay. And when you say polarized, how does that relate to the second and third prongs of Gingles?
A. Again, racial bloc voting analysis will show you the -the actual -- estimate for you the actual percentage of black voters who supported a given candidate, and you would look over a series of elections to see if a majority -- if a larger than majority, maybe $60,65,70$, don't have to -- there is no bright line, but in this case, of course, when you remember the percent needed to win tables, we're talking about cohesion levels over 90 percent in the general elections. So, that's directly relevant to the second prong.

The third prong are white voters supporting those candidates is also found in the racial bloc voting tables which were summarized in the percent needed to win tables, and you're looking to see how often the majority of white voters support the black-preferred candidate.
Q. So that's statewide general elections. Did your analysis of local legislative primaries change your conclusion about
the statewide general election?
A. No. The majority of the Democratic primaries that I analyzed, both in general and in the Detroit area specifically, were not, in fact, racially polarized and about half of those that were polarized did not result in the defeat of the black-preferred candidate, so even if a contest was polarized, the candidate preferred by black voters usually won.

JUDGE KETHLEDGE: Are these the analyses that were in the second and third categories that we discussed at the onset of today's testimony?

THE WITNESS: The thjird category, yes. These are the primary elections that are discussed actually at length in my expert report.

JUDGE KERILEDGE: For this case? THE WITNESS: For this case, yes. J̌MGE KETHLEDGE: Thank you, ma'am. BY MS. McKNIGHT:
Q. Let's bring up DDX4. This is Defendants' Demonstrative 4. MS. McKNIGHT: And, Your Honors, I made a mistake yesterday in not offering a paper copy of this. Would it be helpful to have a paper copy of this demonstrative? JUDGE KETHLEDGE: Is it in the binder? MS. McKNIGHT: I don't believe it's in the binder. JUDGE MALONEY: This is different than what you gave

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us yesterday?
MS. McKNIGHT: This is the same as what -- what -this is the same as what we put up yesterday, but I'm saying I think I made the mistake in not giving it to you yesterday so I'm happy to --

JUDGE KETHLEDGE: Sure.

MS. McKNIGHT: -- pass up -- okay.
JUDGE KETHLEDGE: It's one page, right?
MS. McKNIGHT: Yes.
JUDGE KETHLEDGE: Go for it.
MR. BURSCH: Can I have á copy as well?
MS. McKNIGHT: Of course. Just give him a minute. Thanks, Patrick.

BY MS. McKNIGHT:
Q. So, Doctor Hardiley, when you -- you talk about the results of your primary analysis and whether it alters or not your analysis of the general elections. Are the results shown on the screen part of your conclusion about the primary results?
A. Yes. This is just taken from my expert report, and it just tells you the success rates of the black-preferred candidates in the primaries in districts that fall in the various ranges as indicated in the first column.
Q. Okay. So on your review were the -- did the primaries act as any sort of barrier to black voters' candidates of choice winning?
A. You can see that even in -- there's no cell in this table in which the black-preferred candidates won less than 50 percent of the time.

JUDGE MALONEY: Counsel, do we know what the end number is for each of those categories?

THE WITNESS: You do in the expert report. It's listed in the expert report.

JUDGE MALONEY: Thank you.
MS. McKNIGHT: Would it be helpful for us to cite -pull that up for Your Honor?

JUDGE MALONEY: If it'sin the report, that's fine.
JUDGE KETHLEDGE: I think there's a cite in the footnote.

MS. McKNIGHT: Okay. Okay.
THE WITNESS: I should say there's not very many elections...

JWDGE MALONEY: Well, that was -- that was part of my thought process. How many 35 to 39.9 are there?

THE WITNESS: It would say in my report. I should also say I -- what I attempted to do was try and create a table separate for the House and the Senate, the State House and the State Senate. That's why I borrowed the estimates from Mr. Trende's report, because he looked at some contests, primaries, in 2014 and 2016, and that would have added to the number of cases that $I$ could put in a table like this, and I
discuss the success rates when $I$ add those. I discuss the success rates for black-preferred candidates in the House and the Senate separately, and you get some really odd cells when you do that, because it turns out when you look at the House and the Senate separately, the number of cases is small, and you get absolutely no relationship at all between the percentage BVAP in the districts and the success rates.

JUDGE KETHLEDGE: I think Judge Maloney asked how many case -- how many in the backup data, so to speak, how many elections were there in the 35 to 39.9 percent?

THE WITNESS: Yeah. I Gan look in the report. It is in the report. Let me see if can find it for you.

JUDGE KETHLEDGE: Okay. If it's laid out, you know, plainly so that nonexpert -- you know, people like us can sort it out --

THE WITNESS: It tells you how many districts and how many elections that went into each of --

JUDGE KETHLEDGE: Okay.
THE WITNESS: -- this. Overall I only -- I analyzed, I think it was about 30 election -- 30 elections, so this table has to cover 30 elections.

JUDGE MALONEY: That's helpful. Thank you.
JUDGE KETHLEDGE: Thanks.

BY MS. McKNIGHT:
Q. Okay. Stepping back for a moment, Doctor Handley, what
does it mean when a certain election is a barrier in Voting Rights Act cases?
A. So, typically -- most of my work is in the south, and the general election is at the firm barrier and the primary is not a barrier, because the primary in the south, a Democratic primary is composed -- the majority of voters in the Democratic primary are black voters because white voters have fled the Democratic party in the south and now vote Republican.

Here, it's -- the situation is slightly different. The Democratic primary is not the oarrier, but it's not because white voters have fled the Democratic party. It's because the majority of white voters who are voting in the Democratic party are roting for the black-preferred candidates in the majority of the cases.

So itis not a barrier, but it's not a barrier -- the Democratic primary is not a barrier for a different reason than is the case in the south. Here, the white voters are supporting the black-preferred candidates often in the -- in a majority of the cases in the Democratic primaries.
Q. And to break it down one step further, what does -- what is the barrier we're talking about?
A. The barrier is the barrier to getting a black -- the black voters' candidate of choice into office. You have to go through two elections. You have to go through the primary and
you have to go through the general, and it may be the case that the primary is the barrier, so, for example, in New York City it's the primary because everybody in the general is a Democrat in New York City but voting is polarized in the primary. But in most places it's the general election that's the barrier for black voters to get elected. And in the four counties that I looked at here, that was the barrier.
Q. And what does it mean for the map drawers if voting was polarized in general elections?
A. So, the point is to look at therecompiled election results for the general elections, determine if the minority preferred candidate would be elected.

As I mentioned, danalyzed all 13 general elections, and the bellwether elections -- a bellwether election is an election that was polarized and the black-preferred candidate was actually black, and the bellwether election here -- the best bellwether election for determining whether the -- a proposed district would elect a candidate of choice of black voters was the 2014 Secretary of State's contest that included Godfrey Dillard. He got the least amount of white vote in the general election. He had the least amount of white crossover vote, so that would be your bellwether election.

We had the results -- they had the results for all 13 elections, but, again, that was the most important election simply because that was the candidate that got the least
amount of white vote.
JUDGE MALONEY: And the candidate was running against the incumbent, Ruth Johnson, correct?

THE WITNESS: I'm going to trust your memory on that. I suspect it's better than mine.

JUDGE MALONEY: I think that's right, but somebody will check me.

THE WITNESS: But he did -- Dillard got over 90 percent, 95 percent of the black vote in that case, so he was the black-preferred candidate. BY MS. McKNIGHT:
Q. So if you find that voting is polarized in the general elections, does that ---iii1 your understanding, does that trigger some sort of oligation on the part of the map drawers?
A. Because vging was polarized I did tell the map drawers they did hare to pay attention to race and create districts that would elect black-preferred candidates.
Q. And is it your understanding that they needed to create districts that always elected black candidates of choice?
A. You can't do that really. I mean, there are circumstances -- you know, individual circumstances of particular contests that will mean that they won't usually -you know, the goal is that they will usually be elected. Q. And how does your work guide map drawers in the process of
drawing districts to provide black voters with an opportunity to usually elect their candidate of choice?
A. So, I do two types of analyses. The first is the percent needed to win kinds of tables that you saw from my presentation. This you can do prior to drawing boundaries. This simply looks at looking at past election results, what could we expect, but it's not looking at proposed district boundaries, because we don't have proposed district boundaries at this point.

The percent needed to win tables were done prior to drawing to give you sort of a guideline how to go about creating the districts that might elect candidates of choice of black voters.

But once you actually have proposed districts, then you have another tool, and that is recompiled election results. The recompiled election results look at what would happen in those elections in that very specific district, taking into account only the voters that would be within that proposed district boundary, so that is the advantage of looking at recompiled election results rather than looking at the percent needed to win tables, so, of course, I told the Commission as they're drawing to make sure that they look at the recompiled election results and particularly for those elections in which the black -- in which the -- in which the black voters' candidate of choice was black, and in particular
the Dillard election, because he was the one who got just as many black votes as all of the other candidates, but the fewest amount of white votes. So they had that tool to look at once they had the proposed districts.
Q. And along with your analyses conveyed to the Commission or its counsel, did the Commission have these two tools at hand when drawing the maps?
A. Yes. Yes.
Q. Finally, Doctor Handley, we've heard some discussions in this case, claims that there was a lack of data to perform the analysis necessary for Voting Rights Act compliance. Do you believe you still were able to develop a reliable set of analyses for the Commissiof based on the data you had?
A. Yes.

MS. McKNIGHT: Thank you. I have no further questions at this time.

JTinGE MALONEY: Mr. Bursch, you may inquire. CROSS EXAMINATION

BY MR. BURSCH:
Q. Good morning, Doctor Handley.
A. Good morning.
Q. My name is John Bursch. I represent the plaintiffs in this matter.

You testified that you presented your initial VRA report to the Commission on September 2 nd, 2021 , correct?

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A. Yes.
Q. Could you turn to tab $A$ of the witness binder that you've been using? This is Defendants' Exhibit 48, Plaintiffs' Exhibit 15. This is the presentation that you gave at that September 2nd meeting, correct?
A. That's correct.
Q. Now, you clarified this morning that other than the 2018 gubernatorial Democratic primary, this report included no primary data; is that right?
A. This presentation did not discuss anything other than the 2018 gubernatorial primary, that's correct.
Q. So no Wayne County Senateor House primaries, right?
A. That's correct.
Q. No Oakland County Senate or House primaries, correct?
A. Correct.
Q. No Macomb COunty state or Senate House primaries, correct?
A. That'sccorrect. Now, let me say for Macomb County I didn't do any analysis. I attempted to do some analysis for Macomb County and there was not a sufficient number of black voters or sufficient number of variation in the percentage black voters to actually produce numbers for Macomb County.
Q. Thank you for bringing that up. We'll be getting to that, but not quite yet.

I want to start with that 2018 Democratic gubernatorial primary. If you could turn to page eight of

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this December -- Defendants' Exhibit 48. And if you look in the bottom left-hand corner here it says, 2018 Democratic primary for governor. Is that the primary we're talking about?
A. Yes.
Q. Who were the three candidates and what were their races?
A. Well, Abdul El-Sayed was Middle Eastern. Shri Thanedar is Indian Asian, I believe, and Gretchen Whitmer is white.
Q. And I believe you testified that black voters were not cohesive in this race which had no black candidates; is that accurate?
A. Correct.
Q. Could you say whether there was white crossover voting for the black candidate of choice, then?
A. No. You can'trsay because there's no black candidate of choice.
Q. So, your analysis in this September 2, 2021, report does not rely on this primary?
A. My analysis -- repeat the question.
Q. Because there was no black cohesion and because you could not analyze white crossover voting, this 2018 Democratic primary for governor played no role in your conclusions in this report, did it?
A. That's correct, yes.
Q. Okay. Very good. Now, as you mentioned, your analysis
did not include Macomb County; that's correct?
A. Correct. You could not produce reliable estimates.
Q. Are you aware that in the Linden plan that the Commission adopted, Senate Districts 3, 10, 11, and 12 all included parts of Macomb County?
A. I -- I'll believe you.
Q. All right. Are you aware that in the Hickory plan that the Commission adopted House District 10, 11, 12, 13, and 14 all included parts of Macomb County?
A. Again, I'll believe you.
Q. Okay. Let's go back to yourglobal analysis in this September 2nd report. Leaving aside the 2018 Democratic gubernatorial primary that we've discussed, you considered 13 general elections; is that correct?
A. I analyzed aligeneral elections between 2012 and 2020.
Q. And that was 13 general elections? I've got page 13 of your report here if you want to double check that number.
A. Yes, that's correct.
Q. Okay. Now, six of those races included a black candidate or a candidate with a black running mate; do you recall that?
A. Yes.
Q. But in two of those six it involved John James, who was running for the Senate in 2018 and 2020, and you concluded he was not the black candidate of choice, correct?
A. That's correct.
Q. Okay. So, the four general elections that are left, make sure I've got this, the 2012 presidential, the 2014 secretary of state, the 2018 governor, and the 2020 president, all as reported on page seven of your report, which is on the screen and also in your binder; is that correct?
A. Yes.
Q. These four elections, 2012 president, 2014 secretary of state, 2018 governor, 2020 U.S. president, you've referred to as the bellwether elections; is that right?
A. Yeah. Yes, I believe so. Yes. 1 mean, the most important being the 2014 secretary of state, but I think I did refer to all four of them as bellwether.
Q. Sure. So if I use belwether elections, you know those are the four general $\in D e c t i o n s ~ I ' m ~ r e f e r r i n g ~ t o ? ~ ? ~$
A. Yes.
Q. Very good Now, in those four bellwether elections, the black candidate of choice prevailed in three; President Biden, Governor Whitmer, and President Obama, correct?
A. Do you mean that they won the election?
Q. Yes.
A. Yes.
Q. Okay. So, did these bellwether elections show what BVAP level would be necessary for a black-preferred candidate to prevail in a specific Wayne County State House or Senate Democratic primary?
A. That's what we compiled elections results to, yes.
Q. You're saying that in three of the four bellwether elections where the candidate of choice prevailed you can use that to set BVAPs for State Senate, and House primaries?
A. I'm sorry, for primaries?
Q. Yes. State, House, State Senate primaries.
A. There are no bellwether elections for primaries. There are no statewide -- sorry, I'm losing my voice. No statewide Democratic primaries that you could use as a bellwether.
Q. Okay. So just so we're clear or the record, these four bellwethers do not tell you if a-if black voters collect the candidate of their choicein a state House or state senate primary; yes?
A. That's correct.
Q. Very good. Als right. Let's look at your chart on page nine of this report. This is still Plaintiffs' Exhibit 15, Defendants Exhibit 48, page nine.

This is titled, Number of Racially Polarized Elections, correct?
A. Yes.
Q. And this was your basis for concluding that the Commission had to pay attention to race, as you just testified, correct?
A. Yes.
Q. Okay. If we look at all statewide general elections here, so we'll give you the benefit of all 13 races, in Oakland

County you report that 13 of 13 races were racially polarized?
A. Correct.
Q. Now turn to page 16 of this same report. This is the breakdown of those results in Oakland County, correct?
A. Yes.
Q. Okay. And be patient with me because this is going to take a little time.

In the very first race, President Trump and President Biden, President Biden received 93.4 percent of the black vote, yes?
A. Correct.
Q. But white voters did not sufficiently vote as a bloc to defeat the black candidate of choice?
A. I don't know who ron Oakland County. Can you tell me who won Oakland County?
Q. I can tely you that President Biden won Oakland County.
A. Then that's correct.
Q. Okay. So Gingles three not satisfied.
A. Well, not on the basis of one contest.
Q. Sure. Let's look at contest two, the 2020 U.S. Senate. This was between Senator Gary Peters and Representative John James. Senator Peters received 92.1 percent of the black vote; is that correct?
A. Yes.
Q. And yet Senator Peters prevailed in Oakland County,
correct?
A. I don't know.
Q. Okay. In the third race, 2018 governor, Governor Whitmer and Attorney General Schutte, Governor Whitmer received 94.1 percent of the black vote; is that correct?
A. Yes.
Q. And yet Governor Whitmer prevailed in Oakland County; do you know that?
A. I don't know that, no.
Q. All right. Because you don't know the Michigan election results that you were studying, maybe we can fast forward a little bit here.

I will represent to you that in the 2018 secretary of state race, the black candidate of choice with 94.2 percent was Secretary Benson and she prevailed in Oakland County.

I carı represent to you that in the 2018 attorney general race, 93.8 percent of black voters supported General Benson (sic) and she prevailed in Oakland County.

JUDGE KETHLEDGE: Are these statewide numbers we're looking at?

MR. BURSCH: These are Oakland County numbers.
JUDGE KETHLEDGE: Okay. So this is just Oakland
County.
BY MR. BURSCH:
Q. The same is true in the sixth race where Senator Stabenow
beat John James.
In the seventh race where President Clinton (sic) carried Oakland County over President Trump. I would note that although President Trump carried the state, Secretary Clinton carried Oakland County.

And then we finally get to the eighth race between Mark Schauer and Governor Snyder in the 2014 governor race, and this is the first time that the black candidate of choice, Mr. Schauer, does not prevail, and that's also true of the Secretary Benson race and the Attorney General Schutte race, all of which involved incumbents.

So, finally, in these last three races, the black candidate of choice prevȧis in Oakland County in the 24 (sic) U.S. Senate, that's Gary Peters. The 2012 president, that's Obama. And the $20 I \mathrm{U} . \mathrm{S}$. Senate, which is Senator Debbie Stabenow over Hoekstra.

So. if I'm right about all of these, then of these 13 elections, white voters voted sufficiently as a bloc to defeat the minority candidate of choice in only three of 13 elections. Does that sound right?
A. Countywide -- if you're correct, that would be correct. Q. Okay. Three out of 13. That means the black candidate of choice won 77 percent of these elections in Oakland County. Is that math correct?
A. Possibly. I'll trust you on that.
Q. Okay. I did have a math major. Even in the three races where the black candidate of choice lost, those involved popular incumbents in Governor Snyder, General Schutte, and Secretary Benson, did they not?

JUDGE NEFF: Mr. Bursch, I have a question. If these are countywide -- these are countywide numbers, right?

MR. BURSCH: Yes.
JUDGE NEFF: And yet the districts that have been drawn that were -- we've been talking about for the last however many days do not include Oakland County as a whole, right?

MR. BURSCH: Oh, sufe, Judge Neff, but what I heard Doctor Handley testify eadier is that she used the polarization in these general elections, 13 out of 13 in Oakland County to Justify the Commission's use of race, but as it turns out, in Oakland County in ten of those 13 races the black candidate of choice prevailed in Oakland County. So as a result, the Commission could not have used race as a criteria in drafting maps that went into Oakland County. JUDGE NEFF: Okay. Got ya. Thank you. THE WITNESS: Can I -MR. BURSCH: No, you may not. JUDGE MALONEY: Counsel, you referred to the 2014 Republican candidate for Secretary of State as Secretary Benson. I believe it was Secretary Johnson.

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MR. BURSCH: I'm sorry, Secretary Johnson. Thank you, Judge Maloney. BY MR. BURSCH:
Q. All right. So, if we could move to page seven of your report. Again, this is that table to justify the use of race in drawing the districts. You -- I'm sorry, page nine. You report that in Wayne County 7 of 13 statewide general elections contests were racially polarized. Is that what this says?
A. Yes, that's correct.
Q. Okay. Now, if we move to pare 17 of this report, this is the same data we were just looking at but now for wayne County; is that right?
A. That's correct.
Q. And because you're not aware of who prevailed in any of these elections in Wayne County, I will represent to you now and prove in our supplemental briefing at the conclusion of this trial that in all 13 of these races the black candidate of choice prevailed in Wayne County.
A. Okay.
Q. 13 out of 13. So, this is the basis, that other chart, for your conclusion that the Commission could use race in drafting districts in Wayne County, correct?
A. I think I should specify that what's happening at the county level is not necessarily happening at the district
level. In other words, the entire county isn't going into a district --
Q. Understood. But --
A. -- so you need to know the voting patterns of the county as a whole, and you don't know what you're going to put into the district to create an effective district. The point here is there are voters in Wayne County who will vote Repulican and you need to be careful when you draw the districts that you don't draw a district -- too many districts with too many Republicans in it.
Q. Can we go back to page nine? Doctor Handley, I appreciate the difference between counties and districts, but in concluding that the commissioners could use race in drawing maps, it was based on vour county analysis here on page nine, wasn't it?
A. And the statewide analysis, that's correct.
Q. There was no district-by-district analysis here, was there?
A. That's correct.
Q. Okay. So just to sum this up, the data that we've talked about here, the 13 general elections and the one not as helpful, 2018 gubernatorial primary, are the only election data that you reported to the Commission on September 2 nd, 2021; yes?
A. Correct.
Q. Okay.

MR. BURSCH: Bailey, if you could pull up Defendants' Demonstrative Number 1. BY MR. BURSCH:
Q. Dr. Handley, you testified that these were all the materials that you provided to the Commission directly, correct?
A. These were -- this is an indication that the presentations I gave to the Commission -- the discussions I'm not -- you know, I'm not sure what was included in the discussions. I'm also not sure that I -- that there were not more discussions.

I was reminded by some commissioners that there were more discussions that I haven't indicated. This certainly accurately depicts allof the formal presentations I gave but not all of the discussions $I$ had with the commissioners.
Q. Understood. I asked materials. And these are all the materials?
A. The materials.
Q. That's what it says at the top, materials provided. This is it. If there was anything else, it would be on this chart; yes?
A. I think that that's correct.
Q. Okay. So, focus with me on September 2nd, 2021. This is the report that we've been talking about so far; is that correct?
A. It was a presentation, yes.
Q. Okay. And then the October 1st materials, that related to partisan measures, correct?
A. The presentation did, yes.
Q. October 5th, also partisan fairness measures, correct?
A. The presentation.
Q. November 1st, 2021, voting patterns of selection minority groups in Michigan, do you recall that report?
A. The presentation? Yes.
Q. Okay. Did it address black voting patterns?
A. The presentation did not. In not sure what the discussion involved. Again, these are the --
Q. Materials --
A. -- formal materiats, yes.
Q. Yes. But if we went back to the October 5th -- I'm sorry, November 1st, 2021, transcript, we could determine whether you talked abolit any black voting data, couldn't we?
A. You could.
Q. Oh, good. All right. And then, finally, we have the December 28, 2021, report. You remember this, right?
A. Yes.
Q. Let's turn to that now. Do you recall that December 28th was also the day the Commission voted to approve the Hickory and Linden plans?
A. I don't know.
Q. Okay. Do you remember the e-mail that you sent to Chair Szetela the day before on December 27th?
A. Can -- I'm not good with dates. If you show it to me and show me the date, I will agree with you.
Q. I understand. I'll give you all the dates and all the election winners that you need.

MR. BURSCH: If you could pull up, Bailey, Plaintiffs' Exhibit 5, page 21. BY MR. BURSCH:
Q. This was an e-mail dated December 27th --

MR. BURSCH: Actually, Kailey, if you could do the top. BY MR. BURSCH:
Q. From LRHandley@AOH.com. Is that you?
A. Yes, it is.
Q. And do you see the date, December 27th?
A. Yes, I Co.
Q. Okay. And now we can look at the highlighted language. Unfortunately, we do not have sufficient information to anticipate what might happen in future Democratic primaries in the proposed districts. The reason is we have only one statewide Democratic primary for which we can compile results and minority voters were not cohesive in this primary. We simply do not know what would happen in a primary in which minority voters are cohesive.

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Did I read that correctly?
A. Yes, you did.
Q. And when you say one statewide Democratic primary, that's the one we were talking about earlier where there was no black candidate and no black candidate of choice, correct?
A. Correct.
Q. Very good. All right. Let's turn to your report. Behind tab B of your witness binder we have your expert report in this litigation marked Defendants' Exhibit 26.
A. Yes.
Q. Okay. I'm going to have youturn with me to page 25. JUDGE MALONEY: I'm sorry, counsel, what exhibit number?

MR. BURSCH: Defendants' Exhibit 26. JUDGE MALONEY: Thank you. MR. BURSCH: Page 25. JThGE MALONEY: Thank you. THE WITNESS: The exhibit page 25? BY MR. BURSCH:
Q. Yes. And this is the first page of your December 28, 2021, expert report, correct?
A. Yes.
Q. Now, to keep everything straight between what you provided to the Commission on the day the maps were approved, December 28th, and what you provided to the Court in this
litigation, $I$ want to focus solely on this appendix A right now. Forget about the expert litigation report. Are you with me?
A. Yes.
Q. Okay. Please turn to table one on page seven of your report. The Bates stamp is Defendants' Exhibit 26 , page 31. Do you recognize this as the same table that we were just discussing in your September 2nd, 2021, presentation?
A. Yes.
Q. Okay. Please turn to table two<on pages eight through nine. Just flip the page This is Defendant Exhibit 26, pages 32 and 33.

Table two is your summary of Congressional district racial bloc voting anतlysis, correct?
A. Yes.
Q. Okay. Cary you agree with me that Congressional

District 5; being in Genesee and Saginaw, is not relevant to the Wayne and Oakland counties?
A. Yes.
Q. Okay. So let's focus on the four highlighted exhibits. We have four columns of elections that you analyzed, correct?
A. Yes.
Q. Okay. We're going to put a pin in the 2018 Democratic primary and come back to that.

If you look at the 2018 general election column you

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found no polarization in any of these districts, correct?
A. I'm sorry, could you repeat that question?
Q. In the second column, 2018 general election, you found no polarization in Congressional Districts 9, 12, 13, or 14?
A. Correct.
Q. Okay. Now look at the last column, the 2020 general election, and here you found one polarized election in Congressional District 13 but the black candidate of choice won?
A. Correct.
Q. And that was in a Wayne Counfry district with, if I'm reading this correctly, 54.78 percent BVAP, correct?
A. Correct.
Q. So that's a majorsy black district, isn't it?
A. Yes.
Q. Okay. Now let's focus on the third column, the -- I'm sorry. Yeah. Now let's go back to the 2018 Democratic primary column. And here there was only one polarized contest in Congressional District 13?
A. Correct.
Q. And there the black candidate of choice lost?
A. Correct.
Q. And in the other districts it was either no contest or all white candidates; is that right?
A. Correct.
Q. So of these elections, Congressional District 13 would be the most probative of black voters' ability to elect the candidate of their choice, correct?
A. The most probative? I'm not sure that I would say it was the most probative. I would say that it is the election that was polarized.
Q. Okay. So, you would not say that a polarized election where the black candidate of choice lost is more probative than one where there was only white cancidates?
A. No. I agree that it --
Q. Oh, good.
A. -- not -- all white candidates would not be probative, that's correct.
Q. All right. And then in the other two it was no contest, so surely you woula agree that a polarized election where a black candidate of choice lost is more probative than two no contests, right?
A. Yes.
Q. Oh, good. All right. So we are in agreement.

So I want to look at the underlying data for this
Congressional District 13. Please turn to page -defendants' -- same tab of the binder, Defendants' Exhibit 26, to page 88.

At the top do you see where it says, recent Democratic primaries, Congress?

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A. I do.
Q. And halfway down do you see where it says 2020?
A. Yes.
Q. And then you see under that, Congressional District 13?
A. Yes.
Q. Good. All right. So in this race, who was the black candidate of choice?
A. Rashida Tlaib, right?
Q. Yep. I think I may have given you the wrong district. Give me a moment. Yes, I'm sorry. Ne're in 2018, not 2020. In the 2018 race at the top, who was the clear black candidate of choice?
A. Brenda Jones.
Q. And what was her share of the black vote?
A. About 43 percent.
Q. You had Congressman (sic) Tlaib --
A. Sorry, About 43.5 percent of the vote --
Q. Right there.
A. -- was the EI estimate.
Q. Yet Congresswoman Tlaib prevailed, correct?
A. That's correct.
Q. And to reiterate, this district was in Wayne County?
A. Yes.
Q. And the black candidate of choice lost a 54.78 percent BVAP county?
A. District.
Q. Yes.
A. Yes.
Q. Okay. Now, the only nonblack candidates in this race were Representative Tlaib and Bill Wild; is that correct?
A. Yes.
Q. Together what was their share of the white vote?
A. Over -- it looks like about 90 percent over --
Q. That's about what I got too, about 90 percent. So by definition that means white voters voted for the black candidates in only 10 percent, correct?
A. Yes.
Q. And Brenda Jones, the black candidate of choice, what percentage of the white vote did she take?
A. About -- a litilie over five percent.
Q. Would you call that racially polarized?
A. Yes.
Q. Me too. So, to summarize your findings for the general elections in Wayne, Oakland, Macomb County, you found that there was polarization in only one of eight races?

Actually, let's go back to that other chart so that you're not guessing here. If we could go back to pages eight through nine of your report. This would be Defendant Exhibit 26, pages 32 to 33. And I think I may have skipped over the 2020 Democratic primary. You can verify for me that
all four of those races were either not polarized or no contest, correct.
A. Yes.
Q. Okay. So, to summarize, for congressional general elections in Wayne, Oakland, Macomb counties, that would be column two and column four, you found there was polarization in only one of eight races; yes?
A. I'm sorry, repeat that. The primaries or the generals?
Q. In the generals, column two and colamn four, you found polarization in only one of eight races?
A. Repeat that again. The primary or the general?
Q. The general.
A. The general --
Q. 2018 general, 2020 general, columns two and four, you found polarizatiorin only one of eight elections, Congressional District 13.
A. I see right?
Q. Yeah. Leave out five, please.
A. That's the problem. Yes, sorry. Yeah.
Q. Yes, okay. Good. And the black candidate of choice, again, won that primary with a 54.7 percent BVAP; yes?
A. Yes.
Q. And then looking at the primaries, 2018 and 2020, columns one and three, you again found polarization in only one of

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eight races; yes?
A. Yes.
Q. And the black candidate of choice lost that primary in a 54.78 percent BVAP district?
A. Correct.
Q. And as we just reviewed, the two white candidates in that primary took 90 percent of the white vote; yes?
A. Yes.
Q. Very good. I know we have a lot of data to go through in your report, but does this Senate Congressional district analysis support a 35 percent BVAD in Wayne County?
A. Well, I wouldn't make that decision on the basis of one contest.
Q. I wouldn't either. Thank you for that. Good.

Let's move to the State Senate districts. This is table three in your report. It's on pages nine through 10, which is Defendants' Exhibit pages 33 to 34, and because that --

JUDGE KETHLEDGE: I'm just trying to keep up with the action here. If we can pace it a little bit?

MR. BURSCH: Yes. You bet.
JUDGE KETHLEDGE: Thanks.
BY MR. BURSCH:
Q. So, it's Defendants' Exhibit 26 , pages 33 to 34 , nine to 10 in the report numbering. You're welcome to use your

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binder, but we're able to put the whole chart across the page break on the screen and so that might be easier.

Now --

JUDGE MALONEY: At least for me the problem is reading it.

THE WITNESS: I can't -- I can't read it either.
MR. BURSCH: Okay. Bailey, can you enlarge -- there we go.

JUDGE MALONEY: Much better. Thank you.
BY MR. BURSCH:
Q. Okay. So this is table thres. So, at the bottom of this table we have state Senate Districts 27 and 32, which are Genesee County and Genesee and Saginaw counties respectively, so we can, again, rulethose out from our discussion about Oakland and Wayne counties, correct?
A. Yes.
Q. Very good. So, I want to start here with the 2018 general election column. There was no polarization except State Senate District 6 and 12; is that correct?
A. Yes.
Q. And the black candidate --
A. General election, right? Is that what you said?
Q. General election.
A. Yeah. You have to slow down a little bit. Yes.
Q. Yeah, right there and right there. And the black
candidate of choice won both of those?
A. Correct.
Q. But based on everything we've seen so far and what you know from studying the area, Doctor Handley, would you agree that because Wayne and Oakland County voters almost always choose the Democrat in the general election, that these results are less probative of racial polarization than the primary?
A. Repeat the question.
Q. Would you agree that because Wayne and Oakland County voters almost always choose the Democrat in the general election, these 2018 general election results are not as probative as primary results; do you agree with that?
A. $\quad \mathrm{No}$.
Q. Okay. Let's look at the 2018 Democratic primary. Again, these are the state Senate seats. Here you identified three polarized Elections, Senate District 3, 5, and 1; is that correct?
A. Yes.
Q. Now, the black candidate of choice won in District 3 with a 48.14 percent BVAP; yes?
A. Yes.
Q. Would you concede that 48 percent is much higher than a range of 35 to 40 percent?
A. Yes.
Q. And then in Senate District 5 the black candidate of choice won with a 54.25 percent BVAP; is that correct?
A. Yes.
Q. In Senate District 1 the black candidate of choice lost with a 44.68 percent BVAP, correct?
A. Yes.
Q. Again, let's look at the underlying data. We're going to stick with this tab B of your binder, Defendants' Exhibit 26, page 89 in the Bates stamp.

JUDGE KETHLEDGE: What was the third district you just said where the black-preferred candidate lost in the primary? I can't keep up.

MR. BURSCH: Okay. It's Senate District 1, Judge Kethledge, and we're about to look at that data right now.

JUDGE KETitiledge: Okay.
MR. BURSCH: I'm sorry for --
JTDGE KETHLEDGE: I'm just trying to keep up. We're moving -- let's just slow it down.

MR. BURSCH: Even more. You got it. BY MR. BURSCH:
Q. So, Doctor Handley, at the top of this page it says, Recent Democratic primaries, 2018 State Senate, correct?
A. Yes.

MR. BURSCH: Okay. Bailey, could you blow up State Senate District 1, the district that we were just discussing?

BY MR. BURSCH:
Q. Doctor Handley, who is the black candidate of choice in this election?
A. I'm going to pronounce her name incorrectly, probably.

Talabi. Is that -- how do you pronounce her name?
Q. That's close. Alberta Tinsley Talabi.
A. Talabi. Talabi gets a plurality of the black votes.
Q. Yeah. I mean, if you look at the EI, she's 20 points ahead of the next closest black candidate, right?
A. Yeah. She's the candidate of choice, yes.
Q. Okay. What percentage of the white vote did she take?
A. A little less than three percent.
Q. Would you characterize this as racially polarized?
A. Yes, I characterized it as racially polarized.
Q. Okay. Again, not holding you to this because we're going to be looking at more data. Based on what we looked at with the State Senate Districts, would these support a 35 percent BVAP in Wayne County?
A. I would not make that decision on the basis of one election.
Q. Me either. Thank you. Now I want to look at your analysis of State House Districts. We're going to flip back in this same document to the Bates stamps 35 to 36.
A. Yes.
Q. This is table four, Summary of State House Districts'
racial bloc voting analysis, correct?
A. Yes.
Q. Now, this chart is really large, it goes one and a half pages because there's so many House Districts here.

JUDGE MALONEY: Mr. Bursch, let my colleagues get to the page.

JUDGE KETHLEDGE: There we go.
BY MR. BURSCH:
Q. You know, for this one, why don't we look at the binder. If everybody is at DTX26 page 35.

JUDGE KETHLEDGE: This you mean?
BY MR. BURSCH:
Q. Right there. I thinkthat will be easier to see than on the screen simply becãse this is so big.

So, Doctos Handley, are you with me?
JUDGE KETHLEDGE: But $I$ don't have my reading glasses.

MR. BURSCH: I can't help you there.
JUDGE KETHLEDGE: Just kidding.
BY MR. BURSCH:
Q. Doctor Handley, you're with me on table four, right?
A. I am.
Q. We're going to start with the 2018 general election column, column two. There is not a single polarized district where the black candidate of choice lost; is that correct?

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Just on page 11. Don't worry about flipping over yet.
A. Okay. Say that again. Ask the question again.
Q. There is not a single black candidate of choice who lost a polarized election in the 2018 general; yes?
A. Correct.
Q. Okay. Now focus -- same page, the 2020 general election column. Same, there's not a single polarized district where the black candidate of choice lost, correct?
A. Correct.
Q. Now turn the page to page 12. And, again, if we look at the bottom of the chart, Districts 34, 49, 95, those are Genesee and Saginaw, so if you want to take your pen, you can just line those out. We'İ not going to be talking about those.

And, again, I want you to focus on the 2018 general election, and there's not even a polarized election here, is there?
A. Correct.
Q. And same for the 2020 election?
A. Correct.
Q. We seem to have discovered a theme regarding general elections in Oakland and Wayne County, haven't we?
A. And the theme?
Q. The Democrat always wins.
A. In the -- I would suggest that these are probably packed

Democratic districts, yes.
Q. Okay. So we agree. Back to page 11 marked as Defendants' Exhibit 26, page 35. Now we're going to talk about the primaries. So, first, just sticking with page 11, not page 12, focus on the 2020 Democratic primary column, that's column three; yes?
A. The 2020 is -- oh, I see. You're starting to count -it's not column three but -- which one do you want me to look at?
Q. The second column from the right, 2020 Democratic primary. You with me?
A. Yes.
Q. Excuse me one moment. I need a drink. You found two polarized races in this 2020 Democratic primary column; is that correct?
A. Correct.
Q. The first is House District 6 where the black candidate of choice won in a 52.86 percent BVAP; is that accurate?
A. Yes.
Q. And House District 9, which has a 74.22 percent BVAP; is that correct?
A. Yes.
Q. Not a surprise.
A. I'm sorry?
Q. Not a surprise that the black candidate of choice would
win in a district with a 74.22 percent BVAP?
A. I'm not surprised, yes.
Q. Back to page 12. Same column, second from the right, 2020

Democratic primary, here only one of the three relevant elections was polarized in District 37; yes?
A. Yes.
Q. And this is Oakland County?
A. Yes.
Q. And the black candidate of choice lpst in a district with a BVAP of 17.91 percent, correct?
A. Correct.
Q. Again, not a surprise.
A. Correct.
Q. Okay. Now, for comvenience, stay here on page 12 and now I want you to go to the 2018 Democrat primary column. Are you with me?
A. Yes.
Q. The black candidate of choice won a polarized primary in House District 35; yes?
A. Yes.

JUDGE KETHLEDGE: What election? I can't keep up. What election are we talking about?

MR. BURSCH: This is the 2018 Democratic primary. JUDGE KETHLEDGE: Okay.

MR. BURSCH: Are you on page 12 of her report, Bates
stamp 36?
JUDGE KETHLEDGE: Yes.
MR. BURSCH: Okay. So it's the very first election column, it says, 2018 Democratic primary.

JUDGE KETHLEDGE: Okay.
MR. BURSCH: And the second race is House District 35.

JUDGE KETHLEDGE: Right.
MR. BURSCH: Oakland County, 6?.50 BVAP, black candidate of choice wins a polarized election.

JUDGE KETHLEDGE: Okay Thank you.
MR. BURSCH: No prolblem.
BY MR. BURSCH:
Q. Now, if we move CNe above that to House District 29, this was polarized and the black candidate of choice lost; is that right, Doctor Handley?
A. Yes.
Q. And this district had a BVAP of 36.04 percent; yes?
A. Correct.
Q. All right. Turn back one page to page 11. Again, I want to look at the very first election column, the 2018 Democratic primary. You with me?
A. Yes.
Q. And we have four polarized races in House District 5, 11, 12, and 16 ; is that correct?
A. Yes.
Q. And these are all Wayne County; yes?
A. Yes.
Q. In House District 5, the black candidate of choice won in a district with a 54.12 percent BVAP, right?
A. Yes.
Q. In House District 11, the black candidate of choice won in a district with only a 26.53 BVAP, correct?
A. Yes.
Q. But that candidate, Jewell Jones, was the incumbent, wasn't he?
A. No idea.
Q. Okay. If I represent to you that Jewell Jones was the winning candidate in state House District 11 in 2018, would you agree with me that a primary with one incumbent and one challenger is not as probative of a black candidate of choice's oportunity to win as is an open primary with two candidates, is it?
A. I would not agree with you, no.
Q. So you would say that an open primary and an incumbent primary are equally probative?
A. I would say what's probative is what the black voters are doing in that primary. There's a lot of instances in which black voters will vote for the challenger over an incumbent. So, no, I don't think that that's -- I don't -- I think what

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black voters are doing is what's important.
Q. Okay. Finally, we have two polarized elections where the black candidate of choice lost, House District 12 and 16. That's correct?
A. Correct.
Q. I want to look at the underlying data for House District 12. And, unfortunately, Doctor Handley and Your Honors, the paper trail gets a little weird here, because this data appears in her original report but for some reason it wasn't reprinted in defendants' exhibit or in this binder.
A. I can explain. I'm sorry, tcan explain why.
Q. Sure.
A. I focused on districtes over 25 percent black in the expert report. It says, Dethit districts over 25 percent black.
Q. Okay. But in rour original December 2021 report you did include the data, didn't you?
A. That'scorrect.

MR. BURSCH: Bailey, if you can pull up Defendants' Exhibit 17 , page 66.

BY MR. BURSCH:
Q. Doctor Handley, is this the 2018 -- I'm sorry, this is general. This is not the correct page. Give me one moment. MR. BURSCH: Is this Defendants' Exhibit 17, page 66? The Bates stamp $I$ have from defendant is different than that. Let me show it to you. Give us one moment. There we go. We
got it. Oh, no, these are House Districts. Why don't I use the elmo, if someone can show me how to use it.

JUDGE MALONEY: Uh-oh.

JUDGE KETHLEDGE: It's a generational thing.
BY MR. BURSCH:
Q. Okay. Doctor Handley, we have here what's marked Defendants' Exhibit 17 , page 66, correct?
A. Yes.
Q. And at the top it says, Recent Demosratic primaries for the State House, correct?
A. I need to find it in my binder. I really -- I think I found it in my binder.
Q. Or I can blow up the cop if that's helpful.

JUDGE NEFF: I's that even in the binder?
MR. BURSCF: It's not in the binder because she
excluded it from her --
J゙MGGE NEFF: Okay.
MR. BURSCH: -- expert report --
JUDGE NEFF: Got ya.
MR. BURSCH: -- but this is in her December 2021
report.
THE WITNESS: Yes. It would be in the binder,
wouldn't it?
BY MR. BURSCH:
Q. You would think so because you appended the December 2021

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report to your expert report, but for some reason these state House primary pages were excluded. I don't know why, so we're going to have to be stuck with this. It's not in the binder. I've looked.
A. Okay. I can barely read this.
Q. Then we'll do it this way. This is the data for your -at the top left, Recent Democratic Primaries, state House, correct?
A. Yes.
Q. 2018?
A. Yes.
Q. Okay. We're going to scroll down the old fashioned way and I'll blow up -- try to olow up State House District 12. This is what we've beєn talking about.

Who was the overwhelming black candidate of choice?
A. Alexandria Taylor.
Q. Taylor was a black candidate?
A. Yes.
Q. What percent of the black vote did she receive?
A. 61.9 percent.
Q. Did she win this district?
A. $\quad \mathrm{No}$.
Q. Lost it by 10 points, didn't she?
A. Yes.
Q. What percentage of the white vote did the prevailing

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candidate, Alex Garza, a Hispanic candidate, take?
A. 74.9 percent.
Q. Would you say that the black voters in this primary were cohesive?
A. Yes.
Q. Would you say that this election was racially polarized?
A. Yes.
Q. Okay. Doctor Handley, we've now reviewed all the elections you included in your December 28th, 2021, report, have we not?
A. December --
Q. You can look through your tables if you want. I'll represent to you there are no more elections.
A. Just -- sorry. ASk me the question again.
Q. We've now discussed all the elections covered in your December 2021 report; yes?
A. December 2021 report.
Q. To refresh your memory, this is the report that you gave the Commission the day they approved the maps.
A. It's possible across the summary tables -- I mean, we certainly didn't look at them in the RBV tables. I'm trying to remember if the summary tables you were looking at were from my -- they were from the expert report or they were -they were from -- then, yes, we did.
Q. Okay.
A. I think. I think that that's correct.
Q. All right. So now we've looked at all the data. We're not talking about Congressional district bucket, we're not talking about State Senate bucket, we're not talking about House bucket. We're talking about all the buckets. Does this data support a 35 percent BVAP in Wayne County?
A. I made that choice on the basis of the percent needed to win tables, plus, of course, looking at recompiled election results as they drew the districts. I did not do that on the basis of these contests.
Q. Yes. And the percent to win tiables were all based on the 13 general elections, weren't they?
A. That's correct.
Q. Okay.

JUDGE KERHLEDGE: Well, I think, if I may, the question was whether this data -- apart from what you had made your decision on, I think there's a question whether this data supports the number, 35 percent BVAP as the percent needed to win, and I'm curious whether you have an opinion as to that?

THE WITNESS: The 35 percent needed to win is a guideline. As they draw the district they're to look at the recompiled election results to actually determine if the election -- if the district would --

JUDGE KETHLEDGE: Okay.
THE WITNESS: -- support the candidate of choice, if

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the candidate of choice wins the election.
JUDGE KETHLEDGE: I see.

THE WITNESS: So the 35 percent is a guideline. It
is not a target. It never was a target. It's an idea that
you don't have to draw majority black districts but you look
at the recompiled election results --
JUDGE KETHLEDGE: I see.
THE WITNESS: -- as you draw districts.
JUDGE KETHLEDGE: I understand what you're saying. THE WITNESS: So --

JUDGE KETHLEDGE: Thank you, Doctor.
BY MR. BURSCH:
Q. Doctor Handley, the fecompiled election results are based on the data from the 13 general elections; yes?
A. That's correct?
Q. It doesn'tinclude any primary data for county House or Senate races, does it?
A. It's not possible to do a recompiled election results with --
Q. Okay.
A. -- anything other than statewide elections.

JUDGE MALONEY: Mr. Bursch, you're going to another subject matter?

MR. BURSCH: I am. I'm about to pivot.
JUDGE MALONEY: Okay. Before you pivot we'll take a
break.

MR. BURSCH: Okay. Thank you.
JUDGE MALONEY: And we'll resume at 10 minutes to 11.

Thank you.

THE CLERK: All rise, please. Court is in recess. (Recess taken at 10:38 a.m.; reconvened at 10:55 a.m.)

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

JUDGE MALONEY: We are back on the record in 22-272. Mr. Bursch, you may continue.

MR. BURSCH: Thank you rour Honor.
BY MR. BURSCH:
Q. Doctor Handley, you testified earlier today about your threshold representation tables, correct?
A. Yes.

MR. BjifSCH: Bailey, if you could pull up Defendants' Exhibit 48; page 18. BY MR. BURSCH:
Q. This was your threshold of representation for the Senate, yes, Doctor Handley?

JUDGE NEFF: What page are we on, Mr. Bursch?
MR. BURSCH: Yes. This is -- excuse me. Defendants' Exhibit 48, page 18.

JUDGE NEFF: Thank you.
BY MR. BURSCH:
Q. And so this comes --

MR. BURSCH: If you wanted to look at the hard copy from tab A of the witness binder, this is the September 2, 2021, report.

I'll wait until the bench is caught up with me. JUDGE KETHLEDGE: Yep.

BY MR. BURSCH:
Q. So, Doctor Handley, you used this threshold of representation chart to say that Chair Szetela was wrong, that there was no data in the 38 to 47 percent BVAP range, correct? A. No. I said that she was wrong that -- she was wrong about several things, but one was she said that there was no turnout data, and of course all the percent needed to win tables included turnout data she said that there was no information about crossover, and of course the percent needed to win tables do include crossover voting. That is the percentage of white voters, voting for the black-preferred candidate.

I don't remember if $I$ said she was wrong to use this in place of a percent needed to win table, but that is what I meant. She -- in the dissenting report she uses the threshold of representation tables to calculate a percent needed to win whilst recognizing that the threshold table was flawed for several reasons and she points them out.

And now I've forgotten the question. I'm sorry. Q. Well, that's not exactly the testimony that I remembered

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from earlier today, but since you brought it up, let's talk about that.

So, when you said that she was wrong about turnout, you said that she was right because your tables included turnout data, it was baked in, right?
A. Well, it's listed. The percent needed to win tables list turnout, that's correct.
Q. And that's all in your September 2nd report?
A. That's correct.
Q. But those were all general election turnout, correct?
A. The threshold of representatfon is also a general election, but, yes.
Q. Yeah. That's all gerwial election. And same thing with the crossover votes, that was all general election, correct?
A. Correct.
Q. So, if Chair Szetela was talking about her concern of a lack of data regarding turnout and crossover and opportunities for black candidates to win in Detroit primaries, none of that was included in your September $2 n d, 2021$, report, right?
A. That's correct. I had not even received the primary data at that point.
Q. Okay.
A. I'm sorry, we had the one 2018 gubernatorial statewide primary, but $I$ had not received any of the other primary data. Q. All right. I want to go back to this December 2021

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Commission report, so tab B, Defendants' Exhibit 26. And I want you to turn to Bates stamp page 44 , which is page 20 of your report, and I'll give you a moment.

MR. BURSCH: Bailey, can you blow up the bottom of this page? BY MR. BURSCH:
Q. So, this page, Bates stamp 44, the section is called percent black VAP -- let me start that again. Percent black VAP needed to win recent general elections in Michigan counties, correct?
A. Yes.
Q. And so these are the prirary conclusions of your December 2021 report, corisect?
A. Well, there's a lor of conclusions in here. This would, I guess, be the concIusions I reached in terms of the title that you just read.
Q. Okay. If we look at the very next page --

MR. BURSCH: Bailey, if you can highlight the first full paragraph.

BY MR. BURSCH:
Q. You conclude, Doctor Handley, the black-preferred candidate would win every general election in a district with a BVAP of 35 percent or more; is that correct?
A. Correct.
Q. Do you know from reading the Commission transcripts or
talking to Mr. Adelson whether the commissioners were using this BVAP number to help them draw districts?
A. The point of the percent needed to win is to provide a guideline, so I'm -- you know, I would assume that they would be looking at creating districts that were less than the majority-minority but looking at the recompiled election results.

If you're asking me was this a target I told them? No, this is not a target. This is the results of the percent needed to win tables.
Q. That's not what I asked. I Gsked if you knew if they were using 35 percent as a guideline or a benchmark for drawing districts, if you know.
A. I would assume they would use the information $I$ gave them in the percent neeaed to win tables.
Q. All generai election data; yes?
A. The percent needed to win tables are based on general elections, that's correct.

MR. BURSCH: Bailey, if you could scroll down to the third full paragraph on this page. BY MR. BURSCH:
Q. Doctor Handley, now you're discussing Oakland County, correct?
A. Yes.
Q. And you say, The black-preferred candidate does not win

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every general election contest in a 35 percent BVAP district. It is not until the 40 percent BVAP column in table seven that the candidate of choice of black voters wins every election examined; is that what you wrote?
A. That's correct.
Q. But consistent with the language and title of this section, these are thresholds for all general elections?
A. I wouldn't say they're thresholds. This is the results of the percent needed to win tables.
Q. Okay. Now, when you're talking awout those tables, Judge Maloney had a question about the partisan makeup of the white voters in those tables; do you recall that?
A. Yes, I think so. Yes.
Q. Okay. And you sata you didn't know about Michigan's party registration for primaries, correct?
A. I don't krow if you have an open or closed primary.
Q. That was surprising to me. As the VRA expert, wouldn't that have been important for you to know about primary party registration and open and closed primaries as you were doing your analysis?
A. $\quad \mathrm{No}$.
Q. Okay. So you're not aware that to vote in the primary voters have to pick a party, Republican or Democrat in Michigan?
A. That still doesn't answer the question of whether it's
open or closed.
Q. Okay. Thinking back to the table for Wayne County, if you did the rough math, did the white voters support the black candidate of choice at roughly a 50 percent rate?
A. I believe that's -- I'm sorry, a 50 percent -- in about

50 percent of the contests, is that what you mean?
Q. Across the 13 general elections was the support by white voters for the black candidate of choice roughly 50 percent?
A. Sometimes it was more and sometimes it was less.
Q. That's why I said average.
A. I don't know what the average was. I didn't calculate it. Q. Okay. We can pull that un. This is back in tab A, Defendants' Exhibit 48 . wayne County is at Bates stamp page 17.

Are you with me, Doctor Handley?
A. Yes.
Q. So we'se got the white votes portion of the chart, it includes three columns; yes?
A. Yes.
Q. And the column that says $B-P$, that's the black-preferred candidate, correct?
A. That's correct.
Q. So if I look down that column in these 13 general elections, it ranges anywhere from 36 percent all the way up to, it looks like, 57.6 percent, yes?
A. Yes.
Q. So on average roughly 50 percent? This isn't a math test. JUDGE NEFF: Could have fooled me. THE WITNESS: Sorry. I don't -- I don't know the average.

BY MR. BURSCH:
Q. The numbers are all bigger than 40 percent; yes?
A. No.
Q. Oh, I'm sorry. 39.7?
A. No.
Q. What's lower -- oh, 36.8. There it is. All right. We'll go with 36. What's the lowest percentage of black voters in the black-preferred candidate column?
A. Let's see. 95.2? Is that right?
Q. That looks right. So, if the black voters are preferring the black-preferred candidate by a 95 percent plus margin and the white yoters are preferring the white candidate by a 36.8 percent margin and above, we would expect the black candidate of choice to win every one of these general elections, right?
A. Well, it would also depend on turnout.
Q. But turnout is baked in here, yes?
A. I thought this was a hypothetical. I mean, the reason that I take into account turnout is because that matters as well.
Q. All right. I don't think this is going to be productive so why don't we go back to your December 28 th report. This is tab B, and turn to Defendants' Exhibit 26, page 48.

MR. BURSCH: Bailey, this is Defendants' Exhibit 17, page 24, I think, in your slide deck. BY MR. BURSCH:
Q. All right. So this is page 24 of your December 28, 2021, Commission report; is that correct?
A. I think we're in my Commission report, yes.

MR. BURSCH: Bailey, couldyyu highlight the first paragraph? BY MR. BURSCH:
Q. Doctor Handley, did you write: It is important to remember that winning oifice in the United States usually requires winning two elections, a primary and a general election. The tables above consider only general election contests; is, that what you wrote?
A. Yes.
Q. The next sentence: Producing a comparable set of tables for Democratic primaries is not possible. Did I read that correctly?
A. Yes.
Q. Now I want to look at the second paragraph, just the last two sentences, and you can check me for accuracy here.

As the percentage black VAP of proposed districts
decreases, it may become more challenging for black-preferred candidates to win not only the general election but the Democratic primary, but only if voting in Democratic primaries is racially polarized. Unfortunately, it is not possible to ascertain exactly how much more difficult it would be or even if it would be more difficult given the lack of Democratic primary election data. Is that what you wrote?
A. Yes.
Q. Okay. At long last I would like to turn to your expert report in this litigation submitted on March 8th. If you could turn with me to the front gf tab B. Is this the report that you submitted in this litigation, Doctor Handley?
A. Yes.
Q. Please turn to tajle one, which is on page four. Do you remember discussing this table one with counsel yesterday?
A. Yes.
Q. This is a compilation of the House, Senate, and Congressional districts for the 2020 Democratic primary and the 2018 Democratic primary, correct?
A. Yes.
Q. Now, we just went all through this granularly as we went through your December 2021 report; yes?
A. I think more or less, yes.
Q. Okay. But I think the way that you formatted this table is really helpful because you reported the districts by their

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BVAP from a high of 94.9 all the way to a low of 26.9 , right?
A. Yes.
Q. So let's focus on the 2020 Democratic primary column first, and I'll give you a chance to look through the whole column. You've put in bold where the races are polarized and I only see two, House District 9 and House District 6. Can you confirm that?
A. I can confirm that.
Q. Both of these districts were black majority districts, weren't they?
A. Correct.
Q. House District 9 had a BVAP of 74.9 percent?
A. Correct.
Q. House District 6 nad a BVAP of 53.6 percent?
A. Correct.
Q. All right Now look at the column on the right, the 2018 Democratic primary. Here you have, again, bolded the polarized elections, and $I$ count nine; is that accurate?
A. Yes.
Q. Now, we're going to start at the top of the polarized list with House District 35 polarized, black candidate of choice won in a 63.0 percent BVAP; yes?
A. Yes.
Q. Okay. Two lines down, House District 5, polarized, black candidate of choice won in a district with a 55.2 percent

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BVAP; yes?
A. Yes.
Q. Right below that, Senate District 5, black candidate of choice wins a polarized district with a 54.7 percent BVAP; yes?
A. Yes.
Q. No surprises so far, correct?
A. I'm not really sure what you mean by surprises. You've accurately described what I've said here.
Q. Would you generally expect the black candidate of choice to prevail in a district with a BVAP of 54.7 or above?
A. Well, $I$ can tell you exactly how many times they prevailed. I created a chart that tells you that.
Q. Okay. We're going to get to that. All right. Then here, Congressional District 13, this also has a black majority, a 52.9 percent Bris; is that correct?
A. Yes.
Q. And the black candidate of choice lost?
A. Yes.
Q. Okay. Now let's look at the five polarized districts that are not black majority, and I'll try to run through these quickly.

In Senate District 3, the black candidate of choice won, correct?
A. Yes.
Q. Do you know that that was the race where Sylvania -- I'm sorry, Sylvania Santana edged Gary Woronchak by less than three points? Sylvania, $S-Y-L-V-A-N-I-A$, Santana, $S-A-N-T-A-N-A$, edged Gary, $G-A-R-Y$, Woronchak, $\mathrm{W}-\mathrm{O}-\mathrm{R}-\mathrm{O}-\mathrm{N}-\mathrm{C}-\mathrm{H}-\mathrm{A}-\mathrm{K}$, by less than three points?
A. Do $I$ know that off the top of my head, no, but that information would be in the table.
Q. All right. I will represent to you that if we went to page 89 with all your data, that that was the case, and that black voters gave Santana and the one Other black candidate of choice 85 percent of their vote, and white voters gave Woronchak and the other white candidate more than 78 percent of the white vote. Wouldyou call that polarized, racially polarized? I'm sorry?
A. Yes. Sorry, my head.
Q. And SD1 tre black candidate of choice lost in a 45.1 percert BVAP; yes?
A. Yes.
Q. In House District 29 the black candidate of choice lost in a 36.8 percent BVAP, correct?
A. Yes.
Q. In House District 12 the black candidate of choice lost, correct?
A. Yes.
Q. And, finally, in House District 11 the black voter -- or

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black candidate of choice won, but that was Mr. Jewell (sic), the incumbent who we discussed earlier; do you remember that?
A. No.
Q. Okay. Let's turn to table two in your report. This is on page seven of the same document that we've been looking at.
A. I'm sorry, could you repeat that? Where do you want me to go?
Q. Table two on page seven --
A. Got it.
Q. -- of your expert report for this litigation. Now, column one, 2018 Democratic primary, that was all data that we just covered in the previous table correct?
A. It was included in the previous table, I believe, yes -Q. Yes.
A. -- but, of coysse, the previous table included more elections. This looks just at State Senate elections.
Q. Yes. But the column -- second column of election results, the 2014 Democratic primary, parentheses, Trende analysis, this is new?
A. You mean compared to the --
Q. Compared to the previous table?
A. That's correct.
Q. Very good. In the first line, Senate District 5, the black candidate of choice lost in a district with a 54.7 percent BVAP; yes?
A. I'm sorry. The 2014 column but I --
Q. Yes.
A. Okay. Is that what you asked?
Q. Yep. 2014 column, Senate District 5, black candidate of choice lost in a polarized election with a 54.7 percent BVAP; yes?
A. Yes.
Q. In Senate District 4 the black candidate of choice won. Do you know whether that was the incumbent, Senator Virgil Smith?
A. No, I don't know.
Q. Okay. And in Senate District 11 the black candidate of choice lost. Do you know whether that was incumbent Vincent Gregory?
A. I think that you mean won? I think you just said lost and you meant won.
Q. Sorry, won, yeah. So let me rephrase the question. Senate District 11 the black voter candidate of choice won, but that was incumbent Vincent Gregory, are you aware of that?
A. No. I don't know who the winner was.
Q. And so you wouldn't know that even though he took over 62 percent of the black vote, his victory margin was only . 4 percent because he didn't even finish in the white voters' top two who collectively took 88 percent of the white vote?
A. I don't even know how much of that information $I$ knew. I

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just took the estimates from Mr. Trende's report.
Q. Okay. It's all on page 84 of Plaintiffs' Exhibit 20 , but in the interest of time, why don't we keep going.

Please turn the page to table three, and we'll try to do this quickly.

Again, we've talked about the 2020 Democratic primary and the 2018 Democratic primary at great length; yes, Doctor Handley?
A. I would say yes.
Q. And if we're looking at the Trende analysis, there's quite a few polarized elections where the black candidate of choice prevailed. Will you confirm that every one of those was in a black majority district with a BVAP above 50 percent?
A. And -- say that arrain. That --
Q. Let's do these one at a time.
A. Oh, pleaselet's not. Sorry.
Q. I don't mean race at a time. Column at a time. We're going to go quickly, I promise. Look at the 2016 Democratic primary column.
A. Got it.
Q. Please confirm that every polarized race took place in a district with a BVAP above 50 percent.
A. Yes.
Q. And same for the 2014 Democratic primary in the final column.

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A. Yes.
Q. Okay. So neither of those races have evidence of black candidates of choice winning or losing in BVAPs below 50 percent; agreed?
A. Well, there were contests that he looked at in districts below 50 percent but they weren't polarized.
Q. So you would agree?
A. I'm -- ask -- ask me again what I agree to.
Q. There were no polarized races to analyze in a district with a BVAP below 50 percent?
A. But there -- there were. Dg you mean Trende did not -didn't do any analysis?
Q. Right.
A. Right. But there were analyses in 2018.
Q. We were talkinf about the Trende columns, 2016 and 2014.
A. Yes. So in you specify that, that's correct.
Q. Okay.

MR. BURSCH: If you could, Bailey, pull up Defendants' Demonstrative Exhibit 4. BY MR. BURSCH:
Q. Now, this is the one-page demonstrative that Ms. McKnight showed you earlier and passed out to me and to all the members of the bench, correct?
A. Yes.
Q. The first column, success rate, 2018 and 2020, Democratic

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primaries in the Detroit area, that includes all the data that we've been discussing together this morning, right?
A. For the 2018 and 2020 elections, yes.
Q. Yes. And when you put these percentages in there, that includes elections where there was no polarization, correct?
A. Correct.
Q. And it includes elections where there was an incumbent as a candidate, correct?
A. I don't know, but I wouldn't be surprised.
Q. It includes elections where there was a single candidate running, correct?
A. No.
Q. These percentages do fot reflect black voter success rate in the most polarized cohesive elections, do they? Let me ask that another way. You're not saying that in a polarized election that the black candidate of choice will prevail 66.7 percert of the time in a district with a BVAP between 45 and 49.9, right?
A. I'm saying that overall the black-preferred candidate won in 66.7 percent of the contests that fell within the range of districts that were 45 to 49.9 percent.
Q. Okay. Let's go to the 2022 column. We haven't discussed this yet, correct?
A. We haven't discussed this yet, that's correct. I mean, this table.

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Q. All right. Let's --
A. We discussed some -- sorry.
Q. Let's turn to table four in your litigation expert report. This is tab B, Defendants' Exhibit 26, page 11. So now under the Linden and Hickory plans we see 10 bolded polarized districts that you identified in this primary; yes?
A. That's correct.
Q. The very first one, the black candidate of choice won in a 57.2 percent BVAP district; yes?
A. Yes.
Q. Right below that in House District 5 the black candidate of choice lost in a 56.9 percent BVAP; yes?
A. Yes.
Q. I want to look at rhe data for this. If you'll turn to page 112 of this same exhibit.

MR. BiUSCH: And, Bailey, if you can blow up House District 5

JUDGE KETHLEDGE: Where are we here?
MR. BURSCH: Same exhibit, page 112.
JUDGE KETHLEDGE: Thank you.
BY MR. BURSCH:
Q. Doctor Handley, who is the black candidate of choice in State House District 5?
A. Reggie Davis.
Q. And what percentage of the black vote did he take?
A. I can't see the top. I think it's 55.2 percent.
Q. That's what I see, too. So the black vote was cohesive?
A. Is that a question? I'm sorry.
Q. That was a question. Was the black vote cohesive?
A. I would say that Blacks were voting cohesive given the number of candidates that ran, yes.
Q. Yet Mr. Davis lost by more than seven points to white candidate Natalie Price; is that correct?
A. Yes.
Q. And that's because he took only 8.4 percent of the white vote, right?
A. In part. It's also becalise she got 71 percent of the -Natalie Price got 71 percent of the white vote.
Q. Yes. Racially potarized, yes?
A. Yes.
Q. That was my point. In fact, the two black candidates together orly got, what, about 13 percent of the white vote?
A. I'm not getting 13 percent. Where are you looking?
Q. I was looking in the final column here. I just added together 8.4 and 4.6.
A. Okay. Those are the homogenous precincts.
Q. What column would you use?
A. That's why I went back to the table. The first column.
Q. This one here?
A. Yes.

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Q. So Reggie Davis and Steel Hughes, the two black candidates took 7.2 percent of the white vote?
A. Correct.
Q. Not very high, is it?
A. No.
Q. Back to your table four on page 11. So --

MR. BURSCH: Let me ask the Court a question. I can go through every single one of these polarized races to show that none of them support the conclusions that Doctor Handley reached in her 2021 report, but a lot. Of this was analyzed in Sean Trende's testimony and we'vegot the data that we can submit to you.

Would you preferthat I go race by race? I'm seeing --

JUDGE KETALEDGE: Yes.
MR. BiJRSCH: You do want to go --
JTDGE KETHLEDGE: If you can do it in a, you know, concise manner.

MR. BURSCH: Okay. Then let's do it.
JUDGE KETHLEDGE: I think it's important -- I think it's worth hearing from this witness on this point myself. I don't mean to comment.

JUDGE MALONEY: I agree.
MR. BURSCH: Okay. Thank you, Your Honors. BY MR. BURSCH:
Q. All right. So, Doctor Handley, House District 7, black candidate of choice won with a BVAP of 49.9 percent, yes?
A. Yes.
Q. I want to look at the data. Why don't you keep a finger here on page 11 so you can flip back to it easily and we're going to look at page 113.

MR. BURSCH: And, Bailey, if you could highlight State House District 7.

BY MR. BURSCH:
Q. So, here Helena Scott, the black.candidate, was the black candidate of choice and prevailed, correct?
A. Yes.
Q. What was the percent of the white vote that she received?
A. 37.4 percent.
Q. Are you aware inat Helena Scott was an incumbent?
A. I know I've seen her name before. I will believe you if you tell méthat she is.
Q. I will tell you that she is. In a future election, would it make a difference how the white voters are choosing their candidate, that the one black candidate of -- in the field is not an incumbent? Could that have a difference?
A. I found that in analyzing contests in the -- this context that incumbency doesn't matter as much. Particularly in a polarized contest you will find that black voters will support a challenger over an incumbent, vice-versa, so I -- I would

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say, no, not necessarily.
Q. Okay. Back to page 11. House District 8, BVAP
45.7 percent, polarized election and the black candidate of choice lost; is that accurate?
A. Yes.
Q. If I told you that on page 113 the percentage of the white votes that went to the two black candidates in this race was 13 percent, does that sound about right, or would you like to look at that with me?
A. I'm sorry. What page are you talking about?
Q. If you want to look, it's back on page 113.
A. Okay. What district?
Q. We're looking at House District 8.
A. Okay.
Q. Durrel Douglas and Ernest Little are the two black candidates. What was their combined share of the white vote?
A. $\quad 12.9$.
Q. Would you say that's racially polarized?
A. I wouldn't look at it that way. The contest is polarized but it's polarized because white voters would have elected Mike McFall and -- oh, dear. I don't know who black voters would have elected. Well, they wouldn't have elected McFall so I would say the contest was polarized, but black voters were not cohesive.
Q. Right. Back to page 11. In House District 11 the black

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candidate of choice again lost, this time in a 44.0 percent BVAP district; is that correct?
A. Yes.
Q. Let's look at the data on page 114.

MR. BURSCH: Bailey, it's the top, District 11. BY MR. BURSCH:
Q. Now, this field was fractured with nine candidates, correct?
A. Yes.
Q. Who was the black candidate of shoice?
A. Not cohesive. Hard to say.
Q. What was the race of the top four candidates that black voters selected?
A. Black.
Q. Okay. Veronicc Paiz, Hispanic, she won in this election, right?
A. Yes.
Q. She was the top vote getter among white voters?
A. Yes. Apparently, but, yes.
Q. How did she do with the black voters?
A. 6.6 percent of the vote.
Q. Okay. Back to page 11, table four.

JUDGE KETHLEDGE: Mr. Bursch, I would just say, if you're going to be asking Doctor Handley to just kind of do the math on these pages, that's something I think you could

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cover or the parties can cover in their post-trial briefing. MR. BURSCH: Okay.

JUDGE KETHLEDGE: If there's something -- you know,
if there's something beyond that, then, fine, but $I$ don't want
to put her through that when it's not necessary.
MR. BURSCH: I'll wrap this up.
BY MR. BURSCH:
Q. Let's just look at the last three polarized elections on your table number four, Doctor Handley. Senate District 8, the black candidate of choice lost jn a polarized election 41.6 BVAP, yes?
A. Yes.
Q. House District $26,37.8$ percent BVAP, black candidate of choice lost a polarized election, yes?
A. Yes.
Q. Senate District 1, 36.6 percent BVAP, black candidate of choice lost a polarized election, correct?
A. Yes.
Q. Just a few last questions, Doctor Handley. You testified today about Mr. Brace's video testimony regarding the automated software tool that gave recompiled election results; do you recall that?
A. Yes. Yes, that was included. I didn't testify to it, but that was included in the -- one of the -- at least one of the clips, yes.
Q. That's fair. You testified that tool would give the Democratic performance of a particular district; yes?
A. Yes.
Q. Based on general elections?
A. Yes.
Q. So that tool says nothing about whether black voters would be able to elect their candidate of choice in that district's primary; yes?
A. Again, we only had one Democratic primary that was statewide so recompiled election results did not solve that particular -- would not answer that particular question. Q. You used the best data you could at the time, and that was all general election data, yes?
A. There was only 14 statewide contests, including the Democratic primary That's the recompiled election results that were included in the GIS software.
Q. The 13 general elections; yes?
A. The 13 general elections and the one and only primary, that was also included. Every statewide election that Election Data Services had data for that was statewide was included in the GIS software.
Q. Just to make sure we're clear, that primary you mentioned, the statewide primary, no black candidate; yes?
A. There was no black candidate in that primary, that's correct.
Q. No black cohesion, correct?
A. Correct.

JUDGE NEFF: Can I just interrupt for a second? When we're talking about the primary that involved Governor Whitmer and --

MR. BURSCH: Judge Neff, can you put your microphone down?

JUDGE NEFF: Sorry. Why do we always ignore the fact that the lieutenant governor candidate is an African American in that election?

MR. BURSCH: Are you asking me or Doctor Handley? JUDGE NEFF: Anybody who can answer the question. I mean, we keep -- everybody keeps saying this is an election in which there were no minority candidates, but there was.

MR. BURSCit: I --
THE WITNESS: Well, there were two minority
candidates; actually, and then there was a -- this is the primary so the -- the -- Gilchrist --

JUDGE NEFF: Yeah.
THE WITNESS: -- was not included in the Democratic primary. He -- I don't think --

JUDGE MALONEY: He gets nominated at the state convention.

THE WITNESS: Yep. I don't think that he was running with her in the primary; is that correct?

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JUDGE MALONEY: Correct.
THE WITNESS: Yes. So he --
JUDGE MALONEY: Gilchrist was nominated by the Democratic party after the primary election which Whitmer prevailed. The state convention was held, and the convention nominated Gilchrist as the lieutenant governor.

THE WITNESS: So he's included in the general election but he did not run in the primary. There were, again, two minority candidates, but not Gilchrist.

JUDGE NEFF: Thank you. I would always bow to Judge Maloney on questions political.

JUDGE KETHLEDGE: WG re taking judicial notice of all this.

BY MR. BURSCH:
Q. So, Doctor Handiey, you testified that much of your experience has deen in the south of our country where general elections miake all the difference, correct?
A. A lot of my experience has been in the south -- I'm sorry, a lot of my litigation experience has been in the south. Q. Here in Michigan, did you anticipate that by drawing BVAPs down to the lowest possible levels based on general election data would result in a significant reduction in black representation in the Michigan legislature under the Linden and Hickory maps?
A. Okay. Let's break apart this question. First of all,

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what do you mean -- are you suggesting that there was a significant decrease in the number of black candidates -- I mean, in the number of black representatives?
Q. You do not know whether that's true?
A. I looked at the number of black-preferred candidates that were elected, and in a number of instances, even when black voters could have voted for a black candidate in the primary, they did not, they voted for a white candidate.
Q. Okay.
A. So there are some white candidates that were selected specifically by black voters.
Q. I want to focus on black candidates in the Detroit area. The newspapers reported that the number of black legislators from Detroit decreased Irom 20 to 16 following the 2022 election.

I dor: t want you to agree or disagree because I know you don't know. My question is, did you anticipate that by drawing BVAPs down to the lowest possible level based on general election data, the result would be a significant drop in black legislators from Detroit?
A. Again, I'm going to take issue with the question. I don't know what you mean by the lowest possible level. I don't think they drew the black districts at the lowest possible level, right?

I mean, we could have drawn probably no districts

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more than 35 percent black -- that's not possible, but I don't agree with the phrasing of the question. Maybe you could try it again.
Q. We'll let the Commission transcripts speak to how they drew the lines.

MR. BURSCH: I have no further questions at this time.

JUDGE MALONEY: Ms. McKnight, you may inquire.
MS. McKNIGHT: Thank you.
REDIRECT EXAMINATION
BY MS. McKNIGHT:
Q. Doctor Handley, earlier today I heard questions about whether you could determine the percent of white voting for black candidates of choice, and I would just like to confirm where that exists $2 n$ the record.

MS. MoKNIGHT: Could we turn to DTX48 page 17? BY MS. McKNIGHT:
Q. Is this where you show your percent black VAP needed to win for Wayne County?
A. Yes.
Q. And if anyone had a question about the details in the underlying data of this chart, particularly percentage of white votes for Democratic candidates, could they look at the underlying data?
A. If you mean -- I'm not sure what you mean by the

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underlying data.
Q. If you set this to the side.

MS. McKNIGHT: And could I ask Mr. Williamson to pull
up side-by-side DTX26 at 71?
BY MS. McKNIGHT:
Q. So what we have here, Doctor Handley, on the left is DTX48, your December -- pardon me, your September 2 nd report, and on the right-hand side we have DTX26, your expert report in this matter that attaches your December report.

Is it fair to say that the aata on the right-hand side of the screen at DTX26-71 and the following pages is the data that is related to the chart on DTX48-17?
A. That's correct.
Q. Okay.
A. The estimatescrame from the racial bloc voting tables that are appended, that's -- it was taken directly from there, that's correct.
Q. But when you talk about racial bloc voting tables, is page -- DTX26, page 71, is that an example of a racial bloc voting table?
A. Yes.
Q. Okay. And just for the record, let's just do one more example.

MS. McKNIGHT: Mr. Williamson, on the left side could you put up DTX48-16 and on the right side could you put up

DTX26 at 68?
BY MS. McKNIGHT:
Q. So, similarly, Doctor Handley, here is on the left side is your percent black VAP needed to win in Oakland County at DTX48-16 and on the right side is data at DTX26-68. Is the data on the right side the data that fed into the table that is appearing on the left side at DTX48-16?
A. Yes. The estimates were derived from the racial bloc voting analysis in the tables on the right.
Q. Thank you for your patience with that record issue of showing where the data existed.

Let's go to DTX48-16. You were asked some questions on cross about Oakland County. Do you remember those questions, Doctor Handiley?
A. I remember I wess asked questions. I don't remember the questions, though.
Q. Fair ehough. Now, as I'm looking here on this chart for Oakland County, did you see any pattern emerge about white voting in Oakland County? And here I'm looking at the columns under white votes, B-P, and all others.

I can ask a more specific question --
A. Maybe --
Q. -- to keep this moving. How many elections show that the majority of white voters in Oakland County supported the black candidate of choice?
A. There was not a -- I don't see a single election in which white -- a majority of the white voters supported the candidate of choice of black voters.
Q. Okay. So in all of the elections you analyzed here, the majority of white voters voted against the black candidate of choice, is that correct, in Oakland County?
A. Against the black voters' candidate of choice, yes.
Q. Thank you. Now, I heard plaintiffs' counsel look at a table like this and state that we shoulc expect to see black candidates of choice win every time where levels of $B-P$ voting are so high, meaning both the B-BUnder black votes and the $B-P$ under white votes. Do you remember him saying that?
A. Vaguely.
Q. Okay. But, of corrse, this is countywide; is that right?
A. That's correct
Q. Okay. So vould you have any concern that if map drawers drew a smalıer district within Oakland County and they captured too much white vote that they would risk the black candidate of choice losing?
A. Exactly.
Q. Okay.

MS. McKNIGHT: Let's turn to DTX26 at 36. And let's enlarge the table at the top. BY MS. McKNIGHT:
Q. I see here State House Districts drawn in Oakland County,

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the first three rows. Do you see that, Doctor Handley?
A. Yes.
Q. Okay. And by my read, there's -- you reviewed State House District 29; do you see that?
A. Yes.
Q. And is the percent BVAP in that district drawn within Oakland County 36.04 percent?
A. Yes.
Q. And what happened in the first column election?
A. The election was polarized and the candidate of choice of black voters lost.
Q. So is this an example of vhat we were just discussing about Oakland County overall, that the majority of white voters in Oakland Courty voted against the black-preferred candidate?
A. Yes.

MA McKNIGHT: Thank you. I have no further questions.

JUDGE MALONEY: Mr. Bursch?

MR. BURSCH: Very quickly.
Bailey, can you pull up that same DTX48, page 16 that we were just looking at?

RECROSS EXAMINATION

BY MR. BURSCH:
Q. Doctor Handley, are you with me?

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A. Yes.
Q. Okay. You said that this is countywide. It doesn't go precinct by precinct, correct?
A. Precinct -- the analysis is done with precincts.
Q. But it's countywide, not districtwide?
A. The results are countywide, that's correct.
Q. Okay. I know you've testified that you and Mr. Adelson did not give the Redistricting Commission any BVAP targets, correct?
A. I did not give the Redistricting Commission any targets. I did give them these tables.
Q. Did you give them ranges?
A. No, I did not give therit ranges. I gave them these tables. Q. You gave them these charts. So this 35 percent VAP column over here, what yaire telling me is this would be good countywide but not district-by-district?

If the map drawers were trying to pick up a portion of the county, this wouldn't even tell them whether 35 percent BVAP was safe or not, would it?
A. Again, recompiled election results after you draw a proposed district will tell you whether the minority preferred candidate would win. It includes only those people within the district. That's why that's an important tool.
Q. All right. Let's do this a different way. All 13 of these races are general elections, correct?

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A. Yes.
Q. So the recompilation tool that you were just describing is based on general election data; yes?
A. These tables include only general election tables.

MR. BURSCH: Okay. DTX26, page 36. Could you blow up the chart, Bailey?

BY MR. BURSCH:
Q. You and Ms. McKnight were talking about this box right here, House District 29 in the 2018 Demgcratic primary, correct?
A. Yes.
Q. In the previous chart we vere talking about general election results, correct?
A. The tables were made using general elections, that's correct.
Q. This is a Democratic primary, correct?
A. Yes.

MR. BURSCH: No further questions.
JUDGE MALONEY: Ms. McKnight, anything further?
MS. McKNIGHT: Nothing further.
JUDGE MALONEY: Thank you. You may step down, Doctor Handley, with the Court's thanks.
(Witness excused at 11:52 a.m.)
THE COURT: All right. Counsel, we'll break for lunch. It's a little early, but in light of the fact we're

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going to start a new witness, we'll break now and resume at 10 minutes to 1 . Thank you.

THE CLERK: All rise, please. Court is in recess.
(Recess taken at 11:52 a.m.; reconvened at 12:55 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. The Commission may call its next witness.

MR. LEWIS: Your Honors, good afternoon. Patrick Lewis for the Commission defendants. The Commission calls Doctor Maxwell Palmer to the stand.

JUDGE MALONEY: Doctor Palmer, please step forward and be sworn, sir.

MAXWELL PALMER,
having been sworn by the Clerk at 12:56 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: Maxwell Palmer, $P-A-L-M-E-R$. DIRECT EXAMINATION

BY MR. LEWIS:
Q. Good afternoon, Doctor Palmer. The Commission hired you as an expert in this case; is that right?
A. Yes.

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Q. Okay. And did you author an expert report in this case?
A. I did.
Q. Okay. If we can display Defendants' Exhibit 24?
A. Can I please have a copy of my report?
Q. Yes, I'm sorry. Let's -- we did prepare an exhibit notebook.

MR. LEWIS: Your Honors, may we approach and provide the Court and the witness a copy?

JUDGE MALONEY: Indeed.
MR. LEWIS: Thank you.
JUDGE MALONEY: Has anyone done an environmental impact study on...

JUDGE NEFF: Oh rily goodness. This is heavy. BY MR. LEWIS:
Q. So, Doctor Paliner, can you identify this document for the record?
A. This i\&my expert report in this matter.
Q. Okay. And if we could turn to page DTX24-101? Okay. Doctor Palmer, I'll represent to you this is an appendix to your report. Is this your CV?
A. Yes.
Q. All right. And can you tell the Court a little bit about your educational background?
A. I received my undergraduate degree in mathematics and government and legal studies from Bowdoin College in Maine and

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my PhD in political science from Harvard University.
Q. Okay. And, Doctor Palmer, where are you presently employed?
A. I'm currently an associate professor of political science at Boston University.
Q. Okay. And how long have you been employed by Boston University?
A. For 10 years.
Q. Okay. Are you tenured?
A. Yes. I was tenured and promoted to associate professor in 2021 .
Q. Okay. And what do you teach at Boston University?
A. I teach courses on American politics, including Congress and American political institutions, and I also teach courses on data science anádata analysis and political methodology.
Q. Okay. And, Doctor Palmer, have you published on the topic of redistriceting?
A. Yes. I've published several articles on redistricting, including on traditional redistricting principles, on compactness, and I have a new article forthcoming on simulations and partisan gerrymandering.
Q. Okay. And are those publications in peer reviewed academic publications?
A. Two of them are in peer reviewed academic journals, one of them is in a law review.
Q. Okay. Doctor Palmer, in the course of your professional work have you utilized statistical techniques to study racial voting patterns?
A. Yes. I've used many different statistical techniques to study voting patterns, including ecological inference, different regression models, and other methods.
Q. Okay. And have you written any computer software to help perform those analyses?
A. Yes. Every project that $I$ work on requires writing some computer code, typically in the language R. That's just the letter R. But in other programs as well in order to do that analysis.
Q. Okay. And, Doctor Parrier, in the course of your professional work, have you utilized computer simulation techniques to study problems in redistricting?
A. Yes. I have a new paper forthcoming at Political Analysis, whlch is a highly ranked journal in political science using simulations to think about partisan gerrymandering, and in that paper and in several other ones related to it $I$ have spent hundreds of hours writing code and performing simulations.
Q. All right. And, Doctor Palmer, have you served as an expert witness in redistricting litigation?
A. Yes.
Q. Okay. And if we turn to DTX, I believe it is -- I believe

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it may be the last page -- I believe it's maybe DTX108, and I believe it continues onto DTX109. Is this a list of the cases where you've served as an expert?
A. Yes. As of this CV when I filed my report in March and there's a few additions to it since then as well.
Q. Okay. Okay. So I just want to go through just briefly a couple of the cases you worked in.

The first is the Bethune-Hill versus Virginia State Board of Elections matter that's now being highlighted. What did you testify -- what did you analy ine in this particular case?
A. I was retained by the plajintiffs in this case for the second trial in 2017 to prepare expert reports on racial predominance in how the State House of delegates districts were drawn and on racially polarized voting in the areas for that case.
Q. Okay. And did the district court in that case credit your testimony?
A. Yes.
Q. Okay. The next case I'd like to bring up is Caster $v$ Merrill, which is on here somewhere -- on page 109, I believe it's the top one. And can you describe what your role is in this particular case?
A. I prepared an expert report and testified on racially polarized voting in selected districts of the 2021 Alabama

Congressional map.
Q. Okay. And this case went to the Supreme Court; do I have that right?
A. It did under a different name.
Q. All right. So if $I$ said the Allen $v$ Merrill case, does that sound right in the Supreme Court?
A. I believe that's right.
Q. Okay. Did the district court in this case credit your testimony?
A. It did.
Q. Okay. And then last I'll just point -- I guess generally to the -- there are two cases from the Northern District of Georgia, last year. One is Pendergrass and the other is Grant. Do you see those?
A. Yes.
Q. Can you describe what your role was in these cases?
A. Those were two cases on -- two Section 2 cases in Georgia following the 2021 redistricting cycle. Pendergrass was on the Congressional district map and Grant on both of the State legislative district maps. I testified in the hearing in 2022 there and then again in a trial this past October -- or September.
Q. Okay. And did that Court enter a ruling after the trial?
A. It did.
Q. All right. And did the Court credit your testimony in
that ruling?
A. Yes.
Q. And I believe you mentioned you had a few other cases that were maybe more recent, were not on the CV. Could you briefly identify those?
A. Yes. I don't have the captions, but I testified by deposition and submitted a report in a case challenging Georgia's SB202 voting laws, and in that case $I$ performed a racially polarized voting analysis, and I testified in that earlier this year.

And then I've also worked on two cases, a state case in Washington and a state case in Colorado, involving signature matching laws, ard those cases, while voting rights related, did not involve racially polarized voting.
Q. Okay. And, Doctor Palmer, has any Court ever excluded you as an expert wituess?
A. No.
Q. Okay.

MR. LEWIS: Your Honors, at this time I'd move for the admission of Doctor Palmer as an expert in the fields of political science, data analysis, racially polarized voting, and redistricting.

JUDGE MALONEY: Any objection?
MR. PATTWELL: No objection, Your Honor.
JUDGE MALONEY: So noted.

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MR. LEWIS: And then, Your Honors, just pursuant to the stipulation, you know, we would at this time move for the admission of Exhibit DTX024, Doctor Palmer's report.

MR. PATTWELL: No objection, Your Honor.
JUDGE MALONEY: Received.
(At 1:06 p.m. Exhibit No. 24 was admitted)
BY MR. LEWIS:
Q. So, Doctor Palmer, you've authored a total of one report in this case; is that right?
A. Yes.
Q. Okay. And we've -- and so $\ddagger$ tould like to just start with that report, DTX24, and I'd lake to go to page -- DTX4-4. Okay. And I believe in pacagraph five at the top of the page you identify what -- wat work you performed in this case. Can you tell the Court what that is?
A. Yes. I was asked to opine on the report submitted by Mr. Trende in which he looked at racially polarized voting in the Detroit area and on the extent to which race predominated in the drawing of the Hickory and Linden plans.
Q. Okay. And I believe in your report you look only at primary elections for studying racially polarized voting; is that correct?
A. Yes.
Q. Okay. And can you summarize for the Court the principal conclusions that you reached in your report?
A. Overall I do not find a consistent pattern of racially polarized voting in the challenged districts in this matter, and I also don't find that race predominated in the drawing of either the Hickory or the Linden maps.
Q. Okay. So I'd like to focus on the racially polarized voting section of your analysis first.

Doctor Palmer, I recognize we've had a lot of testimony in this trial about what racially polarized voting means, and I want to be respectful of everyone's time and avoid repetition. Nonetheless, can you briefly describe in your view what racially polarized voting is.
A. As a social scientist $I$ approach racially polarized voting by focusing on the idea of a candidate of choice, and racially polarized voting is wher voters from different racial or ethnic groups have clear candidates of choice in an election and when those candidates are different, so if a substantial percentage (of, say, the black voting population prefers one candidate, a substantial percentage of the white voting population supports the other candidate, then that might be an example of racially polarized voting where each group has a different candidate of choice.
Q. Okay. So you've used the term candidate of choice, and how do you define a candidate of choice?
A. This is a complicated question, and I generally think about it as if there is one candidate who is preferred above
all the other candidates in that election, and in general elections this is a relatively simple matter. If there's only two candidates, one of them will generally get a majority of the vote from each racial or ethnic group, and finding that candidate isn't too difficult assuming this is a substantial majority.

In primaries it's a more challenging concept to think about. It usually starts at looking at which candidate gets the highest share of the vote from each group, but it can be a little bit harder to conceptualize what a candidate of choice means in a primary with many candidates.
Q. Okay. And I believe around paragraph 11 of your report on page DTX24-5 you also discuiss the concepts of white bloc voting and white crossover voting. How do you define those concepts?
A. White bloc joting is if white voters vote as a bloc to defeat the black-preferred candidate; that is, do -- are white voters cohesively supporting a different candidate than black voters and does that lead to the defeat of the black-preferred candidate, and then white crossover voting we think about as when there are some white voters who support the black candidate of choice, and in doing so they're crossing over and voting for that black-preferred candidate, and that can allow black-preferred candidates to win even in districts that are not majority black.

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Q. Okay. All right. So turning to the section on racially polarized voting in primaries, we've heard some discussion in this case about some of the complexities of using primary elections when studying the question of racially polarized voting.

Before I get there, though, as an initial matter, why did you not study general elections in Michigan for your analysis.
A. I was focused on responding to Mr. Trende's report, and he only looks at primaries here, and my understanding is that there's already clear evidence of polarization in the general elections.
Q. Okay. All right. So, turning, then, to the concept of using primaries, can yoú summarize -- and I believe you have it sort of set out in paragraphs 12 to 14 of your report, on pages DTX5 and DTX6, but can you summarize some of the complexities of studying primaries compared to general elections?
A. Absolutely. So, there's a few different things, and I think the first thing I think about is majority versus plurality rule, and in a general election one candidate can easily be the majority winner for each group, but in a primary with more than two candidates, the top candidate for each group might not be a majority winner. They might just win a plurality, the most votes but not a majority.

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And that creates some conceptual difficulties when thinking about what exactly does cohesion mean in this case. I think I have an example, if we can show that?
Q. Yes. Why don't we put up DDX2, Defendants' Demonstrative 2.

Okay. All right. Doctor Palmer, I believe this is the example. Can you walk us through this example.
A. So this is just a simple hypothetical where we have black and white voters and three candidates. And if we look at the first column under black voters, we see that candidate A gets 40 percent of the vote from black voters. They are the plurality winner, and so we can say they would be the candidate of choice if we fe fine with plurality rule as being what identifies cohesiveness. For white voters, instead candidate $B$ is the majority winner and there's stronger evidence of cohesiveness there. And what's tricky in thinking about cohesiveness and candidates of choice in a primary is, well, candidate A gets the most votes from black voters. So in one sense they might be the logical candidate of choice, but a majority of black voters are also not supporting or voting against candidate $A$ in this primary, so that makes that concept a little bit more difficult to think about.
Q. Okay. And so maybe we can illustrate this point with a real world example. So I'd like to turn to page DTX24-85, which is in the appendix to your report.

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MR. LEWIS: We'll probably want to zoom in on that, Mr. Williamson. There we go. BY MR. LEWIS:
Q. So, before we get too far, can you explain to me how this and the other figures like it in your appendix were created? A. So this figure, and there's many other tables with this exact same format, are all produced by code that Mr. Trende produced with his report. That is, his report came not just with the document but a large number of data files and of code files with scripts that I could then run on my own computer to reproduce his results.

And what $I$ found when looking at his code was that there were many, many analyses that Mr. Trende conducted where he generated tables that look exactly like this but that he did not include in his report. And so I reproduced all those tables in my report here, but they are all generated by Mr. Trende's data and by his exact racial polarized methodology, and each table has the same format.

There are four different groups for the four different racial ethnic groups that Mr. Trende examined. Under each group we list all the candidates in that primary. I think some exceptions. I think he's dropping candidates that received a very, very small percentage of the vote.

Then the estimate column, that first numeric column is the average estimate that the ecological inference models
produce of the level of support for that candidate from that group.

So, for example, if we look at the first row under the heading, black, the estimate is that Mike McFall received 23 percent of the vote from black voters. And then the following two columns are a confidence interval or credible interval, a measure of uncertainty about that estimate. And it's really important to think about that uncertainty and where it comes from and why we can't just ignore it.

Because of the secret ballpt, we never get to see how individuals vote. We only get to see the totals in every precinct, and in Michigan, Mr. Trende is relying on population data about each precinct matched up with election results. And what ecological irference tries to do is estimate from that aggregate data voting behavior or preferences for each group. But there's uncertainty here. We don't know the true answer. We're trying to estimate it as best we can, and depending on the number of candidates, the number of precincts, the level of polarization, and many other factors, we can get more or less precise estimates. And so the bigger the range between these numbers, the bigger the interval, the less certainty we have about where the true value lies, and the smaller the interval, the more certainty we have about where it lies.

But, for now if we just look at the estimate column
alone we can see under the black heading here that there are two candidates, Douglas Little getting 33 percent and 34 percent of the vote, respectively. We might conclude here that Little is the black candidate of choice. He gets the highest share of the vote, but this is clearly a very fractured group here. Black voters are not cohesive, they're split between Douglas Little and then to a lesser degree the other candidate as well.

In contrast, white voters at the bottom of the table, and the NH here means non-Hispanic white, are much more cohesive. We have Mike McFall receiving a majority of the vote in this case so he's a clear candidate of choice for white voters, but black voters don't have a clear candidate of choice here.
Q. Okay. And so does a similar problem of a fractured support among a. racial group, can that also happen among white voters?
A. Yes. It can happen among any group.

MR. LEWIS: I'd like to pull up DDX3, which is our second demonstrative with him.

BY MR. LEWIS:
Q. And, Doctor Palmer, can you walk through this example for us.
A. So, this is another purely hypothetical example where there's three candidates and where both black and white voters
are highly fractured. And I set up this example to make two different points. First, we can say that black voters, the highest level support is candidate $X$. They would be the candidate of choice by plurality rule. And for white voters, the white preferred candidate would be candidate $Y$ by plurality rule.

But one thing to note here is it's a really tricky notion to say, well, then, this would be an example of a racially polarized election, because actually black voters and white voters both support candidate $Y$ at the exact same rates. And this is just to show the complexity of thinking about primaries with multiple candidates, and why it's not so easy to just look at a top candidate and say, this is the preferred candidate of one grour this is the preferred candidate of the other group, and, therefore, it's polarized.
Q. All right Thank you for that, Doctor Palmer.

In Mr. Trende's direct examination testimony, volume two, pages 99 to 100 of the transcript, Mr. Trende described the HD11, House District 11, primary election 2022, as an example of a racially polarized election. I would add, I believe this particular election was also used in Doctor Handley's cross examination this morning.

Is this one of the elections that you looked at?
A. Yes.
Q. Okay. I'd like to turn now to page DTX24-88 of your

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report. Now, Mr. Trende characterized black voters as preferring candidates White and Williams in this election and white voters preferring Piaz and Manwell in this election. Do you agree with Mr. Trende's view that this is evidence of polarization?
A. No, I do not.
Q. And why not?
A. Can we zoom in on just the black section --
Q. Sure.
A. -- of this table?

So, first of all, there's not one preferred candidate here. White and Williams get incredibly similar shares of the vote, and if we look at the confidence intervals we see that they overlap substantially, and that overlap alone isn't evidence that these candidates necessarily got the same vote or that one got more than the other, but they're an indicator of that, ard we can do a more precise statistical test to see how confident we are that Williams got a larger share of the vote than White. But, regardless, they're incredibly close. There's no evidence here of cohesion among black voters. At a minimum, they're almost perfectly split between White and Williams.
Q. And if we take a look at how the white vote broke out according to these estimates in this selection, what does that show us?
A. That shows us that Piaz received the highest share of the vote, but only 30 percent, but could be considered the white candidate of choice as long as we're fine with using a plurality rule where more than two thirds of the voters didn't support her.
Q. Okay. I understand there's also been a claim made in this case that you could find polarization here because the top two vote getters estimated among black voters differ from the two top vote getters among white voters. Essentially, you can, like, aggregate candidates to find conesion.

In your review, is that $\bar{a}$ reasonable way to define a polarized election?
A. No. I find it a very puzzling way to think about a polarized election, ara I've never seen any other expert or any other academic try to make that argument in this kind of context. And one reason why is it implies that we have some knowledge about who black voters prefer other than their first choice. That is to say, the top two candidates for black voters represent some sort of cohesive bloc, implies that black voters who supported white would also support Williams as their second choice or vice-versa.

It implies some thinking that there is some cohesion by looking at the top vote getters, but we don't know that. We have no evidence whatsoever of how the white voters who supported any one candidate feel about any of the other

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candidates in this primary.
Q. Okay. So I believe we've covered the first concern that you've identified with the use of -- or complexities with the use of primaries, and I'd like to return now to paragraph 15 on page DTX24-6.

Now, I believe in this paragraph you discuss the idea of, quote, idiosyncratic elections as a complexity of studying primaries. Can you describe what idiosyncratic primary might be.
A. What $I$ mean by this is that each primary is -- has its own complexities, and in the general election we usually have one Democratic candidate and one Republican candidate. We can look at a whole big sample of candidates and make comparisons across them fairly easi 1 y.

In a princry, that's not the case. And one important driver here is that there can be a very wide range in the number of candidate. Some primaries are uncontested, we have one candidate. Others have two. Others might have 10 or 12 or more candidates in it, and making comparison across these primaries is difficult, and on the next page on figure one I have a graph of the number of candidates in some prior House Districts from the previous map.
Q. All right. So I think we have that now displayed on page DTX24-7. And so, Doctor Palmer, what is this figure reporting?
A. I collected the number of primary candidates from the election returns for each district in the years that the prior map was in effect, and just each bar shows you how many candidates there were in that year for each district. And so in some districts, like this bottom row, there is one candidate in many years and maybe contested primary in one or two years.

In others like HD4 in the top right, we see dramatic swings in the number of candidates, and that makes it really hard to make inferences about voter preferences and behavior in just this 1st District or acrgss districts because of this high level variability.
Q. Okay. So it's variarsity both within specific, in this case House Districts, but also across all districts; is that right?
A. Yes.
Q. Okay. And then just for the sake of the record, figure one refers to the prior decade plan in the State House; is that right?
A. Yes.
Q. Okay. I'd now like to turn to figure two on page DTX24-8. If we can zoom to figure two.

I believe this figure refers to the Democratic primary elections for the State Senate, 2012 to 2020 . What is this figure showing us?
A. This is the exact same as the prior figure but showing Senate elections instead. We only have two because of the timing of the 4-year election cycles, but we see that variability across districts and across time here as well. Q. Okay. And did you look at the variability in candidates under the enacted Hickory and Linden plans?
A. I did in figure three.
Q. Okay. So if we can go to figure three, which is on the same page, DTX24-8. Can you describe this figure?
A. This is the same analysis but for the challenged House and Senate districts in this case. and we can see high variability here as well. InCHD2 there was not a contested primary, and House District 11 we had 11 candidates. Similarly, in the Senate there was some uncontested races, some with two candaates and up to six candidates in the first Senate district.
Q. Okay. And, Doctor Palmer, how can the number of candidates in a Democratic primary affect a racially polarized voting analysis?
A. This makes it difficult to identify candidates of choice and to know how voters would have voted if, say, there was only two candidates in a primary, so it just makes it more challenging to think about and to find evidence of polarization.
Q. Okay. And I believe you provided a table, table one at

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the bottom of page DTX24-9, if we can go there.
And, Doctor Palmer, what are -- what is this table telling us?
A. This is another hypothetical example or pair of examples. Think of it how primaries are -- the number of candidates can fracture the vote and make it harder for a candidate to win. So here is a hypothetical district that is 60 percent black and 40 percent white, and in the top row, scenario one, there's just two candidates in this primary, $X$ and $Y$, and $X$ is the clear black candidate of choice getting 75 percent of the black vote, $Y$ is the clear white candidate of choice, gets 75 percent of the black vote. This would be a sharply polarized election, but the black-preferred candidate X would win because it's a black majority district.

Now suppose a new candidate $Z$ entered this election and they just take the vote from candidate $X$. They just bleed off the vote from candidate $X$ but candidate $Y$ isn't affected by this new entrant. Now black voters are more divided. Candidate X is still their candidate of choice, the plurality winner with 45 percent of the vote, but now in the aggregate candidate $Y$ would win this election. So the exact same voters, exact same turnout, but one candidate coming in fracturing support for another leads to a different outcome, leads to the white preferred candidate winning instead of the black-preferred candidate winning. And this is just an

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example of how candidate entry and which candidates run in a primary can make it really hard to think about racial polarized voting in primaries.
Q. And what's the -- is there a term in political science that talks about candidate coordination?
A. We might call that a failure to coordinate or a coordination failure, and that one role of political parties might be to try to avoid problems where there's many candidates in the primaries fracturing the vote.
Q. Okay. So, for example, is this<something where -- I've heard the term just used like clearing a primary. Is that the idea, that a party might helpreduce the number of candidates in an election?
A. Potentially, yes.
Q. Okay. And in your experience, Doctor Palmer, is a scenario of a large candidate field, is that a question of equal votirg opportunity or a question of politics?
A. It's a question of politics. The district lines don't determine, at least directly, who runs for office in that district.
Q. Okay. All right. And if we turn now to page DTX24-10 and figure -- let's see, we'll start with figure four. I believe you discussed a third obstacle of using -- or challenge, rather, of using primaries to study racially polarized voting and it related to general elections. Can you elaborate on this complexity?
A. Absolutely. And figure four illustrates this key point that turnout in primaries is much lower than turnout in general elections, and what that means is that when we think about racially polarized voting in a general election, we're thinking about the preferences of all the voters who participated in the general election -- I'm sorry, can we have the figure above that? Thank you.

And when we think about turnout -- racially polarized voting in primaries, we're only learning about the preferences of the people who voted in that primary, and so what this graph shows is the percentage of voters -- of a number of voters who voted in the pimary and statewide for each recent election in Michigan, both statewide and in Wayne County, and those green bars are the primary voters. And at most we see 51 percent in 2018 , below 50 percent in every other election that I looked at. And what this means is we can't infer anything about the preferences of the voters who only vote in the general election from the voters who voted in the primary election.

We know that primary voters are not representative of general election voters across various demographic categories. And so what we can learn about the preferences of the voters in the primary, we don't know what the preferences of all those other thousands and thousands of voters who vote in the

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general, what they would have wanted and who their candidate of choice would have been.
Q. Okay. Now, Doctor Palmer, you've identified some of these complexities. Are you suggesting that primaries should not be looked at in an RPV analysis?
A. I'm not saying they shouldn't be looked at. I'm saying we need to be really careful and thoughtful in how we think about primaries, and that it's much more complicated than looking at general elections.
Q. Okay. So, Doctor Palmer, I'd now like to turn to your analysis of Mr. Trende's racially polarized voting study in this case, and specifically ICd like to turn to page DTX24-12 of your report.

You may have rouched on some of this already, but how did you go about analyzing Mr. Trende's racially polarized work in this case?
A. Mr. Trende provided with his report all of his replication data and code, and this is standard practice in the social sciences and when writing a report as an expert in the social sciences. And this code is a computer code that $I$ can also run on my computer. The only real difference is $I$ have to change in his code to run it on whatever my hard drive is named instead of what his computer hard drive is named, and otherwise it works without much in the way of changing it. And so beyond reading his report, I ran all of his

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code, I reproduced all of his analyses, and I was able to see exactly how he ran his racially polarized voting analysis. And everything $I$ do in this report on RPV from this point is using his exact analysis and his data, and I do this so that we don't have to argue about methodology at all. We're agreeing on the methodology. We're agreeing on the data, and really $I$ have a very different interpretation of his results than he does.
Q. Okay. And although we'll go through each one in detail here in a moment, I believe you summarized three significant errors you identified with Mr. Trende's analysis, and can you identify what those are?
A. Sure. The first and môst common error is he ignores measures of statisticai uncertainty such as the confidence intervals that he refers to as credible intervals that he calculated foreach EI model, and he frequently identifies candidates of choice even when this finding is not supported by the statistical results that he relies on.

JUDGE KETHLEDGE: Is that one error or two? Is that two distinct things or are you saying the same thing somehow? THE WITNESS: That's one error, that he's ignoring uncertainty, and in doing that it lets him identify candidates of choice that are not supported. JUDGE KETHLEDGE: I see. Thank you. THE WITNESS: The second error is that even when

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there are statistically significant results he ignores what I call the importance of substantive significance; that is, we can run regression models that are statistically significant, that is, there is some statistically identifiable difference in the level of support for two candidates, but that difference might be trivially small, and in the political context, talking about cohesion, as a political concept it might not be a substantively important difference. BY MR. LEWIS:
Q. And I believe there was a third?
A. Yes. Third, there's several Enalyses that Mr. Trende runs, that is, he has the code and data, he prepared tables, but he doesn't actually include them in his report, and the districts that he exclodes from his report, if I do an analysis, are generally cases where he doesn't find racially polarized voting or that contradict other statements in his report.
Q. Okay. So, I'd like to begin with a discussion of the 2018 Democratic primary for governor. We've heard about that this morning. And I'd like to turn, in that respect, to paragraph -- yeah, paragraph 28 on page DTX24-13 of your report.

And can you explain this sort of primary -Mr. Trende's analysis of this primary result and what it tells us?
A. So, Mr. Trende looks at this primary in two ways. First, looking at Wayne County as a whole, and then looking at it district-by-district, and when you look at this primary for Wayne County as a whole, he finds that Whitmer is the clear candidate of choice for white voters, and he estimates that 41 percent of black voters supported Thanedar and 37 percent of black voters supported Whitmer in that primary.

Now, this difference, that 41-37 difference is statistically significant. That is, we can be confident from these models that Thanedar was slightly preferred by black voters to Whitmer, but it's not what he calls a clear preference for one over the other. This is a four percentage point difference, and I would say this is not substantively significant in the political context. To me, a difference of only four percentage points would not be strong evidence of black voters voting as a cohesive bloc in this primary.

JTDGE KETHLEDGE: Can you -- I mean, just can you define what you mean by substantively significant?

THE WITNESS: So there's not some clear cut off where something goes from not significant to significant. I think it's really context dependent. I think in a three candidate primary where the difference in the top two candidate is only four percentage points, that's an extremely close election. To me that doesn't say black voters are cohesively -- or even a significant plurality of black voters are cohesively

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supporting one candidate over the other.
If it was, for example, 45 percent supporting
Thanedar and 30 percent supporting Whitmer, a really substantial margin there, that to me would indicate either it is not a majority winner among black voters, a higher level of substantive significance.

JUDGE KETHLEDGE: So I'm just trying to understand what you mean by the term. Do you mean substantive significance means it's something you can base a conclusion on regarding racially polarized voting?

THE WITNESS: Yes. I think it's drawing a conclusion in context and not just from the statistics.

JUDGE KETHLEDGE: Okay. Thank you.
BY MR. LEWIS:
Q. I believe you<ciso looked at a similar -- reviewed Mr. Trende's results where he looked at that 2018 gubernatorial primary in each -- in a series of House and Senate Districts; is that right?
A. Yes.
Q. And I understand that you reported your detail findings in table six of your report; is that right?
A. Yes.
Q. Okay. But just -- at a very high level, what did you find?
A. Mr. Trende looked at 21 different districts, different

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House Districts under the prior map for this primary, and I find that only five of those districts do we find a statistically significant level of racially polarized voting.

In eight of the districts there is a -- white voters have a preferred candidate but black voters do not; that is, we can't identify the black-preferred candidate.

In two districts black voters have a preferred candidate but white voters are divided, we can't identify a white preferred candidate.

In five of the districts, neither group has an identifiable preferred candidate, and then in one district both groups have the same identified preferred candidate.

So, overall, across 21 districts less than a quarter of them do we find evidence of racially polarized voting. Q. Okay. I'd now iike to turn to your findings in -- I believe you did also conduct an analysis of Mr. Trende's analysis ir the prior decade state legislative races; is that correct?
A. Yes.
Q. Okay. So I'd like to look now at paragraph 30 on page DTX24-14. And I believe here you quote Mr. Trende saying that he analyzed seven different House Districts but only reported detailed results for two; is that fair?
A. Yes.
Q. Okay. What did you find of noteworthy about that

1 analysis?
A. What I find noteworthy is that Mr. Trende is looking at seven different districts, only reports two where he claims to find evidence of polarization, and doesn't report anything on the others other than describing them as difficult to interpret.
Q. Okay. And we'll go through each one, but just to start, I believe you looked at -- you reported figures here for House District 2 and House District 5 in that 2018 Democratic primary, and I'd like to turn to that, if we could.

MR. LEWIS: So this is 19TX24-15, the top figure, figure six, if we could start there. BY MR. LEWIS:
Q. Doctor Palmer, whar is this figure showing us about Mr. Trende's analysis of black voter support for candidates in this particular primary?
A. So, this is a case where black voters are divided across a number of candidates, and in particular, the top two candidates, Tinsley-Smith and Banks, get very similar vote shares from black voters in the EI estimates. And each bar, the height of the blue bar represents that estimated average level of support from the ecological inference models. And the black lines, these tall I's in the middle of each bar are the credible intervals, they are the measure of uncertainty we have around that estimate.

And what we can see is that those bars overlap, and that's indicative of there not actually being a statistically significant difference between the levels of support for Tinsley-Smith and the level of support for Banks; that is, we could not reject the hypothesis that they got the same level of support. We cannot be confident that Tinsley-Smith received a higher level of support than Banks did.
Q. Okay. And then if we go down to figure seven, I believe you report a somewhat similar table for prior House District 5 in that 2018 Democratic primary. What is this showing us? A. This shows us levels of support by both black and white voters -- and I apologize, the caption should include white support there as well -- in House District 5 between these two candidates, and the -Mr. Trende identifies Johnson as the black-preferred canaiidate and Ross as the white-preferred candidate and concludes that this election is polarized. In fact, neither one is a statistically significant preferred candidate for black or white voters. The estimates are relatively more precise for Johnson and Ross, but actually we can't statistically differentiate their levels of support.

For white voters we see these huge confidence intervals that really span a wide range, and that reflects a high level of uncertainty we have about who white voters support in this election, and we just cannot reach a conclusion about if there is a white-preferred candidate or

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not, let alone who it is, and so we can't find that this election is polarized.
Q. Okay.

JUDGE KETHLEDGE: May I ask a quick question? I'm sorry to interrupt.

MR. LEWIS: Sure.
JUDGE KETHLEDGE: Just since we have it right here. As a statistical matter, I'm a neophyte, I'll confess on this, can one say that it's more likely than not that black voters supported Johnson more than Ross and white voters supported Ross more than Johnson?

THE WITNESS: Yes. I have some tables in the back here where I do that exact calculation.

JUDGE KETHLEDGE: So you can say it's more likely than not, but you're -- what you're emphasizing, if I understand your testimony, is that it's getting close, it's kind of shaky; is that fair?

THE WITNESS: Yes. In the social sciences we wouldn't use a more likely than not 51 percent threshold. JUDGE KETHLEDGE: We do. THE WITNESS: When -- during statistical analysis in saying if there is a meaningful difference here we would use a 95 percent threshold, and the reason is that there's uncertainty in these models, and if something were 51, 60 percent, 70 percent, that really could just be all

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statistical noise. We really could not draw a real conclusion about the differences --

JUDGE KETHLEDGE: Okay.
THE WITNESS: -- in an estimate like this.

JUDGE KETHLEDGE: All right. Thank you. I'm sorry
to interrupt but just want to understand as we go.
MR. LEWIS: No. Thank you very much, Your Honor.
JUDGE MALONEY: Counselor, what's the significance of 95 percent?

THE WITNESS: 95 percent is a convention that's used in the social sciences and often wised in expert testimony in court cases where we're looking to say, is there a relatively high probability that the result that we're looking at is meaningful or not due to chance. In academic publishing we might be looking for a much higher level of certainty, sometimes 99 or 99.9 level of certainty instead, and it's -it's a different notion of certainty that we might think about of more likely than not. It's really thinking about the probabilities that the results we see are due to chance.

JUDGE MALONEY: Thank you.
BY MR. LEWIS:
Q. And so, Doctor Palmer, I asked some questions of Mr. Trende about this concept and he discussed the concept of posterior draws and the number of -- a calculation that must be performed to assess statistical significance. Are you

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familiar -- you reviewed that testimony; is that correct?
A. Yes.
Q. Okay. And did you perform a statistical analysis to determine statistical significance?
A. I did. I, in fact, did the exact test that Mr. Trende was suggesting should be done in his testimony last week.
Q. Okay. And so maybe now is a good time. Why don't we go to table -- I believe it's table 10 of your report appearing on page DTX24-33.

And maybe we'll -- since there was a question -- why don't we look, for example, at the results, for example, in HD8 as just one example. Do you see here a -- and specifically just can you first of all, let me have you orient me to the table You have -- for black voters and for white voters it appears you have five columns for each district; is that right?
A. Yeah. So what this table does is it lays out in three steps how I think about finding racially polarized voting. So each set of rows is for a district, and then I first look at black voters, and there's -- the top two candidates are listed with their estimated percentage of the vote from black voters and then a 95 percent CI following that, and that's our interval.

And then I do a statistical test, and that's the column labeled $P R$, for probability, $C$ one greater than $C$ two,
the probability that candidate one got a higher vote share than candidate two in the ecological inference analysis. And as Mr. Trende mentioned, EI, especially run this way for many candidates, is a really complex procedure using some very complicated statistics under the hood. What it ultimately produces is a large number of results that are sort of different simulated draws of plausible black and white vote shares and the other groups as well for each candidate, and we take the average of those to get the estimate.

We can also, though, use those draws to do other calculations, and so what I say in this fourth column is, what percentage of the draws does the first candidate get a higher share of the vote than the second candidate from that group? And so, for example, $j \in t$ we look at row eight, we can highlight it here, the first candidate has an estimate of 76 percent, the second candidate has an estimate of 8.5 percent. There is no overlap there whatsoever. In fact, in 100 percent of the draws, and I think it's 50,000 draws per model but it's many thousands, the first candidate received a higher share of the vote from black voters, and so I label that COC, for candidate of choice, that $I$ can identify a black candidate of choice in this contest.

Then I do the same thing for white voters. Here what's interesting is that the top two candidates are the same, but I'm not actually very confident that the first

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candidate really is preferred to the second candidate by white voters; that is, in only 58 percent of the posterior draws does the first candidate get a higher share of the vote than the second, and I would need that to be above 95 percent to have any statistical certainty in that result. And so $I$ would classify this election as there's no white candidate of choice here, and so I can't find -- I don't find polarization because there is no white candidate of choice.
Q. All right. And just as one quick fpllow up just on the way that the ecological inference model runs, you mentioned it does some large number of draws. What is a draw?
A. A draw is essentially a set of values for every candidate and every racial ethnic gioup of level of support that all come from the same similar distribution of what we think the true votes are. Werre trying to get at what is the true level of support for each candidate from each group. That's a very complex distribution. There's many different values that could work, that could fit that, so the model creates that distribution and then tries to sample from it, and that's what the draws are, are thousands of sets of plausible values. Q. Okay. So if we just go back out to the full table at this point, you mention in your report that Mr. Trende characterized the other HD-- well, excuse me, the other 2018 Democratic primary races in House Districts that he looked at is, quote, difficult to interpret. And do you agree with his
characterization?
A. $\quad \mathrm{NO}$.
Q. Okay. So I'd like to go through it. I'll -- to avoid making you flip back and forth, I'll identify the districts that we looked at.

We've talked about House District 2. Do you view that as difficult to interpret?
A. No. But I find that it's not polarized whereas Mr. Trende concludes that it is polarized, but $I$ find that black voters here do not have an identifiable candidate of choice.
Q. Okay. And House District, I believe, 4 was another example. What about this election?
A. In District 4 this is à case where Mr. Trende did not include this result ir his report but he did run this -- he did collect the data and analyze it and produce a resulting table.

Here $I$ find evidence of racial polarization; that is, I find that there is a black-preferred candidate and a white-preferred candidate and they are different but the black-preferred candidate wins this election.
Q. Okay.

JUDGE KETHLEDGE: Can I ask a question just as we are going along because it's so hard to cycle back into this? THE WITNESS: Yes.

JUDGE KETHLEDGE: So I'm just trying to understand

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the standard you are applying when you say there is or is not a candidate of choice, and correct me if I'm wrong, it looks like you're saying that if we can identify one candidate who gets more votes from the particular group than another candidate or any other candidate, if we can do that identification with 95 percent confidence, you're saying there is a candidate of choice; am I understanding correctly?

THE WITNESS: Yes. That's right.
JUDGE KETHLEDGE: And it could be -- you know, the -it might be a plurality that the candidate of choice has or majority support, right?

THE WITNESS: Absolutely. This example that's highlighted now is a good one where Robinson received 39.8 percent of the vote but because of their lead over the next highest candiaate for black voters, we can confirm that they're the candidate of choice by plurality rule.

JVDGE KETHLEDGE: So it actually doesn't seem to have anything to do with the percentage that a particular candidate gets in an absolute sense, it's just relative between two candidates? It's about our ability to identify which of two candidates gets more to a certain degree of confidence rather than the percentages that they're -- you know, this could be happening at 22 and 24 percent or it could be happening at 52 and 48, it's just whether we can identify, not whether there really is a candidate of choice?

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THE WITNESS: Yes. I'm trying to follow Mr. Trende's approach of taking the top candidate.

JUDGE KETHLEDGE: I see.

THE WITNESS: And I'm saying they have to be distinguishable as that top candidate.

JUDGE KETHLEDGE: I see. Okay.
THE WITNESS: We could further refine this and say we also want to see a certain margin of support difference, and that would take some of these races where we found candidate of choice and say actually there is not a candidate of choice here.

JUDGE KETHLEDGE: Okay. So you're -- you're accepting some of his premises or part of his standard but you're applying more -- a more demanding statistical measure to it; is that fair?

THE WITNESS: Yes. I -- I think he ignores the statistics the -- that standard entirely. JUDGE KETHLEDGE: Okay.

THE WITNESS: I'm saying with his standard, his conclusions don't hold up when you look at the uncertainty. JUDGE KETHLEDGE: I see. That's very helpful. Sorry to interrupt again. Thank you, sir.

MR. LEWIS: And thank you, Your Honor. You are the audience. BY MR. LEWIS:

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Q. All right. So if we look -- we looked at four. We talked about five, right?
A. Yes.
Q. Okay. And just for the record, what do you conclude about House District 5?
A. That there are no clear candidates of choice, and so it is not a polarized election.
Q. Okay. The next one Mr. Trende looked at was House District 6. Is that difficult to interpret?
A. No. This is a case where both black and white voters share the same candidate of choife, and that candidate of choice won so there is not polarization because black and white voters agree on theif top choice.
Q. Okay. And then the next one he identifies is House District 10. Is that difficult to interpret?
A. No. Here have a black candidate of choice who wins and a white cardidate of choice -- or I'm sorry, two candidates where we're sort of on the line between simply significant or not. It's under 95 percent so I would say there's no white candidate of choice here, but the top vote getter by the average estimates is the same as the black candidate of choice, so not a polarized election.
Q. Okay. And it appears in Mr. Trende's report he refers to House District 35, but I don't believe that appears on this table; is that correct?
A. He referenced District 35 in his report. I could not find any data or analysis of District 35 in his code.
Q. Okay. So I want to skip ahead now to the -- your -- the Senate Districts under the prior decade plan, those Democratic primaries in the Senate, and specifically referring to paragraph 42 appearing at page DTX24-18. Let me know when you get there.

Okay. So, here again we talk about that 2018 Democratic gubernatorial primary. What did you find when you looked at Mr. Trende's analysis of the 2018 Democratic primary for governor at the Senate District level?
A. Mr. Trende looked at racial polarized voting in seven districts. I find that fofr of them have significant levels of polarization. In two of them white voters -- I'm sorry, in two of them black roters don't have a preferred candidate. And in one district neither group had a preferred candidate. Q. Okay. T actually need to go back to the House. I apologize. I overlooked something I wanted to ask you about, so we'll put a pin in this and let me rewind a little bit to the House.

Now, Doctor Palmer, in tables 8 to 14 of your report, do you analyze and report the credible intervals and the statistical significance calculations for all of Mr. Trende's EI analysis in this case?
A. Yes.
Q. Okay. And I'd like now to turn to page DTX24-17 and table two, if we can zoom that in.

So, Doctor Palmer, if I'm looking at this table, what are you showing me here? What's on this table?
A. This table brings together the results from the appendix tables for the 2014, '16, '18, and '20 House primaries for the ten districts where Mr. Trende looked at this for all of these elections. And in each I'm just reporting that final column, was this election polarized, uncontested. did black, white voters with the same candidate of choice, no candidates of choice, or did just one group not have a candidate of choice.

And so overall there's 40 elections in this table; eight of them are polarized, two are uncontested, and in 30 of them they're not polar(i)zed, either because one group didn't have a candidate of choice, both groups didn't have a candidate of choice, or both groups agreed on the same candidate.
Q. Okay. So we only have about 20 percent of the elections here that are polarized?
A. Yes.
Q. Okay. And of the -- I believe -- of the eight polarized elections that are reported here, in how many did the black-preferred candidate prevail?
A. I think I would have to flip back to my tables to double check that number.

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Q. All right.
A. In 2014, there are three polarized primaries, the black preferred candidate prevailed in all of them.

In 2016, there are two polarized primaries and the black candidate -- black-preferred candidate prevailed in both of those.

In 2018, there are two -- I'm sorry, there's only one here for that table and the black-preferred candidate prevailed there.

And then in 2020, there are two and the black-preferred candidate prevailed in one of them. So in nine -- in seven of the eightcthe black-preferred candidate won the polarized primary.
Q. Okay. Thank you for that. So now I want to skip back into the Senate. And, again, I apologize for the back and forth. So going back to paragraph 43 of your report, Doctor Palmer, apcearing on page DTX24-18, I believe in paragraph 43, Doctor Palmer, you describe Senate results for selected Democratic primaries in 2014; is that right?
A. Yes.
Q. Okay. And how many elections do you identify here as polarized?
A. Two of the four.
Q. And of those two polarized elections, how many had a failure of a black preferred candidate?
A. Only one.
Q. So now looking at the analyses of the prior -- the prior maps, the 2011 plans and all of those elections that you looked at, do you find a consistent pattern of racial polarization in district level primary elections?
A. No.
Q. And does -- do those primary elections at the district level --

MR. PATTWELL: I'm just going to place an objection on the record. I think if we go back. to the witness' testimony and we look at pages 12 and 21 of the good doctor's report, his opinions in this case relate to Mr. Trende's analysis, and what counsel is trying to do right now is he's trying to go outside ot the scope of the witness's expert report and he's trying to take a review of Mr. Trende's analysis and then form an overall opinion as to the entire case. It'stotally inappropriate and it's well outside of the scope of the opinion that's been offered in the report.

MR. LEWIS: Your Honors, Doctor Palmer took Mr. Trende's data, performed an analysis, and is offering his conclusions based on the evidence Mr. Trende presented. It is entirely in his report. We are looking at every one of his tables. Everything was produced back in March. You know, if -- his opinions were properly disclosed in accordance with Rule 26, and he is testifying completely within the scope of
his role in this case.
MR. PATTWELL: And I just want to keep it within his written report.

JUDGE MALONEY: Are you eliciting testimony that's within his written report?

MR. LEWIS: Your Honors, yes. I mean, he's been -- I mean, not wanting him to literally read his report into the record, I think we've been -- I've been very careful to follow his report and his analysis, if for no other reason to make sure the record is very clear for this Court. I know this is complicated information.

JUDGE MALONEY: All right. Well, let's -- objection
is noted. You go ahead ain proceed with your examination, Mr. Lewis, and the Court will make a decision on that after we hear the testimony and view the trial briefs and objection in more detail, perhaps. Go ahead. BY MR. LEWTS:
Q. All right. And let me just ask a slightly different question and see if that might help resolve some of plaintiffs' counsel's concerns.

Doctor Palmer, when you look at Mr. Trende's analysis of the prior -- performance under the prior plans, does that evidence allow -- does that evidence support a finding of a consistent pattern of racial polarization in district level elections?
A. No. When what $I$ look at across all of the elections and districts that $I$ examined in this report, which are the same set as Mr. Trende's, I do not find a pattern -- a consistent pattern of racially polarized voting in the primaries. Q. Okay. Now, Mr. Trende in his report also examines elections conducted in -- primary elections, pardon me, conducted in 2022 under the enacted plans; is that right?
A. Yes.
Q. And did you review his results as tp those elections?
A. Yes.
Q. Okay. And so I'd like to norv turn to page DTX24-35 of your report, and this is table 12 of your report. And what results are you reporting on this table?
A. These are the ecorogical inference results for the analysis of the 202 Hickory House District that Mr. Trende examined in his report.
Q. Okay. And what -- I believe there are a total of 16 on this page; is that correct?
A. Yes.
Q. Okay. And of the 16 elections that Mr. Trende analyzed, how many do you conclude are polarized?
A. Four.
Q. Okay. And can you identify for the record which four you identify as polarized?
A. Districts 4, District 5, District 7, and District 26 .
Q. Okay. And of the four polarized elections that you've identified, in which were there a black-preferred candidate failure?
A. The black-preferred candidate lost in District 5 and District 26 and one in District 4 and District 7.
Q. Okay. So, I'll represent to you, Doctor Palmer, that there is a Voting Rights Act claim pending as to House Districts 1, 7, 10, 12, and 14 in this case. Of those five, are there any that are polarized with a black-preferred candidate failure?
A. Can you just repeat that set $o f$ districts one more time? Q. Sure. 1, 7, 10, 12, and 1.4.
A. No.
Q. Okay. And of the elections that you analyzed in -- or, you know, you reviewed Mr. Trende's analysis in 2022, how many elections had the same where black and white voters shared a candidate cf( choice?
A. Four.
Q. Okay. So I would like to flip the page to DTX24-36.

JUDGE KETHLEDGE: Before we leave that, for HD1, you're saying that's not polarized because you have a 92.98 percent confidence interval, that the whites prefer one candidate over the other? Is that why? I mean, otherwise you have, you know, the sort of summary numbers, 90 to 9, 66 to 33, but that's not polarized because we're at 93 percent not

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95 percent? I mean, is that a fair summary of where we're at?
THE WITNESS: You're correct about the probability very close to 95, not quite. If it were above 95 they would have the same candidate of choice so it would not be polarized regardless. Carter is the same.

JUDGE KETHLEDGE: Never mind. Sorry to bother you. BY MR. LEWIS:
Q. That's funny. All right. So I would like to move on now, Doctor Palmer, to table 14 appearing on page DTX24-36. And is it fair to say this is the results of your review of Mr. Trende's analysis of the Linden Senate -- selected Linden Senate elections in the primary of 2022?
A. Yes.
Q. All right. So $I$ believe we have a total of six here; is that right?
A. Yes.
Q. Okay. And in how many of these districts are you identifying polarization?
A. One.
Q. And how many of these districts do you identify that black and white voters support the same candidate of choice?
A. Two.
Q. Okay. And in the one polarized election, is that a black preferred candidate failure or success?
A. The black-preferred candidate lost.
Q. Okay. And was there anything unique about that election, Senate District 8?
A. My understanding is that McMorrow, the white preferred candidate, had a viral speech that somewhat nationalized the race and brought a lot of attention to it.
Q. Okay. And how does that potentially impact this election? MR. PATTWELL: I'm just going to object. This is, I believe, outside the scope of his report.

JUDGE MALONEY: Sustained.
BY MR. LEWIS:
Q. And so $I$ just want to -- before we move off this figure, Doctor Palmer, I'll represent to you that Senate Districts 1, 3, 6, and 8 are the four aistricts where there's a Voting Rights Act claim challenge present in this case. Of those four districts, how many are polarized?
A. One.
Q. And that's SD 8 that we just talked about?
A. Yes.
Q. So if we add up the number of House Districts in Hickory and the number of Senate Districts in Linden that Mr. Trende analyzed, how many elections is that total?
A. 16 in the House, six in the Senate.
Q. Okay. And of the 22, I'm just trying to tally this up, do I have it right that we only have three elections that are racially polarized with a black-preferred candidate failure?

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A. Yes.
Q. Okay. And what do these results as a whole say about Mr. Trende's conclusions about cohesion and polarization in the primaries?
A. Across these primaries I don't find consistent evidence of racially polarized voting.
Q. Okay. I'd like to now turn to your analysis of Mr. Trende's racial gerrymandering analysis in his report. So I'd like to turn to paragraph 55 appearing on page DTX24-22, and I believe it may split the page prito the next page. And so did you review M.f. Trende's analysis of district compactness as a way to assess racial gerrymandering in this case?
A. Yes.
Q. And what are zour conclusions about his analysis?
A. I don't find this analysis to be persuasive. Mr. Trende claims that districts with higher black voting age population are less compact and suggests that this relationship, this correlation should be evidence of predominance in how the districts were drawn.

I find that that's not the case. There is a relationship, but I don't think that's evidence of anything. If we look at Mr. Trende's simulated race neutral maps, and just like with the gradual inference he provided all of his code for the simulations. I reran his simulations exactly as
he did so I could analyze the ensemble of maps.
I took a random sample of the maps and did compact the calculations on them. I looked at the relationship between black voting age population and compactness and found that same negative relationship in random maps that could not have had race be a factor because racial data was not in those simulations. The relationship he's observing is about political geography and shapes and population distributions and not about race.
Q. And just for the sake of the resord, Doctor Palmer, I'll turn now to -- I'd like to highlight table four appearing on page DTX24-23. Is this the regression analysis you described?
A. Yes.
Q. Okay. And when I see you have the three stars next to the negative numbers an the BVAP column, what does that mean?
A. That indicates a -- a statistical significance level of 99.9 percert.
Q. Okay. And, again, just for the sake of the record, I see the second $P$ value with the one star is $P$ less than . 05 . What does that number reflect?
A. That would reflect a 95 percent confidence level.
Q. Okay. And I'd now like to turn to your analysis of

Mr. Trende's use of county splits as a vehicle to measure racial gerrymandering in this case, and $I$ believe that appears on page six -- on page DTX24-23, paragraph 60 and 61, if we
could highlight that.
And so did you review Mr. Trende's analysis of county splits?
A. Yes.
Q. And what did you conclude?
A. Mr. Trende suggests that the larger number of county splits in the enacted plans compared to the prior plans is evidence of racial gerrymandering, but all these comparisons to the past plans assume the past plans are some neutral benchmark.

Mr. Trende provides no Gryidence that that's the case, and I quote here as well as eIsewhere, a Republican operative involved with -- in drawing the maps in 2011 talking about how they used keeping courties and cities intact for partisan advantage. And soin a map that's trying to undo a past partisan gerryrander we should expect to see more splits. Q. Okay. And, finally, I believe that you reviewed Mr. Trende's use of computer simulations to analyze racial gerrymandering in this case; is that right?
A. Yes.
Q. Okay. And so here I'd like to turn to page DTX24-24 and start here with paragraph 63. And so what conclusions did you reach about Mr. Trende's simulations analysis?
A. These simulations cannot demonstrate that race was a predominate factor in drawing the maps because they fail to
take into consideration many things that the Commission considered, most notably party, and Mr. Trende said something really useful last week when he talked about the importance of a counterfactual.

When social scientists are trying to estimate the effect of something, we need to have the right comparison group. We need to make an apples-to-apples comparison, and the right comparison here is what would these maps have looked like if the Commission was not taking into account race or taking race into account differently compared to the actual map. And by not including all those factors like party in constructing this counterfactual, we're not making the right comparison to learn something.

I would -- second, I'd also say that to the degree that Mr. Trende is identifying anything, he's showing that race was a consideration, was a factor in drawing the maps, but not predominance, and Doctor Rodden had a really nice analogy yesterday about a smoke alarm that goes off when you're cooking or when there's a big fire, and this test is going to go off either way and not distinguish between the two.
Q. All right. And $I$ believe in paragraph 64 you discuss -- I don't believe you used the term counterfactual, but paragraph 64 of your report, do you describe a very similar concept about the use of constraints?
A. Yes. The way we would construct a counterfactual is we would constrain the simulations to match things that the Commission took into account so that they look more like maps the Commission could have considered with all their other factors that they looked at.
Q. Okay. And is the need to include constraints to model what the mapmaker was doing, is that a standard practice in social sciences?
A. I'm sorry, can you repeat the question?
Q. Sure. So you talked about the reed to create constraints or the appropriate counterfactual in the idea that you want the model to take into account what factors -- redistricting factors the mapmaker was $100 k i n g$ at; is that right?
A. Yes.
Q. Is that a stardard practice in social science?
A. Yes. The general idea that we're always trying to make a comparison to the right counterfactual is central to identifying any effect.
Q. Okay. So now does Mr. Trende -- and you looked at Mr. Trende's statistical analysis using his racial gerrymandering and party gerrymandering index; is that right?
A. Yes.
Q. Okay. So, now, does Mr. Trende find that the enacted Hickory and Linden plans are outliers compared to his race-blind, party-blind simulations on his racial

1 gerrymandering index?
A. Yes.
Q. Does he also find that the enacted plans are outliers compared to his race-blind, party-blind simulations on the partisan gerrymandering index?
A. Yes.
Q. Does the statistical analysis that Mr. Trende performed permit the effects of partisanship and race to be disentangled?
A. No.
Q. So does this -- does Mr. Trerde's analysis allow you to conclude that race was the predominant factor in drawing these plans as opposed to just orie factor among many?
A. No.
Q. Okay. And, finally -- finally, Doctor Palmer, I want to turn just to the last page of your report, and on this last page, it's bage DTX24-27, do I understand correctly that you conducted -- or you looked at Mr. Trende's demonstration plans for Linden -- or, excuse me, for the State House and the state Senate?
A. Yes.
Q. I just had a few questions for you. In any of your prior work have you been asked to analyze the performance of a Gingles one demonstration map?
A. Yes. It's often a part of my reports looking at racially

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polarized voting.
Q. Okay. And does Mr. Trende include in his expert report an analysis of his demonstration plans' performance akin to that like you've conducted in prior cases?
A. $\quad \mathrm{No}$.
Q. Okay. And, therefore, are you able to form an opinion about whether Mr. Trende's demonstration plans would perform for minority voters?

MR. PATTWELL: I'm just going to note my objection has been noted, right, Your Honor?

JUDGE MALONEY: Yes.

MR. PATTWELL: Okay Thank you.
THE WITNESS: Car you repeat the question, please? BY MR. LEWIS:
Q. Sure. In your opinion, does Mr. Trende's analysis in this case allow you ťo form an opinion as to whether Mr. Trende's demonstration plans would perform for minority voters?
A. No.

MR. LEWIS: Your Honors, I have no further questions for this witness. Thank you.

JUDGE MALONEY: Mr. Pattwell.

MR. PATTWELL: Thank you, Your Honor.

CROSS EXAMINATION

BY MR. PATTWELL:
Q. Very nice to meet you, Doctor Palmer. You have a copy of

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your report?
A. I do.
Q. Okay. So, the first thing I'd like to talk about is the racially polarized voting analyses, and if $I$ just say RPV, we're on the same page?
A. Yes.
Q. Great. What -- please correct me if I'm wrong, what you've essentially done is you've recreated Mr. Trende's RPV analysis except you've done your credible intervals and then drawn different conclusions?
A. No. What I've done is I've ferun his analysis in full, saved all the results so that can then calculate credible intervals where he didn'tor calculate other statistical tests using the results.
Q. Great. So this is a story about credible intervals?
A. It's a story about statistical uncertainty.
Q. Okay.
A. It's not just the intervals.
Q. And you understand from Mr. Trende's report that he was looking at the same elections that Doctor Handley was looking at?
A. I understand there's overlap, but I believe Mr. Trende was also looking at some other elections.
Q. So you just criticized Mr. Trende for not looking at House District 4 from 2018, but if we pull up Doctor Handley's

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report, which is DTX-17 at page 66, we'd see that Doctor Handley did not look at that district, correct?

JUDGE NEFF: Are we really going to get into that? You're going to attack Handley through this witness? I mean, come on.

MR. PATTWELL: This is -- the witness said that Trende cherry picked. Trende's report quite clearly states he was looking at --

JUDGE NEFF: Why didn't you ask her that? You had a chance to cross examine her. Wouldn' it be proper if you wanted to attack her method or her results, she's the one you should have asked, not him, not this witness.

MR. PATTWELL: That's not what I'm getting at. What I'm getting at is that Boctor Palmer said -- criticized Mr. Trende for not, including House District 4 from 2018 in his report. His report explains that he was looking at the same elections that Doctor Handley looked at, and so this is simply showing for the Court that there was no cherry picking going on. Mr. Trende very clearly said he was looking at Doctor Handley's elections, and I'm simply pointing out by pulling up -- and I don't need to pull up the exhibit, but I'm simply pointing out here for the witness that, of course, Doctor Handley didn't look at that election and that's why it's not in Doctor Trende's report. So I can move on.

THE WITNESS: Can I answer the question?

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JUDGE MALONEY: There is no question.
MR. LEWIS: I was going to actually lodge an objection, but -- I'm just going to object that, you know, Doctor Palmer was not brought here to -- he was brought here to rebut Mr. Trende. He did not offer any opinions about Doctor Handley's work in this case on direct examination. MR. PATTWELL: Whenever I may? JUDGE MALONEY: Go ahead.

MR. PATTWELL: Thank you.

BY MR. PATTWELL:
Q. If we can pull up your RPV tatole eight, and this is looking at House Districts from 2014. We're at page 31 of your report, are we not?
A. Yes.
Q. Great. And so I'd like to draw your attention to the race for House District 7. So in the left-hand column we can see that we have the House Districts, then next we have the two candidates; is that right?
A. Yes.
Q. And then you've conducted an analysis here. What's the estimate?
A. 41 -- 41.4 percent for Garrett and 38.2 for Stallworth.
Q. Okay. And then in the next table you're comparing the difference between the votes that Garrett was estimated to receive and then the vote that Stallworth was estimated to

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have received; is that right?
A. I'm sorry, it's different candidates for white voters. It's Cole and Garrett on the right-hand column.
Q. We're not even there yet.
A. Oh, I'm sorry.
Q. We're simply within the black voters and we have -- maybe this will help. Garrett and Stallworth, and then you just explained this is an estimate of what you estimated Garrett to have received in black votes?
A. Yes.
Q. And then here's your estimatal what you estimated Stallworth to have received in black votes?
A. Yes.
Q. And then you have rhat you call the 95 -- is it confidence or credit interval?
A. Yes.
Q. And this mathematical -- you explain this means probability?
A. Yes.
Q. Candidate one?
A. Yes.
Q. Greater than?
A. Yep.
Q. Candidate two?
A. Yes.

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Q. Your conclusion is that there's a 90 percent -90.42 percent that Candidate Garrett received more votes than Candidate Stallworth by this percent difference? No?
A. Yes.
Q. Oh. But because this is not over 95 percent probability, you say no black candidate of choice?
A. That's correct. That's saying there's a one in 10 chance that this difference is due entirely to random chance.
Q. Okay. And this 95 percent standard, interval standard, I'm not sure exactly -- how would you refer to it?
A. Level of confidence.
Q. Level of confidence, thank you. So the 95 percent level of confidence, this would Eypically be applied, would you not agree, in the frequent(i)st context?
A. Yes.
Q. But you urderstand that Mr. Trende's code -- you reviewed that?
A. Yes.
Q. And he ran his code as MD Bayes?
A. Yes.
Q. And he's running a Bayesian analysis, correct?
A. Yes. But that doesn't mean you can't interpret the results this way. I have -- I have seen experts produce confidence intervals with this exact same methodology using MD Bayes, which is the technical name of the function that is

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used in R. It's the name of the model in many reports, and in fact the code that $I$ use to calculate these intervals is the exact same code that Doctor Trende uses, by which I mean he is using code that $I$ have produced in prior reports in his own analysis here. This is a very commonly accepted approach to looking at the results.
Q. So, in this chart when you're conducting this analysis, do you look at the -- the color of the candidate's skin?
A. $\quad \mathrm{No}$.
Q. Do you look at factors like incumbency?
A. $\quad \mathrm{No}$.
Q. Do you look at whether orf not the candidate was a local officeholder?
A. $\quad \mathrm{No}$.
Q. Do you look at the geography within which the candidate lives?
A. No.
Q. So, for example, you don't look at whether or not the candidate lives in the black neighborhood or the white neighborhood?
A. That's correct.
Q. You don't look at whether the candidate has an Anglo surname or an ethnic surname?
A. That's correct.
Q. You don't consider fundraising?
A. No.
Q. You don't consider community support, yard signs, endorsement, things like that?
A. All of these are factors that might explain the results, but this is a measurement problem. We're just trying to measure levels of support.
Q. Understood. This is a statistic -- you're running a statistical analysis?
A. But I'm running a statistical analysis for a very, very specific purpose. I'm not trying to Understand why candidate one won the race or got a certainvote share. I'm just trying to measure what those vote shares were within each group. It's not a causal analysis. I'm not trying to figure out what caused the black -- the level of black support to be something. It's parely trying to measure it, which we don't know until we do this procedure.
Q. And yoyre not looking at what the makeup of the district in terms of black and white voting age percentage?
A. Not in this table, no.
Q. Okay. So, with respect to Garrett/Stallworth, is it not more likely than not that Garrett received more votes than Stallworth?
A. It is more likely than not, but that is not the standard we would use for a statistical analysis.
Q. Okay. So in -- if we go back to the left-hand column

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here, now we've got ten elections; is that right?
A. Yes.
Q. And you identify polarization in Districts 1, 2, and 10?
A. Yes.
Q. Then you identify an additional two elections where the black and white candidate of choice are the same?
A. Yes.
Q. And we can see that over on the right-hand columns, right?
A. Yes.
Q. For the remaining five elections your table does not definitively opine on polarizatign; is that right?
A. I don't understand. What do you mean by, definitively opine on polarization?
Q. Well, you say there's no white candidate of choice so you don't say whether or not the race was polarized.
A. By my defirrition you must have a candidate of choice for each group in order for a race to be polarized.
Q. Great. So --

JUDGE KETHLEDGE: Can I ask a question on that, just on this definitional thing, because that's what I'm trying to understand as we go along. So, let's say you had black candidates, 100 percent of their votes go for candidate one, candidate two, and at a 93 percent confidence interval candidate one looks like it's higher, or he or she were higher, and then the white candidate -- or the whites vote for
candidates three and four, hundred percent, no overlap. Would you say that is not racially polarized because we only have a 93 percent confidence interval as to which of the two black supported candidates got the most votes?

THE WITNESS: That's a really interesting
hypothetical. And I think that, you know, in that case that might be a case where more subjective judgment is useful beyond the statistics, and as I said, on a purely statistical level we could not identify a candidate of choice, but that might be a place where thinking about the substantive results would be --

JUDGE KETHLEDGE: We]l, so does the degree of overlap matter in your view in determining cohesion or polarization, the degree of overlap between the candidates that each side supports? I'm just trying to understand your idea of cohesion.

THF WITNESS: So what's tricky in your hypothetical is suppose that the two candidates for black voters are $A$ and B. There's an assumption there that all the supporters of candidate $A$ prefer $B$ next, and all the supporters of $B$ prefer A next and vice versa --

JUDGE KETHLEDGE: Well, I'm not assuming anything. I just -- yeah, well -- okay. I don't want to intrude too much here. I'm not assuming that. I'm just saying there's no overlap, and we just have some uncertainty about who's on top

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in one of the, you know, voter categories, but I really don't want to get in the way. I just -- I'm trying to understand your definition.

THE WITNESS: Can I just add one thing to that? I think it's a great example, and I think that it's a case where if that was happening regularly, if we saw this pattern a lot we might be more concerned about it, and if that was a one-off blip, it's sort of a -- wouldn't really contribute to a pattern of polarization either way.

JUDGE KETHLEDGE: Okay. Thaikk you.
BY MR. PATTWELL:
Q. I'm still on House District 7, and now I'd like to move over to the tab four, the finite voters. In District 7 it's more likely than not that the white candidate of choice was Candidate Garrett?
A. No. Candicate Cole.
Q. And that's because you're 59.52 percent sure that cole was the white candidate of choice?
A. Right. I would consider that essentially a coin flip, that we don't have good evidence of who's on top either way. Q. And if we look down to the next race in House District 8, there's a 60 percent chance that Sherry Gay-Dagnogo was not the white candidate of choice? Did I get that right?
A. Yes.
Q. But she is the black candidate of choice in your

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estimation?
A. Yes.
Q. And if I'm understanding this correctly, you're estimating that she got a little bit over a quarter of the white vote?
A. Yes.
Q. And if we move down to District 9, would we be correct to understand that Candidate Santana received 86 percent of the black vote?
A. Yes.
Q. And so he (sic) is the black caroidate of choice?
A. Yes.
Q. But you estimate that he received only 44.5 percent of the white vote; is that right?
A. Yes.
Q. And so there'sa 70 percent chance that Candidate Santana was not the white candidate of choice?
A. That'scorrect.
Q. Okay. Would you dispute that in the elections where you identify clear polarization, black candidates of choice would have lost if the BVAP in the districts were 40 percent?
A. I'm sorry, can you repeat that, please?
Q. Would you dispute that in the elections with clear polarization the black candidates of choice would have lost if the BVAPs had been 40 percent in that district?
A. I don't know.
Q. Okay. In the first district, if you could accept my representation that that was a -- House District 1 was a 63 percent BVAP district, if we were to reduce that BVAP by 23 percent, would you acknowledge that Candidate Banks would have lost the election?

MR. LEWIS: I'm going to object, Your Honors. This goes beyond the scope of the expert work that either Doctor Palmer or Mr. Trende performed in this case.

JUDGE MALONEY: This is cross examination. Overruled. Go ahead. BY MR. PATTWELL:
Q. Would you like to answer my hypothetical?
A. Can you repeat it, pleáse?
Q. So I would like youl to assume that House District 1 had a BVAP of 63 percent and we're going to reduce it by 23 percent, so we're going ťo reduce it down to 40 percent. Then I'd like you to look at your analysis here, and we see that in this -when the district was at a 63 percent BVAP, Brian Banks won by only seven points; is that right?
A. Where do I see Banks winning by seven points?
Q. I'm asking you to accept that -- let me rephrase the hypothetical, because this chart doesn't have that information.

So, assume that Banks won this election by seven points and that the BVAP in the district was 63 percent.

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I'm representing to you that that's the fact, but we can assume it. If you were to have reduced the BVAP down to 40 percent, would he still have won? That's my question.
A. To do that analysis you would have to make a huge number of assumptions. You would have to make some assumptions of turnout that I don't have here. You would have to assume that when reducing the black population by a third in that district that you would be reducing support for each candidate that black voters voted for by a third as well; that is, that support would come evenly from every Candidate and not from some more than others.

You would also have to assume that all the candidates would stay the same, the dynamics of a primary election in that district would bethe same. And so it's a hypothetical that requires a lot of assumptions to get at and is not something I dia in this report.
Q. If we could look at page 37. These are your ecological inference tables for this election, correct?
A. These are directly from Mr. Trende's code and data. They are exactly what he created for every election.
Q. This ecological inference in your report shows that Candidate Banks received how much of the white vote?
A. $\quad 14$ percent.
Q. Okay. We can move on. I'd like to go to RPV table nine. And we're looking at your analysis here for the House

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Districts in 2016, right?
A. Yes.
Q. And these are Democratic primaries?
A. Yes.
Q. And all nine elections you're a hundred percent sure that there was a clear black candidate of choice in these races?
A. Yes.
Q. We know that just by looking down this table here and looking at --

JUDGE NEFF: Mr. Pattwell, m having a hard time hearing you.

MR. PATTWELL: Can you hear me better now, Your Honor? JUDGE NEFF: Ieah. MR. PATThELL: There we go. How is that? JUDGE NEFF: That's much better.

M² PATTWELL: I think it was a little low.
BY MR. PATTWELL:
Q. So my question is, we know where you identify the black candidate of choice is in the right column under status?
A. Yes.
Q. And you're doing that based on your -- your interpretation of the credible intervals?
A. Not the intervals but the posterior draws that Mr. Trende discussed last week.
Q. But a simple way to look at it, though, is if this number is above 95 percent, you're willing to make a judgment; if it's below, you're not?
A. Yes.

MR. PATTWELL: If we can pull up as a side-by-side, Bailey, Mr. Trende's page 41. I'm doing this because you didn't provide the voting age populations, Mr. Trende did.

So there it is, but if you can now just maybe zoom back in to the table nine, please? Thank you. BY MR. PATTWELL:
Q. So you estimate that every srigle candidate, except for Scott, received a majority ofcthe black vote?
A. Yes.
Q. And what I mean bojority is over 50 percent in this column, right?
A. Yes.
Q. I shouid say what you mean. But you would characterize 42.6 as a plurality?
A. Yes.
Q. Okay. And that's -- that's Candidate Scott. Now if we can look back to Mr. Trende's report -- you and Mr. Trende identify all the same black candidates of choice, do you not?
A. I believe so. Well, there's a candidate that he calls a candidate of choice that $I$ would not necessarily identify as a candidate of choice.

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Q. I'm speaking with respect to the black, just the black candidate of choice column.
A. Yes.
Q. I'm about to move on to your point here. So for the white candidate of choice, the only difference is that you had Jackson as the second vote getter to Candidate Chang while Mr. Trende had Candidate Black as the second vote getter; is that right? I can help you out here.
A. I'm sorry, I see it now.
Q. At the bottom, do you see this?
A. Yes.
Q. Okay. So Trende had Black and you had Jackson?
A. I have Black as well for black voters and --
Q. We're on white voters.
A. Yes. The reason for this difference is because of some randomness in how ecological inferences run.
Q. I'm going to get there. That's my next question. So I'd like you to turn to page 55 of your report. These are the ecological inferences.

MR. PATTWELL: And just for the record, I'm directing the witness to DTX24 at page 56.

BY MR. PATTWELL:
Q. And so, Doctor Palmer, the ecological inference table says that Dennis Black received 10.37 percent of the white vote, because that's what we're talking about, and Candidate Jackson

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received $\mathbf{1 0 . 6 9}$ percent of the white vote. Are you with me, sir --
A. Yes.
Q. -- on the bottom there? Can you validate that, my statement, please?
A. Can you repeat your statement again, please?
Q. Candidate Black received 10.37 percent of the white vote whereas Candidate Jackson received 10.69 percent.
A. Yes. You just have the wrong table up on the screen. JUDGE KETHLEDGE: You're not looking at the same thing.

JUDGE NEFF: You're on 55 and you've been asking questions about 56.

MR. PATTWELI: I don't know what's there. I'm looking here, but identified for the record that it's page 56 on DTX24. I apologize. I wasn't even looking at the screen.

JUDGE KETHLEDGE: That's okay. That's why some of us were lost. Maybe you can zoom in and redo it.

BY MR. PATTWELL: If you can zoom in on the bottom, because we're only looking here at the white, and, remember, there is a difference between Doctor Palmer and Mr. Trende as to who received a higher percentage of the white vote.

Mr. Trende said it was Jackson. Doctor Palmer said it's Black, and I'm just asking him to look at these two numbers

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and which one is bigger.
THE WITNESS: I'm sorry, I think we've gotten
confused. My report shows for black voters the second choice is Dennis Black, and for white voters the second choice is Jackson based on these estimates.

BY MR. PATTWELL:
Q. That's what it says on page 56 , right?
A. Yes.
Q. Buy if you turn back to page 36 , sin, that's not what you say on DTX24-32. You identify that it's Jackson?
A. I'm sorry, I'm confused. On the HD6 row for the white voters column I say the second choice was Jackson. Q. My point is, we're spitting hairs between 10.69 percent and 10.37 percent, correct? It's a miniscule difference?
A. Of which is the second place candidate?
Q. Yes.
A. Yes.
Q. Okay. I spent way too long on that. I apologize to everyone in the gallery and the Court, but very small point.

But we're back on page 32, table nine, you identify two races where there was polarization, and what are those?
A. Districts 1 and 2 .
Q. So with respect to District 1, like Mr. Trende you find that Banks got around 75 percent of the black vote and 9 percent of the white vote?

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A. Yes.
Q. And does that look like white bloc voting?
A. Yes. I describe this as racially polarized.
Q. And with respect to House District 2, Scott got
42.6 percent of the black vote?
A. Yes.
Q. And just 3.9 percent of the white vote?
A. I believe that's right. I'd have to go to the relevant table.
Q. Yeah. That's on page 52, but I'll take your answer because you are right.

And then Ms. Tinsley Smith received 4.9 percent of the white vote. Does that sound about right, too?
A. Yes.
Q. Then looking down to House District 4, this is the Robinson/Jones contest. Do you see that?
A. Yes.
Q. You say there's no polarization because both the white and black voters favored the incumbent; is that right?
A. Yes.
Q. Although there's a statistically meaningful 20 percent drop off in white support vis-a-vis black support from Robinson; is that right?
A. Yes. But the difference in level of support isn't what determines if it's a preferred candidate, especially in a

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multi-white primary like this.
Q. If we could go to House District 6. So this is Chang/Black and then Chang/Jackson. You find no polarization because the white and black voters favored the incumbent?
A. Yes.
Q. In the remaining five races you can't definitively opine on polarization; is that right?
A. I say I don't find any evidence of polarization so $I$ would conclude they are not polarized.
Q. Thank you. But with respect to hiy 5, you say that there is a 58.26 percent chance that whitevoters rejected the black candidate of choice?
A. Yes, I would say that Statistical noise.
Q. And then if we loor at HD9, there was a 93 percent chance that white voters rejected the black candidate of choice?
A. Yes.
Q. We can move on to the 2018 House District elections which are on table ten. Now, here you do something Mr. Trende did not. You made summary charts for the 2018 HD elections.
A. I don't have his report in front of me, but, okay.
Q. Thanks. And you estimate 11 elections here.
A. These are the 11 elections that Mr. Trende looked at in the code he produced with his report. I'm not doing any analyses that Mr. Trende did not do in this part of my report. Q. But you understand that Mr. Trende testified in his

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deposition he didn't do this because Doctor Handley didn't do this? Do you have any reason to dispute that?
A. I'm sorry. Can you repeat what Mr. Trende said?
Q. Mr. Trende testified that the reason he didn't do this was that Doctor Handley had already analyzed these races. He was relying on Doctor Handley's analysis.
A. My recollection is that was for the 2018 Senate elections, not the House elections.
Q. Other than a misunderstanding between the senate and the House elections for 2018, do you have any reason to dispute what Mr. Trende says?
A. Mr. Trende did analyze $2(11.8$ elections in his report. Whether he reported them al or not and why, I don't dispute the decisions he made, but he did analyze them and talk about them in the report, and he did run his own ecological inference models for 2018 in the materials he produced with his report
Q. Right. So if we turn to the left column we've got 11 elections. Seven of these elections black voters gave a single candidate a majority of the vote?
A. Yes.
Q. In all but two elections there was a clear black candidate of choice?
A. Yes.
Q. And the two elections where there was not a clear black

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candidate of choice were 2 and 5?
A. Yes.
Q. So in House District 2 we have Tinsley Smith and Banks. We just saw their name in the previous table, right?
A. Yes.
Q. So we have two known black candidates squaring off against each other and you find that there was a 77 percent chance that Tinsley Smith was the black candidate of choice over Banks?
A. Yes. And there's not enough evidence to conclude that one was preferred to the other.
Q. Even though they're both vell known black candidates?
A. I don't understand what them being well known or their race has to do with the -- how we interpret the probabilities.
Q. Because you don't look at anything other than statistics?
A. Because here we're just measuring something, and the numbers wolidn't change regardless of who they are.
Q. And you have Joe Tate on the white side as the clear white candidate of choice; is that right?
A. Yes.
Q. And Candidate Tate beats the black candidate of choice, Tinsley-Smith, in this election?
A. I don't agree that Tinsley-Smith is the candidate of choice, but $I$ do agree that he won that election.
Q. Oh, that's right. My apologies. You only agree that

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there's a 77 percent likelihood that Tinsley-Smith was the black candidate of choice?
A. Based on these models, yes.
Q. Okay. In HD5 you acknowledge that there was a 90 percent chance Candidate Johnson was the black candidate of choice?
A. Yes.
Q. And so you conclude that the remaining -- excuse me, so there's no polarization in 1, 6, and 9, and there is polarization in 4 and 11; is that right?
A. Yes.
Q. And the remaining six electioris were inconclusive?
A. I disagree with calling it inconclusive. I did not find evidence of racial polarized voting.
Q. Fair enough. Are you aware that Doctor Handley would disagree with your assessment of HD4?
A. I don't krow.
Q. If we can pull up Doctor Handley's report, DTX17 at page 11, and look at HD4. Doctor Handley says, no accurate estimates. You say HD4 is polarized, correct?
A. I do.
Q. If we look at Doctor Handley's view of HD6, she disagrees with you again, she says no accurate estimates.

If we go down to HD5 --
A. I'm not seeing where it says no accurate estimates. I see NA which suggests she didn't analyze it.

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Q. If you can pull up as well PX16-9, go to Handley table three. It's the same analysis, different report. Of course we're in 2018 so we need to go down to --
A. I see.
Q. -- 64. You got it now?
A. Yes.
Q. You got it before $I$ got it. So she's saying no accurate estimates. You were saying polarized. If we look at HD5, and this one Doctor Handley says polarized lut she says the black candidate of choice won in the district with a 54 percent BVAP. You, however, conclude there was no black or white candidate of choice. If we look back on Ross/Johnson, you say no COCs. Do I got that right?
A. Yes.
Q. Okay. So we can just go back to Doctor Palmer's report on page 33, and I have a question regarding HD2.

Se, again, just to reorient everyone, this is Tinsley-Smith, 77 percent probable black candidate of choice, but my question is regardless of whether Tinsley-Smith or Banks was the black candidate of choice, we can agree that it was not Joe Tate?
A. Yes.
Q. Thank you for that. Because if we turn to page 61 of your report and we go to the black section of the ecological inference, we see that Candidate Tate only received

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nine percent of the black vote. Do you see that?
A. Yes.
Q. In fact, he's the fifth candidate of choice with black voters in this election?
A. He -- he came in fifth place.
Q. Thank you. And if we go down to the white -- the ecological inference for the white voters, Banks got four percent of the white vote?
A. Yes.
Q. And what did Tinsley-Smith receive?
A. Eight percent.
Q. So whites overwhelmingly rejected the black preferred candidates -- my words, not yours -- and bloc voted to elect a candidate that black oters rejected?
A. Black voters were not cohesive in this primary.
Q. If we can go on to RPV table 11. Are we looking at the 2020 Democratic primary elections for the House Districts here, sir?

My question was, we're looking at the House Districts in 2020 in this chart?
A. Yes.
Q. These are Democratic primaries?
A. Yes.
Q. And you estimate nine elections?
A. Yes.

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Q. So in three of these elections we have black voters gave a single candidate a majority of the vote; is that right?
A. Yes.
Q. But I was curious, you identify a clear black candidate of choice in all nine elections despite six elections only having a plurality.
A. Yes. Following Mr. Trende's approach, I do.
Q. You find HD4 and HD10 to be polarized?
A. Yes.
Q. And you find HD2 and HD6 not połarized?
A. Yes.
Q. And that's because black and white voters both preferred incumbents Tate and Carter in those elections?
A. Yes.
Q. In the remaining five districts you do not identify a white candidate of choice?
A. That's correct.
Q. If we can put Doctor Handley's table up again. And why don't we go with PX16-9. This is her table three. You and Doctor Handley come to different conclusions regarding HD4. She says no accurate estimates?
A. Yes.
Q. You say polarized?
A. Yes.
Q. You're a hundred -- excuse me, you're 99 percent sure that

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Abraham Aiyash was the black candidate of choice and a hundred percent sure Collins was the white candidate of choice?
A. Based on these models, yes.
Q. And if we look at the ecological inference, you report that Aiyash, the black candidate of choice, only received two percent of the white vote. If we can go to DTX24, page 73 , make sure $I$ didn't misread that. Distinct possibility. We're at the bottom table on the white ecological inference.
A. Yes.
Q. And what percentage did the flack candidate of choice, Aiyash, receive in this election of white vote?
A. Two percent.
Q. If we can go back $=0$ DTX24 at 34 and then also Handley PX16 at page nine, we can see, again, that Doctor Handley disagrees with you regarding HD10. She says no accurate estimates, you say the election is polarized, correct?
A. Yes.
Q. Now, you say you're 97.67 percent sure that Ruffin is the black candidate of choice.
A. Based on these models, yes.
Q. You're a hundred percent sure that Mary Cavanagh is the white candidate of choice, are you not?
A. Yes.
Q. And you report that Mary Cavanagh, the white candidate of

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choice, defeats Ruffin, the black candidate of choice?
A. Yes.
Q. And you report white voters gave Ruffin 7.82 percent of the white vote?
A. Yes.
Q. So, in this election we see white voters bloc voting behind Candidate Cavanagh to defeat the black candidate of choice?
A. Yes.
Q. Are you aware of whether that was an open Democratic primary?
A. I don't know.
Q. Okay. We look at HD5, we've got another disagreement between you and Doctor Handley. She says there's not polarization. What do you say? No white candidate of choice?
A. I'm sorry where is the disagreement?
Q. Oh, we don't have it up. I'm sorry.

MR. PATTWELL: If you could pull up that PX16, I believe we're at -- it's at page nine. And we're looking at HD5.

BY MR. PATTWELL:
Q. My recollection was that Doctor Handley said there was no polarization.
A. Yes, I agree with that.
Q. And your conclusion was there's no white candidate of
choice?
A. Right. We're coming to the same conclusion.
Q. So HD5, and we're in 2020, not polarized, black voters' choice won, and you say -- oh, you are 90 percent sure Johnson was the white candidate of choice?
A. Regardless of the probability, I'm saying this election is not polarized and the black candidate of choice won.
Q. Got it. How about HD9? So Handley disagrees with you regarding HD9. She says there was polarization, but you say there's no white candidate of choice?
A. Yes.
Q. So there's a conflict there?
A. Yes. We produced different results.
Q. Because Handley say's the incumbent black candidate of choice, Whitsett, won in the district with a 72 percent BVAP?
A. I agree that the black candidate of choice won in this district.
Q. Thank you. Okay. We can move on. Let's go to table 12 and I'll represent that we're looking at -- this is your table 12, and we're looking at House District for the 2022 Democratic primary, and we're at DTX24-35. Doctor Palmer, you looked at 16 elections here?
A. Yes.
Q. And in 12 of the 16 elections you're able to identify a black candidate of choice?

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A. Yes.
Q. And Mr. Trende looks at the same elections in his table nine, does he not? If you'd like, we can pull it up.
A. Do you have a page number? I'd like to see it in front of me.
Q. PX20 at 42 .
A. Can you repeat the question, please?
Q. Yeah. One of the things you're doing in your expert report is you're looking at Trende's table nine and then you're recreating his results and looking at credible intervals and then drawing your conclusions?
A. Yes.
Q. Yes. And I'm just tring to confirm that Mr. Trende and you are looking at the exact same races here, that's all.
A. Yes.
Q. And you're unable to identify a black candidate of choice in House Districts 8 and 11; is that right?
A. Yes.
Q. So if we can kind of zoom in on House District 8 on DTX24-35. This is the Little/Douglas and McFall/Soltis. So you say you're 62 percent sure Little, who is black, is the black candidate of choice with the other 34.5 percent of the black vote -- or receiving 34.5 percent of the black vote?
A. Yes.
Q. And next in line would be Douglas, also black, who you

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estimate to have received 33.2 percent of the black vote?
A. Yes.
Q. And appreciate your testimony earlier, but together Little and Douglas received 67.7 percent of the black vote; is that right?
A. Yes.
Q. And if we look at your ecological inference table, we see Little only received less than five percent of the white vote and Douglas received just over seven percent of the white vote. Do you recall that?
A. Yes.
Q. And you identify with 993 percent certainty that McFall was the white candidate o£ choice?
A. Yes.
Q. But despite this, you deny polarization?
A. I find that black voters in this primary are not cohesive. They don't have a single candidate -- a single candidate of choice. They're pretty much split between -- I'm sorry -Douglas and Little, and so without cohesion, we can't find polarization.
Q. If we can go to the next election, House District 11, and -- same page, just a couple rows down, this is Williams/White. If we can zoom in there. So, your 67.7-excuse me, 64.74 percent sure Williams, who's black, is the black candidate of choice?
A. Yes. That's the probability from the model. I think we should go over that doesn't mean there's an exact probability. Q. You'll have an opportunity advocate when you get redirect. I just would like you to go through and answer my questions here, if that's okay, sir.
A. Yes.
Q. So you're 64 percent sure Williams, who's black, is the black candidate of choice, and we know that Williams received 23.9 percent of the black vote; is that right?
A. Based on this model, and that's/the average estimate, the 23.9 percent.
Q. Right. And next in line jis Ricardo White, also black, who you estimate received 22.4 percent of the black vote?
A. Yes.
Q. Together Willicms and White received over 50 percent of the black vote?
A. 45 percent.
Q. That's why you don't let lawyers do math. So, if we look at your ecological inference table, though, we see Williams received six percent of the white vote?
A. Yes.
Q. And 14 -- and White received 14 percent of the white vote?
A. I believe that's right.
Q. And you're 97 percent certain that Candidate Paiz was the white candidate of choice?
A. Yes.
Q. Okay. And I'm assuming your answer is the same, you did not find this race to be polarized?
A. Yes. Because just like in the previous one, black voters are not cohesive behind a single candidate.
Q. Okay. You would agree that you and Mr. Trende agree on HD7?

JUDGE KETHLEDGE: Can I ask a quick question? Again, I'm just trying to understand the standard. Bring back, please, what was just there.

I mean, you say there's rio cohesion because the candidates -- the black vote is split between Williams and White, right?

THE WITNESS: Yes.
JUDGE KETifledge: But elsewhere you're telling us if you have a 95 percent confidence interval and both candidates are in the 20 s, then we do have a black candidate of choice and there is racial polarization.

THE WITNESS: You're right. A better term than cohesion here would be a clear first choice candidate. Here we don't even know which one of them really got the larger share of the black vote.

JUDGE KETHLEDGE: So just to understand the standard you're applying, because this -- you know, it's a hard question. You're saying if there's a 95 percent certainty

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that one candidate was -- that black voters preferred one candidate more than a second candidate, that the cohesion requirement is met?

THE WITNESS: Not necessarily. I think what I'm trying to do here is take Mr. Trende's approach where that is absolutely the approach that he is taking, whichever candidate --

JUDGE KETHLEDGE: Well, I'm just -- okay. I'm just kind of asking what you're doing and your conclusions. No candidate of choice means not polarjzed, right?

THE WITNESS: Right. Based on -- based on that definition of --

JUDGE KETHLEDGE: Right. If it's -- there is a high certainty and -- one person is at 25 and the other is at 21 but there's a high certainty then it is polarized if the whites prefer other candidates, right?

THF WITNESS: Yes. So if we wanted a stronger definition of cohesion, there would be elections here that we're saying are polarized that are not actually polarized. We can think of this as -- this approach as being potentially biased toward finding polarization.

JUDGE KETHLEDGE: Okay. I just don't understand, then, why you said earlier there is no cohesion because the black voters are split. They could be split and we can have a 95 percent confidence about who's ahead but they're still

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split, so why is splitness cohesion in one instance but not cause -- I mean, splitness preventing cohesion in one instance but it's not preventing it in an instance where we happen to know who had the higher of 24 and 21?

THE WITNESS: I'm sorry, Your Honor, you're right. I misspoke when I said cohesion. I should have said clear first place candidate, and that's the standard that Mr. Trende has been using.

JUDGE KETHLEDGE: Okay. Well, that resolves what was bothering me. Okay. Thank you.

THE WITNESS: Thank you
MR. PATTWELL: We'regetting very close and I appreciate everyone's patisnce. I think I have maybe ten additional questions.

BY MR. PATTWELL:
Q. I'd like to go to table 13, because this deals with the Senate electrons, and we have Mr. Trende's analysis for these same elections at PX20-84. Just a very few number of elections because this is a senate race.

If we can kind of put those up? Can you read that? Are you able to see -- I mean, this is what you analyzed, right, Doctor Trende's ecological inference here?
A. Yes.
Q. Okay. And so my question is with respect to the 2014 , you and Mr. Trende are in agreement except for, what, Senate

District 11?
A. Yes.
Q. But you guys agree that candidate Gregory was the black candidate of choice?
A. Yes.
Q. And then we get over to the white candidate of choice, and you identify with a 55.91 percent probability that Lipton was the white candidate of choice?
A. Yes.
Q. But if it wasn't Lipton, it was Barnett?
A. Yes.
Q. Because Lipton received 4. percent of the white vote and Barnett received 43.3 percent of the white vote?
A. Yes.
Q. So together around 87 percent?
A. Yes.
Q. And if we look at your ecological inference, we see that Senator Gregory received how much of the white vote? I mean, it's got to be less than 13 percent, right?
A. Yes. 12.6 percent.
Q. Okay. We're done there. Your report in this -- we kind of went over this probably in a very confusing way for everyone, including myself, but your report does not address Trende's table 19 for the 2018 Senate elections?
A. That's correct. He didn't do his own analysis there.

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Q. Table 14 is where you conducted the analysis for the 2022 Senate elections -- Democratic primary elections, excuse me, and that is 36, DTX24-36. Perfect. Maybe we can zoom out just a hair. Okay. We've got six Senate elections?
A. Yes.
Q. And you're able to identify a black candidate of choice in five of six?
A. Yes.
Q. If we can look at the last election there, Senate District 11. This is the Owens/Klinefelt primary?
A. Yes.
Q. And you're able to identify with a 78 percent probability that Monique Owens, the fifist black mayor of Eastpointe, was the black candidate of choice?
A. Yes.
Q. And you identified that Candidate Klinefelt, who's white, was the white candidate of choice?
A. Yes.
Q. And Owens received what percent of the white vote?
A. About 20 percent.
Q. Were you aware that neither Trende nor Doctor Handley analyzed this election?
A. I believe Mr. Trende did analyze it in his code that he produced with his report.
Q. But it wasn't in his report?

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A. I believe that's correct.
Q. Were you aware that in previous -- in a previous case, in a previous report, Doctor Handley found that Monique Owens had been the black candidate of choice?
A. No.
Q. If we can look at Senate District 1. Who do you identify as the black candidate of choice?
A. Sanders.
Q. And what percentage of the white vote did Brenda Sanders receive? It's on page 95 of your report.
A. Thank you. Four.
Q. That's four percent?
A. Yes.
Q. And in this repore you acknowledge that Senate District 8 is polarized?
A. Yes.
Q. And yo're just looking at the numbers, that's your statistical analysis?
A. Yes.
Q. Couple cleanup items. On page 26 of your report you state that the plaintiffs are not challenging HD7. Do you understand that to be untrue?
A. That's my error, I apologize.
Q. Can you describe the configurations of House District 5 and 7?
A. No.
Q. You would accept my representation that they're very close together?
A. Yes.
Q. On pages four through 10 of your report you lay out several different scenarios that make multi-candidate primaries more difficult to assess; is that right?
A. Yes.
Q. And you say one such scenario occurs where no candidate received a majority of the vote?
A. Yes.
Q. In this scenario $I$ think you say the difficulty lies in assessing whether the candidate that received a plurality of the minority vote share is, in fact, the minority candidate of choice. Am I understanding that correctly?
A. I say that if we accept the logic that a candidate of choice can be identified based on plurality alone, then it's possible for a candidate of choice to be identified with a very small vote share.
Q. Okay. You give an example. 40 percent of black voters support candidate A, 35 percent of black voters support candidate B, 25 percent of black voters support candidate C, and then you say because 55 percent of black voters did not support candidate $A$, at least statistically candidate A is not the black candidate of choice; is that right?
A. With majoritarian logic, yes, and I think I'm trying to highlight here why -- this is a hard question just getting -conceptually figuring out candidates of choice in a primary is a hard conceptual question.
Q. It's a statistical view of polarization, would you agree?
A. I'm not sure $I$ understand.
Q. How about this. Let me try a hypothetical. I'd like to modify your example. I'd like you to assume that the 40 percent -- that 40 percent of the black voters still support your candidate $A$, but this time there's five remaining candidates that each earn 11 percent of the black vote. You still have 55 percent of black voters not supporting candidate A, but isn't candidate A the black candidate of choice?
A. By plurality mile, yes, but you still don't have a candidate getting the majority of the vote from black voters, and so I think that other way of looking at it remains valid and highlights why this is challenging.

MR. PATTWELL: Really appreciate your time, appreciate the Court's patience. That's a wrap for me.

JUDGE MALONEY: Redirect, Mr. Lewis. Have you got a time estimate?

MR. LEWIS: I would estimate 10 minutes or less. I can proceed now or we can take a break. It's the Court's preference.

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JUDGE NEFF: Yeah, I would just as soon go ahead. JUDGE MALONEY: Keep going.

REDIRECT EXAMINATION

BY MR. LEWIS:
Q. All right. So I just want to highlight -- I just want -just a couple very, very -- hopefully very quick questions. And I'd like now to return to -- I believe one of the comparisons opposing counsel used with you was one of Doctor Handley's tables juxtaposed with one of yours, and I'd like to go to that. So specifically I would Like to turn to PX16 at page nine.

Okay. And specifically I'd like to direct your attention to the 2018 Democratic primary in House District 4, and that's the fourth trom the bottom in the row. And do you see where Doctor Handley in her table here concludes that there's no accurate estimates for cohesion in that election?
A. Yes.
Q. Okay. And then bearing that in mind -- and do you see the notation for 14 candidates?
A. Yes.
Q. Okay. And so if we go into your report, DTX24 at page 33 -- oh, okay, we're there. I'd like to highlight the row for HD4, which of course for you is the fourth row. Okay. So are we looking at that same election that we were just looking at with Doctor Handley?
A. Yes.
Q. Okay. And here you are identifying a top choice candidate or -- you have candidate of choice here and you're scoring this election as polarized; is that right?
A. Yes.
Q. Okay. And are you doing so by adopting Mr. Trende's definition of candidate of choice?
A. Yes. Mr. Trende always uses the candidate with the top vote share as the candidate of choice in every case, and I'm at in the refinement that there must be a statistical distinction between that candidat and the second place candidate, but otherwise I'm using his definition in trying to respond to his report by efeflecting on the importance of statistical uncertaint $y$ here.
Q. Okay. And I tinink we had -- I recalled 14 candidates in this one. You do report here in the tables accompanying your report the complete EI result for this election; is that right?
A. I do.
Q. Okay. And if we turn to page DTX24-63, is that where you report it?
A. Yes.
Q. Okay. I was told never make somebody do math in public so I won't, but if I tell you there are 14 candidates here, does that seem reasonable?
A. Yes.
Q. Okay. All right. And so is this an example where -- let me ask the question this way. In the field of political science, is it generally understood that you can identify for purposes of racial cohesion a candidate -- a candidate of choice based on plurality like this?
A. I don't think there's a clear universal definition of this. I think it's an open research question in trying to think about candidates and coalitions and polarization. Q. Okay. And so you're adopting $M$ r. Trende's view of how you define a candidate of choice, but are you offering that as your opinion as if you had done this analysis completely on your own the way you would want it done?
A. No. I'm adopting all of Mr. Trende's methodology, including his code including many of the choices he made in how to set up his analysis, choices like which racial and ethnic groins to include, that we're talking about consistent things rather than fighting with each other, talking past each other, with a focus on methodology.
Q. Okay. And the same question where maybe the statistical -- where the statistical analysis would allow you to conclude, for example, that a candidate with 41 percent of the black vote was the first choice and a candidate with 37 percent of the black vote was the second choice. Is that -- so your statistical test would allow you potentially
to make that distinction; is that right?
A. Yes.
Q. Okay. But is it also possible, then, that you need to look at the difference between raw statistical significance and substantive significance to determine if the black voter in that election was cohesive or fractured?
A. Yes. I think we could do further analysis of these elections and think about what these results tell us about black voting in these primaries.
Q. Okay. So just applying a rule might not be the right way to go? If you see a significance, then you definitely have polarization; is that correct?
A. I think that's generaiy true. I think this is a -- the tables I have here are the correct statistical results and then how you interpret it is, you know, a question of interpretation.
Q. All right. Just a few more questions. So, on cross examination you were asked a series of questions to -- of areas where there appeared to be disagreement for one reason or another between you and Doctor Handley. Even giving effect any of those disagreements, does that change your opinion as to whether Mr. Trende identified -- or provided evidence that, you know, a significant number of primary elections were polarized?
A. No.
Q. Okay. And then we -- could we compare your results with Doctor Handley's results and just by looking at the tables determine if both of you agree that most primary contests in this time period were not polarized?
A. I think that's right.
Q. Okay. And we talked about statistical significance. I know the Court has asked you many questions, as has opposing counsel and as have I. I just want to finish on maybe just a very basic point.

If you're going to use a complicated statistical model like ecological inference to base conclusions, is it necessary to operate within the limitations of that model? A. Yes.
Q. So if you draw conclusions beyond what the model is designed to allow you to do, how could that affect your results?
A. They could be incorrect. In this case you could be ascribing a much more certainty in drawing conclusions that are not supported by your evidence.
Q. In Mr. Trende's own work does he not use a 95 percent level of statistical significance?
A. Are you referring to something specific?
Q. Well, his analysis reports 95 percent confidence intervals, does it not?
A. It does.
Q. Okay. And I believe you mentioned he ran regressions in his analysis, is that right, in other parts of the case?
A. Yes. I believe he has talked about these levels of confidence elsewhere in his report.
Q. Okay. All right. And is one limitation on the ecological inference model the need to assure statistical significance of your results?
A. I'm sorry, can you repeat that.
Q. Sure. Is one, you know, limitation of the ecological inference model the need to ensure that one's results are statistically significant?
A. That is certainly an important part of interpreting the results.
Q. Okay.

MR. LEWIS: I have no further questions, Your Honors. JUDGE IALONEY: Mr. Pattwell.

M² PATTWELL: I'm going to tell you what you want to hear, and that is $I$ have no further questions.

JUDGE MALONEY: All right. Thank you. Let me ask a question of you. Has counsel conferred regarding length of closing argument?

MR. PATTWELL: I think we still have one other witness. Were you going to call --

MS. McKNIGHT: We're going to call one other witness, Your Honor. We have not conferred yet, but we can confer
during the break if there's going to be a break.

JUDGE MALONEY: Who's the next witness?

MR. BRADEN: Kent Stigall. My estimation, somewhat less than a hour on direct.

JUDGE MALONEY: We'll complete with the witness
tonight. Okay.
MS. McKNIGHT: Thank you, Your Honor.
JUDGE MALONEY: Rebuttal from the plaintiff, or don't you know?

MR. BURSCH: Rebuttal witnesses?

JUDGE MALONEY: Yes.

MR. BURSCH: Unless ve're completely shocked by this
last witness, no.

JUDGE MALONE : Thank you.
THE CLERK: All rise, please. Court is in recess.
(Recess taken at 3:50 p.m.; reconvened at 4:07 p.m.)

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

JUDGE MALONEY: Back on the record in 22-272. We are ready to proceed. The Commission may call its next witness. MR. LEWIS: Your Honor, just as a point -- I just want to confirm that the prior witness was excused? JUDGE MALONEY: Oh, yes, I'm sorry. Yes. Thanks. (Witness excused at 4:07 p.m.)

JUDGE MALONEY: With the Court's thanks. Mr. Braden,
go ahead, sir.
MR. BRADEN: Thank you very much. We would like to call Kent Stigall.

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

KENT STIGALL,
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: Kent Stig-2I, S-T-I-G-A-L-L. DIRECT EXAMINATION

BY MR. BRADEN:
Q. Good afternoon.
A. Good afternoor.
Q. Can you provide the Court with your educational background
A. I attended Virginia Commonwealth University.
Q. And where are you currently employed?
A. I'm retired. I retired from the state in 2020 with 30 -almost 36 years.
Q. And what's your prior professional experience with regard to redistricting?
A. You got a few minutes? Okay. So, it started in 1990. I was working for Legislative Automated Systems, a state agency
as a programer analyst, and the general assembly decided to have in-house redistricting system software, on a Wang mini computer, I don't know if y'all remember it, so I started learning GIS over the course of the next six, eight months. We worked literally 70 to a hundred hours a week aggregating data, aggregating census data, customizing reports, political data. You all have heard about this aggregating the election or precinct data down to the bloc level, reaggregateing up at the level which you're drawing.

And that's where -- over the course of that I assisted the general assembly, House, Democrats, Republicans, independents, minority, majority party, they were all our bosses.

Then that led to a lot of GI's application for the legislature as an ondependent agency. And in 2001 I was hired by Legislative services, because now they wanted the computer technology in their office. It's an agency or division of lawyers that provide legislative services to the sitting members.

JUDGE MALONEY: Mr. Pattwell, you are on your feet.
MR. PATTWELL: I didn't want to interrupt the
witness. I wanted to clarify this is a fact witness. Mr. Stigall has not been identified as an expert witness and so I just wanted to make sure that we're on the same page there.

MR. BRADEN: Yes. We proposed him as a fact witness.

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Obviously he's an expert in the layman's sense of the word, but we're not proposing him as an expert. JUDGE MALONEY: All right.

BY MR. BRADEN:
Q. Did you also work for a special master, court-appointed master in Virginia? Maybe Doctor Grofman?
A. Yes, I did. Prior to that, I was with Legislative Services as a project manager, bought all the hardware, software, traveled the country doing research on GIs application that could handle redistricting. That was Autobound in 2001 .
Q. So you were the project ranager in the senior --
A. Senior GIS specialist.
Q. In 2001 and in 2011?

MR. PATMWELL: I'm just going to place an objection on the record at this point that the witness has not been tendered as an expert. I'm not sure what the relevance of this is. He was a mapping technician for the Commission.

MR. BRADEN: I think it's pretty straightforward. He is going to be explaining the advice he gave to the Commission, so by listening and understanding his experience, you'll be better able to judge the quality of his explanation of the advice he gave to them and the work he did for them.

JUDGE MALONEY: All right. Well, your objection is on the record, Mr. Pattwell, and we'll take the testimony over
the objection for purposes of completion of the record. And if you want to renew your objection at some -- in the papers, I guess that's fine.

Go ahead, Mr. Braden.
BY MR. BRADEN:
Q. So were you using the same -- the basic same software in Virginia that was used by the Commission here?
A. Yes. In 2001 and then again in 2011. And then in '15 and
'18, working for Bernard Grofman, Doctor Grofman. He was a special master appointed by the Supreme Court of Virginia to redraw the districts, so I've drifren a lot of maps, worked with a lot of people.
Q. And when you left the legislature, did the legislature pass a resolution honcring you for your work?
A. Yes, sir. It was referred to as a commending resolution, and it was about how I helped the legislators learn the applicatior but also aggregating data and general programing and system setup.
Q. Is that fundamentally the same thing that you did for the Commission here?
A. Pretty much, yes.

MR. BRADEN: Can we pull up Defendant Exhibit 57?
BY MR. BRADEN:
Q. Do you recognize this document?
A. Yes, I do.
Q. Can you tell the Court what it is?
A. It's my -- where I've signed on with the Election Data Services with their contract with Michigan Independent Redistricting Commission.
Q. We have exhibit books but I'm -- and we're happy to provide them to the Court if the Court would find them useful. JUDGE MALONEY: Okay.

BY MR. BRADEN:
Q. Could you turn to page 93 of this dpcument?
A. Yes.
Q. Okay. And just -- what is that page?
A. That's essentially my resume for the Commission, accurate as of two and a half years ago.
Q. Yeah. And when were you hired by the Commission?
A. It was either flay or first of June, essentially when I started working, of ' 21.
Q. Did yow get hired directly by the Commission or were you hired by part of the team?
A. I was hired by Election Data Services.
Q. And I think the Court probably knows what Election Data Services is, but could you just briefly describe the organization, the business?
A. We provided all the technical expertise, computers, and data, built data sets for the Commission.
Q. And was there a process of you getting hired? Can you

1 just describe what that was?
A. Well, it actually was -- I've known Kim Brace with Election Data Services for a couple of decades. I met him through redistricting conferences, GIS work. I also -- the developer/owner of Autobound I'd worked with for well over 20 years, and when Kim offered me the job, I conversed with Fred first, Fred Hejazi, the owner of Autobound, and he asked me if I would work with them, so after being assured Fred was going to be in on the job, that's when $I$ signed on with -- I told Kim I would take the job.
Q. Were you present at all the commission meetings?
A. I know I missed one, and that was in Traverse City, but I don't recall missing entive meetings.
Q. Okay. So, fundamentally, you were present with the exception of Traverse City for all the Commissions' line drawing activities?
A. As faras I can recall.
Q. And can you just briefly explain, if there's additional information necessary, your understanding, your role for the Commission?
A. My role specifically was to -- I would be directed by the Commission to draw districts as they told me to. I was not doing any district drawing without their direct -- you know, their direction. And then it was keeping the data up-to-date. After every meeting whole plans, as directed by the

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Commission, were posted to the website, assimilated that data and --
Q. Were you the only hired line drawer for the Commission?
A. No, sir. It was myself, John Morgan, and Kim Brace very little, but John Morgan did a good bit.
Q. So not to get too colorful here, but $I$ guess it is Michigan, you're sort of the person with the mouse in your hand clicking on the map?
A. Yes. We drove -- the Commissioners individually in committee meeting -- Commission meetirigs weren't drawing the maps. They would tell us what todo and it was all, you know, recorded and video'd.

MR. BRADEN: Okar. Can we pull up clip one from the August 6, 2021, meetirg? I believe the Commission has seen this before. If we can just run it for a second here? (4:18 p.m., audio played.)

M BRADEN: Can we just stop there? BY MR. BRADEN:
Q. Since you're from Virginia your voice sounds different than the other folks.
A. Yes, it does.
Q. So am I safe to say that's you talking there?
A. Yes.
Q. And can you just describe what you're talking about here? We see efficiency gap, but you were talking about aggregating some other election materials.
A. Yes. It was just taking historical election data, disaggregating it down so when you drew districts in the future the historical election results would accumulate for that new district.

This meeting was very early on and that's why we're kind of explaining what will be available. These members -this is first of August, something like that, and none of these people really had any idea what was available -- going to be available to them or even what was going to happen. You know, they heard a lot, but the little building blocks that put it altogether and accumulates, they didn't have any idea what was coming their way•
Q. Can you tell the court what the building blocks are?
A. Well, the building blocks for most every state is built on the census data every 10 years, and the lowest level is the census blog, and then you'll have a VDD or precinct, and then the next level is a locality.

Well, Michigan also has townships so that fits in there. And the sum of the blocs, you know, whatever data you have at the precinct level, you have at the bloc level. So the sum of the blocs equals the sum of the precincts equals the sum of the localities and the -- the sum of those equal the state.
Q. Let me see if -- this will help the court understand the
process. Was -- were -- was and were, there's a big dispute when you talk about data, but was data available, election data available at the precinct and bloc levels for the commissioners to examine in their line drawing process?
A. Yes, absolutely. And I think it would be shown here in a little while. Maybe not at this meeting because they aren't actively drawing maps, we're just laying the ground work, but shortly after they started drawing maps, or maybe before, they had certain election data. 14 elections, actually.
Q. So as an example, if -- am I correct at this time this is really just a practice learning session?
A. Yes. They started with it was practice data because the census data wasn't ingyet. They couldn't get, you know, current stuff, it was the ACSI, which is the American Community Survey from the Census Bureau, some data from Esri, or $E-S-R-I$, and maybe some other data, but it gave them something to start learning how to assemble districts. Q. So if I drew -- let me use an example and see if I'm explaining it correctly. If $I$ drew in this case a sample district with geography but not including the census -- if I drew a district here and $I$ put in a precinct into that district, $I$ would in real-time be able to know what the vote was -- let's use an example, what the vote was in the last Presidential race, Trump versus Biden, of each of the pieces you put in and how it affected each district you drew?
A. Yes, sir.
Q. And that was available to the members of the Commission before they had the line drawing process?
A. Yes. Before they -- I mean, when they started drawing it was there -- or drawing plans with the census data. Q. And did the commissioners -- in your observation did the commissioners use this data?
A. Well, they -- I don't know what they were looking at at first because they didn't know what they were looking at. And, you know, it takes a while to kirid of -- you're going to see dozens of fields in front of you at one time, so just kind of realizing what you need to be looking at, the geography on the screen, and the data at the bottom.
Q. Would it help if wee brought up clip two -- if you can bring up clip two, and then maybe we can pause the screen -if the Court wodid think it is useful -- I think it would be useful for the Court for him to explain the whole screen that people would be seeing during the process and talk through everything they could click on.

This is clip two. I believe this is a clip from November 4th. Does that look accurate? It looks like the normal sort of screen for this?
A. Yes. I mean, I don't know exactly when this screen was made, but that's typical of redistricting, you know, editing a map.
Q. Okay. Could you, before we even run it, could you just sort of walk through some of the lines and basically what's there for the Court, if the Court has some questions about what all these screens do? They are kind of busy.
A. Yes, sir. We're looking at three districts on the screen, 41, 34, and 42, and the underlying lines are census bloc lines for the most part. Mixed in there are also township boundary, locality boundaries -- I don't know what else may be turned on because it's a lot of lines, but we're just sitting here, and let's say we're going to edit 34 . We.l, right there in front of you is District 34, the total population. This tab -there's tabs down at the bottom like an Excel spreadsheet. This tab called the overview is the basic -- you know, the total population, it's the key ingredient to drawing districts, you knciw.

Untizyou get the total population pretty close, you know, you cannot -- your analysis of any kind of political data or race data, you know, it just -- it's in the background for a minute until you, you know, start getting your districts about where you want them to be, but in front of you is racial demographics and percent of total population and then the voting age population and then racial demographics as a percent of the voting population or VAP.
Q. From this screen could an individual commissioner tab down and look at actual election data?
A. Yes, sir. The final tab on the bottom right, the election results that we had.

MR. BRADEN: If you can just run a little more of the clip? There should be some sound, I think.
(4:26 p.m., audio played.)
MR. BRADEN: Can we stop it for one second?
BY MR. BRADEN:
Q. Am I correct the Magnolia becomes the plan that gets passed?
A. That's what -- I don't remember every single district and every plan, but Magnolia was a lead-in to these others. I'm sure the commissioners documented the sequence.

MR. BRADEN: If fou can go forward.
(4:25 p.m., audio played.)
MR. BRADRA: Okay. If we could stop here.
BY MR. BRADEN:
Q. Could
A. Yes. This is the partisan report or analysis, and the table on your left is, you know, pretty much self-explanatory but it lists each district, the number of Democrat votes, the number of Republicans votes, the total votes, the percent, you know, red and blue, Republican and Democrat, and then on the far right it is which party wins. So -- and I think there's somewhere is a total. Well, I know there is.

But you can scan down there, and if you're, you know,

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people building these districts, at this point they're probably looking at two or three districts specifically because they're going to edit them, get them where they -- and then move on to the next district.
Q. So are these the metrics that Doctor Handley provided to the Court to be used on a statewide basis to examine partisan fairness?
A. I believe it is, because we had to incorporate this in EDS. Fretta Gazzie (sp) had to get her report and her data and work out exactly what it was and how it works and implant it into the application so that $i+$ was being run whenever you requested it.
Q. And so Defendant Exhidit 2 --

MR. BRADEN: If you can bring up Defendant Exhibit 2, please? Okay.

BY MR. BRADEN:
Q. Can you tell the Court what this is?
A. Yeah. This is another tab that was available -- well, actually just maybe going across the previous tab, and you can see she's running through the tabs now, but at the -- at the -- this is just a total, but what $I$ wanted to show you was the --

MR. BRADEN: Yeah. If we can stop them when we have all the --

THE WITNESS: -- elections --

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MR. BRADEN: -- Election data --

COURT REPORTER: I'm sorry. Can you repeat that?

MR. PATTWELL: I'd like to place another objection on the record. We obviously don't have access to their software. This is Exhibit 2, which this is what we have, and to the extent that they're going to go beyond the native file that we were never really even able to open and start playing with the website, $I$ mean, that's -- that's not a disclosed exhibit.

MR. BRADEN: We provided this to them a week ago. It's available on the website. They oan log into it. I don't know about their software abilities. I'm glad I don't have to do it, but we have people whocan do it. I assume they have people that can do it, too.

This is in the public domain, was available, as you can see on the video, and so they had access to it as did everybody in the state of Michigan.

JTDGE KETHLEDGE: Did they know you were going to manipulate it this afternoon?

MR. BRADEN: I would, in all honesty, not say it's manipulation.

JUDGE KETHLEDGE: Whatever we're doing.
MR. BRADEN: Showing the different pieces of it. I assume they would have thought we were going to show the political data since that appears to be one of the fundamental issues in dispute here.

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JUDGE MALONEY: What went across the transom to the plaintiff?

MR. BRADEN: Exactly? We can probably pull it up.
MR. PATTWELL: I just point out that we advised yesterday or the day before that we couldn't access what was provided to us.

MR. BRADEN: It's a native Excel file that was provided to them. I did not realize that they were not capable of opening up the file, so $I$ just don't understand where there would be a problem. This.is, again, something available online in addition to them from us and we sent it to them, and, again, these go through the tapes. You'll see lots of this.

MR. PATTWELI: We don't have the software. We got sent a file that was not capable of being opened. They were advised of it. We were not given any advance notice that they were going to start going through the software. We don't have the ability to do the same thing on cross. It's not --

MR. BRADEN: It's available on the Commission's website.

JUDGE MALONEY: But you were obligated to alert plaintiff to what you were going to use, correct?

MR. BRADEN: No, I don't believe so. We provided them an exhibit telling them that we're going to use this Excel file.

JUDGE MALONEY: And apparently 48 hours ago they had advised you that they couldn't open it.

MS. McKNIGHT: No.

MR. BRADEN: That's the first I've heard of this, standing here right this moment.

JUDGE MALONEY: How did that information get across --

MR. PATTWELL: Right here. It was the other exhibit and the other native file that -- in a previous witness.

MR. BRADEN: I have to admit that I'm flabbergasted that they're unable to access the publicly available file of the Commission that we told them we were going to be able -we were planning on using.

And, to be cardid with you, if -- I think this is a very important point for the court to understand. These extended election data, which we've talked about repeatedly, is clearly a fundamentally important point in this case. There's an implication that this -- there was a pretext in using political data. We had and they used -- political data was coming out the Commission's ears.

JUDGE MALONEY: Well, but, Mr. Braden, if it's so critical, why aren't the I's dotted and the T's crossed to make sure the plaintiff has access to what you're going to use. Just because it's on the public record -- would you expect them to plow through the entire public record to get to what you're doing now?

MS. McKNIGHT: Your Honor, may I? May I? Because there are other attorneys who have handled productions in this matter and it could shortcut some of the discussion.

JUDGE MALONEY: Go ahead.
MS. McKNIGHT: Thank you, Your Honor. On October 30 th the parties exchanged exhibits. On that date we exchanged this marked as Exhibit DTX number 2. We exchanged it as a native file. It is an Excel file, does not require special software other than the Microsoft Word family of products, which we understand they have.

We reached out to plaintiffs and said, if you have any trouble opening this, Iet us know. They identified a different document. They never identified this one. We were never under an obligation to tell plaintiffs which exhibits we would use today.

Mr PATTWELL: And if I may, it was -- I'm just advised a different native file that we did advise on, except I think where I lodged my objection was not the Excel spreadsheet, it's when they're actually pulling up software and, you know, running through the software that -- we don't have access to that software to utilize that, so perhaps I understood, but --

MS. McKNIGHT: It's okay, counsel. Let's make sure we're very clear about what this is. This is the Hickory

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matrix. It's all of the data in an Excel spreadsheet, so the only software you need is the Excel program to open it. The Commission posted on its website after the plans were final public versions of this document. It's an Excel file that any member of the public can go on and download and look at this information. So it's not special software. It's not weird data. It has to do with the Hickory matrix numbers that the Commission put on its website months ago, if not over, you know, years ago. And it's what we identified as an exhibit for plaintiffs' counsel.

MR. PATTWELL: I'm going to withdraw the objection at this time.

JUDGE MALONEY: Okay. That makes it easy. Go ahead, Mr. Braden.

BY MR. BRADEN:
Q. Kent -- Mr. Stigall, can you just very briefly -- and we'll go or quickly because $I$ think the point is easily made, could you simply just tell the Court what this is and what this shows and how many fields are here of election data? A. So, this plan has been completed so it -- the numbers work well, so that's -- line one, District 1 is showing you that district vote is 92.6 percent Democrat, 7.4 percent Republican. Those numbers come from these presidential races 2016 and '12 with -- the first two columns is Biden's election results, whole number and percentage, Trump 2020. The next

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column is Clinton and Trump in '16. The next column is Obama and Romney in '12. That's showing you, you know, each race's result for the new District 1, and as you scroll to your right, there's more of these races. There's a total of 14 races up here that were discussed. So now we have the senate 2020, 2018, 2014, and 2012 races. I don't know all the people. I may not say their names exactly right, but we have Peters and Jamison (sic) in '20. We have Stabenow and James in '18. We have Peters and Land in '14. And then I guess Stabenow and Hoekstra again in '12.
Q. And, again, I may be --
A. There's more to the right.
Q. Yep.
A. Just scroll more mintil we got all of them. So just to make it shorter, here's the governor 2018 and '24 (sic), the Democrat and Republican candidates for 2018 and then 2014, and then attorrey general, 2018, 2014, and again the Democrat and the Republican candidates for each of those years.

The pound sign there is just that column is narrow, and that's what Excel does, so if they widen that column, the numbers come through there. It's not a thing. It's just make the column -- anyway, we can move on to the secretary of state, 2018, 2014, the Democrat and Republican candidates in each of those respective years, and then the governor Democratic primary and the candidates in the primary.
Q. And am I correct that this data set was available to the commissioners before the line drawing process began in earnest?
A. I can't say exactly when it was there. It was there fairly early. The thing about the line drawing process, that first third of line drawing, they were just learning it, just learning how to operate the software, and then they go through a phase where -- you got 13 people. Not all of them but some of them start getting a grip on it, so now they know how to draw districts, and then everybody catches up, but still they haven't gotten to Detroit yet, and, you know, they're learning, but it was certainly there long before Detroit or even maybe the middle of the first real plan, not the practice stuff.
Q. And from your observation do you have any reason to doubt that there weren't commissioners looking at this data?
A. I'm certain there was. Should have been, once they learned how to go across the tabs and look at everything. Q. Okay.

MR. BRADEN: Can we pull up Defendant Exhibit DX2?
Okay. Can we go -- go here -- let me see. Okay. Okay. Let's turn back to clip number two, the November 4 th meeting again.
(4:40 p.m., audio played.)

BY MR. BRADEN:
Q. Okay. And that was your voice we were hearing there?
A. Yes. Mine and Commissioner Szetela spoke, because she was writing down the numbers, MC Rothhorn started out speaking.
Q. And is the little clip similar to -- if we went through the Commission's record, would we see -- be able to pull out a number of clips exactly like this?
A. Every single plan --

MR. PATTWELL: I'm going to object on form and hearsay.

MR. BRADEN: I don't know that it's hearsay since he was sitting there in the meetings

JUDGE MALONEY: I agree. Go ahead. Overruled. BY MR. BRADEN:
Q. This is a common Qccurrence in the meetings you were at?
A. Yes. This was run on every plan, especially once a plan was anywhere near whole or completed. You know, it's not something you're going to look at when you've only done one or two districts in the upper UP because the significance of it doesn't weigh.
Q. And do you have any reason based upon your experience being in the room and hearing the discussions and moving the mouse around that political data in this matrix were in any way some type of proxy for race?

MR. PATTWELL: Objection, form, calls for speculation.

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JUDGE MALONEY: I'm sustaining that objection.
MR. BRADEN: Okay.

BY MR. BRADEN:
Q. Did you hear -- do you have any reason to believe that there was any other reason they -- did you hear anyone say that this material was for any other use than partisan fairness?

MR. PATTWELL: Objection, hearsay.
MR. BRADEN: That's not hearsay. I'm only asking him what he heard. I'm not asking him as to the truth of the statements.

JUDGE MALONEY: So vou're asking whether that was uttered?

MR. BRADEN: Ies. In the room.

JUDGE MALONEY: Okay.

MR. BRADEN: He was in the room during virtually every discission so we're trying to find out whether people were present saying, I'm doing something else with this other than politics.

MR. PATTWELL: Over a three-month period that he was at half the meetings?

MR. BRADEN: First of all, that's a mischaracterization. He said he was at every meeting to the best of his recollection but one, so that's a misstatement. I don't know -- it seems quite likely to me that you could

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remember someone was talking about something that wasn't -was off target.

JUDGE MALONEY: This is important, why?
MR. BRADEN: Because they're arguing that partisan fairness and some of the other things, such as community of interest, were a proxy for race. They, in fact, made that argument, and we're trying to explain that present in the room doing the line drawing with somebody listening to the discussion --

JUDGE MALONEY: And everything that happened during the meeting is in the record alraady, correct?

MR. BRADEN: Yes.
JUDGE MALONEY: ̧lat's sufficient, isn't it?
MR. BRADEN: think it's sufficient. We're just trying to save you having to listen to the 3,000 hours of tape.

JTDGE MALONEY: Fine. But this -- this witness' opinion on the subject matter that you're trying to get to, I don't think is appropriate, so the record of the Commission is the record of the Commission.

MR. BRADEN: Okay. Could we pull up clip number three from November 4th?

> (4:45 p.m., audio played.)

MR. BRADEN: Let's stop for a second. Can we pause it for a second? If you want -- he can identify at the end, I

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think would be most sufficient, or do you want me to identify at the beginning? This is a clip that we're going to show of him drawing plans.

JUDGE MALONEY: You said clip, November 6th, right?
MR. BRADEN: November 4th.

JUDGE MALONEY: November 4th. As far as I'm concerned, that's sufficient. Go ahead.

MR. BRADEN: We'll run it.
(4:45 p.m., audio played.)

BY MR. BRADEN:
Q. And so in that clip can you hriefly explain what you were doing? That is your voice, correct?
A. Yes, sir.
Q. And there was a descussion of various areas and communities. Can you just fill in on that discussion of what was going on?
A. Yes. This is Detroit. The black lines there are the neighborhoods that the Commission was provided, I believe from the city, and we put into the application, so you could turn this layer on at any time. There had been discussion about, you know, now that they have this layer they want to make neighborhoods whole as much as they can, so now the commissioners from Detroit are leading me -- or telling me, you know, let's go find these split neighborhoods and unsplit them to the best of their ability, and we're moving census
blocs in here. That's what those little blocks were with population numbers, so those were just the total population numbers you saw momentarily.
Q. And that's illustrated in the demonstrative next to you.

So, is this an effort -- your understanding, participating in this process, did you understand this to be an effort to keep communities of interest together?
A. Yes. That is said all through the video clip. The members are saying it, I believe, the commissioners.
Q. Okay. And you were attempting to follow the directions of them to keep together Bangalore communities, is that an example of one?
A. Well, there was -- year. I found out -- it was
interesting to me, but anyway, it was Bangalore, there was Middle Eastern, Arab communities, Chaldean communities, and some others, quite diverse, in different parts of Chicago (sic) and that's -- was involved in making whole neighborhoods.
Q. Did the Commission use this neighborhood --

JUDGE NEFF: Chicago or Detroit?
THE WITNESS: Did I say Chicago? My apologies. I never worked in Chicago either.

JUDGE KETHLEDGE: The Midwest.
THE WITNESS: Yeah. Y'all are all the same. BY MR. BRADEN:

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Q. Did the Commission use the neighborhood overlay often?
A. Yes. Once it was available they would -- it was applied to every map that they looked at, as far as I can remember. Q. So did you understand your direction from the Commission here and you are, in fact, trying to unify neighborhoods using this matrix of this -- these neighborhood lines?

MR. PATTWELL: Objection, form.
THE WITNESS: Yes.
MR. BRADEN: I'm trying to have him express what he thought he was being directed to do.

MR. PATTWELL: That's very compound in, like, 30,000 different ways.

JUDGE MALONEY: fril light of the objection, why don't you rephrase. Go aheãa.

MR. BRADER: Sure.
BY MR. BRADEN:
Q. What - how did the Commission -- how were you using this line -- these lines in your process at the direction of the Commission?
A. Well, when a district crossed over a neighborhood boundary and split what appeared to be a boundary -- a neighborhood boundary, they would look at it, and then $I$ would move those few census blocs, like you see on the screen right here, to the district they desired it to be in, so the neighborhood would be in one entire district.

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Q. When the -- were there occasions where the Commission had to split neighborhoods based upon population?
A. Oh, absolutely.
Q. And when they did that, did they attempt to follow natural boundaries or roads?
A. The best I can recall, and, you know, in an urban area like this it's predominantly roads, but there are parks and school areas and they used institutional knowledge and -- you know, they would discuss where they wanted something to go and then tell me where to put that census.bloc.
Q. Commissioner Szetela testificd that the use of communities of interest was a pretext forcrace. Did you see any indication in the work you were doing that it was a pretext for race?
A. That was never mentioned, that I can recall.
Q. Were you present for Commissioner Eid's testimony?
A. Yes, sir.
Q. Do you recall Commissioner Eid speaking about the LGBTQ community between Palmer Park, Palmer Woods, Ferndale, Royal Oak in District 7 of the Hickory plan?
A. I can't recall exactly which district it was, but as far as talking about keeping that community whole, yes.
Q. Would it help you if we brought up Defendant Exhibit 7 -or District 7 on Defendant Exhibit 4? Can you recognize this map?
A. Yes, sir.
Q. And can you tell the Court what it is?
A. It's District 7 of the House plan named Hickory, and the lower half of seven is Wayne County and the northern half is in Oakland and --
Q. And is that the green dividing line?
A. Yeah. That's 8 Mile, right? Yes. Yes, it is.
Q. And do you know, remember -- you were the one working on -- you worked on actually creating this plan and making the clips, right?
A. Yes.
Q. Okay. And so are there parts of the -- that community on both sides of 8 Mile?
A. And that's the war I understood it from Commissioner Eid.
Q. Okay. Let's puil up -- yeah.

JUDGE KETHLEDGE: Sir, I'm sorry. Are we just reiterating through another witness testimony we've already heard?

MR. BRADEN: To some extent that's true, because we have contradictory testimony from one of the commissioners whose credibility we think is subject to doubt based upon conflicting testimony which he would provide.

MR. PATTWELL: And our position is any conflict can simply be resolved by looking through the transcripts, or if they wanted to call other commissioners they could have done

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that, but to have a third party come in and say what somebody else said when we've got a public record is just ludicrous and I've objected constantly.

JUDGE MALONEY: Counsel, do we really need this, seriously?

MR. BRADEN: The answer is we don't need to go through all of it, and I wasn't actually going to go through all of it. I only have actually one more district I would like to bring up to which he has something unique to talk about.

JUDGE KETHLEDGE: Deal I'm sorry, I don't mean to take over. We're not going through all of these again.

MR. BRADEN: No rio. I'll represent something useless to represent. He's going to say the same thing you were expecting he was going to say about all those other ones, but that $I$ won go to.

Let's go to District 8 in the Linden plan, if we can bring that up on the screen. It's Exhibit 7 . BY MR. BRADEN:
Q. And I will ask -- we'll try something a little different here, can -- do you recognize this?
A. Yes, I do.
Q. And are there -- there seems to be some questions about the irregular shape of this district. Could you explain why this district is shaped the way it is in the northern part of
the district?
MR. PATTWELL: Same objection, hearsay. He's not a commissioner.

MR. BRADEN: It's certainly not hearsay if he was the one who was asked to click on it and, in fact, part of that clicking on process is him discussing with them and advising them on how they would do certain things, such as keeping political subdivisions together. So it's not hearsay for him to say exactly what he was doing at the direction of the Commission.

JUDGE MALONEY: Okay.
THE WITNESS: Okay. Un this instance I think this was a district that was identified as somebody --
commissioner -- someboay calling it funny shaped. Well, it's not unusual to hear something like that, but in this case that top left-hand corner, all those irregular protuberances and indentatiors, that is actually the boundary of Birmingham. It's not splitting off into other townships, it's just that. So if you're going to keep -- if you want to keep something whole, you have -- it is what it is. If it's shaped like that, there it is.

And then you can also look at and see that some of these township boundaries, which are in magenta, are irregularly shaped. I can't see through the black lines, but I think those are likely township boundaries.

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BY MR. BRADEN:
Q. So is there anything here, this unusual shape would indicate to the Court anything other than trying to follow political subdivision boundaries?
A. That is political subdivision boundaries.
Q. Okay. I think we identified, you worked for the Legislative Service Division of Virginia, correct?
A. Yes, sir.
Q. And you drew maps for both Republicans and Democrats?
A. Yes.
Q. Was that process quite similerw to the job you had here in many ways?
A. Very much so.
Q. Yeah. And were your the actual line drawer on the map that was rejected by the Supreme Court in Bethune Hill as a racial gerrymander?
A. In thakcase I didn't draw all those boundaries, per se. The members, the joint assembly members were -- you know, brought me a plan, we put it in, and in Virginia it was like bill drafting. It was a bill, and then as they edited it and amended it, $I$ made those edits for them and, yes, $I$ was involved on that plan.
Q. And did that map have a voting -- black voting age population target of 55 percent?
A. Yes, sir.
Q. And it's your understanding that's the reason why the Supreme Court tossed it out?
A. I think that was clearly written.
Q. And is your experience here in regards to the use of race, was there any target you were aware of --

MR. PATTWELL: Objection. Same objection.
MR. BRADEN: I don't know how you could actually participate in advising the Commission unless you knew -- if they had a target, you had to know it.

JUDGE MALONEY: Sustained.
BY MR. BRADEN:
Q. When you were drawing the plans, did people, commissioners specifically ask you to docertain things in drawing the districts? Click on âértain precinct or seek to unify a particular community?
A. Yes, they rould.
Q. Did they talk to you about trying to deal with raising -affecting actions -- actions to affect partisan fairness?
A. They -- yes, they would -- were looking at and telling me to do things to move the partisan fairness numbers, yes. Q. Okay. And did anybody advise you to move any census bloc or any precinct based upon a racial target?

MR. PATTWELL: Same objection.
JUDGE MALONEY: We've been there. I sustained that, right?

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MR. PATTWELL: He said he had one more question and now he's continuing to do it.

JUDGE MALONEY: Well, I never hold lawyers to one question even when they say they only have one more question. I know that's not in the rules of evidence, but I've sustained this inquiry before so --

MR. BRADEN: Okay. I will -- we'll stop there. JUDGE MALONEY: Mr. Pattwell. CROSS EXAMINATICN

BY MR. PATTWELL:
Q. Very pleased to meet you, Mr, Stigall. Am I pronouncing your name correctly?
A. Stigall, yes.
Q. Thank you. You had a role in preparing the neighborhood overlay?
A. I just putit in the application so that they could utilize it.
Q. If you look over your left shoulder, is that an example of what was utilized?
A. Yes, I believe so.
Q. And, to your knowledge, are all these neighborhoods within the City of Detroit?
A. I don't have that $--I$ don't know.
Q. Okay.
A. I just did what they told me to do.
Q. You talked briefly about the software, and we saw a version of the software. Could you describe what racial data and reference points were included in the software?
A. It displayed some of the census data results, accumulated race categories -- I can't name them all right now, but that census data was in there, yes.
Q. How about -- we've heard about the BVAP tables and we've seen those today, correct?
A. Yes, sir.
Q. How about racial dots, ring a bell?
A. Dots as in --
Q. Was that a term that you vere familiar with the commissioners asking you to call up and look at the African American thematic?
A. Yeah, yeah.
Q. And can you describe what that was?
A. That wes -- I don't remember actually doing the African American one. What I remember doing -- and I may very well have, but anyway, it doesn't matter. Based on some parameters, the size of dot would reflect the population in a census bloc. I remember it being more of showing, like, the Hispanic or some other ethnicity.
Q. Not the black population?
A. I -- no.
Q. Let's see.

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MR. PATTWELL: If we can pull up PX140B at page 29.
BY MR. PATTWELL:
Q. I'd like to direct your attention to that highlighted language up at the top.
A. Yes.
Q. That highlighted language up at the top. Is that the thematic map I just asked you about?
A. In that paragraph? I don't know. I'm going to highlight that region you spoke of and not assign it, but the highlighted numbers will at least show you how many people are there.
Q. Okay. Well, if you look down at the next line you say, significant black population, do you not?
A. Yeah. Okay. Thes it was the black population.
Q. Yep. And if we go down further we see Commissioner Rothhorn. We can assume it's going to be a high black population or a large and significant; do you see that?
A. That appears to be what Commissioner Rothhorn said.
Q. And the Commission is actively working on maps at this time, correct?
A. I don't know what the date of this transcript is, but I would --
Q. I would tell you it's September 21st --
A. Okay.
Q. -- 2021. Do you recall that?
A. I was there so much -- I mean, I was there, yes.
Q. And the Commission was drafting House maps at that time, correct, sir?
A. I guess, if that's what this is referring to.
Q. If we can turn to 82, please. I'd like to direct your attention up to the top. Commissioner Lett, he says, so we're looking at 25 percent white, 63 percent non-Hispanic black, 75 percent total minority. Do you know what Commissioner Lett's talking about there?
A. He is talking about why non-Hispainic black, 75 percent total minority.
Q. He's identifying that there's a very large black population that everyone is looking at in this mapping session, is he not?
A. I mean, I don't know, because if it's -- he's talking about a census doloc with eight people in it, then 75 percent is not a hivg number.
Q. Okay. So we see Commissioner Orton is trying to be helpful. She says, maybe the African American theme would help that. Would that be the African American racial dot feature on your mapping software, sir?
A. Could be, yeah. Probably.
Q. Commissioner Lett says, Sure, the dots, please. And then Commissioner Clark says, Yeah, you will find Eastpoint to be predominantly African American. Do you see that?
A. Yes.
Q. This was -- this racial software was a way that the commissioners could visualize how significant the black population was as they were moving the lines; yes?
A. Is that a question?
Q. It is.
A. I don't know what they were thinking.
Q. Oh. So we see that Commissioner Rothhorn is talking about Eastpoint; gee, he says, Even though it's African American -wait, no. He says, Mr. Lett, Eastpoint does identify with Detroit, so to not put it with Detroit maybe, even though it's African American, I don't think we want to sort of cut it off from Detroit. So if you move east -- do you see that language there? Do you recall thíat?
A. No. I got so riany hours sitting behind that computer, I really didn't itsten to a lot of conversations. I didn't listen to conversations.
Q. Okay. I'd like to move on to page 88. Do we see in this transcript another example of a commissioner calling for your African American dot theme?
A. Where is that at?
Q. The highlighted language where it says, Commissioner Orton, right under Mr. Kent Stigall?
A. Yes, she does. The commissioner makes that statement.
Q. And how is she using the racial dot theme that you put

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into the software?
A. She's looking at it.
Q. I think she tells us, if you look at that highlighted language -- I would like to read it to you. So it looks to me like in order to try to balance it more racially we would have to split this into two and do two spokes up. Do you see that?
A. Yes.
Q. And she's gathering that information from looking at your racial dot software, is she not?
A. Yes.
Q. Thank you. If we could turn tio page 122. Is this an example of Commissioner Rothhorn using your African American dots?
A. Well, they're not rnine. I didn't do anything in this application that $-\mathcal{R}$ so they're not mine per se. They're census data representations.
Q. You created that -- helped create that software, though, this application that the commissioners would utilize?
A. I would move data in as requested or display it as requested.
Q. I'd like to pull up the next day, so we're moving on to September 22 nd now. This is PX140-C, and I'd like to start on page 22. The highlight of that language, is this another example of Commissioner Orton calling for the racial dots?
A. Let's see here. I don't know that because it's thematic
dots, but exactly which ones.
Q. Well, she says, I'm wondering if the thematic dots would help so that if we can see moving west would give us some more balanced population because we have pretty high non-Hispanic black population right now. She's saying the black population is too high, we need to go west, we're going to use your dots, correct?
A. I mean, that's what it appears to say in the transcripts.
Q. Okay. And then Chair Szetela say, fan we put up the thematic dots for the African Americar population?

I'd like to move down. I'm going to skip a little bit here. I'd like to move down to page -- go to page 30, please.

So the commissioners would take turns doing their mapping session, roght?
A. At times, yes.
Q. So here it looks like it might be Chair Szetela's turn. What does the Chair Szetela say to MC?
A. MC says to put up the thematic dots again.
Q. What do you think those are?
A. Thematic dots.
Q. And then Commissioner Szetela says, he was teasing me because he said, do you want to put them up and szetela says, no, I don't need them, but then she says, well, we need them so okay, laughter. Do you see that?
A. That's what it says.
Q. Why do you think they needed to see the racial dots?
A. Speculation on my part.
Q. Sure. But we're going to find out. Let's look at the -MR. BURSCH: Bottom of the page.

MS. GREEN: Bottom of the page.
MR. PATTWELL: Scroll all the way down. There it is.
BY MR. PATTWELL:
Q. Commissioner Clark, take them out of Detroit and add in Huntington Woods, what is the logic for that, and Chair Szetela says trying to balance the population black and white; do you see that?
A. Yes.
Q. I'd like to skip afew here and go to down to page 57. Are we on page 57? Great. And you see Commissioner Lett, he calls for the African American dots up in this mapping session, doyou see that?
A. Yes.
Q. And then we see Mr. Adelson chimes in, he says -- he says, thank you, Commissioner Orton; do you see that?
A. Yes.
Q. And he's talking about the difference between the BVAP and population, do you see that?
A. That's what it says.
Q. That's not, of course, to say the overall population isn't

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important, but what $I$ do when I look at these, my eyes go to the VAP first. Then $I$ will look at the overall to get additional content. Do you see that?
A. That's what it says.
Q. Okay.

MR. PATTWELL: I don't have any further questions. Thank you.

JUDGE MALONEY: Mr. Braden.

MR. BRADEN: It's after five. I have no further questions.

JUDGE MALONEY: Thank wou. Mr. Stigall, you may step down with the Court's thanks.

THE WITNESS: Tracrik you.
(Witness excused at 5:12 p.m.)
JUDGE MALONEY: Does the Commission rest?

MR. BRADEN: The Commission rests.

J̌TDGE MALONEY: Any rebuttal from the plaintiff?
MR. PATTWELL: The party -- the counsel for the parties agreed we were going to discuss tonight the moving of certain exhibits into the record, and we would do that in the morning. Is that okay, Your Honor?

JUDGE MALONEY: That's fine.

MR. PATTWELL: Great.

JUDGE MALONEY: You have no witnesses?

MR. PATTWELL: No. We do rest, yes.

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JUDGE MALONEY: All right. Thank you. All right. You were to have a discussion about closing argument. Trust me, the Court has a particular view about that, but go ahead, Ms. McKnight.

MS. McKNIGHT: Your Honor, we expect only to need about 15 or 20 minutes. We understand that plaintiffs are looking for more than that.

MR. BURSCH: We had proposed an hour. We can still get you out of here by lunch.

JUDGE MALONEY: Okay. 45 mirutes.

JUDGE KETHLEDGE: Each side or per --
JUDGE MALONEY: Each side gets 45. You get 45 total.
MR. BURSCH: Yes. For opening and rebuttal, understood.

JUDGE MALONEY: Exactly.

MR. BiJRSCH: Thank you, Judge.

J̌DGE MALONEY: We're going to start -- just the kind of guy I am, Mr. Bursch. We'll start -- we'll give you a little extra coffee tomorrow, so we're going to start at 9:30, okay?

Now, I'm going to ask -- post trial briefs are due December 4th. I'm going to ask my colleagues whether there's any particular issues that they would like to have the parties address during the course of the trial briefs. Judge Neff?

JUDGE NEFF: Let me look at my notes a minute.

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JUDGE MALONEY: Judge Kethledge --
JUDGE KETHLEDGE: Yes.
JUDGE MALONEY: -- while Judge Neff reviews her
notes.
JUDGE KETHLEDGE: I'm not aware of another case in which the Court had to determine the existence or not of black voter cohesion in Democrat -- or in a primary. This may be the first case where a Court has to determine what cohesion is in a primary with more than two candidates, and so I would like the parties to brief in their post trial briefing what they think the legal standard ought to be for determining the existence of cohesion under Gingles precondition two in a primary where there are more than two candidates.

JUDGE NEFF: Did you want to add to that also, Judge Kethledge, where the -- where the primary is the final word, where the primary is the election, essentially?

J̌TGGE KETHLEDGE: And that's fine. That is this case, I think, undisputedly, so, sure.

JUDGE MALONEY: All right. Very good.
JUDGE NEFF: I have one thing -- I just have a request.

JUDGE MALONEY: Judge Neff.
JUDGE NEFF: I think that in litigation like this, and we've heard it for the last, what, five days, there's a lot at stake, and we all know that, and it often results in

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bringing out the -- not the best of us in terms of how we treat each other, and I have noticed in briefs over the many years that I've been reading briefs that the ones that don't get into personality or attacking one expert or party or another are the ones that are the most persuasive.

Just stick to what we have to do decide. I mean, we have some things here to decide that are very important and I don't want to be picking through complaints or allegations. Just keep it civil, okay? That's all.

JUDGE MALONEY: All right. We'll --

MR. BURSCH: One clarification. Is there a word
limit on the opposing brief?

JUDGE MALONEY: No and a half pages. No.

MR. BURSCH: How big is the page?

JUDGE NE®さ: There should be. Definitely should be a limit.

J̌HGE MALONEY: Okay.
JUDGE NEFF: 25 pages.

JUDGE MALONEY: 25? Okay.
MR. BURSCH: All of that in 25?

JUDGE KETHLEDGE: What's the word limit at the Court of Appeals these days?

MR. BURSCH: In the Sixth Circuit it's 13,000 words. JUDGE KETHLEDGE: Don't you think 10 would be ample here?

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MR. BURSCH: I think 10,000 words sounds just right.
JUDGE KETHLEDGE: You okay with that?

MS. McKNIGHT: Yes, Your Honor.

JUDGE MALONEY: We'll stick with that.
JUDGE KETHLEDGE: Okay. 10,000 words. You don't have to use them all. Shorter is often a better document. JUDGE MALONEY: All right. We'll see you at 9:30 tomorrow. Thank you.

THE CLERK: All rise, please. Court is adjourned. (Whereupon, hearing conclyaed at 5:17 p.m.)

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EXHIBITS: ADMITTED

Exhibit No 24
Dr. Palmer's report and CV

