

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

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| LOUIS AGRE, | : | CIVIL NO. 17-4392 |
| et al., | : | |
| | : | |
| Plaintiff | : | |
| | : | |
| | : | |
| | : | |
| v. | : | |
| | : | |
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| | : | |
| | : | |
| THOMAS W. WOLF, | : | Philadelphia, Pennsylvania |
| et al., | : | December 5, 2017 |
| | : | 8:59 a.m. |
| Defendant | : | |

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TRANSCRIPT MORNING SESSION OF TRIAL DAY 2
BEFORE THE HONORABLE MICHAEL M. BAYLSON,
D. BROOKS SMITH, AND PATTY SHWARTZ
UNITED STATES JUDGES

- - -

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23 Proceedings recorded by electronic sound
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1 (The following was heard in open court at
2 8:59 a.m.)

3 JUDGE SMITH: Please be seated.

4 (Pause in proceedings.)

5 JUDGE SMITH: Before we resume, I --

6 MR. TORCHINSKY: Excuse me, Your Honor.
7 Plaintiffs' counsel is not in the room.

8 JUDGE SMITH: Oh, gosh. Thanks. That will
9 teach me to look up over my glasses before we get
10 started. Thank you.

11 (Pause in proceedings.)

12 JUDGE SMITH: Good morning. Before we
13 begin, the panel would like to comment on two matters
14 which are related. First of all, we have been
15 keeping track of the time expended by the two major
16 player -- sides in this case and these figures are
17 subject to some change. We will be double-checking
18 them. I'll be double-checking them against my notes.
19 And I want everyone to know that while we do expect
20 to adhere to the time frame that we set down, and we
21 have only through Thursday, that these numbers are
22 not immutable and they may be subject to some minor
23 modification as necessary.

24 What I have are 218 minutes expended by the
25 plaintiffs yesterday, which amounts to 3.633 hours.

1 By the defendants, 87 minutes, which translates into
2 1.45 hours. Now, to be clear, none of this includes,
3 of course, any recess time, none of it includes the
4 time spent at the end of the day, which was about 25
5 minutes, on the motions that we had after the
6 testimony concluded for the day. And it does not
7 include the 40 minutes spent at the beginning of the
8 day dealing with motions raised by both sides, which
9 the panel intends to divide equally between the
10 parties.

11 So on the other matter, the panel would
12 suggest to plaintiff -- to the plaintiffs' side,
13 plaintiffs' counsel, that the witness from yesterday
14 retake the stand but that you hasten your direct
15 examination of this witness. The panel is of the
16 view that with respect to both of the expert
17 witnesses, some time has been spent and perhaps
18 wasted on matters that did not implicate the
19 expertise of those witnesses as experts who were
20 qualified for a particular purpose. With respect to
21 the map exhibits, much of it is what it is and says
22 what it says, which the panel can, of course, proceed
23 on its own.

24 So with that admonition, which is intended
25 not to be critical but be helpful, we're ready to

1 proceed.

2 MR. GORDON: I recall Anne Hanna to the
3 stand, Your Honor.

4 (Pause in proceedings.)

5 MR. GORDON: May it please the Court?

6 JUDGE SMITH: Proceed, please.

7 DIRECT EXAMINATION

8 BY MR. GORDON:

9 Q I have a few more questions about the lower
10 diagram, which is Southeastern Pennsylvania, focusing
11 on the Seventh, the Thirteenth, and the Sixth
12 Districts. I wanted to ask Ms. Hanna, Ms. Hanna, you
13 were present in the courtroom yesterday where you --
14 for the detailed testimony of the -- of the -- for
15 example, as an illustration, the northwestern corner
16 of the -- of the Seventh Congressional District, is
17 there any neutral redistricting criteria whatsoever
18 which explains the configuration of the northwestern
19 corner of the Seventh Congressional District?

20 MR. TORCHINSKY: Objection, Your Honor.
21 She was not qualified to testify on political matters
22 or GIS. She was only --

23 JUDGE SMITH: I will -- I will sustain the
24 objection.

25 MR. TORCHINSKY: Thank you.

1 BY MR. GORDON:

2 Q Okay. Ms. Hanna, you had an opportunity to
3 review a great number of documents that were more
4 recently release from -- they were called "Rolling
5 Productions from Turzai" one through seven I believe?

6 A Yes.

7 Q About how many -- did that contain correspondence
8 to or from Speaker Turzai?

9 A Yes, it did.

10 Q And, categorically, what percent of those -- of
11 those correspondence came from Republicans identified
12 as Republican Committee chairs or those advoc --
13 clearly advocating for a certain district to aid
14 Republicans?

15 A What percentage? Let me think. I apologize.

16 So --

17 MR. TORCHINSKY: Objection, Your Honor.
18 There's no foundation laid for this, not in her
19 second supplemental report or here.

20 MR. GORDON: That's -- Your Honor, that's
21 because it was a very recent production that should
22 have been turned over earlier, and it's in her third
23 supplemental report.

24 JUDGE SMITH: I'm willing to let this go to
25 some extent, but I am extremely curious as to why

1 you're using this witness for the testimony on those
2 items.

3 MR. GORDON: Data analytics. It is that
4 she was able to look at it and study to see if
5 there's anything that was sent from Democratic
6 authors or Republican authors or Democratic chairs of
7 committees to Speaker Turzai. And these -- this is a
8 set of data that he received regarding the 2011 map
9 and the creation of the 2011 map.

10 JUDGE SMITH: You're suggesting that those
11 messages contain information that are or purport to
12 be data analytics?

13 MR. GORDON: I'm saying that the absence of
14 any messages from Democratic chairs --

15 JUDGE SMITH: Well, why don't you just ask
16 here that, if --

17 MR. GORDON: Okay.

18 JUDGE SMITH: -- they contained anything of
19 that nature. Again, you're wasting your own time,
20 counsel.

21 MR. GORDON: I'm sorry, Your Honor. I
22 apologize for my lack of skill at direct. I'll try
23 to go straight to the issues. Every time I try to
24 lay a foundation I get an objection. Every time I go
25 straight in I get an objection.

1 JUDGE SMITH: Well, I -- but I have
2 overruled many of those objections and allowed you to
3 proceed.

4 MR. GORDON: Thank you, Your Honor. I'll
5 do my best.

6 BY MR. GORDON:

7 Q Ms. Hanna, what percent of the -- did any of the
8 communications that you reviewed in the Turzai
9 rolling production appear to come from Democrats or
10 people actively participating in the Democratic
11 Party?

12 A I reviewed all the communications in the
13 production and I saw no communications of any
14 substance that were directed to and from Democratic
15 leadership.

16 Q Thank you. Did you review a number of what
17 appeared to be preliminary maps of the design of
18 the -- of the state congressional map?

19 A There were 31 such maps in the data provided.

20 Q Was there one map, in particular, that
21 suggested -- strongly suggested that partisan
22 gerrymandering was used --

23 MR. TORCHINSKY: Objection as to
24 (indiscernible).

25 JUDGE SMITH: Sustained.

1 BY MR. GORDON:

2 Q Was there one map that you found unusual --

3 MR. TORCHINSKY: Objection.

4 JUDGE SMITH: Let him finish the question,
5 please.

6 BY MR. GORDON:

7 Q Was there -- was there one map -- were there any
8 maps that were contained that included the word
9 "Congressional District 18 maximized?"

10 A Yes, there was one particular map --

11 Q Okay. Can --

12 A -- of that nature.

13 Q Can you identify that in your packet?

14 A So in the -- in this evidence book here?

15 Q Yeah.

16 A I don't know where --

17 Q It's Turzai 01364.

18 A -- things are. Yeah, that's the one I'm
19 referring to, but I don't know where it is in the
20 book.

21 Q Okay.

22 A Can somebody -- can you give me a hint where it
23 is in the book?

24 Q Yeah. I'm going to hand -- I'm going to show
25 this to opposing counsel.

1 (Pause in proceedings.)

2 MR. GORDON: Your Honor, this is fully
3 identified in Ms. Hanna's second supplemental report.
4 It was sent over to opposing counsel as soon as we
5 were able to do so. There's been no sandbagging, no
6 failure to disclose.

7 JUDGE SMITH: Well, what is it?

8 MR. GORDON: I would like to hand it to
9 the -- copies to the panel so they can look at it as
10 we discuss its admissibility.

11 JUDGE SMITH: I understand. What is it?
12 Has it been numbered? Is it a number exhibit?

13 MR. GORDON: I thought it -- the answer is
14 it's not a -- we can't find the number, so I'd like
15 to assign it a new number at the end of our last
16 exhibit, which would make it Number 34.

17 MR. TORCHINSKY: Excuse me, Your Honor.
18 Exhibit lists --

19 MR. GORDON: P-34.

20 MR. TORCHINSKY: -- were due late last
21 week.

22 MR. GORDON: I'm sorry, Your Honor.

23 JUDGE SMITH: Excuse me. Let him finish,
24 please. I don't -- I've just now discovered what the
25 number was, so please.

1 MR. TORCHINSKY: Okay.

2 MR. GORDON: P-34. And it's Turzai 01364
3 in their production, which was last Friday.

4 JUDGE SMITH: All right. And what does it
5 purport to be?

6 MR. GORDON: It's purports to be a
7 preliminary map which contains the words "CD18,"
8 Congressional District 18, "Maximized." And on the
9 upper, left-hand corner there is a series of scores
10 which appear to be the Cook index for all 18
11 districts --

12 JUDGE SMITH: And --

13 MR. GORDON: -- to see how they're
14 performing.

15 JUDGE SMITH: Mr. Aronchick, were you
16 indicating you haven't received a copy?

17 MR. ARONCHICK: I probably have, but I
18 just -- I can't find it. So now I have one.

19 JUDGE SMITH: Very well. Thank you. Now,
20 what is the objection to this?

21 MR. TORCHINSKY: Your Honor, the objection
22 to this is Ms. Hanna's second supplemental report
23 purports to review a bunch of internal legislative
24 communications, something she said she has absolutely
25 no experience reviewing and for which the Court did

1 not admit her to be any kind of expert. And this
2 report was provided to us at about 10:30 on Sunday
3 night.

4 JUDGE SMITH: Well, but she's not now
5 looking at a report, her report or anyone else's.
6 She's looking at a graphic exhibit, a map.

7 MR. GORDON: Yes, this was the -- she is an
8 expert in the data of the maps and what they
9 produced.

10 JUDGE SMITH: I'll overrule the objection.

11 MR. GORDON: Thank you, Your Honor. I'm
12 going to hand up copies to the Court.

13 (Pause in proceedings.)

14 THE WITNESS: Do I get one?

15 JUDGE SMITH: That would be helpful.

16 THE WITNESS: Thank you.

17 BY MR. GORDON:

18 Q Ms. Hanna, I want you to -- I want you to briefly
19 orient the Court to the contents of this exhibit.
20 Can you -- will you please identify what the numbers
21 are in -- on this map?

22 A Okay. Let me begin. So this -- the title of
23 this map is listed as "CD18 Maximized." This is a
24 blowup map of the southwest corner of Pennsylvania,
25 and you can see that it focuses on the Pittsburgh

1 area and the surrounding counties. So there's kind
2 of two parts of this. One is a data table in the
3 upper, left corner, and the other is the map itself.

4 In the map itself it shows what appear to
5 be proposed congressional districts. There's one
6 that's very similarly shaped to the Fourteenth
7 District -- there's -- and it's labeled "Fourteen."
8 There's one that's list -- labeled as "Eighteen" and
9 it's sort of wrapped around Pittsburgh, wrapped
10 around the Fourteenth District. There is a pale grey
11 one labeled "Four" in the far, southwest corner of
12 the state.

13 Up at the sort of northwest corner of the
14 map, although not all the way to the northwest corner
15 of the state, you can see something that's labeled
16 "Three." Up in the northeast corner of the map
17 there's something labeled "Five." And then the
18 southeast corner of the map has the label "Nine" for
19 those different regions. Also on the map there are a
20 number of stars and those stars match what I saw in
21 the partisan data set, the original Turzai
22 production, which I determined to be the locations of
23 the incumbent congressmembers' homes.

24 Q If you have a pen, I'm going to hold you up. I'm
25 going to ask you --

1 A Sure.

2 Q -- to label the stars.

3 A All right. I don't know if I can label all of
4 them off the top of my head, but I can tell you at
5 least some of the major ones. So the star that's in
6 the Pittsburgh area in the dark Fourteenth District
7 is I believe -- it was the incumbent Democrat in the
8 Fourteenth District. I want to say his name was
9 Murphy. The --

10 MR. TORCHINSKY: Objection, Your Honor.
11 That -- there was no foundation laid for this and now
12 she's I think labeling members not where they
13 actually are.

14 JUDGE SMITH: Well, first of all, I --
15 look, I will strike the last answer --

16 THE WITNESS: Yeah, sorry.

17 JUDGE SMITH: -- because she doesn't have
18 knowledge of it.

19 MR. GORDON: Thank you, Your Honor.

20 THE WITNESS: That one -- that one I may be
21 misremembering his name. I apologize.

22 JUDGE SMITH: It might be Mike Doyle.

23 THE WITNESS: Yeah, you're right. I'm
24 sorry, that's Doyle. I can pull up -- you know, let
25 me refer to my report because I did put some of these

1 names in my report. Is that all right?

2 JUDGE SMITH: Very well.

3 THE WITNESS: Thank you.

4 (Pause in proceedings.)

5 THE WITNESS: All right. I apologize.

6 (Pause in proceedings.)

7 THE WITNESS: Yeah. Okay, yeah. Doyle in
8 the Fourteenth, as I -- as you said.

9 JUDGE SMITH: Okay.

10 THE WITNESS: Sorry, Doyle is in the
11 Fourteenth, and then the one in the Eighteenth is --
12 let me confirm here. And this is -- by the way, I'm
13 referring to my second supplemental report, which is
14 in one of these exhibits, right? Yes. Let's see,
15 Eighteenth is --

16 (Pause in proceedings.)

17 BY MR. GORDON:

18 Q If you don't --

19 A Yeah.

20 Q -- know, it's okay.

21 A I'm sorry. Oh, yeah, Eighteenth is Murphy,
22 right. Eighteenth is Murphy, who is a Republican.
23 Just got to get on the right page here. Okay. And
24 then the other two stars that I can -- I can name
25 from this report -- I don't remember all the ones in

1 Three and Nine, but --

2 JUDGE SMITH: Nine is Shuster.

3 THE WITNESS: What?

4 JUDGE SMITH: Nine is Shuster.

5 THE WITNESS: Okay. Well, I will take your
6 word on that. Yeah, so the one that's --

7 JUDGE SMITH: Please do.

8 THE WITNESS: Yeah, okay. So Shuster, S-C-
9 U-A --

10 JUDGE SMITH: This is a matter, quite
11 frankly --

12 THE WITNESS: -- S-T-E-R.

13 JUDGE SMITH: Excuse me.

14 THE WITNESS: Sorry.

15 JUDGE SMITH: This is a matter, frankly,
16 that I think could be subject to judicial notice,
17 that is who represents geographic areas, and for that
18 matter, probably what their residence is.

19 THE WITNESS: Right.

20 MR. GORDON: Thank you, Your Honor. But I
21 do want to point out that the important thing was not
22 the current congressman, but who the congressman was
23 in 2011 when they were considering this. That may be
24 also a matter of judicial notice.

25 JUDGE SMITH: For Nine, it was Shuster.

1 THE WITNESS: Yeah.

2 JUDGE SMITH: Okay.

3 THE WITNESS: But the most important two on
4 the map, actually, are the second one in the
5 Eighteenth District to the north of the Fourteenth
6 District, which was Jason Altmire, who was at the
7 time the incumbent in the Fourth District I believe.
8 And then off to the very far east end of the Fourth
9 District in just that little sort of blob that hangs
10 off the end there, that was Mark Critz, who is a
11 Democrat, who was at the time the incumbent in the
12 Twelfth District.

13 BY MR. GORDON:

14 Q Okay, thank you. What did the numbers on the --
15 what did the numbers on the upper, left, what data
16 are they from?

17 A Right.

18 Q What data do they represent?

19 A So, first, these numbers on the upper, left are
20 not labeled, but each of them has the form of either
21 a letter followed by a number and the letter is
22 either D or R, and then the numbers, you know, are
23 ranging from it looks like zero to 39.4 is the
24 largest. And if you compare the sort of -- each of
25 them has an index, one, two, three, four, five, all

1 the way through 18. So that's 18, suggesting that
2 they match to 18 newly drawn congressional districts
3 that correspond to this map. And if you look at the
4 values associated with each of the district numbers,
5 you can see that many of these values match
6 relatively closely with either the Cook Partisan
7 Voting Indices or some similar partisan lean of the
8 actual districts as they were finally created. The
9 First and Second are very strongly D, and other are,
10 you know, varying D or R depending.

11 MR. TORCHINSKY: Excuse me, Your Honor.
12 There's no basis for this data and connection to the
13 adopted map, which is I think what she just testified
14 to.

15 JUDGE SMITH: Well, that's an ultimate
16 question. That's something that this panel may be
17 required to draw inferences from. But I repeat I
18 think there's time being wasted here.

19 MR. GORDON: Okay.

20 JUDGE SMITH: These figures that are being
21 referred to have not adequately been explained in my
22 view. Maybe my colleagues understand them fully. I
23 do not at this stage, and that seems to me to be
24 perhaps quintessentially what this witness could be
25 testifying to --

1 MR. GORDON: Okay.

2 JUDGE SMITH: -- not who represents these
3 particular districts and where they reside.

4 BY MR. GORDON:

5 Q Ms. Hanna, what do those figures represent?

6 Let's take, for example, CD18.

7 A Right.

8 Q It's R9. What does that mean based on the data
9 that you reviewed?

10 A So if this corresponds both to in this data
11 and -- well, so there are a couple things here. One
12 is there were other maps in this data set which
13 showed similar numbers on them, of the 31 maps in the
14 second production, that showed similar numbers on
15 them with different values. This one here, R9,
16 listed for the Eighteenth District is higher than the
17 values associated with --

18 Q That's not what I'm asking.

19 A -- any of the other maps.

20 Q What's -- what does --

21 A And --

22 Q I'm sorry to hold you up.

23 A Sorry.

24 Q Tell -- please tell the Court simply what does R9
25 mean?

1 A R9 mostly likely means that it's something like a
2 Cook Partisan Voting Index.

3 MR. TORCHINSKY: Objection, Your Honor.
4 The witness is speculating. She's even saying she's
5 guessing.

6 JUDGE SMITH: No, she didn't. She said
7 most likely. I'll allow that.

8 BY MR. GORDON:

9 Q Okay. Can you -- go ahead. What -- please
10 continue your explanation of exactly what R9 means.

11 A So what that means, if it's something similar to
12 a Cook Partisan Voting Index, which I believe it is,
13 is that it is a Republican-leaning district that
14 would be likely to go 59/41 Republican/Democratic in
15 an election or something very similar to that.

16 Q Based on your view of all the maps that was --
17 that were contained in the Turzai -- recent Turzai
18 release, would it be fair to say that this is a draft
19 map of a proposed version of the districts in
20 Southwestern Pennsylvania but not the ultimate map?

21 A Yes.

22 Q Okay. And what is the basis of that opinion?

23 A Which part of it? The fact that it's not the
24 ultimate map or --

25 Q Both.

1 A Okay. So this map is one of a series of several
2 maps which show different arrangements of districts
3 in both that corner of the state and the state as a
4 whole. And, of course, the shapes on the map are not
5 the ultimate shapes, but maps -- you know, these maps
6 seem to show different versions of it. And this one
7 appears to be one where they attempted to maximize
8 the partisan lean of the Eighteenth District.

9 Q Okay.

10 JUDGE SMITH: Excuse me.

11 THE WITNESS: Sorry.

12 JUDGE BAYLSON: All right. What -- you
13 have 18, you have R9. What is the significance of
14 the number 9? Because I see along other -- from one
15 to 17, they're all -- I assume R means Republican,
16 right?

17 THE WITNESS: Right.

18 JUDGE BAYLSON: Okay.

19 THE WITNESS: I believe so, yes.

20 JUDGE BAYLSON: What is the 9? Because
21 some are -- like 16 is R7, 15 is R1.

22 THE WITNESS: Right.

23 JUDGE BAYLSON: What's the significance --
24 do you have a reasonable likelihood of knowing what
25 the significance is of that number?

1 THE WITNESS: So there are two.

2 MR. GORDON: No, wait, wait.

3 JUDGE BAYLSON: Yes or no?

4 THE WITNESS: Sorry.

5 MR. GORDON: Yes or no?

6 JUDGE BAYLSON: Do you have a --

7 THE WITNESS: Yes.

8 JUDGE BAYLSON: All right. What is it?

9 THE WITNESS: So there are two closely-
10 related possibilities for this and I'm pretty sure it
11 is one or the other, although I don't know exactly
12 which. One possibility is it is the Cook Partisan
13 Voting Index, which I believe Mr. McGlone discussed
14 yesterday. Would you like me to discuss that further
15 or --

16 JUDGE BAYLSON: No.

17 THE WITNESS: Okay. The other possibility
18 is that it is simply a raw sort of dominance number,
19 in other words, that the Republicans are likely to
20 get nine points more than 50 percent of the vote in
21 that district and the Democrats are likely to get
22 nine points less. And I should raise a third
23 possibility, which is it might be a net difference.
24 It might be that the Republicans are likely to get
25 four and a half points more and the Democrats are

1 likely to get four and a half points less than 50
2 percent so that the difference between those two
3 votes is nine points. Does that clarify?

4 JUDGE BAYLSON: Thank you.

5 BY MR. GORDON:

6 Q Okay. Just for two more illustrations. Turning,
7 for example, to the Fourteenth District, what was
8 the -- what was the -- turn to Fourteen. It said
9 D15.2. In your opinion with a reasonable degree --
10 do you have an opinion within a reasonable degree of
11 certainty as to what that number means?

12 A The D15.2?

13 Q Yeah.

14 A Actually, let me kind of back up one second. Let
15 me talk about the First and Second Districts.

16 Q Go ahead.

17 JUDGE SMITH: Well --

18 THE WITNESS: I can answer --

19 JUDGE SMITH: Question --

20 THE WITNESS: -- his question. Sorry.

21 JUDGE SMITH: Questioning is ordered by
22 advocates in the courtroom. Now, counsel, if based
23 on what your witness has said, you would prefer her
24 to speak to what she's just raised, fine, but you
25 answer the questions that have actually been asked.

1 MR. GORDON: I understand. I would like
2 her -- I would like her to go back to Districts One
3 and Two because it would allow her to answer the rest
4 of the questions with much greater precision and
5 bring the Court up to speed.

6 JUDGE SMITH: Proceed.

7 BY MR. GORDON:

8 Q Okay.

9 A Sorry, the reason I raised Districts One and Two
10 there is because those numbers are actually very
11 close to the actual PVIs of the final First and
12 Second Districts.

13 Q Translate PVI.

14 A Cook Partisan Voting Index.

15 Q Go ahead. Let's start with District One. How
16 does District One relate to the -- I'm sorry, let's
17 look at District Two, just District Two.

18 A Yeah.

19 Q I see here it has a -- Two has a D39.4.

20 A Right.

21 Q What does that mean to the panel?

22 A So what that means is that District Two in this
23 particular map is expected, according to whatever
24 partisan statistics were used to draw it, to be 39.4
25 points more Democratic than the country on average if

1 it's a Cook PVI, or, ultimately, 39.4 points more
2 Democratic than 50 percent.

3 Q So it would be 50 plus 30.9, so the Second
4 District would really -- would be -- have a
5 performance of 89.4 percent Democratic and the rest
6 Republican or other?

7 A Right, in that case, yes.

8 Q Okay. And District One would be 50 percent plus
9 28.8, so 78.8 percent Democratic?

10 A Right.

11 Q Okay. And then going to the surrounding
12 districts here, District Three, which is above
13 Pittsburgh, has a rating of R, Republican, 6.2, is
14 that correct?

15 A Right.

16 Q And going below Pittsburgh, the Fourth
17 Congressional has a district of R0. What does that
18 mean in your view?

19 A That means that that district is either very
20 close to perfect balance at 50/50, or if these are
21 Cook Partisan Voting Indices, it means it's almost
22 exactly as part -- at the same partisan balance in
23 the entire country.

24 Q Okay. And then the Ninth Congressional District
25 in the lower, right of the southwest map has a --

1 appears to have a rating of -- has a rating of R13.6.

2 What does that mean in terms of electability of
3 Republicans?

4 A So, again, depending on whether these are Cook
5 PVIs or just plus or minus 50 percent, it either
6 means that it's going to have approximately 63.6
7 percent Republican votes and the remainder Democratic
8 or approximately the remainder Democratic, or it
9 means it's 13.6 more Republican -- points more
10 Republican than the country as a whole.

11 Q Given your background in data analytics and
12 mathematics, what does the title of the map, "CD18
13 Maximize," mean?

14 A What this suggests to me is that this -- I mean
15 CD18 seems pretty clearly to be Congressional
16 District 18. Maximize, to me, suggests that there
17 was an attempt to maximize the score on that little
18 table in the upper, left corner for the Eighteenth
19 District specifically, not necessarily regarding the
20 scores in the other districts.

21 Q Okay. And turning to -- in this formulation, in
22 this draft map, isn't it true that a Republican was
23 running against a Democrat?

24 A Yes. In this draft map --

25 Q In the -- I'm sorry, in the Eighteenth.

1 A Yeah, in the Eighteenth District. Yes.
2 Specifically, Jason Altmire, who was an incumbent
3 Democrat originally from the Fourth, and Mr.
4 Murphy -- I forgot his first name -- who is an
5 incumbent Republican in the Eighteenth would have
6 been running against each other.

7 Q Okay. And isn't it true that in the ultimate
8 design of the -- sorry -- Twelfth Congressional
9 District, which is on the left-hand side in yellow,
10 you have Mark --

11 JUDGE SMITH: Excuse me, the left-hand side
12 in yellow on what exhibit? Because the Court -- you
13 have been using and the Court has been looking at
14 your more recently number Exhibit 34.

15 MR. GORDON: Yes. Okay. I was
16 referring -- I was referring, for the ease of
17 understanding, to P-0583, which is the Pennsylvania
18 2011 map from the Department of State website. So
19 it's a blowup of that map.

20 BY MR. GORDON:

21 Q So referring to the Twelfth District,
22 ultimately -- the ultimate design of the Twelfth, is
23 it -- is it not true that in the ultimate design, it
24 had two Democrats running against each other?

25 A Yes, this was visible in the original Turzai

1 production data. You could see the stars for Critz
2 and Altmire were both in the new Twelfth District.

3 Q And from a mathematical standpoint, if two
4 Democrats are running against each other in a
5 primary, how many can win?

6 A One.

7 Q Thank you. And if the -- is it your opinion,
8 within a reasonable degree of certainty, based on
9 your review of the data, that the -- that the
10 ultimate district, District Twelve, was designed in
11 such a matter to generate a Republican victory?

12 MR. TORCHINSKY: Objection, Your Honor,
13 calls for speculation about the map drawer's intent.

14 JUDGE SMITH: Overruled.

15 THE WITNESS: So the Twelfth District had
16 some interesting features that --

17 BY MR. GORDON:

18 Q Just answer the --

19 A Yeah.

20 Q -- question first.

21 A Yeah. So --

22 Q It's a yes or no question.

23 A Yes, I think it was designed to ensure Republican
24 victory.

25 Q Okay. So would it, correct, be true

1 mathematically that if you get rid of one Democrat in
2 the primary through design of the map and then you
3 redesign the district to achieve a Republican
4 victory, you have now wiped off two Democrats from
5 the map?

6 A That's correct.

7 Q And if the map is designed to be durable, you
8 have wiped off two Democrats from the map for the
9 next decade?

10 A At least.

11 Q Thank you.

12 (Pause in proceedings.)

13 Q Okay. Ms. Hanna, there were some questions that
14 were raised on your cross and elsewhere in the case
15 about whether it's feasible to design districts with
16 neutral criteria. To what extent have you engaged in
17 a study of the feasibility of drafting or drawing
18 districts that adhere to traditional neutral
19 principles? Just that question, to what extent did
20 you engage?

21 A To what extent?

22 Q Right.

23 A To a fairly significant extent.

24 Q Describe.

25 A Right. So there are a number of components to

1 this study. One has been both sort of rough scale,
2 hand drawn maps of Pennsylvania trying to understand
3 these maps in detail and how they could be drawn
4 according to traditional neutral districting
5 criteria. Another has been preparation of a detailed
6 data set to base more detailed exploration of that
7 on. And then also, I have reviewed and been
8 preparing to implement for Pennsylvania a substantial
9 amount of literature and methodology from literature
10 on traditional neutral districting criteria, and
11 specifically on successes in applying them in other
12 states.

13 Q Is there a federal statute which encompasses
14 widely used traditional district design criteria?

15 MR. TORCHINSKY: Objection, Your Honor.
16 She's not an expert in the law.

17 JUDGE SMITH: Yes. Where are you going
18 with this?

19 MR. GORDON: The 2011 Redistricting Act is
20 a statute that contains very common language for
21 traditional districts. It is really the definition
22 of traditional districts and really remained from --

23 JUDGE SMITH: The objection is well-taken.
24 I'll sustain it. You may be -- she can testify if
25 she took that into account, if she took the

1 existence -- if she knew of and took into account the
2 existence of such a statute in her analysis. Beyond
3 that, she's not an expert in the law.

4 BY MR. GORDON:

5 Q Did you know of or take into account the
6 existence of the 2011 Reapportionment --

7 A 1911.

8 Q -- the 1911 Reapportionment Act in your analysis
9 of fair districts?

10 A Yes.

11 Q Did you -- did you review and incorporate into
12 your analysis Article 2, Section 16 of the
13 Pennsylvania Constitution concerning the design of
14 districts in developing your concepts of drawing
15 traditional and fair districts?

16 A Yes.

17 Q Okay. Could you summarize very briefly what are
18 the elements of those traditional districting
19 principles?

20 A Both of those pieces of legislation require
21 districts to be contiguous, compact, to have
22 population equality as nearly as practicable, and to
23 not divide any county, city, incorporated town,
24 township, borough, or ward unless absolutely
25 necessary to do so.

1 Q From the state -- Department of State website,
2 were you able to find any decennial congressional
3 maps of the last 100 years which exemplified those
4 criteria?

5 A So the -- I think you're referring to the website
6 of the Pennsylvania Legislative Reapportionment
7 Commission. They had maps from 1931 through 2011 for
8 every single redistricting in those years
9 inclusive --

10 Q Okay.

11 A -- and also the corresponding legislation which
12 explains the structures of the maps in detail and
13 shape files that I could download to manipulate in
14 software.

15 Q All right. Was there one map, in particular,
16 that exemplifies the application of these neutral
17 criteria, including relatively equal population
18 districts?

19 A Right.

20 Q Was there one map, yes or no?

21 A So --

22 Q Was there --

23 A I would say two. There's probably two maps.

24 Q Okay.

25 A Just -- I would say 1972 and 1982 are probably

1 the best two.

2 Q Okay. All right. I'd like the panel to turn to
3 the 1972 map, which is in your materials.

4 (Pause in proceedings.)

5 MR. TORCHINSKY: Your Honor, we object to
6 this line of questioning. We're not quite sure what
7 any of this has to do with data analytics, which is
8 what she is qualified for. I think she's apparently
9 attempting to testify now as to neutral districting
10 criteria, which is not something the Court qualified
11 her to be an expert on.

12 JUDGE SMITH: That certainly is correct in
13 terms of what she is qualified to give expert opinion
14 on. As I've previously ruled, to the extent that she
15 has taken the existence of any of these objective
16 measure into account in her analysis, it's
17 permissible for her to say so. Otherwise, where
18 we're going, I'm not sure.

19 MR. GORDON: Okay.

20 BY MR. GORDON:

21 Q What I had asked --

22 MR. TORCHINSKY: What's the number?

23 MR. GORDON: The number -- it's Exhibit
24 Number 2. And there are two maps that were
25 identified, 0578 and 0580. They are the 1972

1 Pennsylvania Congressional District Map and the 1982
2 Pennsylvania Congressional District Map. And the
3 point of the testimony is it's probative to the issue
4 of whether it is feasible to draw maps based on
5 traditional districting criteria in a modern age.

6 MR. TORCHINSKY: Objection, Your Honor.
7 This witness has not been qualified to answer that
8 kind of question.

9 JUDGE SMITH: Oh, I think -- I think it's
10 precisely what I have been anticipating we would hear
11 from this witness, that is what is feasible given the
12 technology that exists today, testimony which has
13 been notably absent up to this point while we go over
14 more and more lines and -- on various demonstrative
15 exhibits that any non-expert could go over.

16 BY MR. GORDON:

17 Q Ms. Hanna, can you -- can you explain to the
18 panel how the 1982 map -- I'm sorry, how the 1972
19 congressional map, 05 -- I just flipped my page.
20 Sorry.

21 (Pause in proceedings.)

22 Q -- the 1972 congressional map demonstrates the
23 feasibility of those neutral criteria taken one at a
24 time.

25 A Right.

1 JUDGE SMITH: Is that 0579?

2 MR. BAYLSON: It is 0579, yes.

3 THE WITNESS: So one important feature of
4 these two maps is they're maps -- they're some of the
5 first maps that were drawn after it started to be
6 considered to be important to have much closer
7 population equality than had been required
8 previously. If you look at maps from before this,
9 they tend to do their best to avoid dividing any
10 counties, but they do end up with some significant
11 amount of population inequality as a result. I mean
12 Allegheny County and Philadelphia County are divided
13 because they're so high population, but other
14 counties are almost not divided in previous maps.

15 These counties do have to start to divide
16 population, but you can see that they try to do so in
17 relatively compact ways. Let's see, let me start
18 with '72.

19 MR. TORCHINSKY: Objection, Your Honor.
20 There's no data analytics to -- provided to support
21 what Ms. Hanna is testifying to at this point.

22 JUDGE SMITH: Excuse me. I want to take a
23 few minutes to consult with counsel.

24 (Pause in proceedings.)

25 JUDGE SMITH: With respect to -- with

1 respect to the previous objection, the objection will
2 be overruled. We'll allow the witness to answer the
3 question.

4 MR. GORDON: Thank you.

5 THE WITNESS: Can you remind me what the
6 question was? I'm sorry.

7 BY MR. GORDON:

8 Q Sure. Reviewing the 1972 congressional map, page
9 0579 of Plaintiffs' Exhibit 2, will you please tell
10 the Court the characteristics of this map which are
11 consistent with traditional criterion measures that
12 you -- traditional criteria for drawing districts
13 that you have just identified?

14 A Right. So there are two important features of
15 this map that represent traditional neutral
16 districting criteria being followed in ways that
17 they're not in some more recent maps. And, in
18 particular, those are in compactness and respect for
19 communities of interest.

20 Q All right. Start with compactness.

21 A All right, starting with compactness --

22 Q Talk -- I want you to go around the map features
23 that illustrate compact districts.

24 A Okay. So, for example, let's -- let me have a
25 look. So if you look at the combination of the light

1 blue district on the left edge of the map labeled
2 "Twenty-five," which is a combination of Lawrence,
3 Butler, and Beaver Counties, you can see that that
4 district must have been slightly under population
5 because they had to add a few additional
6 municipalities from Allegheny County. By the way,
7 the light lines on this map --

8 Q Let me just slow you down there.

9 A -- are municipalities.

10 Q I have to slow you down.

11 A Yeah.

12 Q Twenty-five is on the western border --

13 A Yeah.

14 Q -- of Pennsylvania. And you're looking -- you're
15 directing the panel to look below, if my eyes can
16 read this, which they can't --

17 JUDGE BAYLSON: We can see.

18 BY MR. GORDON:

19 Q Yeah, which county is it which is whole that they
20 needed more?

21 A So the Twenty-five is they combined Lawrence --

22 Q I'm sorry.

23 A Or --

24 Q I was just trying to identify. We're talking
25 about Butler County in the light blue on the left-

1 hand side of the Commonwealth above the City of
2 Pittsburgh. Now, you were explaining about -- that
3 it must have been -- it must have had too few
4 population so they needed more. So how did they
5 achieve that?

6 A Right. So they achieved that, you can see, by
7 they added a number of municipalities from Allegheny
8 County. That's the light blue strip across the north
9 edge of Allegheny County. But you can see that the
10 way they added them, they didn't draw like a long
11 tentacle or like draw a little dog bone to connect
12 them to a glob somewhere else. They just took the
13 strip of counties that were most contiguous across
14 the southern edge of Butler edge or the northern edge
15 of Allegheny right where they touch Butler there. So
16 they kept -- they added, you know, additional
17 municipalities as they needed to do to equalize the
18 populations, but they added them in a very compact
19 way instead of drawing tentacles and things like that
20 to do that.

21 Q As an engineer, would it be feasible to draft a
22 rule which allowed -- which required a drafter to use
23 abutting or adjoining territories first, rather than
24 extending in and grabbing voters of one's choice?

25 A Absolutely. Quite frankly, compactness would

1 help you do that, just requiring straight
2 compactness, but adding that additional rule is kind
3 of a belt and suspenders thing that can really help
4 ensure that the point is driven home.

5 Q Okay. Go ahead and -- if you can illustrate that
6 point with two other areas of the map, and then let's
7 go on. I'm going to draw your attention to District
8 Six, Congressional District Six, which is Chester and
9 Schuylkill County. It's in --

10 A Berks.

11 Q -- light --

12 A Not Chester. Berks.

13 Q Chester, Berks --

14 A No, it's not Chester at all. It's Berks and
15 Schuylkill.

16 Q Berks and Schuylkill. I need -- I don't have
17 short range glasses, I'm sorry. Go ahead. So was --
18 tell us what you see in terms of solution to being
19 in -- having too few votes. What was the solution
20 there?

21 A So, again, this is a case where you can see
22 Schuylkill plus Berks County must not have been quite
23 enough population to make a district whole. And so
24 they added it looks like just a handful of
25 municipalities right there where Schuylkill County

1 touches the southern edge of Northumberland County.

2 And they actually kind of just chopped off the little

3 tip of Northumberland there to add it to Schuylkill.

4 Q Okay. I'm going to --

5 MR. GORDON: May I approach and ask the
6 witness to circle those two areas, Your Honor, for
7 her chart?

8 JUDGE SMITH: Certainly.

9 THE WITNESS: You're talking about the
10 Twenty-fifth and the Sixth here?

11 BY MR. GORDON:

12 Q Yes, the two areas that you've just spoke about,
13 can you circle --

14 A Okay.

15 Q -- them with --

16 A Do you want me to circle the whole district or
17 just the little region that was added?

18 Q Just the region that was added.

19 A Okay.

20 (Pause in proceedings.)

21 A All right. I kind of pulled this out of the
22 evidence book here. I don't know if --

23 Q That's fine. We'll --

24 A All right.

25 Q -- address that in just a moment. Okay. Let's

1 turn to the 1992 map in the interest of time, and I'm
2 going to ask you to identify characteristics -- I'm
3 sorry, I didn't mean to move on. I'm getting a
4 little flustered. Going back to this map, how were
5 the other --

6 JUDGE SMITH: Going back to what map?

7 MR. GORDON: I'm going back to the 1972
8 map, Your Honor.

9 BY MR. GORDON:

10 Q How were the other -- not dividing counties or
11 political subdivisions, how was that addressed?

12 A I -- can you be a little more specific, sir?

13 I --

14 Q In what -- can you describe the characteristics
15 of this map which are consistent with the traditional
16 districting rule of not dividing counties or cities
17 or townships?

18 JUDGE BAYLSON: She already -- she already
19 testified about compactness.

20 MR. GORDON: Right.

21 JUDGE BAYLSON: The other factor she said
22 was respect for community. Is that what you're
23 talking about?

24 THE WITNESS: Right.

25 MR. GORDON: No, I'm talking about their --

1 the rule that you don't unnecessarily break or divide
2 a county --

3 JUDGE SMITH: Okay. Go ahead.

4 MR. GORDON: -- or other township.

5 JUDGE SMITH: Go ahead.

6 THE WITNESS: Yeah.

7 MR. GORDON: Thank you.

8 THE WITNESS: Well, to be clear, those are
9 related rules, but yeah.

10 BY MR. GORDON:

11 Q Just try to answer my question.

12 A So the specific question, yes. So you can see
13 very few counties are divided in this map and only in
14 places where it seems to have been necessary to get
15 the population equality. So there are actually --
16 there's a few places where I mean you've got like
17 this whole section of the center of the state,
18 Southern -- South Central Pennsylvania here with the
19 Ninth District. It is a bunch of whole counties
20 tacked together, and then they had to cut Cumberland
21 County in half and that was it. And they just cut
22 Cumberland County in half. They didn't tack on, you
23 know, bits from every single side. They just cut one
24 county to make up that pop -- in general, that's true
25 it seems like in the places where they had to add a

1 little population to a district. They would just cut
2 a single county to add that population and not try to
3 cut all around the edges in various places.

4 Q Do you see any counties divided twice?

5 A There are a couple counties that are divided --
6 you're saying with multiple divisions?

7 Q Oh, I'm sorry, with fewer --

8 A Yeah.

9 Q -- than an average --

10 A Yeah.

11 Q -- congressional district.

12 A Like so other than --

13 MR. TORCHINSKY: Objection, Your Honor. I
14 don't -- the question was incomprehensible.

15 JUDGE SMITH: Well, I'm unclear. You
16 said -- the question was do you see any counties that
17 were divided twice? Do you --

18 MR. GORDON: Yes, I was asking first
19 whether -- and the reason is you have to divide a
20 county which has more twice, which may have --

21 JUDGE SMITH: I'm not asking --

22 MR. GORDON: -- more than two and --

23 JUDGE SMITH: -- why you're asking the
24 question, I'm asking what the question is.

25 BY MR. GORDON:

1 Q The question was do you see any counties that
2 were divided twice other than counties that had more
3 than a single -- than the average or target
4 population of a congressional district?

5 JUDGE SMITH: All right. Go ahead.

6 THE WITNESS: Right.

7 MR. TORCHINSKY: Objection, Your Honor.

8 Foundation as to the county populations in 1972.
9 There's no -- there's no data here provided, there's
10 no data in her report, there's nothing that indicates
11 what the populations of the counties were in the 1970
12 census.

13 MR. GORDON: I think I can provide that,
14 Your Honor.

15 JUDGE SMITH: Now?

16 MR. GORDON: Yes.

17 BY MR. GORDON:

18 Q Ms. Hanna, did you look at the data from the
19 state website which showed the -- which showed the
20 descriptions of the districts and the populations of
21 each county?

22 A I -- that data wasn't -- that was in the shape
23 files, I believe, that I looked at, yeah.

24 Q And you saw the -- you saw the county
25 populations?

1 A Yeah.

2 Q And you're aware of which counties were larger
3 than a target district?

4 A Yes.

5 Q Thank you.

6 MR. GORDON: May she proceed?

7 JUDGE SMITH: Proceed.

8 THE WITNESS: Okay. So, of course, there
9 were two that were larger than a target district,
10 which were Allegheny and Philadelphia County, and
11 those were divided multiple times. Montgomery is the
12 only one that is -- was -- I believe was less than a
13 single -- or sorry -- was less than a single district
14 that's divided into more than two pieces. Montgomery
15 has three pieces, and you can see that that was
16 probably done just to add a little territory to Bucks
17 County because Bucks was kind of locked there in the
18 corner and it's almost as big as a district, but not
19 quite, so it needed a little bit of territory from
20 Montgomery.

21 BY MR. GORDON:

22 Q Okay. Other than -- other than those, is it a
23 characteristic of the '72 map that you have very few
24 counties broken?

25 A Yes.

1 Q Okay. And where the breaks occur, are they
2 explainable by either adding a smidge -- a small
3 amount -- or the -- I should say adding the necessary
4 or subtracting the necessary population to get to
5 equal districts?

6 A Yes.

7 Q And is it also a characteristic of the 1972 map
8 that the -- that you do not see many, if any,
9 townships or boroughs broken?

10 A Yeah, I don't believe that any are broken outside
11 of Philadelphia and Allegheny County.

12 Q Okay.

13 (Pause in proceedings.)

14 Q And are all of those counties contiguous?

15 A Sorry, what? You mean --

16 Q Or, I'm sorry, all --

17 A -- all the districts?

18 Q -- of the districts contiguous?

19 A Oh, yeah, all the districts are contiguous.

20 Q Okay. In terms of the principles, does it matter
21 that there were more members of Congress in this
22 district than currently?

23 A The only sense in which it matters is that it
24 means that Philadelphia was much larger than a single
25 congressional district, as was Allegheny County, so

1 those counties had to be divided a lot of times.

2 Q Okay. Thank you. Turning to the 1992 map, I
3 want you to first address the issue of compactness.
4 To what extent does this map --

5 JUDGE BAYLSON: The bates number, please?

6 MR. GORDON: Bates number 0581 of Exhibit
7 2.

8 THE WITNESS: So I don't think you finished
9 the question.

10 BY MR. GORDON:

11 Q Can you -- let me finish the --

12 A Yeah.

13 Q The question is can you share with the panel
14 characteristics of this map which demonstrate a
15 degree of compactness, as opposed to long tendrils
16 reaching out and grabbing voters?

17 A So I do want to mention this map is one which
18 starts to have some more issues than previous ones in
19 terms of lack of compactness.

20 Q And by issue -- I'm sorry, you already defined.
21 Go ahead. Can you describe its characteristic in
22 terms of compactness?

23 A Yeah. So in many cases this map is -- in many
24 places this map is still fairly compact, but you do
25 start to see more counties being divided. In

1 particular, you do start to see some places where
2 there are tendrils. For example, if you look at
3 the -- on the -- towards the right edge of the map,
4 the bright red district, which is labeled "Six,"
5 which consists of Berks County and Schuylkill County
6 and then it also has a couple pieces of additional
7 counties. There's a little tiny piece of Montgomery
8 County. And then there is also this like tendril
9 going up along the western edge of Northumberland
10 County. And Montgomery County itself, by the way --
11 and this map has got I think pieces of two --

12 Q Okay. I'm asking about compactness.

13 A Yeah, sorry, compactness.

14 Q Are they -- are there any --

15 A Yeah.

16 Q -- any portions of this map that illustrate
17 reasonable compactness?

18 A Reasonable compactness? Yes. So they are
19 definitely -- most of the portions of this map are
20 reasonably compact. You know, in particular, you
21 look at the Fifth and Tenth District. They're pretty
22 reasonable, which those are the ones along the
23 northern edge --

24 Q Colors?

25 A -- of the state.

1 Q And their --

2 A The green and the pale yellow along the northern
3 edge of the state.

4 Q Okay. How about the Twelfth? Is that reasonably
5 compact? Blue, left-hand side.

6 A Yeah, the Twelfth is reasonably compact. It does
7 have a couple places if you see along the -- the
8 Twelfth is the light blue just to the east of
9 Pittsburgh.

10 Q Okay.

11 A And it does have a few places where it's got some
12 tendrils from the Twentieth to the west coming in,
13 which are a little bit problematic.

14 Q Let me turn specifically to the Tenth District in
15 blue. It includes York and --

16 A Nineteenth. Nineteenth. No --

17 Q Is that Nineteen?

18 A Yeah, that's Nineteenth. Yeah.

19 Q York, Adams, and Cumberland County. Would it be
20 correct that they combined those three counties and
21 they still fell short of population based on what you
22 observe?

23 A Well, sorry, they combined those three counties.

24 It looks like they actually had a little too much
25 with those three counties. They had to chop out a

1 little piece of Cumberland and give it to th
2 Seventeenth because three were a little over
3 population.

4 Q Okay. And in their selection of -- how did they
5 solve the issue in terms of contiguity -- in terms of
6 abutting territory with having too few votes -- too
7 few population in the Nineteenth?

8 A Sorry, too much, too much.

9 Q Too much population.

10 A Yes.

11 Q What did they do?

12 A So what they did there is they took -- they
13 almost kind of filled in a corner of the Seventeenth
14 by taking a few municipalities out of the -- that
15 northeast corner of Cumberland and adding it into the
16 Seventeenth.

17 Q Would the way they do that still be consistent
18 with compactness?

19 A It might potentially be -- at least produce a
20 more compact Seventeenth and a more compact
21 Nineteenth because it kind of smooths that corner a
22 little bit.

23 Q Okay. And is it consistent with the rule, as an
24 engineer, you suggested of taking abutting territory
25 first before you reach into a neighboring county?

1 A Absolutely.

2 Q Okay. Does -- thank you. Does this map, and
3 this is -- this map is the 1992 map. Is it
4 consistent with the traditional criteria of
5 territories being contiguous?

6 A I -- well --

7 Q Yes or no?

8 A Contiguous, yes.

9 Q Okay. Is it consistent with having equal number
10 of population to the extent reasonably practicable?

11 A In terms of the technology available at the time,
12 yes.

13 Q Now, after Vieth, or I'll say hypothetically, if
14 you had to -- if you had to draw districts that were
15 of absolutely equal number to meet constitutional
16 norms of plus or minus one voter based on the
17 proceeding census, would it in any way change your
18 opinion about the feasibility of doing -- of adhering
19 to these traditional districting principles?

20 A No, it's still perfectly possible to do so.

21 Q Okay. And would it still be possible -- in what
22 way would a drafter break a minimum number of
23 townships in order to -- townships, boroughs, or
24 small municipalities in order to reach the identical,
25 equal number?

1 A So the way you would do this, I believe you would
2 start with the large building blocks first and try to
3 construct approximately equal population districts
4 with the largest building blocks, which would be the
5 counties. After that, obviously, you're going to
6 have to start breaking some counties because you
7 won't be able to get perfectly equal populations just
8 with the counties as building blocks. And so at that
9 point you start to look at the edges of your
10 districts. And, you know, if the district doesn't
11 have quite enough population, you want to start
12 adding in municipalities from neighboring counties
13 along the edges of that district in a way that sort
14 of follows the edge of the districts so that you're
15 not, you know, tending to break up communities of
16 interest or disrupt the compactness of the map.

17 Following that, you might find that you
18 can't get the exactly equal population even within
19 municipalities. At that point you might go -- need
20 to go down to precincts or even census blocks. But
21 even then you would want to add them the same way,
22 following the edges of your existing map, tending to
23 fill in and smooth sort of jaggedness in the edge
24 rather than created more jaggedness because that's
25 how you preserve compactness and communities of

1 interest.

2 Q So you would start with assembling counties and
3 then you would look at the -- look at the assembled
4 counties and see if they are plus or minus voters?

5 A Right.

6 Q And then you would add townships, add or subtract
7 townships, based on the need to reach a target
8 number, correct?

9 A Right, but always keeping them sort of
10 contiguous, keeping, you know, compact edges and
11 edges that preserve communities of interest, not just
12 adding randomly in any direction you feel like.

13 Q Okay. And if you -- if you define -- so you
14 could keep them compact and not break up communities
15 by requiring that you add townships or boroughs
16 abutting the existing county and then add -- and add
17 the next row of abutting townships and boroughs?

18 A Correct.

19 Q Okay. And with each district, approximately how
20 many of these smaller entities would you have to
21 crack in order to reach plus or minus a single
22 population?

23 A It will probably depend on the size of your map.
24 I mean the strict number you crack is going to vary a
25 little bit. I don't know if I could give a direct

1 answer to that.

2 Q Well, asked more directly, am I correct or
3 incorrect that when you -- after you've started with
4 counties and then you've adjusted it for townships,
5 it's really just the last township that would need to
6 be broken in order to get to that single vote?

7 A Potentially, yes. It does depend a little bit on
8 the population of your census blocks.

9 Q Why?

10 A Well, because the census blocks have, you know,
11 also a finite amount of population in them, and so
12 you would probably have to do a little bit of
13 adjustment there.

14 Q Okay.

15 A It is certainly true that you would not tend to
16 have reasons where you're densely breaking a lot of
17 townships down to census blocks right in that region.

18 Q And is this feasible to do by hand, first? And
19 then I'm going to ask you computers next.

20 A I think it would be very challenging and time-
21 consuming to achieve that by hand.

22 Q But feasible by hand?

23 A It should be feasible, yes.

24 Q And would it be feasible to do with the aid of
25 computers?

1 A Absolutely.

2 Q Thank you.

3 MR. GORDON: Does the panel have any more
4 questions about neutral districts before we move on?

5 JUDGE SMITH: Proceed, please.

6 MR. GORDON: Okay. Thank you.

7 JUDGE BAYLSON: Let me ask what other
8 topics do you want to cover with this witness, if
9 any?

10 MR. GORDON: Two more topics. They are --
11 actually, I think this is the -- I'm going to -- I'm
12 going to end with this topic, but I'm going to ask
13 her to refer to her report if she has crystalized
14 these rules -- these guidelines for designing
15 districts in a neutral manner.

16 JUDGE BAYLSON: Well, ask her that.

17 MR. GORDON: Okay.

18 BY MR. GORDON:

19 Q Ms. Hanna --

20 JUDGE BAYLSON: So then you're going to be
21 done your direct?

22 MR. GORDON: Yes.

23 BY MR. GORDON:

24 Q Ms. Hanna, can you identify in your -- in your
25 original report a set of principles or guidelines for

1 those dis -- drawing districts based on neutral
2 criteria, which achieve equal districts plus or minus
3 one vote?

4 A Right. So --

5 Q One person, sorry.

6 A So -- yeah, so we've got the sort of fundamental
7 traditional neutral criteria --

8 Q Hang on.

9 A -- and --

10 Q I just want you to do this. I want you to
11 identify what page it's on --

12 A Okay.

13 Q -- and then I want you to read --

14 A All right.

15 Q -- simply read the rules. And then -- and then
16 that will be the end of your testimony.

17 A Got it. So referring to the fourth page in my
18 report I believe, in that case.

19 Q Go ahead.

20 A Is that correct? All right. So these are some
21 possible roles for this purpose. First -- and
22 there's a slight -- for the Judges, there's a slight
23 typo in my report, so I'm going to read it as it
24 should be rather than as it is written. "No county
25 or large city shall be divided unless absolutely

1 necessary to create congressional districts that
2 are" --

3 JUDGE SHWARTZ: Excuse me just one second.

4 THE WITNESS: Yes.

5 JUDGE SHWARTZ: Can you tell us the exhibit
6 number again, please?

7 MR. GORDON: Sure.

8 JUDGE BAYLSON: Is this Exhibit 10?

9 MR. GORDON: It says --

10 JUDGE BAYLSON: That's her original report.
11 Exhibit 11 is her supplemental. I don't think we
12 have her second supplemental as a -- as an exhibit.

13 MR. GORDON: That's her first report.

14 THE WITNESS: Yeah.

15 MS. HARDWICK: My first report is Exhibit
16 10.

17 JUDGE SHWARTZ: Thank you.

18 MR. GORDON: I got to read this a second.
19 It's Exhibit 10?

20 JUDGE BAYLSON: That's her first report.
21 11 is her second report, supplemental. I don't
22 see --

23 MR. GORDON: It's in her first report, Your
24 Honors, on page I believe four.

25 (Pause in proceedings.)

1 JUDGE SHWARTZ: Thank you.

2 JUDGE SMITH: So you're directing the
3 witness' attention to Exhibit 10, page four?

4 MR. GORDON: I'm directing the witness'
5 attention to Exhibit 10, page four, the items number
6 one through five. Okay. And I'm asking the witness
7 if -- to read those into the rec -- to read those
8 both for your benefit and into the record. May I? I
9 mean is that permitted?

10 JUDGE SMITH: I don't think we need -- I
11 don't think we've read it into the record.

12 MR. GORDON: It may be -- if I may suggest,
13 it may be -- I know it seems like it's -- I just -- I
14 think it may be important to making sure you fully
15 understand this, and if the panel has any follow up
16 questions, it will trigger those questions if I
17 have -- if I have her read this.

18 JUDGE SMITH: It's your time, sir.

19 MR. GORDON: Okay.

20 BY MR. GORDON:

21 Q Could you just read the rules --

22 A Right.

23 Q -- starting with one? Go ahead.

24 A Right. So the first one is, "No county or large
25 city shall be divided unless absolutely necessary to

1 create congressional districts that are equal in size
2 to the extent reasonably practicable, and then may be
3 divided only as many times as is absolutely necessary
4 to achieve this objective."

5 Q Okay. Go -- and what do you mean by as many
6 times as absolutely necessary, dividing counties?

7 A I mean you shouldn't divide something into five
8 pieces just because it's, you know, convenient for
9 partisan reasons or something like that.

10 Q Okay.

11 A You should only be doing it for the purpose of
12 equalizing the population.

13 Q All right. Second rule?

14 A "No small city, precinct, borough, township,
15 incorporated town, or ward shall be divided unless
16 absolutely necessary to create congressional
17 districts that are equal in size to the extent
18 reasonable practicable, and then may be divided only
19 as many times as is absolutely necessary to achieve
20 this objective."

21 Q Third rule? Third guide?

22 A "Where additional territory is needed for
23 additional population in a district, it shall be
24 added from the border of a contiguous county and
25 shall move inward only after all of the contiguous

1 county -- the territory of the county has first been
2 utilized."

3 Q Fourth?

4 A "If the county's population is greater than the
5 average congressional district size, any additional
6 population may not be added to adjoining counties the
7 type of population greater than that of the average
8 district. Such additional population must instead be
9 added to adjoining counties whose population is
10 smaller than the average district unless there is no
11 adjoining county which is smaller than an average
12 district."

13 Q And what would that guidepost do for counties
14 like Montgomery County which are larger than one
15 congressional district?

16 A Right. So one key feature of the way that
17 Montgomery County has been divided in more recent
18 years is that Montgomery, particularly, is a county
19 that has sort of a partisan gradient along it in
20 terms of, you know, preferences one way or the other.
21 And if you can decide where -- you know, if you can
22 just take -- so Montgomery and Philadelphia are both
23 well over the size of an average congressional
24 district. And so if you can say that I want to take
25 population from Philadelphia and shift it into

1 Montgomery County to form a district -- combine it
2 with pieces of Montgomery County to form a district,
3 then if you can select exactly, you know, how many
4 times you want to divided Montgomery County and where
5 you want to do that, you can sort of tweak Montgomery
6 County to get, you know, your --

7 Q Let me just --

8 A -- partisan preference.

9 Q Let me try to ask specific questions.

10 A Yeah, sorry.

11 Q So would this -- would this rule prevent you from
12 taking extra votes in Philadelphia and push them into
13 a county which already has more than enough votes?

14 A Right. It's kind of an aid to packing.

15 Q It's a yes or no question.

16 A Yes.

17 Q Okay. And what -- and is it true that the
18 additional votes -- if you have a district -- a city
19 with too many votes beyond its boundaries or county,
20 those votes would push into a neighboring county or
21 district which has fewer than the target number of
22 votes?

23 A Right, that would -- that would be the preferable
24 thing --

25 Q Okay.

1 A -- to do.

2 Q And then, fifthly, what is the fifth guidepost
3 for drawing neutral traditional districts?

4 A "Districts shall be reasonably compact. An
5 appropriate compactness score can be derived by using
6 any of several common measures of geometric
7 compactness, the simplest and most intuitive being
8 the Polsby-Popper, Schwartzberg, and Reock measures."

9 Q Are these common measures used by districtors,
10 those working in districting, based on all of the --

11 MR. TORCHINSKY: Objection, Your Honor.

12 BY MR. GORDON:

13 Q -- based upon your --

14 JUDGE SMITH: Let him finish his question.

15 BY MR. GORDON:

16 Q -- based upon your review of the literature and
17 your work as an engineer?

18 MR. TORCHINSKY: Objection, Your Honor.

19 Ms. Hanna has no expertise in actually drawing
20 congressional districts, and he's asking her to opine
21 what districtors do.

22 JUDGE SMITH: I'll sustain the objection.

23 You may be able to pursue the inquiry with a
24 different question, sir.

25 BY MR. GORDON:

1 Q Did you consider measures of compactness when you
2 derived guidelines for drawing districts based on
3 traditional neutral criteria?

4 A Yes.

5 Q Okay. And in your consideration -- and in your
6 consideration of those measures, did you find any
7 measures that were commonly used by those drawing
8 districts in a compact manner?

9 A I want to emphasize that I prob -- I don't know
10 what legislators do.

11 Q Yes or no? It's a yes or no question.

12 A Well, I just --

13 Q It's a yes --

14 A Let me ask the question -- ask for clarification
15 here. Are you referring --

16 JUDGE SMITH: Please -- just a moment,
17 please. You are a witness. You are not a
18 questioner. Please direct your attention to counsel
19 and answer the questions he poses to you. If you're
20 not able to answer or if you wish clarification, just
21 tell him that.

22 THE WITNESS: Yeah, let me ask for
23 clarification. So are you referring to legislators
24 or researchers or -- in terms of this question?

25 BY MR. GORDON:

1 Q I'm not referring to legislators. I'm referring
2 to researchers that are attempting to research the
3 creation of neutral criteria for the drafting of
4 congressional districts.

5 A All right. Okay. So yes, these are
6 absolutely --

7 MR. TORCHINSKY: Objection, Your Honor.
8 She's not qualified to be an expert in what neutral
9 districting criteria researchers would be studying.

10 JUDGE SMITH: Overruled. Proceed, please.

11 THE WITNESS: These are absolutely used in
12 all kinds of research on the subject everywhere.
13 This is how scientists quantify these questions.

14 BY MR. GORDON:

15 Q Okay. And have all of the opinions you've
16 expressed today been made with a reasonable degree of
17 certainty as an engineer, as a computer science --

18 A Yes.

19 Q -- computer person, and as someone who is skilled
20 in the area of data analytics?

21 A Yes.

22 Q Thank you.

23 (Pause in proceedings.)

24 MR. GORDON: No further questions.

25 JUDGE SMITH: Thank you.

1 MR. GORDON: Does the panel have any follow
2 up questions?

3 JUDGE SMITH: No, I think we should proceed
4 with cross-examination. If we have any questions
5 following the cross-examination, we'll pose them.
6 Thank you.

7 CROSS-EXAMINATION

8 BY MR. TORCHINSKY:

9 Q Ms. Hanna, in your rules for criteria, is there
10 any consideration given to the Voting Rights Act?

11 A I -- which section are you referring to, the four
12 traditional --

13 Q Your set of five rules that you just read --

14 A Okay.

15 Q -- to the Court. Was there any mention of the
16 Voting Rights Act?

17 A I do not specifically mention --

18 Q It's --

19 A -- it in those criteria.

20 Q Okay. Thank you. And with your compactness
21 measures, in your report and at deposition, you
22 mentioned the '31, '41, '51 congressional districts
23 as the ones that you should look at for ideal
24 compactness, yet here today, you testified that the
25 '72 and '92 maps are the ones that should be looked

1 at. Why the difference?

2 A I'm sorry, that's not -- I don't think that's an
3 accurate characterization in what I said.

4 Q Your fifth rule says the legislature could look
5 to the compactness that was there -- that was present
6 in the '31, '41, '51 and '61 districts, correct?

7 A Yes, I used that as an example for compactness.

8 Q Okay. And yet today in court, the maps that you
9 pointed the panel to were the 1970s maps and the
10 1990s maps, is that correct?

11 A It is correct that they are -- they are not -- I
12 was not using them for the same purpose. The '71 --
13 or the '72, or whatever, and '82 maps are referred to
14 not simply for compactness, but also for
15 understanding how the districts can be kept compact
16 in light of improving -- you know, improving
17 requirement for population equality.

18 Q When you looked at the '31, '41, '51, and '61
19 maps were you aware that that was before the Supreme
20 Court imposed the one person, one vote requirements?

21 A Yes.

22 Q So the compactness of those districts were
23 established when there was a very different set of
24 criteria for map drawers, correct?

25 A It's possible to improve compactness.

1 Q That wasn't my question.

2 A Okay.

3 Q My question was were those districts created when
4 there was a wholly different set of rules for map
5 drawers, in other words equal population rules didn't
6 exist when those maps were drawn, correct?

7 A That is true.

8 Q Okay. Next, I want to draw your attention to
9 number 0581, the 1992 map, since you said you
10 downloaded and reviewed the various past
11 congressional maps. I point you to the 1992 map.

12 A All right. Let me pull that out. Hang on.

13 Q Sure. It's number 581.

14 A Yeah, I got it.

15 JUDGE SMITH: And we are in exhibit what,
16 plaintiffs' exhibit what?

17 MR. TORCHINSKY: Sorry, 2, Plaintiffs'
18 Exhibit 2. So this is right in the middle of the
19 maps that she was just referring to.

20 JUDGE SMITH: Yes. Thank you.

21 (Pause in proceedings.)

22 JUDGE BAYLSON: 0581?

23 MR. TORCHINSKY: Yes, the 1992 maps.

24 BY MR. TORCHINSKY:

25 Q Are you familiar with the 1992 congressional map?

1 A Reasonably familiar, yes.

2 Q Did you study the 1992 map?

3 A Yes, I did.

4 Q What -- are you aware that the Pennsylvania
5 Supreme Court drew the 1992 map?

6 A Yes.

7 Q Are you aware that the Pennsylvania Supreme Court
8 said that you can -- that you should consider the
9 cores of existing districts?

10 A Yes.

11 Q Did your criteria include any respect for cores
12 of existing districts?

13 A I did not specifically mention them by name.

14 Q Okay. Are you aware that the Pennsylvania
15 Supreme Court said you should avoid pairings of
16 incumbents?

17 A I am very aware of that.

18 Q Did you address that in your traditional
19 districting criteria?

20 A I did not specifically mention it by name.

21 Q Did you mention it at all?

22 A I actually discussed it in my supplemental report
23 when I talked about the Twelfth District.

24 Q I'm asking when you set out your neutral criteria
25 did you include anything about avoiding pairings of

1 incumbents?

2 A I did not specifically mention that by name, as I
3 said.

4 Q Thank you. Are you aware that the Pennsylvania
5 Supreme Court said compliance with the Voting Rights
6 Act is a traditional districting criteria?

7 A Yes.

8 Q And in your traditional neutral districting
9 principles, that doesn't appear, does it?

10 A I believe I mentioned it in my report, but it's
11 not on the specific bullet list.

12 Q So at lines one through five, when you lay out
13 your steps you don't require compliance with the
14 Voting Rights Act?

15 A I'm sorry, I require things?

16 Q I'm sorry --

17 A Am I requiring things now?

18 Q When Mr. Gordon was describe -- asking you
19 questions and when you were describing them you
20 referred to them as rules.

21 A Sorry, some parts of these are rules and some
22 parts of these are traditional neutral districting
23 criteria. And these rules are suggested rules, I
24 want to be clear, for --

25 Q Okay. And --

1 A -- improving how the traditional districting
2 criteria are applied.

3 Q I'm sorry, what are the differences between
4 suggestions and rules in your --

5 A So --

6 Q -- in your report?

7 A -- I don't think I really --

8 JUDGE SMITH: The witness is not a rule-
9 maker.

10 THE WITNESS: Yeah.

11 JUDGE SMITH: The Court is well-aware of
12 that.

13 MR. TORCHINSKY: Right.

14 THE WITNESS: Thank you.

15 MR. TORCHINSKY: I get -- I understand
16 that.

17 THE WITNESS: Thank you.

18 MR. TORCHINSKY: And that's my point, Your
19 Honor, there were seriously -- significant issues
20 missing from that map.

21 BY MR. TORCHINSKY:

22 Q Let's also look at that 1992 map. I think you
23 had some criticisms of District 12 in the 2011 map.
24 I point you to District Four in the 1992 map --

25 A All right.

1 Q -- that the Pennsylvania Supreme Court drew. Do
2 those districts look roughly familiar -- or roughly
3 similar?

4 A District Four and what? What --

5 Q District four in the 1992 map and District Twelve
6 in the 2011 map. Do they have a similar shape?

7 A Yes, and I believe I've said that this map has
8 some problems in it, and that is actually one of
9 them.

10 Q Oh, so the --

11 A District Four is absolutely problematic in this
12 map.

13 Q So the Court's map was problematic?

14 A I do think that the Court drew -- allowed some
15 maps to be drawn that had some issues in them.

16 Q Did the Courts allow them to be drawn or did the
17 Court draw the map?

18 A I don't know that I'm familiar with the details
19 of that case, but that's not really relevant.

20 Q Okay. So even when -- do you consider courts to
21 be neutral drawers of maps?

22 A Some courts certainly are. I can't speak for all
23 courts.

24 Q Okay. When you wrote your report on your -- on
25 your rules and suggestions you were disclosed to us

1 and your report was disclosed to us on November 7th.
2 What day did Mr. Gordon engage you to be an expert in
3 this case?

4 A It was indeed November 7th.

5 Q And that was after the November 1st deadline for
6 expert witness disclosure?

7 A I have no idea about that. That's not my --

8 Q And you were engaged on the 7th and you wrote
9 your report on the 7th?

10 A I did.

11 Q So you wrote your report in one day?

12 A Pretty much, yes, based on the history of
13 studying this over the past year that I had gone
14 through.

15 Q I'm sorry, year or nine months? You said you
16 started working on this in February, correct?

17 A This year, 2017. Over this year, the year that
18 we are currently in, 2017.

19 Q But less than 12 months?

20 A Yes, less than 12 months.

21 Q Okay. I want to turn your attention back to
22 what's labeled as Plaintiffs' Exhibit 34, or Turzai
23 1364, the one that's labeled "CD18 Maximized." A
24 minute ago, or during your direct testimony, you said
25 that pairing two Democrats in a district would

1 eliminate two Democrats. Is that accurate?

2 A It certainly depends on how you draw your
3 district. If you draw it as a Republican District,
4 then you definitely will. If you draw it as a
5 Democratic or just don't even -- aren't concerned
6 about the partisan information, then maybe not.

7 Q When District 12 was drawn was there any
8 Republican incumbent drawn into District 12, the
9 district that paired two Democrats?

10 A No, there was not, but it was given a significant
11 Republican lane.

12 Q But there was no Republican incumbent in those
13 districts?

14 A Not at the time.

15 Q In your review of election history, is there an
16 incumbency advantage when an incumbent runs in their
17 district?

18 A It varies and it also depends on how strongly one
19 way or the other the district is in and of itself.

20 JUDGE SMITH: And let me ask you to clarify
21 that question because especially in modern electoral
22 history, there is a difference between running as an
23 incumbent in a primary and running as an incumbent in
24 a general election.

25 MR. TORCHINSKY: That is true.

1 BY MR. TORCHINSKY:

2 Q In -- so what you see is what's called "CD18
3 Maximized." Was that the adopted map?

4 A It was not. Presumably, other considerations
5 came into play in the adopted map.

6 Q I'm sorry, I wasn't asking you that question. My
7 question was was "CD18" -- or was the map titled
8 "CD18 Maximized" the adopted map?

9 A Indeed it was not. There were many other maps
10 that were drawn that were closer to the adopted map.

11 Q That wasn't my question. Please just limit your
12 answers to the questions that I ask. In -- on this
13 map labeled "CD18 Maximized," can you tell me next to
14 the 18 district numbers how many of those were --
15 have a number that is -- a letter that is D and a
16 number that is greater than one?

17 A Sorry, you're talking about the table in the
18 upper, left corner here?

19 Q Yes.

20 A In this map -- and I would guess this is probably
21 actually why they didn't use this map -- there are
22 one, two, three, four, five, six -- am I counting
23 this right? Yeah, there are six districts labeled D.

24 Q Six districts labeled D. And how many districts
25 labeled with a zero?

1 A One, two -- it looks like there's two labeled
2 zero.

3 Q So that would have -- I mean so this district
4 that's labeled "CD18 Maximized" was not, in fact, the
5 adopted map and you're not -- you don't really know
6 what these 18 numbers would be for the currently
7 adopted maps, do you?

8 A I don't have them right off the top of my head,
9 but I did cite some of the PVI values in my seconds
10 supplemental if you want me to turn to that.

11 Q No, I really don't, actually.

12 A I know. I know you don't. My first
13 supplemental, sorry, I mean.

14 Q The Cook PVI, are you familiar with that?

15 A I'm familiar with some things about it. What,
16 specifically, are you asking about it?

17 Q What is the Cook PVI?

18 A It is a measure of how much more Republican or
19 Democratic a particular region is than the country as
20 a whole, on average, and I believe they average the
21 previous two presidential elections.

22 Q Oh, it's a -- so it's an average of the previous
23 two presidential elections?

24 A It's related to, yeah, an average of them.

25 Q But is it a straight average?

1 A You know, I don't have the exact formula off the
2 top of my head. I wouldn't be able to tell you that,
3 sorry.

4 Q So you wouldn't know how to calculate the PVI?

5 A I couldn't calculate it for you right here in the
6 courtroom, but I could look it up and do it easily.

7 Q I want to go back to your comments about the file
8 structure in your second supplemental report of
9 the --

10 A Sorry, first or second supplemental --

11 Q Your first -- your first supplemental where you
12 reviewed the Turzai data files.

13 A All right. Give me a minute.

14 (Pause in proceedings.)

15 Q You made a comment about the files that had the
16 numbers after them. Are you familiar with how legal
17 discovery software works and adds tax to file names?

18 A I don't know exactly how legal discovery software
19 works. I did eventually realize that these were
20 supposed to be bates numbers and that's why they were
21 numbered like this.

22 Q Okay. So it wasn't that the data was given to
23 you in any corrupted format?

24 A I would say it was given in a corrupted format.
25 I can't say that it was done deliberately.

1 Q Okay. Now, in your file, you mentioned twice
2 that you consulted with other GIS researchers.

3 A Yeah.

4 Q Who were the other GIS researchers you were
5 consulting with?

6 A Who did I talk to? I did talk to Lee
7 Hachadoorian and --

8 Q I'm sorry, who is he?

9 A He's a GIS researcher at Temple.

10 Q And who else?

11 A I don't even remember what -- can we -- can we
12 turn to what page that is? I don't remember what
13 specifically we're talking about.

14 Q Your report doesn't actually have page numbers.

15 A Yes, it does.

16 JUDGE SMITH: Excuse me.

17 MR. TORCHINSKY: Sorry, it's page six.

18 JUDGE SMITH: Excuse me. Can you remind
19 the Court and for the purposes of the record the
20 exhibit number that you're referring to?

21 MR. TORCHINSKY: It's --

22 JUDGE SMITH: I ask counsel and the
23 witness --

24 MR. TORCHINSKY: It's Number 11.

25 JUDGE SMITH: -- to always --

1 MR. TORCHINSKY: It's Plaintiffs' 11.

2 JUDGE SMITH: Thank you. -- to always
3 identify the page.

4 MR. TORCHINSKY: Sure. It's page six.

5 JUDGE SMITH: Thank you.

6 THE WITNESS: I did also briefly ask Dan
7 McGlone if he had seen file names like that, that was
8 it.

9 BY MR. TORCHINSKY:

10 Q And why did you need to consult with other GIS
11 researchers?

12 A Because I couldn't believe what I was seeing and
13 I was -- I tend to be very thorough about making sure
14 before I say something, and so I wanted to sanity
15 check myself.

16 Q So you didn't know the answers?

17 A I was pretty confident of the answer, but I
18 always like to sanity check myself.

19 Q Did you have written correspondence with them?

20 A On that subject? I don't even remember.

21 Q Did you provide either one of them copies of the
22 files that you were asking questions about?

23 A Dan had them independently of me. I didn't give
24 Lee anything.

25 Q Excuse me for just a moment.

1 (Pause in proceedings.)

2 MR. TORCHINSKY: I have no further
3 questions, Your Honor.

4 JUDGE SMITH: At this juncture the panel
5 may have some questions. So before we go to
6 redirect, let me call upon Judge Baylson.

7 JUDGE BAYLSON: Okay. We mentioned the
8 term "previously incumbency." Am I -- is it correct
9 that you did or did not take that into account in any
10 of your reports?

11 THE WITNESS: Sorry, can you clarify?

12 JUDGE BAYLSON: Well, the fact that in some
13 districts, congressional districts, there are
14 incumbents, that's current officeholders.

15 THE WITNESS: Right.

16 JUDGE BAYLSON: Now, if there's a
17 redistricting, did you consider whether incumbency
18 was a factor that played a role in constructing the
19 districts in any of these maps?

20 THE WITNESS: Well, so yes. If you
21 remember, I -- it was only mentioned briefly. One of
22 the things that was in that Turzai data production
23 was a list of -- or was a data file showing the
24 locations of the incumbent representatives' homes.

25 JUDGE BAYLSON: All right. You didn't list

1 incumbency as one of your five factors?

2 THE WITNESS: Oh, yeah, not -- I did not
3 specifically list it there, no.

4 JUDGE BAYLSON: All right. Is there any
5 reason why you did not include it?

6 THE WITNESS: It's not something that I
7 considered important, first of all. It just -- I
8 don't -- in my personal sort of ethics I don't really
9 care about it. Secondly --

10 JUDGE BAYLSON: Well, you were -- you mean
11 setting out five principles that you think people,
12 whether they're judges or legislators, should
13 consider in fashioning reapportionment when it's
14 necessary after a census, correct?

15 THE WITNESS: Yeah. I don't know that I
16 consider these to be exhaustive, but I was monitoring
17 them on what I had seen in some previous legislation,
18 which does -- I have not seen legislation that
19 specifically includes --

20 JUDGE BAYLSON: Well, in your --

21 THE WITNESS: -- incumbency protection.

22 JUDGE BAYLSON: -- research into
23 Pennsylvania, did you find any examples where there
24 was redistricting to protect an incumbent?

25 THE WITNESS: That is not something I

1 specifically studied in detail. I mean I can
2 certainly see that there were incumbency protection
3 and incumbency attacks in the 2011 maps, but I
4 haven't studied other historical districts on that
5 subject.

6 JUDGE BAYLSON: Okay. All right. Next,
7 are you familiar with the term "algorithm?"

8 THE WITNESS: Yes.

9 JUDGE BAYLSON: Did you use algorithms in
10 any of your work?

11 THE WITNESS: "Algorithm" is a pretty broad
12 term, so --

13 JUDGE BAYLSON: Well, how would you define
14 it?

15 THE WITNESS: An algorithm is a very
16 standardized step-by-step procedure to do, you know,
17 some task.

18 JUDGE BAYLSON: Well, is it -- is it used
19 for prediction?

20 THE WITNESS: It can be.

21 JUDGE BAYLSON: Are you familiar whether
22 any of the people who were involved in the 2011
23 redistricting used algorithms --

24 THE WITNESS: Oh, okay.

25 JUDGE BAYLSON: -- did or did not?

1 THE WITNESS: Sorry, now I'm understanding
2 where you're going. I was not in receipt of any data
3 which was able to clarify whether they used any sort
4 of mathematical algorithms to generate their
5 districts, unfortunately.

6 JUDGE BAYLSON: So you have no idea whether
7 it was used or not used?

8 THE WITNESS: No, I mean there was the
9 index '04 and '08 columns in the data set, which I
10 don't have the formulae behind. But other than that,
11 I don't have any details on other tools they might
12 have used beyond just standard GIS software.

13 JUDGE BAYLSON: All right, thank you.

14 MR. TORCHINSKY: Your Honor --

15 JUDGE SMITH: A question or two. With
16 reference to your five criteria set forth in page
17 four --

18 THE WITNESS: Yes, sir.

19 JUDGE SMITH: -- of Exhibit 10, you
20 characterize these in your report I think as useful
21 additional guidelines. You say, "Some useful
22 additional guidelines to avoid gerrymandered maps
23 might be as follows," and then you go on to list
24 these --

25 THE WITNESS: Right.

1 JUDGE SMITH: -- five criteria. Should we
2 take from the five criteria, as you have articulated
3 them, that they exclude as permissible any partisan
4 political consideration in the process of
5 redistricting?

6 THE WITNESS: I would say that yes, that
7 should be a bedrock, that partisan political
8 information should be excluded as part of
9 constructing the districts. I can see it as useful
10 in maybe evaluating the districts to detect whether
11 somebody has deliberately manipulated them for
12 partisan purposes, but I would not want to see them
13 used in construction of the districts.

14 JUDGE SMITH: Any partisan political
15 (indiscernible)?

16 THE WITNESS: I mean if you have something
17 specific you're thinking of -- I mean there's
18 always --

19 JUDGE SMITH: I have nothing --

20 THE WITNESS: Yeah.

21 JUDGE SMITH: -- specific, but --

22 THE WITNESS: Yeah.

23 JUDGE SMITH: -- when we talk about
24 crafting rules or crafting guidelines or crafting
25 principles, they themselves ought to be, as much as

1 possible, neutral, so I'm -- and specific, so I'm
2 just wondering if you believe that redistricting
3 as -- the redistricting process as carried out
4 pursuant to these additional guidelines should do so
5 without consideration of any partisan interest.

6 THE WITNESS: Absolutely.

7 JUDGE SMITH: All right. Secondly -- and
8 this follows up on Judge Baylson's question -- are
9 your five criteria articulated with a view toward
10 eliminating any consideration at all as permissible
11 in redistricting of incumbency of a member of
12 Congress?

13 THE WITNESS: That is a hard question. I
14 don't know if I have a perfect answer to you off the
15 top of my head. I tend to not be supportive of too
16 much consideration of incumbency protection because I
17 believe that if the voters want to keep their
18 incumbent, they should be able to make that decision.
19 But, you know, I haven't -- I don't know that I'm
20 prepared to say that no consideration, but I would
21 say that it should not be a key factor at the very
22 least.

23 JUDGE SMITH: Fair enough.

24 MR. TORCHINSKY: Your Honor, may I ask one
25 final question?

1 JUDGE SMITH: Yes, we'll allow that and
2 then we'll turn back for redirect.

3 BY MR. TORCHINSKY:

4 Q Ms. Hanna, have you ever actually used your five
5 guidelines and drawn any maps for the State of
6 Pennsylvania?

7 A We've done the very sort of grouped hand drawn
8 maps where we've done sort of a coarse breakdown of
9 the state. We haven't yet had the -- gotten the
10 software assembled to do the detailed use of these
11 criteria.

12 Q So, to be clear, you've never actually applied
13 this criteria?

14 A I have not applied them to detailed data, only to
15 coarse-grained data.

16 MR. TORCHINSKY: Thank you, Your Honor.

17 JUDGE SMITH: Redirect?

18 MR. GORDON: Yes.

19 (Pause in proceedings.)

20 REDIRECT EXAMINATION

21 BY MR. GORDON:

22 Q Ms. Hanna, once a drafter of districts utilized
23 these criteria to draft districts, would it be
24 feasible to make slight modifications to the
25 districts to accommodate incumbents, yes or no?

1 A In general, probably yes.

2 Q Okay. And referring to the five criteria, did
3 you ever represent this -- strike that. Would it do
4 any -- would it be feasible to draw congressional
5 districts using the five criteria and add to that
6 adjustments to ensure compliance with the Voting
7 Rights Act, yes or no?

8 A Yes, especially in Pennsylvania.

9 Q Okay.

10 (Pause in proceedings.)

11 MR. TORCHINSKY: No further questions.

12 JUDGE BAYLSON: I have one more.

13 JUDGE SMITH: Please.

14 JUDGE BAYLSON: Getting -- I want to get
15 back to incumbency, and I'm not asking you for your
16 political opinions --

17 THE WITNESS: Sure.

18 JUDGE BAYLSON: -- but just from a map
19 drawing and reapportionment task. And as a prelude
20 to this -- but just to bring this into reality,
21 you're aware that we've got 50 states and when
22 Congress goes about setting appropriations and things
23 like that, the Congress -- congressional
24 representatives from each state are supposed to, and
25 they usually do, advocate for their state in getting

1 appropriations, et cetera, is that correct?

2 THE WITNESS: Yes.

3 JUDGE BAYLSON: Okay. And seniority, in
4 Congress, means a great deal, is that correct?

5 THE WITNESS: To the congressmen and to
6 their power, yes.

7 JUDGE BAYLSON: And also to the people of
8 the state.

9 THE WITNESS: Right.

10 JUDGE BAYLSON: So if there is an incumbent
11 who has been there for a while and has seniority in
12 Washington, is that a legitimate factor in taking
13 into -- more than near incumbency.

14 THE WITNESS: Right.

15 JUDGE BAYLSON: It's -- I would call it
16 incumbency-plus, that this --

17 THE WITNESS: Right.

18 JUDGE BAYLSON: -- individual, man or
19 woman, R or D, white or black or whatever --

20 THE WITNESS: Right.

21 JUDGE BAYLSON: -- has seniority in
22 Congress and has proven their ability to bring more
23 dollars to Pennsylvania. Is that a factor for the
24 people who draw maps in Pennsylvania to take into
25 account?

1 THE WITNESS: I would say that if an
2 incumbent is really that good at what they're doing,
3 the voters should be able to recognize that and make
4 that decision for themselves. And so I would not say
5 that it's something that necessarily should be a
6 consideration for the map drawers, but rather for the
7 voters.

8 JUDGE BAYLSON: All right. Thank you.

9 JUDGE SMITH: Would you wish to follow up
10 on --

11 MR. GORDON: Yes, one follow up on Judge
12 Baylson's question.

13 BY MR. GORDON:

14 Q If those wishing to utilize a set of neutral
15 criteria such as you have described wished to include
16 consideration or protection of incumbent
17 congresspersons, is it feasible to do this by making
18 adjustments to your map at the -- you know, after
19 you've used these five criteria, yes or no?

20 A I think you could do it with --

21 Q Yes or --

22 A Yeah, yeah, I think you could --

23 Q First, a yes or no?

24 A Yeah.

25 Q And that --

1 A I would say yes. Yes.

2 Q Okay. Please explain.

3 A I think it would require -- you would probably
4 have to do very minor adjustments provided you -- I
5 mean you can also use some things like preservation
6 cores of previous districts in order to even put sort
7 of (indiscernible) that into the original maps as you
8 draw them.

9 Q Okay. You have -- and would you be able to, as
10 an engineer with expertise in computers, would you be
11 able to convert this or would a computer expert be
12 able to convert a set of rules like this into an
13 algorithm for assisting the creation of districts, an
14 algorithm that would have to be checked at the end by
15 humans?

16 A Absolutely.

17 Q Thank you. No further questions.

18 JUDGE SMITH: Do you have recross?

19 MR. TORCHINSKY: No, Your Honor.

20 JUDGE SMITH: Mr. Aronchick, I've -- you've
21 been very quiet over there, but I know enjoying this
22 very much. Would you like to ask any questions?

23 MR. ARONCHICK: I really don't.

24 JUDGE SMITH: Thank you very much. The
25 witness may step down. Thank you.

1 THE WITNESS: Thank you.

2 (Witness excused.)

3 JUDGE SMITH: We're going --

4 MR. TORCHINSKY: Your Honor, one scheduling
5 matter. Mr. Gordon and I agreed last night.
6 Professor McCarty had some time constraints and we
7 agreed to try to put him on for his direct around
8 11:30 hoping we can get through his direct before
9 lunch and then continue with his cross after lunch,
10 and I think it was Mr. Gordon's intention to call
11 some of the plaintiff witnesses before we -- before
12 we call Professor McCarty.

13 JUDGE SMITH: We will certainly accommodate
14 counsel in any way they can agree upon. I should
15 have mentioned this when we reconvened first thing
16 this morning. We will need to take our midday break
17 pretty promptly at noon. I have a meeting that I
18 must attend, albeit briefly. So it will only be a
19 one-hour break, but we may need to interrupt the
20 questioning --

21 MR. TORCHINSKY: Oh, that's no problem,
22 Your Honor.

23 JUDGE SMITH: -- because of that time
24 period.

25 MR. TORCHINSKY: Thank you.

1 JUDGE SMITH: All right? All right, we'll
2 be in recess, about five minutes.

3 (Recess taken from 10:32 a.m. to 10:39
4 a.m.)

5 JUDGE SMITH: It's 10:39. We'll reconvene.
6 I'll ask counsel how we're going to proceed.

7 MR. GORDON: Your Honor, we're going to
8 call two -- at least two plaintiff witnesses, one or
9 two, then we're going to turn to Professor McCarty,
10 part of the defense case. We're taking him out of
11 order to accommodate Mr. McCarty -- Professor
12 McCarty's schedule.

13 JUDGE SMITH: Very well.

14 MR. GORDON: All right? Our first witness,
15 with your permission, is Louis Agre.

16 (Pause in proceedings.)

17 LOUIS AGRE, Plaintiff's Witness, Sworn.

18 COURTROOM DEPUTY: Thank you. Please state
19 your full name and spell your last name for the
20 record.

21 THE WITNESS: Louis Agre, L-O-U-I-S A-G-R-
22 E.

23 MR. GORDON: Your Honor, may I be given a
24 little bit of leeway on the bio to keep things
25 moving?

1 JUDGE SMITH: Certainly. You may lead on
2 that if you would like to --

3 MR. GORDON: Okay.

4 JUDGE SMITH: -- or whatever.

5 DIRECT EXAMINATION

6 BY MR. GORDON:

7 Q Mr. Agre, you grew up in Mt. Airy?

8 A Yes.

9 Q Okay. And you attended high school in Chestnut
10 Hill?

11 A No, I attended high school in Mt. Airy and
12 Germantown and Center City.

13 Q Oh, I'll keep going. All right. And then you --
14 and then you attended college at the School of Labor
15 Relations at Cornell?

16 A Yes.

17 Q Okay. And after that, you became a labor
18 organizer. You organized J.P. Stevens workers in
19 North and South Carolina and Virginia, is that
20 correct?

21 A Yes.

22 Q And thereafter, you attended law school at Temple
23 University?

24 A Yes.

25 Q And we, in fact, took ICLE classes together?

1 A Yes.

2 Q All right. (Indiscernible) for the New Jersey
3 member of the panel. And then -- and then what did
4 you do? What is your career now?

5 A I worked for a labor firm, then I worked for
6 myself for several years, and then -- as a small law
7 firm, and then I -- I'm now an organizer, business
8 representative, and counsel to International Union of
9 Operating Engineers, Local 542.

10 Q Okay. And operating engineers, are they, for
11 example, the folks that maintain officer buildings?

12 A That's not our local. Our local is heavy
13 equipment operations and metal shops and people that
14 repair equipment.

15 Q Okay. And what region of the country does your
16 immediate local involve?

17 A State College, east to the Jersey/Delaware --
18 Delaware River and the State of Delaware.

19 Q Okay. Where do you reside?

20 A Roxborough.

21 Q And --

22 A In Philadelphia.

23 Q Yeah. Are you -- and you're a ward leader in
24 Roxborough?

25 A Yes, Roxborough and Manayunk.

1 Q And Roxborough is the Twenty-first Ward?

2 A Yes.

3 Q Is that the largest ward in the City of
4 Philadelphia?

5 A Geographically and most divisions and I think
6 voters.

7 Q Okay. And how long have you been a ward leader?

8 A 16 years.

9 Q Okay. It's fair to say you're a ward leader
10 for -- in the Democratic Party?

11 A Yes.

12 Q Okay. And what is your role as a ward leader?

13 A To stay -- get Election Board staffed so we can
14 have the election go forward, to have our candidates
15 win, to deal with problems people are having with the
16 city, cut the red tape, to get Democrats elected in a
17 primary that are favored by the ward, and just
18 generally represent the Democratic Part in the
19 Twenty-first Ward and deal with people's, you know,
20 problems.

21 Q Okay. Have you ever run for office?

22 A Yes.

23 Q As a Republican or Democrat?

24 A Democrat.

25 Q Okay. And why did you go into labor law -- or

1 labor relations? Why are you a -- why are you a
2 union organizer?

3 A Well, you know, I feel I do God's work by getting
4 people's -- changing people's lives. I mean somebody
5 who you see that was scraping by with his kids on
6 chips and you get him a good job and now he's, you
7 know, buying a house, his kids have a future. It's
8 really the American dream is why people join unions.
9 And look, college is not for everybody and working
10 people have a role in this country, and if they're
11 going to work, they should work for good wages and
12 good benefits and safe working conditions.

13 Q Okay. Have you been a member of the Democratic
14 Party for most of your life?

15 A Well, since I was 18.

16 Q Okay. And how old are you now?

17 A 63.

18 Q A number of years. Okay. Mr. Agre, how, if at
19 all, has the adoption of the 2011 map harmed your
20 civil or political rights?

21 A Well, look, I live in a -- I live in a district
22 that is 90-some percent -- I don't know --

23 Q I'm going to -- I apologize. I --

24 A I live in the Second Congressional District.

25 Thank you.

1 Q Right. I forgot to ask two more questions. You
2 live in the Second Congressional --

3 A Yes.

4 Q -- District, is that right?

5 A Yes.

6 Q Okay. And that is a -- it's a 91 percent
7 performing -- if you know, would --

8 A I have no idea.

9 Q Okay. Well, I won't ask that question. Is it a
10 predominantly Democratic district?

11 A It is a very Democratic district. In fact, I
12 think, anecdotally, I recall that Chaka Fattah, who
13 was a congressman prior to Dwight Evans, had the
14 highest percentage of votes of any congressman in the
15 country in certain elections.

16 Q Okay. So you're a Democrat in a Democratic
17 district?

18 A Yes.

19 Q Okay. In that context, how, if at all, were you
20 harmed as a result of the 2011 map and the
21 legislation that created it?

22 A Well, if I'm a Democrat in a Democratic district,
23 it takes -- I have very little influence over my
24 congressperson. I mean he can, you know, put me on
25 the pavement.

1 Q Let me start with how was your individual vote
2 affected?

3 A My individual vote affected is it's watered down.
4 If I'm one of 90 percent, it's not as much as
5 somebody who is one of 51 percent. If it takes
6 50,000 -- I think the number if 50,000 more
7 Democratic votes in Pennsylvania to elect a Democrat
8 than a Republican. So every time I go to vote I
9 don't have as much say, and my wife doesn't, the kids
10 don't have as much say, everybody in my household.
11 So we -- our votes are watered down by living in a --
12 in a -- such a highly concentrated district. And
13 further, if -- we have three congresspeople in
14 Philadelphia. If we had better districts, we may
15 have four. They have five.

16 Q Okay. What do you mean by "better districts?"

17 A Well, a district that is more drawn not on the
18 basis of re-electing -- of making sure that --

19 Q You can use the word "Republican."

20 A Well, I don't like to use it. No, I'm just
21 kidding. If we had fair districts, we would have
22 more responsive congresspeople, we would have votes
23 that count more because mine would be one of 52
24 percent, as opposed to one of 90 percent. We
25 would -- am I answering your question or do you want

1 to re-ask it?

2 Q Yes.

3 A Okay. We would have -- hopefully, we would have
4 people in competitive districts working towards the
5 middle solving the problems that face this country
6 rather than worrying about if somebody more crazy
7 than me is going to run against me --

8 Q Okay.

9 A -- in a primary. We need competitive districts
10 so we can come to the middle and solve the problems
11 in this country.

12 Q Okay. Are there any other -- did the 2011 map in
13 any way affect your willingness or ability to
14 participate in elections outside of Philadelphia?

15 A I don't understand the question.

16 Q For example, in neighboring districts like the
17 Seventh?

18 A Well, you know, I -- my members live in half of
19 this state, so if I -- it's important to me who's in
20 the Seventh or in Allentown or in -- or in -- what's
21 that one that goes all the way up to Susquehanna
22 County? Because we need infrastructure built so my
23 members can go to work, our members can go to work,
24 we need to be in competitive districts so we can --
25 we can represent our members so they can, you know,

1 get to work, work safely, make good livings, and
2 support their families.

3 Q Okay. Does the partisan drawing of congressional
4 district lines in any way affect your ability to
5 advocate on behalf of your members to Congress?

6 A Well, if I know that a congressman is so set
7 against labor or so set against the City of
8 Philadelphia, so set against infrastructure, then
9 it's really pointless to try to talk him out of it,
10 and if they had a more competitive district where,
11 you know, they would have to be more open to the idea
12 of other -- to more different -- to more varied view
13 points. So talking to some of -- some of the people
14 that don't really care if they -- you know, if they
15 run -- they're more worried about somebody running
16 from the right or the left of them than it is to
17 talk, you know, to people like me who want to have
18 infrastructure built, want to have healthcare solved,
19 and want to have our members working safely.

20 Q Okay. Thank you. No further questions.

21 JUDGE SMITH: Cross-examine.

22 CROSS-EXAMINATION

23 BY MS. GALLAGHER:

24 Q Good morning, Mr. Agre.

25 A Agre, please.

1 Q Agre. Thank you.

2 A Yes.

3 Q Just a few questions. You spoke about your
4 members. And those are your union members?

5 A Yes.

6 Q Would it be fair to say, Mr. Agre, that they are
7 basically your constituents? I mean these are the
8 people you advocate for, is that correct?

9 A Well, I look at it as I work for them, they don't
10 work for me. So I listen to what they want and, you
11 know, by electing, you know, the people in office,
12 they express their views, electing the union
13 officials.

14 Q Correct. I think we're -- we may be even saying
15 the same thing. You advocate on --

16 A I never would think of them as constituents.

17 Q -- their behalf?

18 A I think of them as my mem -- our members and, you
19 know.

20 Q Okay. Then with -- I'll change the terminology,
21 but --

22 A Okay.

23 Q -- do you advocate on their behalf?

24 A Absolutely.

25 Q Okay. And I believe that you testified that part

1 of your problem -- and I want to make sure I have it
2 correct -- that your objections -- your goals --
3 strike that. Your goals was to have congressman who
4 would be more responsive to the needs of the members
5 that you --

6 A Well --

7 Q -- represent?

8 A -- to the needs of the members and all Americans.

9 Q Okay. You talked about healthcare I believe
10 earlier, jobs, all right. You're in the Second
11 District I believe --

12 A Yes.

13 Q -- we've heard? Okay. Is that a majority-
14 minority district under the Voting Rights Act?

15 A I think it is. Not my -- not where I live. You
16 know, my ward is --

17 Q Right.

18 A -- closer to -- but yeah, I think -- yeah, it is.
19 Yes.

20 Q The district itself. Thank you.

21 A Yes.

22 Q And I apologize, I'm having trouble hearing, so
23 if --

24 A I'm sorry.

25 Q -- I don't mean to interrupt you or anyone else.

1 A I'll speak up.

2 Q It's just -- would you agree -- strike that. Do
3 you believe in incumbency protection?

4 A No.

5 Q You don't?

6 A No.

7 Q Okay. So I believe that you testified earlier
8 during the course of your deposition that you had an
9 expectation that Congress should help people solve
10 their problems.

11 A Help them solve their problems and solve the
12 country's problems, yes.

13 Q Oh, I think we agree.

14 A Okay.

15 Q Do you believe that seniority in the Congress
16 helps to do that?

17 A Well, I live in a district where the two senior
18 people were voted out twice in my life, so I can't
19 say. I think that seniority is a double-edged sword.
20 One, it helps bring things to the district, but also,
21 we don't get new ideas. We get stale thinking. And
22 look, when people ask me if I believe in term limits,
23 I say we have term limits. We call them elections.
24 So I don't believe anybody has a right to the seat.
25 I believe the voters have a right to who they want to

1 put in there. As I say, we should pick our elected
2 officials, not our elected officials pick us.

3 Q Okay. Have you ever been prohibited from voting
4 in an election, Mr. Agre?

5 A No.

6 Q Have you ever been prohibited from advocating
7 your view on behalf of any political candidate?

8 A No.

9 Q Have you ever been prohibited from making
10 donations to a political party or a political
11 candidate?

12 A Just when I was learning how to use the internet,
13 but other than that, no.

14 Q Fair enough. I think we've all been there.

15 A Oh, yes, I take that back because when I ran my
16 own law firm I was incorporated and I couldn't make
17 donations out of a corporation, I had to make them
18 out of a personal account, so --

19 Q Are you still a practicing attorney?

20 A Well, don't tell my mother. She thinks I play
21 piano in a bardillo, but yeah, I'm still a member of
22 three state bars, yes.

23 Q Okay. I believe that you testified in your
24 deposition that you told Congressman Brady that you
25 were being deposed?

1 A Yes.

2 Q Okay. Why did you discuss your -- tell him that?

3 A Because he's the head of the Democratic Party in
4 Philadelphia.

5 Q Did you feel the need or the obligation to report
6 to him because --

7 A No.

8 Q Okay.

9 A I'm sorry, were you done with your question? No,
10 I didn't feel the need or obligation --

11 Q Okay.

12 A -- to report to him at all, no.

13 Q Okay. Then so, again, I don't understand. Why
14 did you tell him that you were --

15 A He's the head of the Democratic Party in
16 Philadelphia. I told my boss who I work for, Bobby
17 Heenan, because he's my boss. I told the political
18 people in our union in Washington so they could be
19 informed just to inform them of what was going on and
20 what I was doing.

21 Q Are you aware -- do you have a working
22 relationship with Congressman Brady?

23 A I don't understand. Do I --

24 Q Do you speak with him often?

25 A A couple times a month.

1 Q A couple times a month. Did you know Congressman
2 Brady back at the time the 2011 plan was being
3 enacted?

4 A I've heard that, but I don't know it for a fact.
5 I wasn't involved in it.

6 Q No, did you know him?

7 A Did I know him? Oh, yeah, I've known --

8 Q Okay.

9 A -- him for 16 years, yes.

10 Q Okay. Are you aware of -- if Congressman Brady
11 had any direct involvement in the drafting of the
12 2011 -- or 2012 (indiscernible)?

13 A No, I'm not aware of that.

14 Q Okay.

15 A I mean I heard it during his -- your -- the
16 lawyer from the -- whatever firm it was told me that
17 during my deposition.

18 Q Okay. I think that's all I have.

19 JUDGE SMITH: Is there any redirect?

20 MR. GORDON: None, Your Honor.

21 JUDGE SMITH: Thank you, Mr. Agre.

22 THE WITNESS: Thank you very much.

23 JUDGE SMITH: You may step down, sir.

24 (Witness excused.)

25 JUDGE SMITH: Next witness.

1 (Pause in proceedings.)

2 KRISTIN POLSTON, Plaintiffs' Witness,

3 Sworn.

4 COURTROOM DEPUTY: Thank you. Please state

5 your full name and spell your last name for the

6 record.

7 THE WITNESS: Kristin Polston, K-R-I-S-T-I-

8 N, last name, Polston, P-O-L-S-T-O-N.

9 DIRECT EXAMINATION

10 BY MR. GORDON:

11 Q Ms. Polston, where do you reside?

12 A I live in Pottsville, which is in Schuylkill
13 County in the Seventeenth Congressional District.

14 Q Seventeenth. Who is your congressperson?

15 A Matthew Cartwright.

16 Q And Mr. Cartwright is a Democrat, is that right?

17 A He is.

18 Q And you are a?

19 A Registered Democrat.

20 Q How long have you been a Democrat?

21 A I believe since I was 18 and first registered.

22 Q And what party were you registered before --

23 before you were -- you said 2018? Was that your --

24 A I'm sorry, when I was 18.

25 Q Oh, when you were 18.

1 A Yes.

2 Q Okay. Very good. Sorry about that. Okay. When
3 you were 18. And where did you grow up, what county?

4 A I grew up in Sacramento, California.

5 Q Okay. And when did you come to Pennsylvania?

6 A I moved to Philadelphia when I was 19.

7 Q Uh-huh. And what brought you to Schuylkill --
8 you said what county, Schuylkill County?

9 A Schuylkill County.

10 Q What brought you to Schuylkill County?

11 A We were able to afford more land in Schuylkill
12 County than we were where we were -- where we had
13 been in Chester County.

14 Q Are you married?

15 A I am.

16 Q Do you have children?

17 A I do.

18 Q What is your -- and what are the ages of your
19 children?

20 A I have an eight-year-old daughter and an 11-year-
21 old son.

22 Q And what is your profession?

23 A I am a registered nurse with Advanced
24 Certification in Lactation.

25 Q Okay. And where are you employed?

1 A I am employed by Reading Hospital in Berks County
2 as a lactation consultant.

3 Q Okay. All right. So I wanted to ask you this
4 question, and that is as a -- as a Democrat in the
5 Seventeenth District, which is represented by
6 Democrat Matt Cartwright, how, if at all, have you
7 been harmed as a result of partisan redistricting
8 where the -- the 2011 map?

9 A I am concerned that my vote is diluted in my
10 area.

11 Q What do you mean by that?

12 A I mean that if the -- if my district were not
13 shaped the way it is, we may very well have more
14 Democratic representation, possibly not from my
15 county, but from surrounding areas.

16 JUDGE SMITH: By "we," are you referring to
17 Pennsylvania voters --

18 THE WITNESS: I am --

19 JUDGE SMITH: -- or Pennsylvania Democratic
20 voters or who? Who's "we?"

21 THE WITNESS: I am referring to
22 Pennsylvania voters.

23 BY MR. GORDON:

24 Q I'm sorry, I was trying to get a hold of the map
25 so I could see the district. Can I ask you to

1 restate your answer?

2 A So I recognize my district on that map there.

3 Q My color is it?

4 A Grey.

5 Q Uh-huh. All right. And how, if at all, does the
6 configuration of that district harm your civil
7 right -- let's start your right to vote?

8 A So I am concerned that my vote is diluted and
9 that while my county -- I'm sorry, my district does
10 have a Democratic congressman who is in line with
11 many of my values, we could have more Democratic
12 representation in that corner of Pennsylvania if our
13 lines were not drawn the way they are drawn.

14 Q Okay. No further questions. Thank you.

15 JUDGE SMITH: Cross.

16 (Pause in proceedings.)

17 CROSS-EXAMINATION

18 BY MS. GALLAGHER:

19 Q Ms. Polston, when did you first hear the term
20 "diluted?"

21 A I believe I first read that term.

22 Q Do you happen to recall where you read it?

23 A I may have to go back a little bit for you. Bear
24 with me. But when we first moved to Schuylkill
25 County I was very interested that all of my neighbors

1 were Republicans, all of the friends we were meeting
2 were Republicans, and yet we had Democratic
3 representation. And it led me to question why that
4 was, which led me down a bit of a rabbit hole to
5 learning about gerrymandering and how this works, or
6 partisan redistricting.

7 Q So just so I understand, when you -- did you say
8 all of your friends or neighbors were Republican, yet
9 you had a Democrat congressperson?

10 A That's correct.

11 Q Okay. You said you --

12 A Not -- I'm sorry.

13 Q Go ahead.

14 A Not all of my friends are Republicans. I also
15 have Democratic friends, but I do live in an area
16 that is -- has more Republicans than Democrats in my
17 county.

18 Q Fair enough. I wasn't trying to implicate who
19 your friends are. Are you satisfied with your
20 congressman's representation of you?

21 A I do. I am.

22 Q Okay. Have you ever been prevented in any manner
23 from voting in an election?

24 A I have not.

25 Q Have you voted in every election let's say since

1 2010?

2 A I am unsure whether or not I voted in 2012, but I
3 believe so.

4 Q Okay. Do you feel you have access to your
5 congressman?

6 A My access is not as great as I wish it were. I
7 think he does attempt to meet frequently with people;
8 however, if you look at the shape of my district, if
9 you live in Pine Grove and he is holding a town hall
10 in Scranton, if you do not have the time and access
11 to reliable transportation, you will not be able to
12 attend that town hall --

13 Q Has he --

14 A -- and vice versa.

15 Q I'm sorry. Has he ever had town hall meetings
16 closer to you?

17 A I believe he has held one in Frackville, so yes.
18 The answer is yes.

19 Q All right. I have a question for you. During
20 the course of your deposition, you were asked if you
21 were asked to search for any emails for this
22 litigation. Do you recall that?

23 A I -- yes.

24 Q Okay. And were you asked to search for emails?

25 A Do you mean outside of that deposition?

1 Q Yes.

2 A That question? Yes.

3 Q Okay. And when was that?

4 A At some point prior to that deposition.

5 Q Okay. Were you provided with any search terms?

6 A I don't recall.

7 Q Okay.

8 MR. GORDON: Objection, beyond the scope of
9 direct exam.

10 JUDGE SMITH: I'll allow it.

11 MS. GALLAGHER: Okay.

12 (Pause in proceedings.)

13 MS. GALLAGHER: I think that's it. Thank
14 you.

15 JUDGE SMITH: Ms. Polston, do you know
16 where Congressman Cartwright resides?

17 THE WITNESS: I believe he lives in Moosic,
18 which is in the northern part of the district.

19 JUDGE SMITH: I always loved the name of
20 that town, Moosic, M-O-O-S-I-C. It's -- and you're
21 not aware of Congressman Cartwright, in your
22 recollection, ever having had a town meeting or
23 meetings -- organized meeting with constituents in
24 Pottsville?

25 THE WITNESS: I do not recall.

1 JUDGE SMITH: Any redirect?

2 MR. GORDON: None.

3 JUDGE SMITH: Thank you very much.

4 THE WITNESS: You're welcome.

5 (Witness excused.)

6 MR. GORDON: I think we have time for --

7 JUDGE SMITH: I love Pottsville. It was
8 the home of John O'Hara and he wrote about it not
9 always positively, but quite often.

10 MR. GORDON: We have time for one more
11 plaintiff before the --

12 JUDGE SMITH: Very well. Thank you.

13 MR. GORDON: -- expert is anticipated.

14 (Pause in proceedings.)

15 REAGAN HAUER, Plaintiffs' Witness, Sworn.

16 COURTROOM DEPUTY: Please state your full
17 name and spell your last name for the record.

18 THE WITNESS: Reagan Hauer, H-A-U-E-R.

19 DIRECT EXAMINATION

20 BY MR. MORALES-DOYLE:

21 Q Good morning. Sean Morales-Doyle for the
22 plaintiffs. I haven't stood up here yet. Good
23 morning, Ms. Hauer. How are you?

24 A Good morning. How are you?

25 Q I'm good, thank you. Can you briefly tell us

1 what congressional district you live in and, more
2 specifically, what municipality you live in?

3 A I live in Downingtown, which is in Chester
4 County, and that's part of the Sixth Congressional
5 District.

6 Q And how long have you lived there?

7 A I moved there in 2013.

8 Q And who is your representative in Congress?

9 A Ryan Costello.

10 Q Ms. Hauer, what's your political party
11 affiliation?

12 A I am registered as a Democrat, but I just
13 Democrat this year. Prior to that, I was
14 unaffiliated. There was a brief point in time where
15 I was registered as independent, but that's because I
16 didn't understand that that didn't mean unaffiliated.

17 Q So would you say that you are strictly aligned
18 with the Democratic Party in your politics?

19 A No, I am pretty moderate in my views, so there
20 are definitely aspects of both parties that are in
21 line with my views.

22 Q And do you have sort of a rough understanding of
23 the contours of the Sixth Congressional District as
24 it was drawn in the 2011 plan?

25 A Yeah, it kind of looks like a backwards C. So

1 there's a little bit of a concentration around
2 Chester County and then there are two long arms that
3 go out -- excuse me -- towards the west.

4 Q And --

5 JUDGE SMITH: Excuse me. Ms. Hauer, could
6 you move just a little closer to the microphone,
7 please?

8 THE WITNESS: Sure.

9 JUDGE SMITH: Thank you.

10 BY MR. MORALES-DOYLE:

11 Q You mentioned these two long arms that go off
12 towards the west.

13 A Yes.

14 Q Do you have a rough understanding of what parts
15 of the state those two long arms capture?

16 A So I'll be honest, the bottom arm, I'm not 100
17 percent certain, but the top extends way over into
18 Lebanon County, and there may be a small portion of
19 Northern Lancaster County in there too, but it
20 definitely extends into Lebanon and then parts of
21 Berks County.

22 Q And you'll pardon me because I'm not from
23 Pennsylvania, but --

24 A Sure --

25 Q -- where you live is sort of the Western suburbs

1 of Philadelphia, is that right?

2 A Correct.

3 Q So to your east, you have more -- generally, more
4 urban areas and to your west, more rural areas?

5 A Correct.

6 Q Is, in your understanding of the politics of the
7 place where you live, is there a good balance between
8 Democratic and Republican voters?

9 A So in our county, it's a pretty good split. It's
10 slightly above 50 Republicans and slightly below 50
11 Democrat. But then the district itself tends to skew
12 more Republican.

13 Q And in your view, what has -- well, I guess when
14 you say the district skews more Republican, whereas
15 your county is sort of a good mix, do you have a
16 sense of why that -- there's that disconnect between
17 your county and the district as a whole?

18 A So when I looked at -- and read a little bit
19 about what the map was like before, the 2011, it was
20 a little bit more concentrated. It was -- still had
21 some arms in it, but it was more concentrated in our
22 county, and then there were sections that were still
23 in part of the Philadelphia suburbs. We had some of
24 Lower Merion Township and part of Berks County that
25 was more concentrated around the City of Reading, so

1 the more urban areas. And those were highly
2 concentrated like Democratic areas, and when it was
3 redrawn those were eliminated and the western pieces
4 were added to the district, which are more Republican
5 areas.

6 Q In your view, what has -- the 2011 congressional
7 map, what impact has that had on your vote and its
8 value?

9 A So particularly because I tend to be moderate and
10 I like to see competition between the two parties and
11 I like to see -- you know, occasionally see a
12 Republican or occasionally see a Democrat that I want
13 to vote for, I'd like to have a more competitive
14 district. So when I first went and learned about
15 gerrymandering, I started doing some research, and
16 our district was a lot more competitive prior to
17 this. So when Republicans would win they only won by
18 a narrow margin. It was maybe just above the 50
19 percent mark. And in the elections, since the
20 redistricting map, that has risen consistently to
21 like 56-57 percent that they were winning with.

22 Q Have you ever attempted to interact with your
23 Congressman Costello?

24 A Yes. So I -- I'm a little bit shy, so I don't
25 tend to be somebody that calls or goes to meet in

1 person with people, but I have sent letters, I have
2 sent faxes, and filled out the contact form on his
3 website.

4 Q Do you have any friends or associates, relatives,
5 that have attempted to go meet with the Congressman
6 in person?

7 A I don't have relatives. I do have --

8 MS. GALLAGHER: Objection, hearsay.

9 JUDGE SMITH: I'll overrule the objection.

10 MR. MORALES-DOYLE: Thank you.

11 BY MR. MORALES-DOYLE:

12 Q Go ahead.

13 A I do have acquaintances in the area that are part
14 of a group that they go every Thursday and they kind
15 of stand outside of his office with the goal of
16 trying to get to talk to him. They rarely have been
17 successful with that. And there was one time when it
18 was closer to the healthcare vote that they had a
19 little bit of a bigger rally and he basically got the
20 rally shut down. They had a permit. They were there
21 legally.

22 Q When you say the healthcare vote are you
23 referring to the votes over whether to reveal --

24 A Correct.

25 Q -- repeat the Affordable Care Act?

1 A Correct.

2 Q Just give me a second to finish my question. And
3 the fact that you've heard from your acquaintances
4 about this inability to meet with the congressman,
5 does that impact your willingness to try to get in
6 touch with your representative?

7 A It does to some extent, but what impacts it even
8 more is just the fact that I know so many people in
9 our area that have contacted him about things. Now,
10 he did end up with the -- with the healthcare vote,
11 he did end up not voting for that. But, for
12 instance, with this tax reform, there were so many
13 people that I know of personally or, you know, that I
14 read in the paper, people that were going and trying
15 to get in contact with him or having a protests
16 outside of his office, and he -- I mean granted we're
17 not the only people that he's representing in the
18 district, but, anecdotally, I feel like there are a
19 lot of people that weren't on board with that, and he
20 voted for it anyway. So it's things like that that
21 discourage me because I feel like it doesn't matter
22 what I say or people that I know are saying. He's
23 just kind of voting along party lines rather than
24 voting for his constituents.

25 MR. MORALES-DOYLE: I have nothing further,

1 Your Honor.

2 JUDGE SMITH: Cross-examine.

3 CROSS-EXAMINATION

4 BY MS. GALLAGHER:

5 Q Just a couple of questions. Did you approve of
6 Congressman Costello's vote with respect to the
7 healthcare bill?

8 A Yes.

9 Q Okay. But you didn't approve of his vote with
10 respect to the tax reform bill?

11 A Correct.

12 Q Okay. Would you feel more comfortable with
13 Congressman Costello if he voted the way you wanted
14 him to every time he --

15 A Well, I mean obviously. Everybody would feel
16 more comfortable if their congressman voted the way
17 they wanted to every time. No, I realize that there
18 are different people in the district that have
19 different views. However, I know the overwhelming --
20 I'm trying to think how I want to say this. I know
21 how vocal people are being against certain things,
22 and yet he is still voting for them anyway, not just
23 in Chester County, but in Berks County and the other
24 areas of the district, and actually -- well,
25 Lancaster is not in our district, not that part

1 anyway. But I know how vocal people are being, and
2 he's still not, it doesn't seem, listening.

3 Q Are you aware of folks -- people voicing opposite
4 views?

5 A Well, for the tax reform, there were a good many
6 people even on the Republican side of things that
7 were saying they weren't happy with it, so --

8 Q But are you aware of folks ever voicing views
9 opposite to your own within your district?

10 A Maybe in editorials or things, but not in the
11 same way that --

12 Q Okay.

13 A -- my views are being voiced.

14 Q Fair enough. Have you ever written to
15 Congressman Costello?

16 A Yes.

17 Q Okay. Has he responded?

18 A No.

19 Q Okay. And was that by email or just by --

20 A Actually, I contact him at least once a week
21 either by fax or by email or by the contact form on
22 his website and I have not received a response.

23 Q Okay. Have you ever been prohibited from voting
24 in any election?

25 A No.

1 Q Have you ever been prohibited from contributing,
2 if you would so wish, to an election?

3 A No.

4 Q Campaign rather. All right. Have you ever been
5 prohibited from expressing your view with respect to
6 a candidate publicly?

7 A No.

8 Q And despite the fact that you testified he hasn't
9 responded to you, have you ever been prohibited from
10 contacting your congressman or any elected official?

11 A No.

12 Q I believe you testified that your district tends
13 to skew more Republican. And during the course of
14 your deposition, you stated no one ran against
15 Congressman Costello?

16 A Correct.

17 Q He is a first-term congressman though, is he not?

18 A He is I think in his second term. He was first
19 elected in 2014 I believe.

20 Q Did he have opposition in 2014?

21 A He did and, actually, he did have opposition in
22 2016 too.

23 Q Right.

24 A I was mistaken on that. I went back and checked
25 it. But that was the -- those were the two years

1 that, as I already mentioned, the percentage of how
2 much Republicans were winning by kind of jumped.

3 Q Okay. Is it a possibility that people -- more
4 people just voted for -- well, obviously. Strike
5 that. They did. That it's just a matter of choice
6 not driven by party affiliation, that number?

7 A I suppose it's a possibility.

8 Q Okay. And just to be clear -- to clarify,
9 because it was different in your dep -- in your
10 deposition testimony, Congressman Costello did have
11 opposition about the 2014 and the 2016 -- in both
12 elections, correct?

13 A It wasn't the same person. It was a different
14 person.

15 Q Correct. Okay. Thank you. I have nothing
16 further.

17 MR. MORALES-DOYLE: I have nothing further,
18 Your Honor.

19 JUDGE SMITH: Thank you very much. You may
20 step down.

21 (Witness excused.)

22 (Pause in proceedings.)

23 MR. GORDON: We're going to allow
24 Professor -- well, we're going to -- we have agreed
25 to have Professor McCarty testify next.

1 JUDGE SMITH: All right.

2 MR. TORCHINSKY: Your Honor, for the
3 panel's timing purposes, this is a legislative
4 defendants' witness, not a plaintiffs' witness.

5 JUDGE SMITH: Yes. You're having a witness
6 called out of order, which is to say legislative
7 defendants' witness is being called for scheduling
8 and convenience purposes before the plaintiffs' case
9 has been closed.

10 (Pause in proceedings.)

11 NOLAN McCARTY, Legislative Defendants'
12 Witness, Sworn.

13 COURTROOM DEPUTY: Please state your full
14 name and spell your last name for the record.

15 THE WITNESS: Nolan McCarty, M-C-C-A-R-T-Y.

16 VOIR DIRE

17 BY MR. TORCHINSKY:

18 Q Thank you, Professor. Could you tell the panel
19 what your current -- what your current job is?

20 A I'm a professor of political science and public
21 policy at Princeton University and I'm also the chair
22 of the Politics Department.

23 Q Do you hold any other academic positions?

24 A No, I do not.

25 Q Are you or have you been an editor of any social

1 science or political research journals?

2 A Yes, I was the founding co-editor of the
3 Quarterly Journal of Political Science --

4 Q And --

5 A -- and I'm not a co-editor. I'm not longer an
6 editor-in-chief.

7 Q And is that a peer-reviewed journal?

8 A Yes, it is.

9 Q All right. And can you just tell the Court a
10 little bit about your educational background? What
11 degrees do you have and from where?

12 A I have a BA in Economics from the University of
13 Chicago and I have an MA -- or MS and PhD in
14 Political Economy from Carnegie Mellon University.

15 Q And what year did you obtain your PhD?

16 A 1993.

17 Q I know you've been a prolific publisher, but
18 could you give just an example of the kinds of things
19 that you have published on?

20 A My work is primarily on legislative polarization
21 in the United States, its history, its causes, and
22 its consequences. I've also done a lot of work on
23 electoral politics and bureaucratic politics.

24 Q And have you published papers on each of these
25 subjects?

1 A Yes, I have.

2 Q Do you teach any of these subjects?

3 A Yes, I teach all of them.

4 Q Have you testified as an expert witness in any
5 other court cases?

6 A Yes, I have.

7 Q Could you identify a few of those?

8 A Yes, I testified in a Florida congressional
9 districting case, I provided expert testimony in a
10 Florida State Senate case, and I have provided
11 reports and testimony in early voting in Ohio, and a
12 case involving election law in Wisconsin.

13 Q Excellent. And have you studied and published an
14 election analysis?

15 A Yes, I've done -- I've done work on elections,
16 congressional elections, and their determinants.

17 Q And have you studied and published in election
18 probability and voting behavior?

19 A I have -- as part of some work on gerrymandering,
20 I've done work trying to predict congressional
21 election outcomes from underlying partisan and
22 demographic data.

23 Q And have you studied redistricting and election
24 performance?

25 A Yes, I have.

1 MR. TORCHINSKY: Your Honor, I offer
2 Professor McCarty as an expert on those subject
3 matters.

4 JUDGE SMITH: Specifically, what subject
5 matters? Which --

6 MR. TORCHINSKY: Election analysis,
7 election probability, voting behavior, redistricting,
8 and election performance.

9 JUDGE SMITH: Just say them slowly, please.

10 MR. TORCHINSKY: Sure. Election
11 analysis --

12 JUDGE SMITH: Thank you.

13 MR. TORCHINSKY: -- election probability,
14 voting behavior, redistricting, and election
15 performance.

16 JUDGE SMITH: Thank you. Voir dire?

17 MR. MORALES-DOYLE: Yes, a little bit, Your
18 Honor.

19 (Pause in proceedings.)

20 BY MR. MORALES-DOYLE:

21 Q Good morning, Professor McCarty.

22 A Good morning.

23 Q We heard a little bit about your election
24 analysis. You also mentioned work in election
25 probability, is that right?

1 A Well, I mean I believe that's a reference to
2 statistical models that predict election outcomes
3 from underlying partisan demographic data.

4 Q So do you have experience in creating those
5 statistical models yourself?

6 A Yes, I do.

7 Q Okay. Do you have a background in quantitative
8 statistics?

9 A I have a PhD in Political Economy, which is a
10 joint PhD in Politics and Economics.

11 Q Okay.

12 A And I did advanced statistical work and
13 econometrics in graduate school that has been the
14 basis of my research for 25 years.

15 Q Okay. I have nothing further, Your Honor.

16 JUDGE SMITH: Thank you. You may proceed
17 with direct.

18 MR. TORCHINSKY: Thank you.

19 DIRECT EXAMINATION

20 BY MR. TORCHINSKY:

21 Q Professor McCarty, did you issue a report in this
22 case?

23 A Yes, I did.

24 Q Do you have a copy of it with you?

25 A Yes, I do.

1 Q Okay. I'm referring to what has been identified
2 at Legislative Defendants' Exhibit 12.

3 JUDGE SHWARTZ: You provided that to the
4 Court?

5 MR. TORCHINSKY: Yes.

6 JUDGE SHWARTZ: In your binders?

7 MR. TORCHINSKY: Yes, it should be in our
8 binder. Yes, it should be in the binder.

9 JUDGE SHWARTZ: Thank you.

10 MR. TORCHINSKY: Does the Court need a
11 moment to --

12 JUDGE SMITH: Yes, please.

13 MR. TORCHINSKY: Sure.

14 (Pause in proceedings.)

15 MR. TORCHINSKY: And, again, I apologize to
16 the Court for going out of order on this. I know you
17 weren't expecting it.

18 JUDGE SMITH: No, that's perfect -- we're
19 fine with anything that moves matters along. Believe
20 me.

21 MR. TORCHINSKY: Thank you, Your Honor.

22 (Pause in proceedings.)

23 JUDGE SMITH: All right. Direct our
24 attention, please, to the specific exhibit.

25 MR. TORCHINSKY: Sure. Legislative

1 Defendants' Exhibit 12 is the report of Professor
2 McCarty.

3 JUDGE SMITH: Okay.

4 (Pause in proceedings.)

5 JUDGE SMITH: Proceed.

6 MR. TORCHINSKY: Thank you.

7 BY MR. TORCHINSKY:

8 Q What data did you review to prepare your report?

9 A I primarily focused on an expert report of Daniel
10 McGlone.

11 Q And would that be the initial report that he
12 filed in this case?

13 A Yes, it would be.

14 Q Okay. I refer -- that is Plaintiffs' Exhibit --

15 MR. TORCHINSKY: I don't have an exhibit
16 number for that. I'm sorry, Your Honor. It's
17 Plaintiffs' Exhibit 8. We're going to be discussing
18 both Legislative Defendants' Exhibit 12 and
19 Plaintiffs' Exhibit 8 during the course of this
20 expert witness.

21 JUDGE SMITH: Very well. Thank you.

22 BY MR. TORCHINSKY:

23 Q So did you review the report?

24 A Yes, I do.

25 Q Okay. I want to talk to you a bit about your

1 review of the report. Did you have concerns about
2 the underlying data in the report?

3 A Yes, I did. The underlying data was based on
4 some data provided by a project at Harvard
5 University. On inspection, the data resulted in a
6 sever undercount for many elections compared to what
7 the State Secretary of State provided for those data.

8 JUDGE SMITH: What do you mean by an
9 undercount, please?

10 THE WITNESS: If you totaled up the number
11 of votes cast in several of the elections used in his
12 report, it was less than the number of votes cast as
13 reported by the State Secretary of State.

14 JUDGE SMITH: Thank you.

15 BY MR. TORCHINSKY:

16 Q And why does that delta concern you?

17 A Well, it just simply suggests that there's some
18 underlying measurement error in the underlying data
19 which may have distorted the extent of which
20 particular districts were more Republican or more
21 Democratic.

22 Q Okay. Have you done -- in the course of your
23 academic research, have you researched and published
24 on what are competitive elections?

25 A I have done some -- I have done some work on

1 elections, and one of the things that's an important
2 concept within the study of congressional elections
3 whether you're looking at issues of campaign finance
4 or redistricting or polarization is whether or not
5 elections are competitive or not.

6 Q And what is a competitive election to you?

7 A I think simply, a competitive election is one
8 that either party has a reasonable chance of winning.

9 Q Got it. And in Mr. McGlone's report, he
10 identifies a number of districts that he says are
11 between 49 and 52 percent Republican or Democrat.
12 Are those competitive districts?

13 A Based on the analysis I did later in the report,
14 I would say yes, all of those districts were ones in
15 which I computed that either Democratic or Republican
16 candidates have won based on historical data.

17 Q Excellent. Let's turn to page -- oh, this is --
18 I'm sorry, this is printed double-sided. Let's turn
19 to the section of your report that's labeled II.
20 It's page three of your report. It's titled,
21 "Analysis of District Voting." In this section, you
22 discuss something called the PVI. Can you explain to
23 the Court what the PVI is?

24 A Yes, the PVI is something developed by Charles
25 Cook, an election analyst, and it stands for Partisan

1 Voting Index. It's a measure of how competitive a
2 particular district or election is based on the
3 previous two presidential elections in that district.

4 Q And when they calculated and used the previous
5 two presidential elections is it a straight average
6 or what is it?

7 A Yeah, so it's the average of the two presidential
8 elections minus the average of the national nation-
9 wide presidential vote total for each party.

10 Q And so when that is calculated for a
11 congressional district are you using VTD level data
12 or what level of data is used to produce the PVI?

13 A So I form Kampala data. It computes presidential
14 voting returns by congressional district from each
15 election. So we have the underlying congressional
16 district vote for each candidate, so it's a simple
17 averaging of taking the last two presidential
18 elections in that congressional district, adding them
19 together, and then subtracting off the national vote
20 totals for each party.

21 Q And what do the pluses and minuses mean when you
22 see a PVI being plus or minus something?

23 A So they're generally reported, especially in the
24 media, along the lines of things like R+3, which
25 means that the district is three percentage points

1 more Republican than the nation as a whole, or a D+2,
2 which means the district presidential voting is two
3 percentage points more democratic than the nation as
4 a whole.

5 Q So does a D+2 district mean a Democrat is going
6 to win a 52 percent vote or is likely to win a 52
7 percent vote in that district?

8 A No, it just means that it's slightly -- it's
9 slightly Demo -- it's slightly Democratic in that
10 over the past two elections, the Democratic
11 presidential candidate has won -- has won more votes.
12 The question of how it's going to perform in a
13 congressional election is one that's not easily
14 derivable directly from the PVI.

15 Q Have you conducted any study of how PVI and
16 actual congressional district performance correlate
17 or diverge?

18 A In this particular report, I did a study looking
19 at PVI for all congressional districts from 2004 to
20 2014 and correlated that with the probability that
21 Democrats won a particular seat with a specific value
22 of the PVI.

23 Q And when you calculated that you looked at all
24 races across -- all congressional races across the
25 country between 2004 and 2014?

1 A That's correct, yes.

2 Q And this research, have you published this
3 researched in peer-reviewed journals?

4 A No, I have not done this research. This was
5 specific for this project.

6 Q For this case.

7 A It's very similar to an exercise that I conducted
8 as part of a paper on gerrymandering that was
9 published in the American Journal of Political
10 Science.

11 Q Okay. And so if a district is R+1, what does
12 your research tell you the probability of a
13 Republican or Democrat winning that district is?

14 A If I could refer to the table in the -- in the
15 appendix?

16 Q Sure.

17 MR. TORCHINSKY: For the Court and for the
18 counsel, this is the last three pages of the McCarty
19 report.

20 THE WITNESS: Yeah. Could you -- could you
21 rephrase the question so I'm answering the correct
22 one?

23 BY MR. TORCHINSKY:

24 Q Oh, sure. So if a district is R+1, what is the
25 probability that a Republican or Democrat will win

1 that district?

2 A Okay. For a district that's R+1 over the course
3 of the 12 years, there were 63 such elections and the
4 Republicans won 60.3 percent of those elections.

5 Q And what about a district that is R-1?

6 A Over the course of those elections, there were 44
7 such elections and the Republicans won approximately
8 54.5 percent of those elections.

9 Q Are those elections you would consider to be
10 competitive in your professional opinion?

11 A Yes, I would.

12 Q Where do you get to an election using this PVI
13 and in this chart that is sort of a less competitive
14 election?

15 A I believe once you start getting to the plus
16 fives and the minus fives where you're getting under
17 20 percent probability of one of the parties winning
18 I would call those less competitive. We don't get
19 into any kind of sure thing elections, ones in which
20 one party has won all of them, until we start to get
21 into the plus nines and the minus nines.

22 Q Okay. I want to turn the -- your attention to
23 your page six of your report, what is labeled as
24 Figure 1. This is on page six of the report. What
25 does that figure show?

1 A Yes. So this is a calculation of the PVIs in the
2 congressional districts.

3 JUDGE BAYLSON: Wait a minute. The pages
4 aren't numbered in our --

5 MR. TORCHINSKY: I apologize. It's --

6 JUDGE BAYLSON: Figure 1?

7 MR. TORCHINSKY: It's Figure 1. It's on
8 the sixth page of the report.

9 JUDGE BAYLSON: Okay. Got it. Thank you.

10 THE WITNESS: Yeah, so this figure is my
11 calculation of the Republican PVI in each of the 2011
12 Pennsylvania congressional districts at the time in
13 which they were drawn. So, therefore, it's using the
14 2004 and 2008 presidential vote in each of those
15 districts.

16 BY MR. TORCHINSKY:

17 Q And so let's walk through those. How many of
18 those districts from your chart exceed the plus or
19 minus nine?

20 A It's a little -- it's a little hard to tell
21 directly, but it looks like the plus nine, the
22 overwhelmingly Republican districts, there appear to
23 be three. For the Democratic districts, meaning
24 minus -- lower than minus nine, there appear to be
25 four.

1 Q And so that would leave 11 districts in what you
2 would term to be a competitive range?

3 A Yeah, districts that historically a party -- both
4 parties have won those type of districts, yes.

5 Q Okay. And in your research, a little bit further
6 down, I'm pointing specifically -- now I'm flipping
7 to Table 1, which is on page ten of the report. Can
8 you explain to the Court what that table is?

9 A Yeah, so this table shows for both the 2002
10 congressional districting plan and the 2011
11 congressional districting plan, it shows each of the
12 districts, so 19 districts in 2002, 18 districts in
13 2011. For each of those districts, it shows the PVI
14 of those districts as of the change in redistricting
15 in 2011. So, for example, the 2002 panel in the
16 First Congressional District, it shows a PVI of -35.
17 Then the third column is my estimate of the
18 probability that the Democrat should win those
19 districts based on historical patterns that I
20 described before. So when a district is
21 overwhelmingly Democrat as that I estimate that the
22 Democrats are going to win that certainly with 1.000
23 probability.

24 Q So, essentially, you calculate the probability
25 that 100 percent of the time, Democrats are going to

1 win those districts?

2 A Yeah, that's correct.

3 Q And so overall, looking at the -- looking at the
4 number -- the 19 seats in the 2002 plan and the 18
5 seats in 2011 plan, you've got a column down the
6 bottom that says "Expected Dem Share" and "Expected
7 Dem Share" underneath each one. Can you explain what
8 that is?

9 A That's correct. So once I've estimated the
10 probabilities that a Democratic candidate will win
11 each of these districts given its underlying
12 partisanship, I then can just take a simple
13 computation of the expected number of Democratic
14 seats (indiscernible) the plans. So in the first
15 panel, I estimate that the number of Democratic seats
16 would be 9.555 of the 19 and, therefore, they should
17 expect to get a seat share of just over .5, .503.

18 The second panel, which is based in the
19 2011 congressional district plan, I calculate that
20 the Democrat -- expected number of Democratic seats
21 is 8.15. Of course there are only 18 seats now,
22 instead of 19, so that roughs out as an expected
23 share of .453.

24 Q And so the -- but the reality is that Democrats
25 did not win as many seats as your probability chart

1 predicted, correct?

2 A That is correct, yes.

3 Q And so what is the difference between calculating
4 probabilities from an election and what happens in
5 the real world?

6 A Well, I mean lots of things -- lots of things can
7 happen in the real world. Elections are determined
8 not just by the underlying partisanship, but also by
9 the candidates that choose to run, whether or not the
10 national part of the organizations choose to fund
11 them, idiosyncratic factors of the election. So
12 simply, I would argue that the reason why the
13 Democrats lost more seats than I would have expected
14 is just simply an underperformance on those other
15 factors that cannot be attributed to the underlying
16 partisanship of the plan. If it was just based on
17 partisanship, they should have won more.

18 Q Got it.

19 JUDGE BAYLSON: Excuse me. You said
20 states. Did you mean states or just --

21 THE WITNESS: If I -- if I said states, I
22 mean districts.

23 JUDGE BAYLSON: Okay.

24 BY MR. TORCHINSKY:

25 Q Did you have an opportunity to review Mr.

1 McGlone's district by district analysis?

2 A Yes, I did.

3 Q And now I'm referring to what is -- sorry, it's

4 Plaintiffs' Exhibit 8 that I'm referring to now.

5 Based on your expertise in the field, is it

6 appropriate to conduct the kind of visual examination

7 that Mr. McGlone conducted?

8 A I think there -- I have many reservations,

9 professional reservations, about the type of visual

10 analysis that he conducted. The primary one is that

11 it's necessarily selected. You can go through the

12 maps and highlight the changes to the district

13 boundaries that support your narrative and ignore

14 those that don't support your narrative.

15 My second reservation of the analysis was

16 there was no attempt -- was a neglect to quantify the

17 impacts of the districting changes that he noted upon

18 his inspection. So we have no way of knowing whether

19 or not those changes changed the underlying partisan

20 makeup in ways which were not compensated by other

21 changes.

22 I guess the third problem would be that, in

23 substance, what we care about is the performance of

24 the entire map, not simply looking at districts one

25 by one by one, but we need some total assessment of

1 the aggregate effects of all of these changes, and
2 that was missing from his report.

3 Q Okay. I want to ask you are you familiar with
4 the phrase "traditional districting criteria?"

5 A Yes.

6 Q What are traditional districting criteria?

7 A Those would include criteria such as contiguity,
8 compactness, the maintenance of district boundaries,
9 the protection of incumbents, and ensuring
10 opportunities for minority voters to elect candidates
11 of their choice.

12 Q How about -- is reducing or eliminating split
13 counties, cities, precincts, is that a -- is that
14 within the compactness measures or is that
15 something -- a separate category?

16 A I would say that's a separate category. I would
17 put it under what I call respecting municipal
18 boundaries --

19 Q Okay.

20 A -- where possible.

21 Q Got it. If I could turn your attention to the
22 chart on page three of Mr. McGlone's report where he
23 discusses what he calls packing and cracking. What
24 does this chart represent to you based on your
25 academic and professional experiences?

1 A This chart represents a simple example to
2 demonstrate the concepts of packing and cracking.
3 Packing, in the example, is situations where
4 Democratic voters are concentrated into fewer
5 districts. Cracking is when Democratic voters are
6 split among many districts in order to give
7 Republicans the majority in those districts.

8 Q Does his example reflect any kind of real world
9 reality in Pennsylvania?

10 A I don't believe so. There is zero geographical
11 constraints on his -- on his example. Second, he
12 assumes that a party with a bare majority of voters
13 will win the election with certainty. And as I've
14 argued and previously as we've discussed, even having
15 a small majority in a district doesn't guarantee you
16 that your party will win it and it doesn't really
17 capture the complications associated with other
18 districting criteria like municipal boundaries,
19 geographic concentrations, or issues like geographic
20 concentration of voters, et cetera.

21 Q You just mentioned geographic concentration of
22 voters. In Pennsylvania, can you make an statements
23 about what geographic concentrations of voters exist?

24 A I mean roughly speaking, the concentrations of
25 voters are the two major cities in the state,

1 Philadelphia and its -- you know, and its suburbs,
2 and Pittsburgh and it's close-in suburbs.

3 Q Are those locations of expected Republican votes,
4 expected Democrat votes? What kinds of votes are
5 concentrated there?

6 A Those are places in which the Democrats perform
7 extremely well. It is concentrations of Democratic
8 voters.

9 Q And so, in your opinion, are Democratic voters
10 evenly distributed throughout Pennsylvania?

11 A No, they're not.

12 Q Are Republican voters evenly distributed around
13 Pennsylvania?

14 A They're much more evenly distributed across
15 Pennsylvania with perhaps the exception of the two
16 major cities that I mentioned.

17 Q I want to go back to Mr. McGlone's report. He
18 mentioned lots of places where small blocks of voters
19 were moved one way or another. Does that affect
20 whether a party can pick up or retain a seat?

21 A I would argue based on my analysis that while it
22 may have very small effects, they're often
23 overstated. As you -- if you look at the contents of
24 my report, I note that if you increase the PVI in one
25 district in favor of the Republicans, you have to

1 reduce the Republican PVI in another district, and,
2 therefore, those two effects will tend to offset one
3 another, especially given the probabilistic nature of
4 the election outcomes. So packing, cracking has far
5 less efficacy than Mr. McGlone's example would
6 suggest. And then without some quantification of the
7 impacts of moving particular precincts around the
8 map, we don't really know whether those are
9 significant enough to actually change the underlying
10 probabilities of electing Republicans versus
11 Democrats very much.

12 Q Is it your opinion that very large numbers of
13 voters would need to be moved in order to convert a
14 district from Republican to Democrat?

15 A If you're thinking about moving a district that's
16 solidly Democratic to one that's solidly Republican,
17 it would involve changing the PVI something like 18
18 points -- 18 percentage points in the presidential
19 election. Given the competitiveness of presidential
20 elections across most of the State of Pennsylvania,
21 such changes are quite unlikely. Smaller changes of
22 that will have these offsetting effects described.
23 An increase in the Republican PVI in one district
24 will be offset by the decrease in another district
25 and will cancel out those advantages to a large part.

1 Q Excellent. As part of your analysis, did you
2 compare the 2002 map to the 2011 map

3 A Yes, that was -- well, I did that implicitly in
4 Table 1. So Table 1 provided the expected
5 performance of the -- partisan performance of the
6 2002 map with the 2011 map. And as I said earlier,
7 there was only kind of a minor change, a minor shift,
8 in terms of how Republican the underlying map was.

9 Q And when you reviewed Mr. McGlone's report did
10 you note that in a lot of districts, he presented the
11 2002 and 2011 maps together?

12 A Yes. The primary technique that Mr. McGlone used
13 was to show the boundary of the 2002 map with a
14 corresponding boundary of the 2011 map and show how
15 the boundaries changed. The fact that he's able to
16 like do such a clear matching between a 2002 district
17 map and a 2011 district map suggests that there's a
18 lot of similarities between the 2002 map and the 2011
19 map. Otherwise, you wouldn't be able to match them
20 so cleanly. And that corresponds with my results
21 from Table 1, which says they kind of perform in very
22 similar ways.

23 Q And does that also feed back into your -- what
24 you mentioned is a traditional districting criteria,
25 being preserving cores of existing districts?

1 A I would believe so, yes. It does not say that --
2 there seems to be a lot of deference to the old map
3 given they perform very similarly and given that Mr.
4 McGlone was able to do such a close matching between
5 one district and another across the two plans.

6 Q In your report, you noted that Mr. McGlone failed
7 to consider other explanations for why geography
8 might be shifted from one district to another. Can
9 you explain what the effect of the loss of the seat
10 in Pennsylvania has on shifting geography?

11 A Yeah. So the loss of seats very important -- is
12 a very important change. Once you reduce a seat and
13 the fact that -- you know, the thigh bone is
14 connected to the knee bone suggests that all
15 boundaries have to shift some way to compensate and
16 restore equal population. So the failure to --
17 basically, to consider how the elimination of a seat
18 would have affected all the different changes, they
19 would be highlighted one after another, suggests that
20 his analysis was incomplete.

21 Q Excellent. And in your report, you talked
22 specifically about the Seventh Congressional District
23 of which there was a lot of discussion, and you sort
24 of present a counterfactual to Mr. McGlone's
25 analysis. Could you explain what you were saying

1 there about looking around the borders of districts?

2 A Yeah. So in large part, I highlighted the
3 Seventh District just to point out the difficulties
4 in doing this district by district analysis of the
5 changes, but I did note that in -- by my calculation,
6 the PVI -- the PVI was zero, meaning that roughly
7 equal Democrats and Republicans rose to the national
8 level. And so under the narrative that Mr. McGlone
9 was providing, the Republicans should have tried to
10 pack or crack some Democratic voters. And so I've
11 noted several areas on the border of the Seventh
12 District which could have provided them that majority
13 in the Seventh District without depriving them of a
14 majority in the adjacent districts, and yet those
15 districts were drawn the way they did. So it's just
16 a simply example of, you know, the limitations of
17 analyzing map by map because you can always find
18 examples where things could have been done but
19 weren't, and the Seventh District seemed to be a very
20 good example of that.

21 Q In your conclusion, you indicated that Mr.
22 McGlone's analysis of packing and cracking, I think
23 you -- the phrase you used was "lacks rigor." What
24 did you mean by that?

25 A Well, in terms of the conclusion, it was, again,

1 the notion that the argument was done by this visual
2 inspection of the maps, only highlighting the
3 boundary changes which were consistent with moving
4 Democratic voters into Republican districts, or
5 packing Democratic voters, without any attempt to
6 quantify those effects or to analyze the impact of
7 those changes on the overall performance of the map.
8 I would argue that a rigorous analysis of
9 redistricting would have quantified the impact of the
10 boundary changes and shown the changes to the
11 overall -- changes to the overall map, and his
12 analysis lacked those things.

13 Q Okay. Thank you. I'll I guess allow cross-
14 examination.

15 (Pause in proceedings.)

16 CROSS-EXAMINATION

17 BY MR. MORALES-DOYLE:

18 Q Hello again, Mr. -- Professor McCarty, excuse me.
19 Your opinion in this case is primarily an opinion
20 about Mr. McGlone's opinion, is that right?

21 A Yes, I was asked to respond to an expert report,
22 and so my analysis was of his report.

23 Q So you don't offer an opinion about whether the
24 2011 plan was a partisan gerrymander, right?

25 A No, I don't.

1 Q And you offer an opinion about whether Mr.
2 McGlone proved that the 2011 plan was more of a
3 partisan gerrymander than the 2002 plan, is that
4 right?

5 A His claim -- his primary claim was that the --
6 was that the 2011 was more of a partisan gerrymander
7 than the 2002 plan, and I argue that that is not
8 established in his report.

9 Q Right. But you don't argue that it's not true,
10 you just argue he hasn't established it, right?

11 A Yes, I'm just responding to his evidence.

12 Q And you also don't take a -- make a -- offer an
13 opinion as to whether or not the 2002 plan was a
14 partisan gerrymander in favor of Republicans, right?

15 A No, not in this report, no.

16 Q And you say that McGlone wasn't able to show that
17 the map provided a -- that the 2011 map was more
18 biased toward Republicans than the one adopted in
19 2002?

20 A It is.

21 Q Okay. But no opinion about whether the 2002 map
22 was itself biased in favor of Republicans?

23 A I made no analysis of the 2002 except in the --
24 except in the comparison.

25 Q Okay. And you take some issue with the data set

1 underlying Mr. McGlone's report, that is the Harvard
2 election data archive, is that right?

3 A Yes, it appeared to be inaccurate.

4 Q Because there is some places where there was an
5 undercount or an overcount of the votes in any
6 particular election?

7 A I don't know whether there was -- I don't know
8 whether it was a uniform undercount or there was some
9 overcounts and undercounts, but the net effect was
10 there were fewer votes in that data set than the
11 State Secretary of State reported.

12 Q Okay. There's a footnote I think in your report
13 where you run through some of these undercounts and
14 overcounts, is that right?

15 A Yes. I -- my impression was they were all
16 undercounts, but I don't -- I don't recall.

17 Q Okay. You didn't do any analysis as to whether
18 they were consistently undercounted with regard to
19 Democrats and Republicans or anything of that nature?

20 A No, I don't -- I don't know.

21 Q And the data you used in your analysis was the
22 Pala (ph) data set, is that right?

23 A That's correct, yes.

24 Q And it also is not -- does not match up with the
25 Secretary of State totals, is that right?

1 A It was -- as I report in the report, it was much,
2 much closer.

3 Q So any data set that you know of that's
4 available, not going to be a perfect data set, right?

5 A That's correct, but it's a -- it's a question of
6 the magnitude of those mistakes.

7 Q Do you know what data set the legislators in
8 Pennsylvania used when they drew the 2011 map?

9 A I do not, no.

10 Q Have you ever looked at the data that they used?

11 A No.

12 Q Did you make any analysis of the map drawing
13 based on the data used by the 2011 legislature?

14 A No.

15 Q Have you considered Mr. McGlone's supplemental
16 report?

17 A No, I have not seen it.

18 Q And do you agree that anybody drawing a map using
19 partisan data would have to rely on an imperfect data
20 set?

21 A That's correct, yes.

22 Q Okay. Now, you say that Mr. McGlone's report
23 lacked rigor, is that right?

24 A Yes.

25 Q Because you think that he should have done sort

1 of a quantitative analysis as to how much of an
2 impact this map had on the Republican advantage?

3 A Yes, at least. Yes.

4 Q You do think that the 2011 map provides a higher
5 probability that Republicans will have a majority of
6 congressional districts than Democrats, is that
7 right?

8 A Yes, slightly.

9 Q And you did conduct an analysis that you view as
10 more rigorous than Mr. McGlone's, right?

11 A Well, a different type of analysis. I didn't go
12 to, you know, the maps and the specific boundary
13 changes, but I looked at how the partisan composition
14 district changed from one districting plan to
15 another.

16 Q And so your analysis, as I understand it, is you
17 look at the PVI, the partisan voter index, for
18 congressional districts across the country in a
19 number of elections in recent history, is that right?

20 A That's correct, yes.

21 Q And you did an analysis of whether or not
22 those -- or sort of the percentage change that in any
23 particular district with any particular partisan
24 voter index the election would go towards the
25 Democrats or for the Republicans?

1 A That's correct, yes.

2 Q You say, I think, in your analysis that when you
3 did this you rounded partisan voter index to the
4 nearest whole number, is that right?

5 A Yes, just as a way to have the data bend in such
6 a way that I could estimate a probability for -- so
7 if it's a partisan voting index of 1.5 to .05, to get
8 enough elections that were exactly one on the rounded
9 measure I needed to -- I needed to do that.

10 Q So did you do that rounding before you estimated
11 the likelihood of one party or the other winning?

12 A I did the rounding before I did some -- I did
13 some checks to see whether it mattered very much how
14 I did it, and it didn't really -- it didn't really
15 matter. But --

16 Q You don't go into those checks in your report,
17 right?

18 A I do not, no.

19 Q So you take a whole set of elections in the
20 country -- I don't know how many there might be for
21 any category -- from between a .5 Republican partisan
22 advantage to a 1.5 Republican partisan advantage, you
23 group them all in a category that you call PVI R+1,
24 and then you look at whether or not Republican or
25 Democrat won, right?

1 A Yes.

2 Q All right. After you came up with this analysis
3 and you took all of these numbers from all of
4 these -- do you remember how many elections were
5 involved?

6 A Well, there would six election cycles times 435
7 elections, so something like 2,500.

8 Q Do you -- did you do any analysis of whether or
9 not your estimates of probability of Republicans or
10 Democrats winning were statistically significant?

11 A What do you mean, statistically significant?

12 Q Well, how reliable are these estimates of
13 probability?

14 A Well, they're the -- they're the universe of
15 these -- they're the universe of these -- they're the
16 universe of these elections. So there can be some
17 variation maybe. In truth, you know, there's some
18 variation around these numbers. But, you know, it's
19 going to go one direction for one PVI and one
20 direction for another PVI, so I'd argue that they
21 would probably offset each other --

22 Q But did you --

23 A -- in particular ways.

24 Q -- do an analysis of whether or not you've
25 accounted for the probability that they offset each

1 other?

2 A As I said, I did some -- I did a report and I did
3 some analysis without them being rounded. I did some
4 analysis fitting statistical models rather than just
5 simply plotting the proportions, and things were very
6 robust.

7 Q All right. But you haven't reported any of that
8 in your report?

9 A No, I did not.

10 Q And did you do any analysis as to whether or not
11 the universe of elections here was large enough to
12 account for that sort of variability in the data?

13 A So in many -- in my report, the appendix shows
14 the number of elections for every -- for every
15 category. So for the categories that really matter
16 that really drive the results, the minus nines to the
17 plus nines, they're almost always somewhere between
18 40 to 140 elections, and computing the probabilities
19 of a binary event from data of that sort has a
20 reasonably small standard of error. And so I
21 don't -- I don't really have any doubts about whether
22 overall that the measurement error is a problem. As
23 I --

24 Q So --

25 A As I said, I could have used bigger bins which

1 would have had more observations, more precision.
2 That didn't make a difference. I could use smaller
3 bins. That didn't really make a difference. So I'm
4 not particularly concerned about the measurement
5 error. But I do not report the standard errors of
6 these estimates, but they're easily computable given
7 the data --

8 Q So --

9 A -- that I provided.

10 Q So, for instance, when we look at your table here
11 we're looking at say R-2. I think these are all
12 Republican PVIs, right?

13 A That's correct, yes.

14 Q So R-2, you looked at 39 elections in the R-2
15 category?

16 A That's correct, yes.

17 Q But these elections actually range from R-1.5 to
18 R-2.5?

19 A Yeah, given the rounding.

20 Q So there were 40 elections, 39 elections, between
21 R-1.5 and R-2.5, and you're saying you can't tell us
22 what the measurement error is in your probability
23 assessment that --

24 A Well --

25 Q -- Republicans win 60 --

1 A Well, I can tell you for that category of groups,
2 I can take -- I can take the probability minus --
3 times one minus the probability and divide by the
4 square root of 44, and that's going to be
5 approximately .05. And so instead of, you know
6 .45 --

7 Q Well, there were 39.

8 A Instead of .45, it could be from .5 to .4.

9 Q We're talking about --

10 A But --

11 Q -- 39, not 44, right?

12 A Okay.

13 Q Yeah.

14 A This -- yeah, the same difference. Plus or --
15 say it's going to be plus or minus five, it could be
16 55 to 65.

17 Q Okay.

18 A It's still going to be a competitive district.

19 Q All right. So then let's talk about --

20 A I wasn't worried about that point.

21 Q Then let's talk about that conclusion. So we get
22 to your table then. You take these numbers, we don't
23 know what the measurement error is, but you're saying
24 somewhat reliable, we have an idea, we can draw sort
25 of a rough graph of the probability of a Democrat or

1 Republican winning, right?

2 A Uh-huh.

3 Q And that's your -- I think its Figure 2 is that
4 table, right?

5 A Yeah. Well, that figure.

6 Q So turning to Figure 2, we have a sort of slope
7 that shows on the left side of the x-axis here, a
8 negative ten Republican partisan voter index, and on
9 the right side, a positive ten, right?

10 A That's correct, yes.

11 Q And you've testified at various times maybe
12 between negative five and five is competitive, maybe
13 between negative nine and nine is competitive, it
14 sort of depends on how you define "competitive,"
15 right?

16 A Yeah, more or less. Yeah.

17 Q But between negative nine and nine, I mean once
18 we get outside of negative nine and nine, you're
19 saying it's almost without a doubt that the party who
20 has the advantage is going to win the election,
21 right?

22 A Yeah, I'm comfortable with that.

23 Q So your definition of "competitive" in that
24 respect is sort of we have some doubt as to whether
25 or not one party or the other is going to win?

1 A Yes, by that definition. I mean you could take
2 others like minus six to six where it's roughly like
3 a 20 percent chance that the disadvantaged party is
4 going to win.

5 Q So but when I look at this curve what this is
6 telling me is that the more Republican a district is,
7 the more likely a Republican is going to win the
8 election, right?

9 A Yes, but my point is that it's not -- there's not
10 an abrupt change at zero.

11 Q Sure.

12 A Going just above and just below leads to a very
13 modest change in the probabilities of electing a
14 Republican --

15 Q But if the --

16 A -- unlike Mr. Mcglone's analysis, which
17 implicitly argues that if you go from zero to plus
18 one, you're Republican for sure, if you go to minus
19 one, Democrat for sure. That's not what we say in
20 Figure 2.

21 Q You said Mr. McGlone implicitly argued that?

22 A Well, that's his -- that was his diagram.

23 Q But did Mr. McGlone say that if a district was
24 one point in favor of Republicans it was necessarily
25 going to go --

1 A He --

2 Q -- for

3 A He repeatedly referred --

4 Q Excuse me for a second. -- that it would
5 necessarily go in favor of a Republican candidate?

6 A He repeatedly defined the partisan advantage in
7 the Pennsylvania map based on the number of districts
8 that had Republican-favoring PVIs.

9 Q So he didn't say that? He didn't say --

10 A Well, he said --

11 Q -- that it would --

12 A He said what I just said.

13 Q Right. He didn't say that it would necessarily
14 go in the party's favor that had the one-point
15 advantage?

16 A Fair enough. But he defines the Republican
17 district based solely on whether or not the PVI is
18 Republican-favorable or not.

19 Q But your point is okay, it doesn't flip at the
20 zero place on the PVI, but the more Republican, the
21 more likely a Republican wins, yes?

22 A Yes. Yes, you increase PVI by a little bit, the
23 Republican probability increase by a little bit.

24 Q And you said the effects on a map when you get
25 into the R+1 is a modest effect, but it's an effect?

1 It makes it more likely that Republicans are going to
2 win, right?

3 A That's right.

4 Q And --

5 A But --

6 Q And you attempted to do some analysis of what the
7 effect was of the 2011 plan, right?

8 A Yes, I computed the expected Democratic seat
9 shares under that plan.

10 Q Right. So that is, I think, Table 1, right?

11 A That's correct, yes.

12 Q So Table 1 you take for each of these PVIs, for
13 each district, you go back to your appendix, which we
14 talked about before -- and there's some variability
15 there -- but you go back to your appendix and you say
16 all right, so I have a congressional district with a
17 PVI of negative 35, go to my appendix, I look at it,
18 and I figure out what's the probability Democrats are
19 going to win that seat, and you say it's 100 percent
20 probability?

21 A Yes.

22 Q So there are four districts in the current map
23 that, as far as you're concerned, 100 percent of the
24 time, a Democrat is going to win, there is no
25 question about it?

1 A Yes, that's true.

2 Q Okay. And you -- and in the past map, that
3 wasn't true. There were three that were 100 percent
4 Democratic and one that was 94 percent probability?

5 A Yeah, that's correct.

6 Q And you say that now you just add up the
7 probability of each of those seats and then you get
8 your expected number of seats the Democrats are going
9 to win in the map as a whole, right?

10 A Yes.

11 Q Did you do any analysis as to whether or not
12 there's measurement error in that summation of all of
13 those probabilities?

14 A There will be measurement error. I didn't -- I
15 didn't analyze it, but it should be symmetric. So it
16 should be -- could be higher than eight, it could be
17 lower than eight, but the fact is that it expected
18 eight I thought was informative.

19 Q Would the measurement error be compounded by the
20 fact that you're aggregating a bunch of these
21 different probabilities for 18 different districts?

22 A It may or may not be.

23 Q And --

24 JUDGE SMITH: I'm sorry to interrupt,
25 counsel, but --

1 MR. MORALES-DOYLE: Yeah.

2 JUDGE SMITH: -- consistent with what I had
3 indicated about schedule earlier, I'm going to
4 have --

5 MR. MORALES-DOYLE: I apologize, Your
6 Honor.

7 JUDGE SMITH: No, no, it's not your fault
8 at all, it's mine. But we need to stop at this
9 point. But before we actually recess, there is a
10 matter that the panel would like to take up, and I'll
11 turn the matter over to Judge Baylson to bring to
12 your attention.

13 JUDGE BAYLSON: It brings up the issue of
14 the attorney-client privilege log and the documents.
15 Do you have those ready --

16 MS. GALLAGHER: Yes, sir.

17 JUDGE BAYLSON: -- that we can have a copy?
18 These include -- let's make sure for the record.
19 They include documents on Speaker Turzai's attorney-
20 client privilege log and they include any documents
21 that are being claimed for work product, is that
22 correct?

23 MS. GALLAGHER: Yes, sir.

24 JUDGE BAYLSON: Anything else?

25 MS. GALLAGHER: It's -- we have the entire

1 production for the Court.

2 JUDGE BAYLSON: Okay. All right. Well,
3 I'm going to take that with me over the lunch recess.
4 Thank you. And then we can -- were there depositions
5 taken this morning? I saw some of the lawyers coming
6 in and out.

7 MR. MORALES-DOYLE: There were, Your Honor.
8 I think we had four depositions this morning, two of
9 the legislators that the plaintiffs are going to
10 offer, and we had one yesterday as well, and then two
11 more of the staffers that we discussed yesterday,
12 Arneson and Schaller.

13 JUDGE BAYLSON: Are there any depositions
14 remaining?

15 MR. MORALES-DOYLE: I do not believe there
16 are any depositions remaining.

17 JUDGE BAYLSON: Maybe we can have argument
18 about that later at the end of the day. All right,
19 we'll defer any argument about the motion for
20 sanctions until the end of the testimony. Thank you.

21 JUDGE SMITH: All right. We'll take our
22 midday recess at this time. We'll reconvene at 1:00.

23 JUDGE BAYLSON: Yes, can somebody bring
24 them up here, please?

25 (Pause in proceedings.)

1 JUDGE SMITH: -- the plaintiffs' lawyers to
2 come in, please. Ms. Hardwick, do you want to come
3 up? All right, here she is. All right. All right,
4 we're looking at a stack of papers about six inches
5 high. Judge Shwartz correctly states that we need
6 some guidance in going through these in terms of an
7 offer of proof or something like that. We can do
8 that now or you want to get a bite to eat, then you
9 come back like in 20 minutes or a half hour?

10 JUDGE SHWARTZ: Just so you know what my
11 concern is, I recall -- I recall that one of the
12 comments was -- by the plaintiffs none of the people
13 identified our counsel, and there's -- I don't know
14 how we would be able to know whether that's an
15 accurate statement or not. So we may need an offer
16 of proof as to the various documents because it's
17 possible that if you represent on the record X person
18 is a lawyer or an agent of lawyers and then that
19 falls within the umbrella, your adversary may say I
20 don't need --

21 JUDGE BAYLSON: Yes.

22 JUDGE SHWARTZ: -- I accept that and we
23 withdraw the challenge to the assertion. Now, I
24 don't know whether you can do that through meet and
25 confer in the first instance.

1 MS. HARDWICK: Okay. Well, some of them
2 don't have anybody identified, so that --

3 JUDGE SMITH: Well, here's what I would
4 like to suggest. Right now, if we come down to
5 sidebar and you can -- Ms. Gallagher, you can stand
6 with us and go over. Ms. Hardwick, you can stand by
7 the side so you're not --

8 MS. HARDWICK: So I'm not looking at them.

9 JUDGE SMITH: -- looking at them, okay?
10 And we're on the record and we'll ask the questions.
11 How's that?

12 MS. HARDWICK: Are you picking us up?

13 JUDGE SMITH: Yes, she's --

14 COURTROOM DEPUTY: Yes, I am.

15 JUDGE SMITH: Yes. Okay.

16 MS. HARDWICK: Your Honor, may I trouble
17 the Court for a two minute break to use the restroom?

18 JUDGE SMITH: Yes, sure. Yes, absolutely.
19 All right. Sure.

20 (Pause in proceedings.)

21 MS. GALLAGHER: As counsel comes in, Your
22 Honor, this is what I'd be willing to do, all right?
23 I'm willing to sit down with counsel, not take the
24 Court's time, go through every document with which
25 they have a question about under the confines that we

1 do it in that room, all right? And then we --

2 JUDGE SMITH: You mean the conference room
3 next door?

4 MS. GALLAGHER: Wherever. And we tab them,
5 and if there's any that you still have a question
6 about afterwards, I would be more than glad to do
7 that and have always --

8 JUDGE SMITH: Okay, good. All right.

9 MS. GALLAGHER: -- and have always been
10 willing to do that.

11 JUDGE BAYLSON: All right. Well, then
12 let's -- how long do you think that will take? I
13 don't want to deprive you of a chance to eat some
14 food for lunch either.

15 MS. GALLAGHER: I don't think it's going to
16 take -- I mean you tell me.

17 JUDGE BAYLSON: All right. Well, how about
18 we --

19 MS. GALLAGHER: There's not that many --

20 JUDGE BAYLSON: How about we come back at
21 12:45?

22 MS. HARDWICK: No, we can use the lunch
23 hour to do that.

24 JUDGE BAYLSON: How about we give you a
25 half an hour?

1 MS. GALLAGHER: Well, we can split up
2 afterwards too. Okay. Why don't we say we'll come
3 back -- why don't -- can you eat something in 20
4 minutes and then I'll meet you --

5 MS. HARDWICK: Okay.

6 MS. GALLAGHER: We'll meet at 12:30 if
7 that's okay with the Court, and then it will take us
8 a few minutes. We'll go through them as quick as we
9 can.

10 JUDGE BAYLSON: All right, we'll come back
11 here at 12:45.

12 JUDGE SHWARTZ: Yes, why don't we give you
13 enough time --

14 MS. GALLAGHER: I think that works. 12:45?

15 JUDGE BAYLSON: Janice, is that all right
16 with you? All right.

17 MR. MORRIS: Can I clarify one point, Your
18 Honor? My name is Dan Morris for Senator Turzai.

19 JUDGE BAYLSON: Was it on this issue?

20 MR. MORRIS: It, I believe, relates to this
21 issue.

22 JUDGE BAYLSON: You have to state your
23 name, please.

24 MR. MORRIS: My name is Daniel Morris with
25 Blank Rome --

1 JUDGE BAYLSON: Yes.

2 MR. MORRIS: -- for Senator Scarnati.

3 JUDGE BAYLSON: Yes.

4 MR. MORRIS: I just wanted to clarify, I
5 don't -- I'm not aware of any pending challenges to
6 Senator Scarnati's --

7 JUDGE BAYLSON: Well, when Mr. Paszamant
8 stood up yesterday he indicated there were very --
9 there were a few documents.

10 MR. MORRIS: That's correct, Your Honor.

11 JUDGE BAYLSON: So we would like to look at
12 those too before --

13 MR. MORRIS: I have those as well.

14 JUDGE BAYLSON: Okay. So they ought to be
15 included in --

16 MR. MORRIS: In the confer process. Very
17 good.

18 JUDGE BAYLSON: Okay.

19 MR. MORRIS: Thank you, Judge.

20 MS. GALLAGHER: Right.

21 JUDGE BAYLSON: So you ought to
22 (indiscernible).

23 MR. MORRIS: Understood.

24 MS. GALLAGHER: Okay. Thanks a lot.

25 (Luncheon recess taken from 12:09 p.m. to

1 12:48 p.m.)

2 MS. GALLAGHER: We only have one page.

3 JUDGE BAYLSON: That's it?

4 MS. HARDWICK: No, and, actually, that's
5 fine. We don't need --

6 MS. GALLAGHER: We're fine.

7 MS. HARDWICK: We don't need to do that.

8 MS. GALLAGHER: We're fine.

9 JUDGE BAYLSON: Oh. Are we on the record?
10 Yes, let's go on the record.

11 MS. HARDWICK: Okay.

12 MS. GALLAGHER: Yes.

13 JUDGE BAYLSON: All right. We'll convening
14 during the luncheon recess to review this situation
15 of attorney-client privilege documents that have been
16 claimed by Speaker Turzai and Senator Scarnati,
17 right? Okay. All right. Okay. So --

18 MS. HARDWICK: Ms. Gallagher has been able
19 to show me who are attorneys involved, and so on
20 those documents, I've withdrawn an objection. On
21 others, they had to do with reapportionment
22 litigation. I want to confer with the counsel who's
23 been involved in this case longer than me just to
24 make sure that we don't need to push on those, but I
25 don't believe that we do.

1 JUDGE BAYLSON: Okay.

2 MS. HARDWICK: I guess one remaining
3 question is production of documents from the
4 Republican caucus. And the reason that is an issue
5 is that some of the attorneys that Ms. Gallagher
6 identified for me are Republican caucus attorneys,
7 and that, to me, shows the interconnection of th
8 Republican caucus' availability to get documents with
9 the Speakers, and that remains an open issue. But we
10 do -- we withdraw our objections on the attorney-
11 client privilege and work product.

12 JUDGE BAYLSON: All right. So you're fine
13 with the documents as to which there's a claim of
14 privilege or work product? They're valid?

15 MS. HARDWICK: Yes, Your Honor.

16 JUDGE BAYLSON: Valid --

17 MS. HARDWICK: Or at least that we're not
18 challenging them.

19 JUDGE BAYLSON: All right. Okay. And for
20 Senator Scarnati?

21 MS. HARDWICK: We -- apparently, there was
22 a discussion among counsel before I was involved and
23 that's been resolved as well.

24 JUDGE BAYLSON: Okay. All right, very
25 good. All right, I'm pleased that we went through

1 this process without any issue.

2 MS. HARDWICK: Thank you, Your Honor.

3 MS. GALLAGHER: Thank you.

4 JUDGE BAYLSON: And we'll take up the --
5 we'll take up the issue about other document
6 production or depositions probably when we're
7 finished the testimony.

8 MS. GALLAGHER: Yes, sir. All right,
9 thanks.

10 MS. HARDWICK: Perfect.

11 JUDGE BAYLSON: Thank you.

12 MS. GALLAGHER: And, Your Honor, I
13 apologize. I was not trying to --

14 JUDGE BAYLSON: No apologies are necessary.

15 MS. GALLAGHER: -- interrupt you yesterday.
16 I have a -- I have a hearingless ear and when I --
17 you were -- when you're behind the screen and you're
18 talking --

19 JUDGE BAYLSON: Yes.

20 MS. GALLAGHER: -- I can't hear. So I did
21 not mean to interrupt.

22 JUDGE BAYLSON: All right. Well, I should
23 be -- I can use the microphone. Maybe I should.

24 MS. GALLAGHER: Well, I just didn't want
25 you to (indiscernible).

1 JUDGE BAYLSON: It's not a problem.

2 (Luncheon recess continues resumes from

3 12:51 p.m. to 1:03 p.m.)

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CERTIFICATION

I, Michael Keating, do hereby certify that
the foregoing is a true and correct transcript from the
electronic sound recordings of the proceedings in the
above-captioned matter.

12/6/17

Date



Michael Keating