

IN THE CIRCUIT COURT OF JACKSON COUNTY, MISSOURI
SIXTEENTH JUDICIAL CIRCUIT, DIVISION 11
Honorable Adam Caine, Judge

TERRENCE WISE, et al.,)

Plaintiffs,)

vs.)

Case No. 2516-CV29597

STATE OF MISSOURI, et al.,)

Defendants.)

ELIZABETH HEALEY, et al.,)

Plaintiffs,)

vs.)

Case No. 2516-CV31273

STATE OF MISSOURI, et al.,)

Defendants.)

TRANSCRIPT OF BENCH TRIAL PROCEEDINGS
VOLUME II (OF IV)

On February 18 of 2026 the above cause came on for hearing before the Honorable Adam Caine, Judge of Division 11 of the Circuit Court of Jackson County.

PROCEEDINGS

(February 18, 2026)

THE COURT: Good morning, everybody. Welcome back.

MR. ELLINGER: Good morning, Judge.

THE COURT: Anything we need to take up before we just get back into our witnesses?

MS. HUNKER: Not for the State Defendants, Your Honor.

MR. ELLINGER: Nothing for Intervenor.

MS. KHANNA: Nothing for the plaintiffs, Your Honor.

THE COURT: Okay. If you want to call your next witness, please?

MS. GAMBHIR: Your Honor, the Healey plaintiffs call Doctor Jonathan Rodden.

THE COURT: All right. Can you can please raise your right hand?

DOCTOR JONATHAN RODDEN,

having been sworn by the Court testifies as follows:

THE COURT: Thank you. Have a seat, please.

MS. GAMBHIR: And, Your Honor, we've prepared demonstratives to accompany Dr. Rodden's presentation.

THE COURT: Okay. This is a PowerPoint, it looks like?

1 MS. GAMBHIR: Yes, Your Honor.

2 THE COURT: Okay.

3 MS. GAMBHIR: Primarily, consisting of figures
4 from Dr. Rodden's reports.

5 THE COURT: And that's fine. Do we have the
6 PowerPoint marked? Or can we mark it as an exhibit?

7 MS. GAMBHIR: Absolutely. I believe, that would
8 be Plaintiffs Exhibit --

9 MS. KHANNA: It would be a demonstrative.

10 MS. GAMBHIR: Oh, demonstrative exhibit, six --
11 300 -- 306.

12 THE COURT: 306. Got it. We'll call this 306.

13 Thank you.

14 **DIRECT EXAMINATION BY MS. GAMBHIR**

15 Q. Good morning, Doctor Rodden.

16 A. Good morning.

17 Q. Can you please state your full name for the record?

18 A. Jonathan Andrew Rodden.

19 Q. And Dr. Rodden, what is your current employment?

20 A. I'm a professor of political science at Stanford

21 University.

22 Q. And do you hold any other positions at Stanford?

23 A. I'm also a senior fellow at the Hoover Institution and
24 a senior fellow at the Stanford Institute for Economic Policy
25 Research and the Director of the Stanford Spatial Social Science

1 Lab.

2 Q. What is the Stanford Spatial Social Science Lab?

3 A. This is something that I put together some years ago,
4 as a -- as a space for teaching and research in the area of
5 political and economic geography. So it's a group of
6 researchers, led by myself, that are exploring the distribution
7 of social groups and economic activity in graphic space in a
8 variety of ways.

9 Q. And Dr. Rodden, have you offered peer-reviewed
10 publication and books on the topics you just described?

11 A. Yes. This is -- this is, really, the focus of much of
12 my publication activity.

13 Q. Are there any recent publications that you would
14 highlight?

15 A. Well, I had a book in 2019 that focused very much on
16 -- on political and economic geography and redistricting, and
17 then there have been a number of papers since then. And these
18 have been in a number of journals in economic and political
19 geography, political science, and economics.

20 Q. Have any of your works been recognized with awards in
21 your field?

22 A. A couple of recent papers in this space have been
23 recognized. So one was a paper on redistricting, in particular,
24 that was recognized as the best paper of that year in the field
25 of political economy. There is another -- another more recent

1 paper, that focuses on the urban-rural divide and that was
 2 selected as the best paper in the journal called Comparative
 3 Political Studies, just last year.

4 Q. And Dr. Rodden, are you tenured?

5 A. Yes.

6 Q. Doctor Rodden, is it fair to say that you've served as
 7 an expert in redistricting cases before?

8 A. Yes.

9 Q. Approximately, how many cases?

10 A. I want to say, something, like, 10, maybe, a dozen.

11 Q. And have you testified for both plaintiffs challenging
 12 a plan and state defendants defending a plan?

13 A. Yes.

14 Q. Have you ever drawn a statewide redistricting map?

15 A. Yes. The map currently in place in the State of
 16 Pennsylvania for congressional districts is one that I drew as
 17 part of a court-supervised process in Pennsylvania State Court;

18 that was a congressional plan. I've also drawn state
 19 legislative plans as part of litigation in the State of Ohio.

20 Q. And Dr. Rodden, in your academic research, what
 21 methodology or expertise do you rely on to study questions

22 related to political geography and congressional districts?

23 A. I use a variety of statistical techniques, but one of
 24 the things that pulls a lot of this research together is -- is
 25 spatial analysis. And so this is using data that have a

1 geospatial component, and by that, I mean it can be mapped in
2 one way or another. So it has X/Y coordinates, individuals
3 that, for whom we have addresses, that we can place in
4 geographic space or boundaries of census blocks or tracks or
5 districts -- the legislative districts. So it's the study of
6 geospatial data, that's the thing that I really specialize in.

7 Q. And have you applied those same methodologies and
8 expertise in this case?

9 A. Yes.

10 Q. And Dr. Rodden, where are you from?

11 A. I'm from Florissant, Missouri, which is a -- which is
12 a suburb of St. Louis, in north St. Louis County.

13 Q. Have you done any work focused on Missouri?

14 A. Yes. I was -- one of the first cases I was involved
15 with was actually a case involving the school district where I
16 was educated, the Ferguson Florissant School District. So there
17 was a case related to districts in -- in local government, at
18 the state school board level -- or at the school board level in
19 North County and that was the first -- one of the first cases I
20 was involved with.

21 Q. And what was the nature of your work with that case?

22 A. This was a Voting Rights Act case, where the
23 plaintiffs are alleging that the Ferguson Florissant School
24 District, which is -- the members are elected through at large
25 elections. The plaintiffs were alleging that that was a Voting

1 Rights violation. And I was working for the defense in that
2 case, for the school district.

3 Q. And so is it fair to say that your expertise in that
4 case was about geographic representation in Missouri?

5 A. Yes.

6 Q. And are there any other projects related to Missouri
7 in which you've worked or are working?

8 A. Yes. I'm involved in a long-term project with some
9 collaborators at Washington University. So I spend a fair
10 amount of time in St. Louis working on that project, and it is
11 also a project about geography and representation. So it's a
12 project in which we are collecting data on a variety of
13 demographic factors, as well as representation; so information
14 on candidates and election results at the level of precincts and
15 wards going back to the 1970s and studying a long period of
16 representation in St. Louis County and St. Louis City.

17 Q. Thank you, Dr. Rodden. Can you briefly summarize what
18 you've been asked to do in this case?

19 A. Yes. I've been asked to conduct a holistic analysis
20 of Districts 4, 5, and 6 in the enacted redistricting plan,
21 congressional redistricting plan, in Missouri and to determine
22 whether those districts are compact as compactness is understood
23 in the State of Missouri.

24 Q. And Dr. Rodden, have you analyzed compactness in
25 district maps before?

1 A. Yes.

2 Q. And is that in a variety of contexts?

3 A. Yes. I've looked at compactness in some court cases
4 and also in some -- in my academic work.

5 Q. And what are the ways that you would typically go
6 about analyzing compactness?

7 A. I think there are two broad ways of thinking about
8 compactness. The first one really begins with the beginning of
9 this entire literature on compactness and redistricting. It's
10 the -- that district that was drawn in Massachusetts by Elbridge
11 Gerry, that looked like a salamander and led to the word, a
12 gerrymandering.

13 As everyone knows, that district has a very unusual shape
14 that people thought looked like a salamander. And that really
15 spurred the first way I think of thinking about compactness,
16 which is to look at a district to understand its shape, to look
17 at the -- so the appearance and the shape of the district,
18 purely physical. The fact that that salamander had a really odd
19 look to it was what started the focus on compactness. So then
20 once some redistricting cases started to be considered in
21 courts, a variety of efforts were made to try to measure that
22 notion of compactness, of looking at the shape and appearance of
23 a district, exclusively.

24 But, then, there's a second notion of compactness that is a
25 bit more expansive and it involves not just the shape of the

1 district, but aspects of human, both -- both in a natural and
2 human geography. So it looks at the settlement patterns of
3 groups and space, and it tries to understand where are -- where
4 are people located in space. So to give a sense of what I mean
5 by this, if we think of the Susquehanna River Valley -- just,
6 thinking of this Pennsylvania case we discussed -- and if we
7 think about the Susquehanna River Valley, we have a -- there's a
8 seam of coal in the ground that led to a string of industrial
9 settlements along that river.

10 So Scranton and Wilkes-Barre are two of the most well-
11 known, but if you look at a map of Pennsylvania you'll see a
12 long -- a long line of places that first started with gold-
13 mining and then industrial activity railroads were built. And
14 so we have this cluster of settlements in a river valley that
15 has a elongated shape. And so if we develop a pattern of
16 redistricting in Pennsylvania, which has happened, that creates
17 a Scranton/Wilkes-Barre district, that district will perform
18 rather badly on traditional compactness measures that are aimed
19 at that first major compactness.

20 But if we adopt a second approach, which we might call
21 closely united territory, that kind of approach would recognize
22 that this pattern of settlements in the -- in the
23 Scranton/Wilkes-Barre corridor, a district drawn around it, even
24 though it's elongated, is compact in the sense that it
25 corresponds to a closely united economic and social territory.

1 And so it's that more expansive notion of compactness that is
2 the one that is adopted in Missouri, and that's the one that I
3 focused on in my report.

4 Q. And Dr. Rodden, are these two approaches to assessing
5 compactness that you described necessarily at odds?

6 A. They don't necessarily need to be. In that example of
7 Scranton and Wilkes-Barre, they might be. If we are looking at
8 one of the compactness indicators that has to do with

9 approximating a circle or a square or a certain type of polygon,
10 we might determine that this elongated district is non-compact;
11 so that's an example of where they don't fit together very well.

12 But we can think of lots of other examples where a city --
13 maybe, Indianapolis, for instance -- where a city has a more
14 compact or circular sort of shape, where a district that was --
15 that was compact on traditional measures of compactness might
16 also be compact according to a closely united territory kind of
17 standard. So they can sometimes work together and sometimes be
18 at odds, I think.

19 Q. And you touched on this, how did you approach the
20 compactness inquiry in this case?

21 A. In this case, it was -- it was important for me to
22 understand, what does this word mean in Missouri? What is
23 compactness in Missouri? That's, really, what this case is all
24 about, as I understand. And compactness has a particular
25 meaning in Missouri and it's clear to me from my understanding

1 of, you know, reading the history of this concept in Missouri,
2 that it's this second notion, this closely united territory
3 notion of compactness that is -- that is important in Missouri
4 and that's the one I focused on in my analysis.

5 Q. And is this a type of analysis that you were familiar
6 with conducting?

7 A. Very much so. When I described my work in political
8 and economic geography, understanding the links between social
9 groups, the -- the organization of economic and social activity
10 and space; understanding transit networks, the structure of
11 cities, the kinds of things that create closely united
12 territory, that's what political geography and economic
13 geography are really all about. That's the kind of work that --
14 that's the kind of research that I do.

15 Q. And Dr. Rodden, before you began your analysis, did
16 Counsel provide you with a case called *Pearson v. Koster*?

17 A. Yes.

18 Q. And did you use information in that case to help guide
19 your analysis?

20 A. Yes. This is -- as an expert working on a case like
21 this, it's important to know what is the -- what is the question
22 that I'm being asked to try to answer and it would be difficult,
23 I think, to go about trying to write a report on compactness in
24 Missouri without reading that case because it is a kind of
25 guidebook to -- to how one should think about compactness in --

1 in Missouri.

2 Q. And before we walk through your analysis, can you tell
3 the Court what you concluded at a high level about the extent to
4 which Districts 4, 5, and 6 in the 2025 plan are comprised of
5 closely united territory?

6 A. I think it's very clear that these districts are a
7 stark deviation from the notion of closely united territory, as
8 I understand it.

9 Q. All right. Doctor Rodden, my questions for you today
10 are going to focus on the Kansas City area. I'll ask the
11 courtroom technician to project a portion of Figure 1 of your
12 opening report which shows the boundaries of the 2022 plan's
13 Congressional District 5 in black. At a high level, can you
14 explain how the Kansas City area was configured in the 2022
15 plan?

16 A. Yes. This -- the blue shading here is the
17 contemporary boundary of Kansas City. And so we can see that in
18 this plan, the district boundary was drawn to encompass all of
19 the -- all of the Kansas City -- all the parts of Kansas City
20 that is in Jackson County and a large part of the portion that's
21 in Clay County.

22 Q. And we'll now look at Figure 2 of your report, which
23 shows the boundaries of the 2025 plan of the Kansas City area.
24 At a high level, can you explain how this area was configured in
25 the 2025 plan?

1 A. Yes. It's clear in the map that Districts 4, 5, and 6
2 split the territory of Kansas City into three districts. And
3 even the Jackson County part, in particular, is divided into
4 three districts -- 4, 5, and 6.

5 Q. So Dr. Rodden, did you examine how this area has been
6 drawn historically in Missouri's congressional maps?

7 A. Yes. I collect information about the historical
8 boundaries of Kansas City from consulting historical maps and
9 was able to assemble congressional district boundaries from some
10 researchers at UCLA who had made those available, and so
11 produced maps of the Kansas City area districts with some other
12 features going all the back to 1900.

13 Q. Let's walk through a bit of that history. The next
14 slide shows the first portion of Figure 1 from your report.
15 Doctor Rodden, what does the white area in these maps represent?

16 A. That is the central business district of Kansas City,
17 as defined in some documents produced by the Kansas City, City
18 Counsel. It is an area that extends -- the southern boundary of
19 it is 31st Avenue and the western boundary is the Kansas border.
20 The eastern boundary is Woodland Avenue and the northern
21 boundary is the Missouri River.

22 And as we can see in the first map in the upper left-hand
23 corner, that central business district was, essentially, Kansas
24 City for the first part of the -- from 1900 to 1930s the city
25 boundary didn't expand -- it extended a little bit to the east

1 of that central business district, but that was essentially
 2 Kansas City before the -- the period of annexations that I try
 3 to capture with the, kind of, expanding blue territory in the
 4 maps that come next.

5 Q. And Dr. Rodden, how has Kansas City's central business
 6 district been configured in Missouri's congressional maps over
 7 time?

8 A. The -- all of the maps have the same quality as the
 9 ones we're looking through right now. That Kansas City central
 10 business district has been contained in a single district and it
 11 always has the No. 5 throughout this period.

12 Q. Was that true in the 2025 plan, as well?

13 A. No. What we saw in that earlier map was that the
 14 central district is now divided into, not two, but three
 15 districts.

16 Q. And now let's focus on the blue portion; that's Kansas
 17 City, right?

18 A. Yes.

19 Q. And how has Kansas City historically been configured
 20 in Missouri's Congressional Districts?

21 A. Kansas City has -- well, we can see that Kansas City,
 22 itself, is sort of a moving target, in that it has expanded
 23 quite a bit; it has -- it has annexed areas. First, as we look
 24 through these maps, first to the south and east and then further
 25 to the east and then it starts to expand to the north.

1 So Kansas City in the early period -- in the maps we're
2 looking at right now -- it was larger than the size, a target
3 size if we were giving the equal population approach, larger
4 than the size of a congressional district. So it was typically
5 divided into two districts during this period, but we can see
6 that the districts here correspond to that. They keep the
7 central business district and the, kind of, core of Kansas City
8 within District 5 for the most part.

9 And as the district starts to expand -- or as Kansas City
10 starts to expand, those district boundaries of District 5 expand
11 along with it, and sort of correspond to the city, essentially,
12 treating it as closely united territory.

13 Q. And as we turn to the later panels in Figure 1, did
14 that trend continue through the 20th century?

15 A. Yes. What we have here now is the -- is the -- some
16 district -- redistricting that took place in the 1960s. Here,
17 we're in the era where courts are now imposing equal population
18 requirements on -- on states and we see that in this era, the
19 same thing happens. District 5, kind of, expands to include as
20 much of the Jackson County portion, initially, of Kansas City as
21 possible -- maybe not quite as much as possible, but certainly
22 includes a large portion of the Jackson County heart of Kansas
23 City.

24 One of the things we see here is that, again, in the era of
25 court imposed equal population standards in the 60s and the 70s,

1 it is still the case that Kansas -- that Jackson County part of
2 Kansas City is still larger than the size of a Missouri
3 congressional district. So it was still necessary to split
4 Kansas City between two -- even the Jackson County part of
5 Kansas City -- into two districts and that was done in each of
6 the first three of these maps. Although, the 1970 -- the map
7 after the 1970 census in 1972, the one that was in place from
8 1973 to 1982, really, includes most of -- most of the Jackson
9 County portion of Kansas City; one of the last annexed places
10 was not included.

11 But the next census, something that happens here is that
12 now, starting in the 1980 census, Kansas City's population is
13 sufficiently small relative to the size of the Missouri
14 Congressional District that it is, in fact, possible to keep
15 District 5 limited to a single -- that there's -- all of the
16 Jackson County portion of Kansas City is contained in a single
17 district starting with the 1980s census and that pattern,
18 actually, does continue throughout the next several rounds of
19 redistricting. So in the 1990 -- after the 1990 census, again,
20 and we see that that Jackson County part of Kansas City was
21 really the focus of District 5.

22 We saw the same thing in the -- after the 2000 census,
23 let's call it the 2002 round of redistricting. And we saw the
24 same thing in the 2012 round of redistricting, that is marked
25 here as 2013 to 2022. Just to be clear, I titled these maps

1 according to the first congress, so that begins in January of
2 the year, so it's an odd number, but we can think of this as the
3 2012 plan and maybe it'll help as we move forward to call it
4 that.

5 But that is a -- that plan, as well, had the same approach
6 to Kansas City. And then, of course, we already looked at the
7 2022 plan, which -- which, in addition to incorporating the
8 entirety of the Jackson County part of Kansas City also reached
9 across the river and included a large portion of the Clay County
10 part of Kansas City.

11 Q. So Dr. Rodden, broadly speaking, how did the
12 boundaries in District 5 change as the boundaries of Kansas City
13 changed?

14 A. They, sort of, moved out along with it. They, really,
15 followed the boundary changes of the city, in a way that -- that
16 ended up putting a great -- a large portion of Kansas City
17 within a single district.

18 Q. And you mentioned the 2012 map, if we could take a
19 look closer at that. So Dr. Rodden, here, District 5 appears to
20 have extended into Clay County, north of the Missouri River.

21 Can you explain a bit more about how you view this change within
22 the historical progression of Kansas City's congressional
23 districts?

24 A. Well, this was a, you know, this was a slow, kind of
25 -- it's in the same spirit of what we're seeing as the city

1 moved, as it expanded to the east and to the south, the
2 districts followed it and that happened again here; as the city
3 has extended to the north and as it became possible to
4 incorporate more of Kansas City, that seems to be what was done
5 here. Now, this one looks a little bit different and this is, I
6 believe, this is probably why it ended up being -- being
7 challenged.

8 This district does have a, kind of, this feature, in that,
9 it reaches down and extracts a portion of Jackson County and has
10 a less compact arrangement. And so in that first notion of
11 compactness we've been talking about, just pure shaped based, it
12 looks less compact than some of the plans that came before it.
13 But in terms of how it -- how it treats Kansas City, it was
14 really quite similar to the previous plans.

15 Q. And Dr. Rodden, let's now look at Figure 4 of your
16 report; which is titled, Share of Kansas City Population
17 Included in Congressional District 5.

18 What does this figure tell us?

19 A. Yeah. Here, the horizontal axis is the census year,
20 but you can think of this as the redistricting plan that was --
21 that was put in place in the year starting in two after the
22 census in each case. But we're, just, arranging on the
23 horizontal axis each redistricting plan in order and what we're
24 looking at here is, just, the share of the total Kansas City
25 population that fell into Congressional District 5.

1 And what we see is the line is relatively flat from 1990 up
2 until 2020. In fact, it increases a little bit in the last
3 couple of rounds, but it's in this band between, maybe, 73
4 percent and around 80 percent and then in 2020, it exceeds 80
5 percent it's something like 85 percent. So that was kind of the
6 practice up until this new plan, where it plummets to something
7 like 35 percent of the Kansas City population that is included
8 in the Congressional District 5.

9 Q. And now looking at Figure 5 of your report, what does
10 Figure 5 depict?

11 A. This is just a way of summarizing something that we
12 could see in those maps as we were going through them; that,
13 when it comes to the Jackson County Kansas City population that
14 was 100 percent included in District 5 from the -- from the --
15 starting with the 1980 census. In fact, here, I just show since
16 1990, but that was 100 percent including up until 2020, and then
17 in the 2025 plan, it falls to something like 55 percent.

18 Q. And Dr. Rodden, what might this figure tell us about
19 closely united territory?

20 A. Well, it seems that the district was drawn in a way
21 that considered Kansas City to be closely united territory for
22 the purposes of congressional redistricting. That has been the
23 tradition in the past, and that is -- that was -- we see a
24 radical departure from that tradition in this new plan.

25 Q. And Dr. Rodden, let's turn back to Figure 2 of your

1 report, which shows the 2025 plan.

2 Can you explain a bit more about that radical departure?

3 A. Yes. We can just see from visualizing it, that the --
4 Kansas City is being divided up into three different districts.
5 District 5, which was the traditional core Kansas City district,
6 still has -- it still has the eastern parts of Kansas City and
7 some more suburban parts of Kansas City and does continue to
8 include part of the central business district, but the real
9 core, historical core, of much of it, of Kansas City, that was
10 previously in District 5 has now been removed via a narrow
11 corridor that follows much of it along Troost Avenue and that
12 reaches up and extracts a big chunk of the central business
13 district, places it in District 4.

14 And then, we can see that District 6 reaches across the
15 Missouri River. Six is traditionally a northern Missouri rural,
16 agricultural, district. It reaches down and extracts some of
17 the historical neighborhoods in the northeast of Kansas City and
18 places them in this largely rural district.

19 Q. And Dr. Rodden, you had said that the central business
20 district was always contained in District 5; has that changed
21 here?

22 A. Yes. The central business district, itself, is now
23 divided into three districts.

24 Q. Doctor Rodden, in addition to historical boundaries,
25 you also examined population density in the Kansas City area

1 over time. I'll ask that we pull up Figure 7 of your report.

2 Doctor Rodden, why did you examine population density?

3 A. Well, when trying to understand closely united
4 territory, one good starting point is to look at municipal and
5 city boundaries with the exercise that we were just doing, but
6 that only goes so far. As we saw with some of those
7 annexations, you know, sometimes city's annex territory because
8 they want to build a sewage plant or they want to build a golf
9 course or something like that. So sometimes territory gets
10 annexed into a city but it's really not very populated or
11 certainly not very densely populated.

12 So another way, I think maybe a better way of thinking
13 about closely united territory, is to look at where the people
14 are actually arranged in space. So that's something that
15 political and economic geographers like to do using dot density
16 maps. And so what's nice about a dot density map -- if I could,
17 just, explain what I'm doing here -- it is a way of taking the
18 tracked level population data and simply creating a dot so that
19 each dot corresponds to 100 residents and this then allows us to
20 see where people are located.

21 And in a time series array like this, just as we could see
22 the boundaries of Kansas City moving out in this kind of
23 analysis, we can also see Kansas City's population spreading out
24 over time as part of a suburbanization process. But we can see
25 that the -- that the core of Kansas City is still the densest

1 part of the city, and there's even been a little bit of an
2 increase in density as some new housing, some new multifamily
3 housing has come into the city center; so this allows us to see
4 where the people are, to me, in a notion of closely united
5 territory, it's really important to know where are the actual
6 residents.

7 Q. And Dr. Rodden, does the 2025 plan's configuration in
8 the Kansas City area align with previous congressional plans
9 treatment of population density in this area?

10 A. No. I think we can see when we look through these
11 maps that there's a real effort made in the previous
12 redistricting plans, even more so than following the boundary of
13 -- the formal boundary of Kansas City. There's an effort made
14 here to follow the -- the, kind of, lines of population density
15 and to include the densest parts of Kansas City within District
16 5. And that was even true, starting in 2012, when the boundary
17 starts to move north of the Missouri River and go into -- to
18 north Kansas City and in that direction.

19 So there's this -- there's this effort to contain the
20 densest parts of Kansas City within a single district numbered
21 five, right up until 2025; that is a time when we see, then,
22 density is suddenly not even really ignored, its, kind of, it
23 seems to be an effort is made to -- to carve up the densest
24 parts of Kansas City.

25 Q. And let's turn to Figure 8 of your report, which takes

1 a closer look at where Districts 4, 5, and 6 intersect in the
2 2025 plan.

3 What can we see from this figure?

4 A. Yeah. This gives us a sense -- when we see the dots
5 that are closest together -- this gives us a sense of where are
6 the most dense parts of the center Kansas City. We see some of
7 those historic neighborhoods in the northeast. We also see some
8 of the neighborhoods closer to the Kansas boundary. But also
9 some areas close to where we're sitting now, whether it's been
10 some -- some lofts and, kind of, new construction of multifamily
11 housing, we see that these are some of the densest areas. And
12 that the area where these district come together and start to
13 split up the center of Kansas City into three districts, this is
14 one of the more dense parts of Kansas City.

15 So the dense population of Kansas City is really being
16 divided across three districts here.

17 Q. And to summarize, how does this 2025 plan interact
18 with the closely united territory in this area in terms of
19 population density?

20 A. Yes. It's in so far as population density is one of
21 the things to consider, which is one of the things that was also
22 emphasized in the *Pearson v. Koster* decision, that -- that
23 population density is -- if that's an important part of a notion
24 of closely united territory, then it's really being undermined
25 here by the way these districts are drawn.

1 Q. And Dr. Rodden, in addition to the population density
2 of these districts, you also analyzed the concentration or
3 dispersal of population centers, right?

4 A. Yes.

5 Q. So let's pull up Figure 20 of your report, which is
6 titled, Median Population Centers of Districts in the 2022 plan.
7 What is it a median population center?

8 A. A median population center is a simple -- a simple
9 quantity of interest in spatial statistics. It's very easy to
10 calculate. It's, just, the spot within one of these districts,
11 where half of the population is to the east and half to the
12 west. Half of the population is to the north and half to the
13 south. So it tells us, you know, the name is very evocative, it
14 tells us exactly what is going on. It's the median population
15 center of the district, so it's not the geographic center, it's
16 the population center.

17 Q. And what does this figure tell us about the median
18 population centers in the 2022 plan?

19 A. So we can see that when District 5 is drawn in a way
20 that we've noticed, where the -- where the population density of
21 Kansas City is really encompassed within that District 5, we see
22 that the median population center of the district is somewhere
23 very close to the geographic center of the district, right in
24 the middle of Kansas City. What we see in District 4, which is
25 the district to its -- to its southeast, is that this is still a

1 largely rural district, the population is rather spread out
2 across the district, so the median population center is
3 somewhere relatively close to the geographic center of District
4 4, it's, kind of, right somewhere in the middle.

5 In District 6, which is the one to the north, there, we see
6 that the median population center is closer to Kansas City.
7 This is a very dispersed population in District 6, but it is a
8 little bit tilted toward the western side of the district, and
9 so that's why that dot appears where it does.

10 Q. And Dr. Rodden, how does this metric relate to the
11 notion of closely united territory?

12 A. Well, I think it gives us -- it allows us to see
13 whether a district corresponds to the -- how a district relates
14 to the median population center of the district. So we get a
15 sense of whether the -- whether the district is drawn in such a
16 way as to be responsive to the median population center of the
17 district.

18 Q. So looking at Figure 19 of your report, how did the
19 median population centers of Districts at 4, 5, and 6 change in
20 the 2025 plan?

21 A. So I'll start with District 6. It changed only a
22 little, but it became -- it moved a little closer to Kansas
23 City; so by reaching down and extracting part of the urban core
24 of Kansas City, it's taking in more urban population and also
25 that it -- some more of that suburban population in the north,

1 parts that had been in 5 before. So District 6 becomes a more
2 Kansas City oriented district, and so that blue dot get closer
3 to Kansas City. Now, District 5 becomes a far less Kansas City
4 oriented district. So remember that that red dot in Kansas City
5 was right in the middle of Kansas City in the previous plan. It
6 is now well to the east, outside of Jackson County in a more
7 rural area.

8 Now, District 4, the pattern is a bit more similar to
9 District 6, in that the median population center of District 4
10 has now also moved very dramatically toward Kansas City. So
11 District 4 has now become a much more Kansas City oriented
12 district. So 4 and 6 become more Kansas City oriented; 5
13 becomes less Kansas City oriented. But, you know, you'll see
14 there's no dot here, really, in Kansas City, itself, so there's
15 really no Kansas City centric district anymore.

16 Q. And now looking at Figure 21 of your report, what does
17 this figure show us about Districts 4, 5, and 6 in the 2025
18 plan?

19 A. So what I've done here is, after finding those median
20 population centers, just simply calculate the distance from the
21 median population center of the district to the furthest point
22 in the district at the -- on other side of the district to get a
23 sense of how sprawling is the district. So the notion here is
24 that -- that as these numbers get larger we get further and
25 further from a notion of closely united territory. We could see

1 that as Districts 4 and 5 end up with median population centers
2 that are vastly further than they were before from the furthest
3 point in the district. What I'm doing here is just arranging
4 the districts according to their district number on the
5 horizontal axis.

6 And then, the vertical axis here, is that distance I was
7 just describing. So the distance from the median population
8 center of the district to the furthest point in that district.

9 And what we can see is that we have -- in gray, we have the 2022
10 plan, in black we have the 2025 plan. And what this shows is
11 that there really isn't much change in this sprawl metrics or
12 this distance between the median population center and the
13 furthest point in the district.

14 There's not much difference at all in Districts 1, 2, and
15 3. There's also not much difference in Districts 6, 7, and 8,
16 but there's a very dramatic difference in Districts 4 and 5,
17 which are now much more sprawling than they have been in the
18 past.

19 Q. And, finally, looking at Figure 3 of your rebuttal
20 report, how does this figure help us understand the population
21 distribution in the 2025 plan relative to Missouri's previous
22 congressional maps?

23 A. Yeah. So what I'm doing here is calculating that same
24 thing, so the distance between the median population center of
25 the district and the furthest extent of the district. And I'm

1 doing that for -- at the top -- I'm doing that for District 5,
2 for every redistricting plan since 1992. So that's one, two,
3 three, four, five plans. And so we can see, we have -- all
4 those are indicated with a black marker, here. So you can see
5 that that distance for District 5, in previous plans, was 20
6 miles, 25 miles.

7 Now, in the District 5 in the 2012 plan, that distance
8 expanded to a bit over 80 miles, but now it is expanded quite a
9 bit further to -- to something like 110 miles. So this is the
10 most sprawling version of District 5 that we have seen
11 historically. District 4 is even more dramatic, the increase in
12 sprawl of District 4, relative to its previous configurations,
13 again, it was a more rural district, so the sprawl number was
14 larger to begin with -- it was already over 100 miles for a
15 couple of those plans, but now is expanded to be a far more
16 sprawling version of District 4 than what we've seen in the
17 past.

18 And then, the last -- the last panel of this figure is,
19 just, taking the average over all the districts, and we can see
20 that this is the most sprawling or the least compact plan we've
21 seen since -- since the 1992 plan. But what that previous graph
22 showed us, I just want to emphasize, is that all of this is
23 driven by Districts 4 and 5. The rest of the districts are
24 relatively similar to the past, but the sprawl of Districts 4
25 and 5 has really increased and that has pushed up the average

1 sprawl for all of the districts.

2 Q. Thank you, Dr. Rodden. Overall, stepping back, how
3 does this consideration of population distribution factor into
4 your analysis of closely united territory?

5 A. Well, I consider this distance between the median
6 population center of the district and the furthest extent of the
7 district to be a very intuitive and, kind of, easy to understand
8 measure of the extent to which a district deviates from a
9 closely united territory notion of compactness. And so the fact
10 that Districts 4 and 5 deviant this much from the history is, to
11 me, a good indicator that a different approach to redistricting
12 has been taken in this round.

13 Q. Thank you. We can take the slide down. And Dr.
14 Rodden, you also looked at a range of demographic data,
15 including the Kansas City Transportation Authority routes. I'll
16 ask that we pull up Figure 11 of your report.

17 Doctor Rodden, why might transit networks be relevant in
18 assessing closely united territory?

19 A. Yeah. Following up on the conversation earlier about
20 human and physical geography and determining what makes for a
21 closely united economic and political and social space, the
22 transit network is really essential. So people who study this
23 sort of thing really focus a lot on transit connections. And so
24 in this case, we're looking at -- we're looking at the Kansas
25 City transit system and looking at, just, mapping the stops and

1 the transit system and seeing how those correspond to the
2 district boundaries.

3 Q. And what does this figure tell us about the overlay
4 between the transportation routes and the 2022 plan versus the
5 2025 plan?

6 A. Well, the 2022 plan gives us a similar story that we
7 got with the city boundaries and with population density; that
8 the district was drawn in a way that tried to correspond to the
9 territory, this united economic and social territory, of Kansas
10 City by keeping the -- most of the transit network, at least, on
11 the Missouri side, within District 5.

12 What we see now in the 2025 plan, the way District 4
13 reaches up and extracts a part of Kansas City, the transit
14 network is now divided in a new way. So if one was traveling
15 from west to east on any of these lines, one would be crossing
16 congressional districts. So the -- the transit riders, as a
17 group, now will be represented by three different members of
18 Congress.

19 Q. And in your field of study, are you aware of analyses
20 of the relationship between congressional representation and
21 transit networks?

22 A. Yeah. There's a literature of political science and
23 economics that tries to understand how citizens go about
24 interacting with members of Congress and representatives and
25 trying to -- trying to get the policies that interest them. And

1 so there is some indication that in trying to attract things
2 like transportation funding, it is more difficult when transit
3 riders are split across three districts, rather than -- rather
4 than located in one district, where there's a representative
5 who, clearly, has an interest in -- in assisting transit riders
6 with their interests and transportation investments.

7 Q. Let's turn to Figure 12 of your report.

8 What does this figure represent?

9 A. Here we have data from the decennial census on looking
10 at census tracts. So those are the units that are used here for
11 mapping, and I'm making a map that gets darker as renter
12 occupied housing as a share of total housing units, increases.
13 So you'll -- you can see here, that it looks a bit like that
14 transit map; there's a correspondence between folks who use
15 public transit and people who rent. But we can see that renters
16 are geographically concentrated, and it's not surprising. This
17 is a function of historical investments in the -- in the built
18 environment, the housing structure of Kansas City, and a lot of
19 the places that are more dense that have multifamily housing
20 also have renters.

21 And so we see a concentration of renters here, you know,
22 with -- where the red is concentrated. And kind of similar to
23 population density in the transit network, we see in the 2022
24 plan, the district was draw in a way that really kept a lot of
25 renters together in a single district, 5. And then, similar

1 story when we look at the 2025 plan, renters, as a group, are
2 now split between Districts 4, 5, and 6.

3 Q. And what does this figure tell us about how renters
4 and homeowners might be affected in terms of closely united
5 territory under the 2025 map?

6 A. Yes. To me, understanding American politics and the
7 kinds of things that voters are interested in policy wise, the
8 kind of things they lobby for -- there's a large literature
9 suggesting that renters versus homeowner's approach politics in
10 very different ways and have different requests of their
11 representatives.

12 So as a similar story here, where renters are now split
13 across several districts rather than concentrated in one, and so
14 if we think of that as one of the components of a notion of
15 closely united territory, this is another way in which it is
16 undermined by the splitting of Kansas City.

17 Q. We can take this image down. Thank you.

18 And Dr. Rodden, you also examined occupations and
19 industrial sectors in Congressional Districts 4, 5, and 6. Why
20 did you do so?

21 A. This is another -- another feature. When I think
22 about a closely united territory, I think about occupation and
23 industrial activity as one of the things that links groups
24 together in space and gives them common interest in the
25 representation process. So thinking back to the

1 Scranton/Wilkes-Barre example, there's something about the
2 industrial structure, the interest in manufacturing and mining,
3 that, kind of, links those voters and gives them some common
4 interest that makes sense to try to represent in a congressional
5 district. So occupation and industry are really essential for
6 people who work on this sort of thing.

7 Q. And are there any occupations that were previously
8 concentrated in Congressional District 5?

9 A. Yes. There are a number of things we could look at
10 here. In my report, I focused, in particular, on what one might
11 call the knowledge economy. So a set of occupations associated
12 with science and technology, and the -- those -- people working
13 in those areas were quite concentrated in District 5 in the
14 past. The districts -- the story has really, kind of, become
15 similar to what we've been looking at that -- that those groups
16 are now split between three different districts where they had
17 been concentrated in one district in the past.

18 Q. And how is that population impacted by the 2025 plan?

19 A. Those -- those groups are now, you know, we now have a
20 set of districts. Not only is District 4 a mix of urban and
21 rural, District 4 has become a district that is -- that still
22 has some agricultural component, but now has this really large
23 urban and suburban tech worker component, so it's become a much
24 more heterogeneous district with respect to occupation and
25 industry of employment and something very similar is true of

1 District 5.

2 District 6 has changed a bit less, but it's also changed in
3 this way where -- there is a -- it was previously a very
4 agricultural district that now is bringing in more of the Kansas
5 City area technology employees and other -- other types of
6 employment that are less common in rural places.

7 Q. And let's look at Figure 17A and 17B of your report.

8 What did these figures show?

9 A. Here, we just have some county level data on the value
10 of corn sales in the green maps and of soybean sales in the blue
11 maps and those are the two biggest crops in Missouri. And the
12 maps just get darker as the sales of these crops are more -- are
13 more important in the county's economy.

14 Q. And looking at each image in turn, has the character
15 of District 4 and 6 been affected across the 2022 plan and the
16 2025 plan?

17 A. Yes. I think -- I think the story is similar for both
18 types of crops, but what we saw in the past was that District 6
19 was really a district that was focused on -- on agriculture. It
20 was a very agricultural district and it brought together the
21 most intensive corn and soybean counties into a single district.

22 But there's a -- kind of a consequence when you change District
23 6, such that it will now take in all of the northern part of the
24 Kansas City on the north side of the river. And you also, then,
25 take in some of these historic neighbors, the neighborhoods in

1 the northeast of Kansas City, and we saw how that moves the
2 median population center of District 6 toward Kansas City. That
3 has a -- that has an impact.

4 It's not possible to retain all of those agricultural
5 counties so -- so a number of those agricultural counties have
6 now been sent off to District 3, which is, essentially, a St.
7 Charles oriented district. So District 3 is, again, it's an
8 excerpt in affluent district that has a lot of people working in
9 science and technology, people who are committing to St. Louis
10 and working there. So -- so District 3 becomes a more
11 heterogeneous mix of, kind of, knowledge economy employees and
12 agricultural workers. District 6 becomes less agricultural
13 focused and then also, by gaining more of Kansas City, becomes a
14 more, you know, a less agricultural district on that side of the
15 district, as well.

16 The story is very similar for District 4, which was a
17 relatively sparsely populated rural district that had -- wasn't
18 as agricultural, as agriculture focused as District 6, it also
19 included some of the area of the Ozarks. But what has happened
20 is it has lost a lot of the most agricultural intensive
21 counties, along the river, for instance, and those have moved
22 now to District 5, which was, of course, historically, a very
23 urban district. So in each case the -- the, kind of, the
24 presence of the more agricultural focused District in 4 and 6,
25 has been dissipated and we now see the agricultural counties

1 split between Districts 3, 6, 4 and 5.

2 Q. And Dr. Rodden, stepping back, based on each of the
3 indicia that we've discussed so far, what conclusions do you
4 draw about the notion of closely united territory with Districts
5 4, 5, and 6 in the 2025 plan?

6 A. If we think of agriculture as an important part of the
7 notion of closely united territory in Missouri, this is also
8 something that's been affected and that has been reduced by the

9 -- by the way the plan has been drawn. So there are these
10 knock-on effects for the move to break Kansas City up that
11 expand well beyond Kansas City and really shape the notion of
12 closely united territory in rural places, as well.

13 Q. And what conclusions do you draw about the notion of
14 closely united territory with respect to what has previously
15 been District 5 in the 2025 plan?

16 A. Well, that's -- that is a district that was previously
17 dense and urban and now is an amalgam of parts of Kansas City
18 and some very rural agricultural areas.

19 Q. And Dr. Rodden, do you view the 2025 plan's deviations
20 from closely united territory in the Kansas City area to be
21 minimal?

22 A. No. I think it's clear from this analysis that it's
23 not -- not minimal.

24 Q. Are they practical?

25 A. I don't understand what kind of practical story one

1 would tell about this.

2 Q. Doctor Rodden, you mentioned that you had reviewed the
3 *Pearson v. Koster* case; is that right?

4 A. Yes.

5 Q. And did you examine whether Districts 4, 5, and 6
6 could be explained by the factors discussed in *Pearson v.*
7 *Koster*?

8 A. Yes.

9 Q. So let's pull up a passage from *Pearson* that
10 summarizes those factors. I'll let you take a sip of water and
11 then could you, please, read this passage out loud?

12 A. Yes. Plaintiffs must prove that the boundaries of
13 Districts 3, 5, and 6 depart from the principles of compactness
14 and that any deviations were not minimal or practical deviations
15 resulted from applying the recognized factors. Accordingly,
16 Plaintiff's showing must account for any minimal and practical
17 deviations occurring as a results of, (1), the inter-
18 relationship and standards for population equality and
19 compactness requirements; (2), the contiguity requirement; (3),
20 federal laws, including the Voting Rights Act; and (4), the
21 recognized factors of population density, natural boundary
22 lines, boundaries of political subdivisions, and historical
23 boundary lines of prior redistricting maps.

24 Q. Thank you. Dr. Rodden, do you recall reading about
25 those factors in *Pearson*?

1 A. Yes.

2 Q. And I know you just testified to your opinion that the
3 deviations from closely united territory in the 2025 plan are
4 neither minimal nor practical; is that right?

5 A. Yes.

6 Q. So let's set that aside for a moment and assume that
7 those deviations are, in fact, minimal or practical. I want to
8 walk through the extent to which any of these factors can
9 nevertheless explain the configuration of Districts 4, 5, and 6.

10 So let's start with population equality.

11 Could a goal of maintaining equal population between
12 congressional districts explain the deviation from compactness
13 in Districts 4, 5, and 6 in the 2025 plan?

14 A. No. I think the main reason we know that is when we
15 had a district -- we saw a plan in 2022, that we've been taking
16 a close look at here, that had the exact same population data,
17 had the exact same requirements, was able to achieve equal
18 population without -- without committing any of these
19 violations.

20 Q. And how about a goal of maintaining contiguous
21 districts?

22 Can that explain the deviation from compactness in
23 Districts 4, 5, and 6 in the 2025 plan?

24 A. No. I would give the same answer. The previous plan
25 also had no problems with contiguity.

1 Q. How about a goal of complying with federal law? Can
2 that explain the deviation from compactness in Districts 4, 5,
3 and 6 in the 2025 plan?

4 A. Not to my knowledge. The only aspect of federal law
5 that one might consider would be the Voting Rights Act. And
6 it's clear from the very -- any kind of preliminary analysis,
7 that given the size of the minority population in Kansas City,
8 it doesn't really come into play and so it doesn't, really,
9 shape the decisions one has to make about drawing congressional
10 districts.

11 Q. And what about population density?

12 Can that explain the deviation from compactness in
13 Districts 4, 5, and 6 in the 2025 plan?

14 A. No. On the contrary, I think the discussion we had
15 about population density earlier, it indicates the opposite.
16 That this -- these lines were drawn without regard for
17 population density.

18 Q. And what about historical boundary lines?

19 A. I would give the same answer. We've been through now
20 a close look at these historical boundary lines, and there's no
21 story here in which one could claim that these lines were drawn
22 in a way that attempted to return to some historical pattern.
23 This is -- this is a completely new disjuncture from a long
24 history of redistricting in western Missouri.

25 Q. And what about natural boundary lines?

1 Can those explain the deviation from compactness in
2 Districts 4, 5, and 6?

3 A. I spent a lot of time trying to figure out how one
4 might construct such an argument and I can't come up with one.

5 Q. So Dr. Rodden, let's talk about political
6 subdivisions. Are you aware that the experts for the state
7 defendants and the intervenors in this case reported the number
8 of county and municipality splits in the 2025 plan versus the
9 2022 in other plans?

10 A. Yes.

11 Q. Do you dispute their accounting of the number of
12 splits in each map?

13 A. I -- I -- no. I don't think I do.

14 Q. Doctor Rodden, in your opinion, are all splits created
15 equal?

16 A. No. That's something I've spent a lot of time
17 thinking about as I've worked in the redistricting space and
18 learned more about drawing districts and learning about how
19 splits can happen when drawing districts. We talked earlier
20 about annexation. So if a city annexes a golf course or
21 someplace where it would like to have a nature preserve and so
22 we see some extension of a district that is largely unpopulated
23 and we see a district boundary that maybe extracts -- say, as in
24 the case of the municipality of Sugarcreek.

25 In the 2022 plan, there's a municipality that has something

1 like 2,700 people; 80 of them live around an area where there's
2 a nature preserve. The district boundary slices off that nature
3 preserve and so those 82 people are -- are separated from the
4 rest of their -- of the rest of their community. That seems, to
5 me, a very different thing in nature, than if we take, for
6 instance, the historical northeast neighborhoods of Kansas City
7 and extract the thousands of people and place them in a largely
8 rural district. That seems like a very different type of split
9 and it's important to try to do something to account for that.

10 Q. And pulling up page 10 of your rebuttal report, how
11 did you examine county and municipality splits in the 2025 plan
12 in the context of closely united territory?

13 A. I did something I think is very simple; which is
14 whenever a municipality is divided across districts, there's a
15 larger fragment and a smaller fragment. So I look at the
16 smaller fragment and consider those to be the people who are
17 split off from the rest of their community, and I simply say,
18 Let's take all these smaller fragments of the split
19 municipalities and just see how many people live in them.

20 So we sum over all those and see how many people were
21 affected in this -- in this way by the split. So what I
22 described here is in the 2022 plan, 90,966 Jackson County
23 residents were excluded from District 5. In the 2025 plan, the
24 number almost quadrupled to 346,336. So what this tells you is
25 that the people, the actual number of people who were affected

1 by the splits was much higher in the 2025 plan even though, if
2 we do this pure accounting exercise and we count some numbers of
3 very small municipalities that had some smaller splits, we'd get
4 that there were more -- that the number of splits was larger in
5 Jackson County in the 2025 -- in the 2022 plan, but when we look
6 at the number of people affected, we get a very different
7 answer.

8 Q. And that assessment of the impact of splits in the
9 2022 versus the 2025 plan, did you also conduct that analysis
10 statewide?

11 A. Yes. I also, just, was able to write some code to
12 bring in all the block-level data and find all the fragments of
13 cut districts and add up the population. And, again, the split
14 population was larger in the 2025 plan than in the 2022 plan.

15 Q. You can pull the slide down.

16 So Dr. Rodden, what did you, therefore, conclude as to
17 whether the configuration of Districts 4, 5, and 6 can be
18 explained by consideration of political subdivisions?

19 A. Yeah. I see no reason to believe that these splits of
20 -- that some of the maneuvers that we've been discussing in the
21 Kansas City area where necessary to avoid some kind of municipal
22 splits.

23 Q. And Dr. Rodden, do you consider state legislative
24 districts to be political subdivisions?

25 A. Traditionally, when working in redistricting, we think

1 of political subdivisions as counties and municipalities or
2 cities. We don't think about changing features like, you know,
3 legislative districts that are frequently redrawn, and they may
4 be redrawn in a strategic way and, you know, they're not really
5 these, kind of, enduring features of the geography. So it's not
6 something I typically look at when examining a redistricting
7 plan. How does it correspond to the state legislative
8 districts; that's not something I typically do when looking at a
9 congressional plan.

10 Q. Let's pull up Figure 25 of your report.

11 Did you, nevertheless, look at how the 2022 and 2025 plan's
12 interact with state legislative districts?

13 A. Yes. In my initial report, I looked at a number of
14 different kinds of boundaries well beyond counties and
15 municipalities. I looked at State Senate districts, State House
16 districts, school boards, and the like. This is a map of State
17 Senate districts and it shows what that looked like in the 2022
18 plan and what it looked like in the 2025 plan. And while there
19 was -- while one might point out that in the 2025 plan, the
20 Senate District 9 and 11 were kept whole and the boundary
21 corresponded to those lines, which are -- which, you know, kept
22 those two districts whole.

23 If we look more broadly at the district, District 5 cuts
24 more state senate district -- it splits more state senate
25 districts than it did in the 2022 plan. And the 2022 plan also

1 preserved two state senate districts. So I can't see a logic,
2 whereby, District 5 was drawn in the way it was or had to be
3 drawn the way it was as part of some, kind of, goal of aligning
4 state senate districts and congressional districts. That --
5 that can't be the case.

6 Q. And going to Figure 7 of your rebuttal report, can you
7 say a bit more about how District 5 has been configured relative
8 to state senate districts in Missouri's previous congressional
9 district plans?

10 A. Yes. I mentioned that the 2025 plan -- and we were
11 looking at the 2022 plan -- that they had two districts that
12 were kept whole, two state senate districts that we kept whole
13 within Jackson County in CD5. It turns out, that's been a
14 pretty standard practice. It wasn't true in 1992, but there
15 were two state senate districts contained entirely within
16 District 5; that was the case in the 20 -- in the 2002 plan, the
17 2012 plan, and the 2022 plan. And then, we can see -- and then,
18 we can ask, Well, how many fragments of additional state senate
19 districts were also in District 5? And we saw that that was a
20 number that was four, then three, then four, then three, again.

21 But, then, in 2025, in fact, this doubles to eight. So
22 same number of state senate districts that are kept whole, but
23 then a lot more split districts. So, in fact, the -- the
24 argument is quite the opposite of one, that this was -- that one
25 might make if one thought that this was an effort to keep state

1 senate districts whole. In fact, this -- these districts were
2 drawn in a way that caused more fragmentation of state senate
3 districts.

4 Q. We can pull this image down.

5 Doctor Rodden, are you familiar with the Reock, Polsby-
6 Popper, Convex Hull, Schwartzberg, Alternative Schwartzberg, and
7 Know it When You See it scores?

8 A. Yes.

9 Q. And the Court has heard testimony on the definition of
10 each of these scores. Is it fair to say that all of these are
11 calculated based on the physical size and shape of a district?

12 A. Yes. They're all ways of getting at that first notion
13 of compactness that we started with.

14 Q. And Dr. Rodden, how did these scores factor into your
15 evaluation of the 2025 plan's compactness, if at all?

16 A. I included some information on those and, certainly,
17 noted that the -- that the District 5 was quite a bit less
18 compact on -- on all of those measures and District 4, on
19 several of them. But this was not something -- my understanding
20 of Missouri -- the Missouri notion of closely united territory
21 as compactness was that this wasn't really the most important
22 consideration; so I didn't spend a lot of time discussing that
23 in the text.

24 Q. And Dr. Rodden, you reviewed Dr. Trende's report,
25 correct?

1 A. Yes.

2 Q. And Dr. Trende's presents the compactness scores of a
3 handful of districts throughout Missouri history; is that right?

4 A. Yes. Doctor Trende present -- he focused, really, on
5 District 5. And along with presenting compactness information
6 on District 5, he also included some information on a handful of
7 other districts that he selected to include in the text.

8 Q. And did you, on pages 2 through 8 of your rebuttal
9 report, in fact, look at every congressional district since
10 1972?

11 A. Yes. It was, just, the same data that Dr. Trende
12 used, it was the same indicators, but just kinda provided the
13 full -- the full set of information for the Court, incase it's
14 useful. So one can go to my report to get visual displays and
15 discussions of the entire range of compactness indicators.

16 Q. At a high-level, how does the 2025 plan compare
17 historically on the metrics that Doctors Trende and Hood chose
18 to use?

19 A. Well, it's the -- District 5 is an outlier. It's one
20 of the least compact districts in -- of all the districts
21 analyzed, all the districts that have been drawn, since 1992.

22 But I think it's also important to look beyond. I think there's
23 something a little bit, you know, not -- not very useful about
24 comparing the compactness of District 5 in 2025 with, say, the
25 compactness of District 3 in 1972. These are really, kind of,

1 odd comparisons.

2 And so one of the things I also do in the text is just say,
3 Well, let's think about the ranking of District 5 in various
4 plans and see how that compares to the ranking of District 5 in
5 the -- in the enacted plan. And one could already see, kind of,
6 thinking back to those maps we've been looking through, District
7 5 was typically a very compact district, going all the way back
8 to the beginning.

9 So -- so District 5 is, usually, ranked near the very top,
10 in terms of compactness, but in this plan, it is ranked, I
11 think, at the very bottom for all of the indicators but one and
12 that one, it's second to last. So -- so it's gone from being a
13 -- District 5 has gone from being a very -- historically, a very
14 high ranking compactness district, to one of the least or the
15 least compact districts.

16 Q. And Dr. Rodden, zooming out, how would you
17 characterize the 2025 plan's division of Kansas City in terms of
18 Missouri's history, demographics, and traditional redistricting
19 factors?

20 A. It is a -- it is a very stark departure from the past
21 and, I think, a stark departure from this notion of closely
22 united territory that we've been discussing.

23 Q. And in review, can the 2025 plan's division of Kansas
24 City be explained by any of the factors identified in *Pearson*?

25 A. No. I don't believe so.

1 Q. And is there anything in Defendant or Intervenor's
2 expert reports or otherwise in this case, that indicates to you,
3 based on your expertise, that Districts 4, 5, and 6 in the 2025
4 plan are comprised of closely united territory?

5 A. No. Not as I understand the concept.

6 Q. Thank you, Dr. Rodden.

7 MS. GAMBHIR: Your Honor, I pass the witness.

8 **CROSS-EXAMINATION BY MR. GORE**

9 Q. Good morning, Dr. Rodden.

10 A. Good morning.

11 Q. How are you?

12 A. All right. How are you?

13 Q. Good. I'm John Gore. I represent the intervenor,
14 Missouri Republican State Committee. We met via Zoom for your
15 deposition, but it's nice to meet you in person today.

16 A. Good to meet you, as well.

17 Q. Let's begin with your expert report, which is
18 Plaintiff's Exhibit 27. If we can get that on the screen.
19 While we're pullin' that up, Dr. Rodden, you were first asked --
20 the first thing you examined is whether Districts 4, 5, and 6
21 are composed of closely united territory; is that right?

22 A. Yes.

23 Q. And the Missouri Supreme Court did not provide a
24 definition of that term in *Pearson v. Koster*, correct?

25 A. That's correct.

1 Q. And to your knowledge, no Missouri Court has provided
2 a definition of that term to date, correct?

3 A. There are, certainly, some -- some guidance and some
4 indicators of how not to think about it and some hints about how
5 to think about it, but there is no formal definition that comes
6 along with a clear measure; I think that's correct.

7 Q. And you've never seen any academic literature which
8 defines closely united territory, either, correct?

9 A. Well, this is a -- the particular phrase here is one
10 that is, you know, is one that we're referring to in a
11 particular court case, but a notion of closely united territory
12 in a sense that there are populations that are arranged in space
13 in ways that have these features that I was describing on
14 direct, that is very central to the academic literature on
15 political and economic geography.

16 Q. Ultimately, in Missouri, it'll be up to the Missouri
17 courts to determine what the meaning of closely united territory
18 is; is that correct?

19 A. That is correct.

20 Q. So you've come up with a definition that, as I
21 understand it, combines the territory with the people who reside
22 in it, correct?

23 A. Yes.

24 Q. And so you look at the geographic territory and the
25 communities in the district; is that right?

1 A. Yes.

2 Q. And your definition examines whether the district is
3 composed of communities sharing common interest; is that right?

4 A. Common interest is certainly a part of it. I mean, I
5 think that is normatively, perhaps, part of the reason why the
6 Court in the past has come to focus on this notion of closely
7 united territory, but it is a -- it is a sense that there is a
8 group of people that share some of the characteristics that I
9 outlined.

10 Q. You've identified some of those characteristics and
11 factors in your report; is that right?

12 A. Yes.

13 Q. And the courts could disagree without that list of
14 factors; is that right?

15 A. That's possible the Court would want to add or
16 subtract from that list, yes.

17 Q. And you also don't know whether any member of the
18 General Assembly shares your view or notion of closely united
19 territory; is that right?

20 A. That's correct.

21 Q. And you've not surveyed -- conducted a formal survey
22 of voters to determine whether voters share that definition here
23 in Missouri; is that right?

24 A. Right. It's my understanding this is something that
25 the -- that the Court has to determine.

1 Q. And you're not a lawyer or a legal expert, correct?

2 A. That's correct.

3 Q. And you're not offering any legal opinions to the
4 Court today; is that right?

5 A. That's right. I try to always avoid the impression
6 that I'm offering a legal conclusion.

7 Q. Let's scroll down to page 6 of your report, which is
8 Figure 1. You talked about these maps on direct examination.

9 Now, my first question for you is all these maps here in
10 Figure 1 are drawn to the same geographic scale; is that right?

11 A. Yes.

12 Q. So we should think about the border around these maps
13 as a border of an image and not a border of a district, right?

14 A. Correct. Those black lines show us the district. And
15 so in these images, Districts 4 and 6 extend well beyond the
16 area we can see here.

17 Q. The first two images show the 1900 and 1935 maps.

18 Now, at that time, the General Assembly was not subject to the
19 requirement of drawing congressional districts to be as compact
20 as may be, correct?

21 A. I'm not sure when the -- when that language entered
22 the -- entered the Constitution, but if you represent that to
23 me, I'm willing to believe that.

24 Q. If I represented to you that that language first
25 became binding for the 1950s -- after the 1950 census, you'd

1 have no basis to disagree with that, right?

2 A. And that sounds right to me. That sounds right to me.

3 Q. And at the time in 1900 and 1935, the General Assembly
4 also was not subject to an equal population requirement; is that
5 right?

6 A. Was -- it was not subject by -- by federal courts to
7 such a requirement, to my knowledge, was not subject to that by
8 state courts, but seemed to be the, you know, when I look at the
9 data, it seemed like the districts were not as radically
10 deviating from equal population as was the case in many other
11 states that I know from that period.

12 Q. And if we zoom out of this image and show all four of
13 those maps, so starting in 1935 and continuing beyond that,
14 Kansas City's been split into more than one district, correct?

15 A. That's correct.

16 Q. So let's jump down to page 8 and take a look at the
17 1993 -- starting with the 1993 map.

18 Now, I think this as the 1992 plan and it first elected
19 members to Congress who took office and were sworn in, in 1993,
20 right? Which is why you've labeled it 1993?

21 A. Yes. I'm happy to, if we want to call these 1992 or
22 2002, and so forth, just for clarity.

23 Q. Yeah. I may do that and try to refer to them both
24 ways for clarity of the record.

25 But starting in your 1993 map, which relates to the 1992

1 Kansas City -- or the 1992 plan, Kansas City extends into
2 several counties, right?

3 A. In the -- yeah, the 1992 plan, yes.

4 Just to be clear, this is something that I think might be
5 of interest of the Court to understand: there is a small
6 fragment of District 5, we see a little bit of blue that reached
7 below -- I'm sorry -- a small fragment of Kansas City that goes
8 into District 4 on the other side of the county boundary between
9 Jackson and Cass and that was an area that was annexed that has
10 very limited population, I believe, because of an airport. But
11 that -- the tradition in drawing districts in a situation like
12 this, is to follow the county boundary and not the municipal
13 boundary, and that's what was done there.

14 So it's technically true that a little bit of District 5
15 reaches down into 4, but it is also the case that -- that Kansas
16 City extends into District 6, so a good part of the annexed
17 northern part.

18 Q. So just to be clear, there's a little piece of Kansas
19 City that extends into Cass County?

20 A. Yes.

21 Q. And in 1993, that was in District 4, not District 5;
22 is that right?

23 A. Yes. And that's been the case in several of these,
24 with the exception of 2002, where the district did dip down into
25 Cass County to take up a bit more of territory. But, typically,

1 yeah, we see that little blue fragment reaching over the line in
2 several of these maps.

3 Q. So in 1992/1993, Kansas City was split into three
4 districts; 4, 5, and, 6, correct?

5 A. Technically, that's -- that's correct.

6 Q. Okay. And that same year, Jackson County was split
7 into three districts; 4, 5, and 6, correct?

8 A. Yes.

9 Q. And if we go to the 2003 map, relating to the 2022
10 plan, the map also splits Kansas City into two districts,
11 correct?

12 A. I'm sorry. In which plan?

13 Q. Twenty -- what you've labeled 2003. It splits Kansas
14 City into 5 and 6; is that right?

15 A. Yes. Oh, yes. Yes.

16 Q. And it splits Jackson County into 4, 5, and 6; is
17 that right?

18 A. Yes.

19 Q. And if we move to the 2013 map or 2012 plan, that,
20 again, splits Kansas City into three districts -- 4, 5, and 6;
21 is that right?

22 A. Kansas City, yes.

23 Q. And it splits Jackson County into two districts,
24 Districts 5 and 6; is that right?

25 A. Correct.

1 Q. And it also splits Clay County to the north; is that
2 right?

3 A. Yes.

4 Q. So it extends beyond the Missouri River, and it, in
5 fact, splits the Kansas City portion of Clay County between 5
6 and 6; is that right?

7 A. Yes.

8 Q. And if we look at the 2023 map, related to the 2022
9 plan, it, again, splits Kansas City into three districts -- 4,
10 5, and 6; is that right?

11 A. Yes.

12 Q. And it also split Jackson County into three districts;
13 4, 5, and 6 again, correct?

14 A. Correct.

15 Q. And it continues to split Clay County, right?

16 A. Yes.

17 Q. And it also splits the Kansas City portion of Clay
18 County; is that right?

19 A. Yes. I think it'd be very difficult not to -- not to
20 have a split there in Clay County.

21 Q. Let's go to page 9 of your report. And in the second
22 full paragraph -- now, the first sentence of that paragraph we
23 discussed in your deposition.

24 Will you go ahead and read that sentence into the record?

25 A. From the beginning?

1 Q. In every redistricting plan --

2 A. Yes.

3 Q. Yeah. In the second part. Just, go -- just, the
4 first sentence.

5 A. Sure. In every redistricting plan since the 1950s,
6 District 5 brings as much of the Jackson County population of
7 Kansas City as possible together in a single district and more
8 recently brings in a substantial portion of the Clay County
9 parts of Kansas City, as well.

10 Q. And as we discussed, the first part of that sentence
11 states that "every redistricting plan since the 1950s, District
12 5 brings as much of Jackson County population of Kansas City as
13 possible together in a single district."

14 You can't, actually, definitively, state that, correct?

15 A. That's right. We had a little -- we had -- we
16 discussed this in my deposition and what we, I think, came to an
17 agreement about -- was that in the 1972 plan, there was -- it
18 was, technically, possible to have had a slight increase in the
19 Kansas City share of District 5 because a little bit of Raytown
20 was included in the district.

21 It was not gonna be possible to get all of the Kansas City
22 population into District 5, but a very small additional
23 population could have been included. So it could have gone
24 from, maybe, 90 percent to, like, 91 percent or something like
25 that so in that sense, there was an exception to this statement.

1 Q. You've just led into my next question.

2 So in the rest of this paragraph, you say it was strictly
3 necessary to split the Jackson County portion of Kansas City
4 between 1950 and 1980, because of population of that area
5 exceeded the population size of the district; is that right?

6 A. I mean, in theory, it would've been possible in the
7 1950s to do things a bit differently. The string of Supreme
8 Court decisions that created an equal population standard did
9 not happen until the 60s. But after *Baker v. Carr* and the other
10 related court cases, it became necessary, thereafter, to draw
11 strictly equal population. And after that point, yes, it was
12 required to draw two districts to split the Kansas City part of
13 Jackson County up, until 1980.

14 Q. Okay. And do you know whether the 1950 -- the
15 requirement to draw districts as compact as may be, that started
16 in 1950, was accompanied by a requirement to also -- under the
17 State Constitution -- to also draw congressional districts to
18 equal population?

19 A. I've noticed that that was the practice. I wasn't
20 sure that it was required.

21 Q. But it's not your testimony that any particular split
22 of the Jackson County portion of Kansas City was necessary to
23 comply with equal population, correct?

24 In other words, the General Assembly had various options it
25 could have drawn in that area to achieve equal population; is

1 that right?

2 A. I think that's right.

3 Q. Let's scroll down to page 10 of your report, to Figure
4 2. And, again, this is -- this Figure 2 is drawn to the same
5 scale as your Figure 1 maps; is that right?

6 A. Yes.

7 Q. So like prior plans, this 2025 plan splits Kansas City
8 into three districts, Districts 4, 5, and 6, correct?

9 A. Correct.

10 Q. And like prior plans, it also splits Jackson County
11 into three districts -- 4, 5, and 6; is that right?

12 A. Yes.

13 Q. But unlike prior plans, this plan does not split Clay
14 County, correct?

15 A. That's right. This -- we now have a District 6 that
16 takes all of the Kansas City area and includes it in District 6
17 of -- of the parts that are north of the river, yes.

18 Q. And you testified a little bit in direct about the
19 central business district of Kansas City; is that right?

20 A. Yes.

21 Q. And in your view, is that a community of interest?

22 A. I hadn't thought to use that terminology; that's, kind
23 of, a bit of a different set of phrases used in the
24 redistricting literature. It's not -- I don't think I used that
25 term in my report.

1 Q. But -- but people in that area share some common
2 interests, correct? The people who reside there.

3 A. Yes. That was part of the discussion of economic
4 structure and transit networks and so forth, that those lead to
5 some shared policy interests, yes.

6 Q. The state senate plan splits the central business
7 district, correct?

8 A. Yes, I believe it's necessary to do that, given the
9 size of the state senate district and the size of the central
10 business district.

11 Q. Now, let's go to page 11, Figure 3 of your report.

12 And this is -- this map is drawn to a different scale,
13 correct?

14 A. Yes. I had some spots in the text where I wanted the
15 reader to be able to see, in some more detail, what's happening
16 in Kansas City and also I wanted the reader to be able to
17 understand the full extent of Districts 4 and 5.

18 Q. And so Figure 3 shows 4 and 5, but not the full extent
19 of District 6; is that correct?

20 A. That's right. I think there are some other places in
21 the text where one can see the full extent of District 6.

22 Q. So this figure shows that District 4 starts in Jackson
23 County and extends south and east all the way to Pulaski County;
24 is that right?

25 A. Yes.

1 Q. Let's go now to Plaintiff's Exhibit 82, if we could
2 get that up on the screen. And Dr. Rodden, this is Plaintiff's
3 Exhibit 82 which is in evidence, which is a comparison of the
4 2022 plan and the 2025 plan, and we've just discussed the shape
5 of District 4 and size of District 4 in the 2025 plan, which is
6 on the right.

7 A. Yes.

8 Q. And if you look at the District 4 -- version of
9 District 4 on the left in 2022, it also starts in Jackson
10 County, moves south and east into Pulaski County, but it also
11 moves to due east to pick up some other counties; is that right?

12 A. Yes. A lot of the -- the real -- the pickups in
13 District 4 in -- are in -- with the way it was changed, are in
14 Jackson County, so to make up for that, it's structured in such
15 a way that it keeps a lot of the Ozark area counties, but then
16 loses, as I was discussing, many of those agricultural counties
17 along the Missouri River and sends those to District 5.

18 Q. And so in the 2025 plan, it, for lack of a better
19 term, traded those counties for a greater portion of Jackson
20 County and Kansas City, and it became geographically a smaller
21 district; is that right?

22 A. Smaller in the sense that if we added up the -- added
23 up the square miles of the district, it is -- it is smaller, but
24 in the definition of sprawl that I provided, it's the distance
25 between the median population center of the district and the

1 furthest point increased.

2 Q. But, well, you agree it's a smaller district in terms
3 of the square mileage or geographic area that it covers,
4 correct?

5 A. Just looking at this map, that seems right.

6 Q. And you would agree that District 5 has become a
7 larger geographic district in 2025 than it was in 2022?

8 A. Yes. I think we can agree on that.

9 Q. Let's go now to -- back to your report, which is
10 Plaintiff's Exhibit 27, and go to page 12. I believe you talked
11 about these figures on direct.

12 If we look at Figure 4, first question I have for you, this
13 figure is showing the share of Kansas City's population in
14 District 5; is that right?

15 A. Yes.

16 Q. It doesn't show the share of District 5's population
17 that's in Kansas City, correct?

18 A. No.

19 Q. And the y-axis, here, does not go all the way down to
20 zero, correct?

21 A. That's right.

22 Q. Now, if we scroll down to Figure 5 and if we can blow
23 that up on the screen, as well.

24 Figure 5, again, is showing the share of Jackson County,
25 Kansas City population in District 5, not the share of District

1 5's population that is in the Jackson County portion of Kansas
2 City, correct?

3 A. That's correct.

4 Q. And, again, the y-axis here does not go all the way
5 down to zero, right?

6 A. Right.

7 Q. Now, you're aware that the majority of the population
8 in District 5 resides in urban areas, as defined by the Census
9 Bureau, correct?

10 A. The way the Census Bureau defines urban areas is very
11 expansive. It includes some rather -- some rather sparsely
12 populated suburban areas. It just tells us that they are --
13 it's in, kind of, a settled area. I haven't looked up that
14 information, that was not part of my report; so I don't have --
15 I don't know whether that's true or not.

16 Q. So you don't know one way or the other, whether the
17 majority of District 5's population resides in an urban area?

18 A. Whether it has that urban classification as provided
19 by the census department. It would not surprise me if it was --
20 the question was whether it's more than half?

21 Q. Yes.

22 A. That wouldn't surprise me, but I don't -- I haven't --
23 I haven't looked at that.

24 Q. You don't know one way or the other, right?

25 A. Correct.

1 Q. Okay. Let's go now to page 15 of your report, Section
2 B. And here you discuss census demographics from closely united
3 territory; is that correct?

4 A. Yes.

5 Q. Let's look at the first paragraph of Section B, and
6 would you go ahead and read that into -- into the record, as
7 well?

8 A. Throughout its history, Missouri legislators have
9 treated Kansas City as closely united territory, keeping the
10 central district together and making clear efforts to keep as
11 much as possible of Kansas City, especially the Jackson County
12 section, in a single district. It is worthwhile taking a close
13 look at why they have done so.

14 Q. Doctor Rodden, you don't, actually, know why Missouri
15 legislators have drawn districts the way they've drawn them?

16 A. That's right. I think it would have been nice to have
17 included the word "may" there; why they may have done so.

18 Q. And you don't know why the -- any legislator drew the
19 2025 plan the way it's drawn, correct?

20 A. It's not even clear to me that the legislators were
21 involved in drawing that plan. I really don't know how it was
22 -- how it came to exist.

23 Q. And you, certainly, don't know, historically, why
24 Missouri legislators drew plans back in the 80s or 70s or 90s or
25 in prior decades, correct?

1 A. That's right. Without being able to go back in time
2 and conduct some kind of a survey, I wouldn't be able to do
3 that. So the way my report is written is by trying to, at
4 least, infer some things by looking at the way they were drawn,
5 but, indeed, it's very hard to get at intent with that sort of
6 observed data.

7 Q. So in the rest of Section B -- well, just the next
8 paragraph, you talk about the concept of a metropolitan
9 statistical area adopted by the Office of Management and Budget;
10 is that correct?

11 A. Yes.

12 Q. And the Missouri Supreme Court didn't mention that
13 concept in *Pearson v. Koster* to your memory; is that correct?

14 A. That's right. I don't recall seeing anything about
15 that.

16 Q. And if we zoom back out of that, the first factor you
17 discuss under Section B here is population density; is that
18 right?

19 A. Yes.

20 Q. And you -- in your view, this factor means grouping
21 together in the same district, areas of similar population
22 density, correct?

23 A. Yes. That's something that I pointed out has been the
24 approach of the legislature in drawing maps in the past.

25 Q. And so, in your view, high density areas should be

1 replaced with other high density areas in the same district; is
2 that right?

3 A. It's not my -- I don't really take a normative
4 position in this report about how districts should be drawn. So
5 I would say, no, I don't take a position on that.

6 Q. And when the Missouri Supreme Court mentioned
7 population density in *Pearson*, it didn't explain whether it
8 meant uniting areas of these densities, uniting areas of
9 different densities, or something else, entirely, correct?

10 A. I think that's correct.

11 Q. I think you've already testified to this, but you're
12 not aware one way or other whether District 6 and District 4 are
13 majority urban districts, correct? As defined by the Census
14 Bureau.

15 A. No. Again, the definition of urban that is used --
16 I've noticed in past work that when one wants to use the
17 definition of urban as a distinction, I always find it almost
18 meaningless because they characterize almost everything that
19 isn't a farm as urban. That's been my experience with that
20 particular variable in the census, so I, in my work, I don't use
21 it.

22 Q. And you don't know one way or the other whether the
23 General Assembly thought it was creating a third majority urban
24 district in the Kansas City area as opposed to having had two in
25 the 2022 plan, correct?

1 A. The idea that District 6 was drawn with the intention
 2 of creating a majority urban district, that is not something
 3 that would've occurred to me and that's not something I have any
 4 knowledge of.

5 Q. And you don't know one way or the other whether the
 6 members of the General Assembly believed that the 2025 plan's
 7 configuration of districts in the Kansas City area results in
 8 better representation in Kansas City than the 2022 plan's
 9 district configuration, right?

10 A. That's right. I don't have any knowledge of how
 11 legislators may have thought about the cost and benefits of the
 12 districts.

13 Q. And you also don't know whether they considered
 14 unifying the Kansas City portion of Clay County in one district,
 15 might result in better representation of that area, correct?

16 A. That's right. I have no knowledge of that.

17 Q. Now, in the remainder of this Section B, you identify
 18 some other factors that, in your view, bare on closely united
 19 territory; is that correct?

20 A. Yes.

21 Q. So you talked about transit networks, renters, N
 22 homeowners, occupations, and industrial sectors, and, I believe,
 23 race, as well, in this section; is that right?

24 A. Yes.

25 Q. Missouri Supreme Court did not mention any of those

1 factors in *Pearson*, correct?

2 A. That's correct.

3 Q. And you don't know whether any member of the General
4 Assembly believes those factors bare on the definition of
5 closely united territory, correct?

6 A. Correct.

7 Q. And you don't know one way or the other whether the
8 General Assembly believes that the 2025 plan better represents
9 those various interests and factors than the 2022 plan; is that
10 correct?

11 A. Well, I know -- I don't know if a General Assembly, as
12 a whole, you know, if it's possible to characterize those
13 beliefs. I think there were lots of individuals in the General
14 Assembly who, presumably, all have very different ideas about
15 this.

16 Q. And you don't know what an individual legislator
17 thinks on that question, either, right?

18 A. That's right.

19 Q. Let's scroll down to page 28 of your report. You
20 talked about this on direct, as well.

21 This is the corn and soybean counties, is how I think of
22 them; is that a fair way to summarize what's shown in these
23 figures?

24 A. Yes.

25 Q. And in your view, these agricultural counties have

1 common interests or a set of common issues that are important to
2 them; is that right?

3 A. That seems very likely.

4 Q. And you haven't -- you don't know whether the General
5 Assembly thinks that this configuration results in better
6 representation of those interests and issues in Congress
7 compared to the 2022 plan?

8 A. No, I do not.

9 Q. And you also haven't surveyed voters in those counties
10 to determine whether they think they're better represented under
11 the 2025 plan than under the 2022 plan, correct?

12 A. Correct.

13 Q. Let's go to page 30 of your report.

14 You have this table here that reports some statistical
15 compactness measures; is that right?

16 A. Yes.

17 Q. You talked about these a little bit on direct, but you
18 used the Reock and Polsby-Popper measures, because they're
19 fairly common; is that right?

20 A. That's right. In the cases I've worked on in the
21 past, they're the two that come up most frequently.

22 Q. And according to your analysis, District 4 became more
23 compact on the Polsby-Popper metric in the 2025 plan; is that
24 right?

25 A. Yes. The Polsby-Popper is the one that, really,

1 captures how many, you know, nooks and crannies, if you will,
2 the district has.

3 Q. And District 6 became more compact on both Reock and
4 Palsby-Popper; is that right?

5 A. Yes.

6 Q. Let's go ahead and go now to your rebuttal report, if
7 you can pull that up. That's been marked as Plaintiff's Exhibit
8 28 and let's go to page 4 of that report and this is Figure 1.

9 And Figure 1 presents a histogram with the scores for each
10 statistical measure for every district in every plan that has
11 been enacted since 1972; is that right?

12 A. Yes.

13 Q. And no Missouri court has ever held that any of those
14 districts were not as compact as may be, to your knowledge,
15 correct?

16 A. Yes. To my knowledge, none of these plans have been
17 overturned by a Missouri court.

18 Q. And according to Figure 1, District 5 is not the least
19 compact of Missouri Congressional Districts since 1972, correct?

20 A. That's correct. There have been a handful of others
21 that in -- mostly, in other parts of the state, that were less
22 compact.

23 Q. And in each of these, here, in Figure 1, District 5 is
24 indicated in the red bar; is that right?

25 A. Yes.

1 Q. And you did not indicate or prepare a histogram
2 indicating where District 4 and District 6 would fall in this
3 group of districts, correct?

4 A. That's right. This was a response -- this is a reply
5 report -- or a rebuttal report to Dr. Trende and his entire
6 report focused exclusively on District 5. He had no materials
7 on 4 or 6, so it was outside the scope of my reply.

8 Q. Let's scroll down to page 7, to Figure 2 of your
9 rebuttal report.

10 And this histogram shows -- compares the 2025 version of
11 District 5, to all Kansas City-based versions of District 5
12 since 1972; did I get that right?

13 A. Yes.

14 Q. And if we look at this, again, the 2025 District 5 is
15 the red bar; is that right?

16 A. Yes.

17 Q. And Figure 2 shows that the 2025 map is more compact
18 on each of these statistical measures than the 2012 version of
19 District 5, correct?

20 A. That's correct.

21 Q. And the 2012 version of District 5 is one of the
22 districts the Supreme Court upheld against a compactness
23 challenge in *Pearson*, correct?

24 A. That's correct.

25 Q. Let's go back to your initial report, Plaintiff's

1 Exhibit 27, which is -- and I'd like to go to page 30.

2 And you discussed this concept of district sprawl on your
3 direct testimony; do you remember that?

4 A. Yes.

5 Q. And this is a concept you came up with for purposes of
6 this case, correct?

7 A. Yes. It's a very simple descriptive indicator, the
8 kind of thing that I'm sure has been used -- has been calculated
9 before, but I don't know of any -- any -- I can't point to a
10 specific case in which it's been presented before.

11 Q. And so no Missouri court has ever mentioned this
12 concept in any opinion that you're aware of, correct?

13 A. That's correct.

14 Q. You haven't published anything about this concept in a
15 peer-reviewed article, for example; is that correct?

16 A. That's correct.

17 Q. And you've never utilized it before in any
18 redistricting lawsuit in which you've been an expert, correct?

19 A. Oh, I've definitely calculated median populations
20 centers before and discussed those and mapped those. The next
21 step of calculating that distance, I don't believe that's
22 something I've discussed or presented information on before.

23 Q. Let's go to page 32 of your report, back to Figure 21,
24 which, I think you discussed on your direct examination.

25 And as I understand, in Figure 21 you've plotted the

1 district sprawl scores for the 2022 plan and the 2025 plan; is
2 that correct?

3 A. Yes.

4 Q. And according to Figure 21 in your report, District 6,
5 actually, becomes less sprawling in 2025 than it was in 2022,
6 correct?

7 A. Yes. What happened there is that by -- because of the
8 changes that I described earlier, where it shed some of its
9 rural counties by virtue of sending those counties off to
10 District 3, it reduced, just by a tiny bit, the distance from
11 the median population center to the furthest extent, because
12 what used to be furthest extent has now been sent off to
13 District 3; so that's correct.

14 Q. And District 5 in 2025 is also less sprawling than
15 District 6 in 2025, correct?

16 A. Yes. That's almost -- that almost has to be the case.
17 Given that District 6 is -- has been for many many decades a
18 district that reaches from, you know, from Hannibal and, you
19 know, from the -- from the Missouri -- from the Mississippi
20 River all the way to the Kansas boundaries. So it's always --
21 if we go back over time and look at these, we'll always see that
22 District 6 is the most sprawling district.

23 Q. So for that same reason, District 4 is also less
24 sprawling than District 6, correct?

25 If District 6 is the most sprawling district, then District

1 4 is less sprawling on this metric than District 6?

2 A. I mean, I -- yes. In these observed plans, one could
3 imagine alternative plans that were different, depending on how
4 one restructured the districts, but, yes, that's true of these.

5 Q. I'm just asking about in the 2025 plan; that's true,
6 right?

7 A. In the 2025 plan, it's true that four is -- District 4
8 is slightly more sprawling than District 5, but the difference
9 is very small, it looks like.

10 Q. And they're both less sprawling than District 6,
11 correct? In 2025.

12 A. Correct. Yes.

13 Q. Now, we discussed earlier that District 5 covers a
14 larger geographic area in the 2025 plan than in the 2022 plan;
15 is that right?

16 A. Yes.

17 Q. And on your district sprawl metric, District 5 becomes
18 more sprawling in 2025 than it was in 2022, correct?

19 A. Yes.

20 Q. And we also discussed that District 4 becomes smaller
21 in 2025, in terms of the geographic area it covers, compared to
22 the 2022 plan.

23 And, yet, District 4 also becomes more sprawling in 2025,
24 than in 2022 on your district sprawl metric, correct?

25 A. Yes. That's what happens when these urban

1 neighborhoods are extracted and placed in a rural district.

2 Q. Let's go to -- back to your rebuttal report, which is
3 Plaintiff Exhibit 28. And let's go to page 9 and look at Figure
4 3 where you, again, discuss the district sprawl concept.

5 As I understand Figure 3, it shows the district sprawl and
6 redistricting plan since 1992 with the 2025 plan in red; is that
7 right?

8 A. Yes.

9 Q. Now, in 1992 and 2002, there were nine districts, nine
10 congressional districts in Missouri, correct?

11 A. That's correct.

12 Q. And then, later, after later censuses, there are only
13 eight districts in Missouri, correct?

14 A. Yes.

15 Q. So because Missouri now has fewer districts covering
16 the same geographic area, districts in more recent maps would
17 naturally be more sprawling than districts in older maps,
18 correct?

19 A. Yes. That's something, I believe, I discussed in the
20 text and we talked about in deposition, as well. And so for

21 that reason, in my initial report I only reported information

22 for the period during which the number of districts was at the
23 current level. This was a rebuttal report in which I was

24 responding to Dr. Trende's analyses that included these earlier
25 plans.

1 And so for that reason I included them, but, yes, they
 2 should be -- they should be -- these graphs should be read with
 3 that caveat in mind; that we're, in some ways, we're looking at
 4 apples and oranges here, if we're looking at a nine district
 5 versus an eight district plan.

6 Q. And Figure 3 does not include a graph for District 6;
 7 is that correct?

8 A. That's correct.

9 Q. Let's go back to your expert report.

10 If we look at -- starting on page 33 of Plaintiff's Exhibit
 11 27, and Section 4, or Part 4 is, Can deviations from compactness
 12 be explained by other recognized factors.

13 Do you see that?

14 A. Yes.

15 Q. And, here, you talk with other factors that were
 16 mentioned in *Pearson v. Koster*, right?

17 A. Yes.

18 Q. So let's go to page 34 of your report. The bottom of
 19 page 34, carrying over to the top of page 35. The sentence at
 20 the bottom of 34, starts, "By extracting".

21 Would you mind reading that whole sentence into the record?

22 A. Oh, okay. By extracting a strip of Kansas City
 23 bounded north/south along Troost Avenue, one of the most famous
 24 racial dividing lines is the United State, the 2025 plan appears
 25 to sort voters into District 5 and out of District 4 along

1 racial lines.

2 Q. And Dr. Rodden, are you alleging that the 2025 plan is
3 racially discriminatory?

4 A. No. This was the section of the report in which I was
5 discussing the possibility that the district lines were drawn in
6 an effort to abide by a federal law. And pointing out that, if
7 anything, they were drawn in way that might've drawn greater
8 scrutiny.

9 Q. And you've not examined one or the other whether the
10 General Assembly had a race neutral reason for drawing the line
11 on Troost Avenue, do you -- have you?

12 A. That's correct.

13 Q. Troost Avenue is a major north/south, thoroughfare in
14 Kansas City, correct?

15 A. Yes.

16 Q. And you're aware that a state senate district line
17 drawn by the Senate Redistricting Commission also runs on Troost
18 Avenue, correct?

19 A. Yes.

20 Q. And, in fact, that's been the case since 2012,
21 correct?

22 A. The state senate district.

23 Q. The state senate district has used Troost Avenue, to
24 your knowledge?

25 A. I believe, that's correct.

1 Q. And are you aware that the city council districting
2 map drawn by the Kansas City Commission also uses Troost Avenue
3 as a district line?

4 A. For a section of it. Yes. I think I have a map of
5 that in my report.

6 Q. Let's go to page 35 of your report, 35 to 36, you talk
7 about natural boundary lines.

8 And if we go to page 36, you talk about the Lake of the
9 Ozarks region; do you recall that portion of your report?

10 A. Yes.

11 Q. And you say that the 2025 plan, zero in on that,
12 figure -- there. Yeah. If we look at Figure 24, the images.

13 And you say that the 2025 plan splits this Lake of the
14 Ozarks region between District 4 and District 5, correct?

15 A. Yes.

16 Q. Now, the 2022 plan split one of these counties; is
17 that right?

18 A. Yes, it did.

19 Q. And the 2025 plan corrected that split?

20 A. Yes. The way that the -- the spot of the -- every
21 boundary of two districts will involve a split and this is --
22 the spot of that split was moved, so, yes, that's correct.

23 Q. And you don't know whether any Missouri legislator
24 believes the Lake of the Ozarks region is better represented if
25 those counties have two representatives rather than one; is that

1 right?

2 A. That's right.

3 Q. You've also not surveyed voters in that part of the
4 state to determine whether they think they're better represented
5 under the 2025 plan than the 2022 plan, correct?

6 A. That's correct. This was really just an effort to try
7 to understand whether I could explain the district boundaries.

8 I was really grasping for some natural boundary that might
9 explain the districts, and that was really the only point I was
10 making here, but I couldn't -- I couldn't find any.

11 Q. Let's zoom back out of Figure 24.

12 Now, you talk about, in this next Subpart C, boundaries of
13 political subdivisions, on page 36; do you see that?

14 A. Yes.

15 Q. And in the second paragraph, you state that District 5
16 splits the cities of Columbia and Jefferson City; do you see
17 that?

18 A. Yes.

19 Q. And you're aware that Columbia was also split in the
20 2022 plan, correct?

21 A. Yes, that's correct.

22 Q. And are you aware that the 2025 plan places more of
23 Columbia in District 3?

24 A. I believe, that's correct.

25 Q. In fact, it places almost all of the city of Columbia

1 in District 3; is that right?

2 A. I don't have the break down in front of me, but I know
3 it was a larger share of the city.

4 Q. And you're also aware that the 2025 plan split of
5 Jefferson City doesn't actually affect any population, correct?

6 A. It's one of those instances where there's an airport
7 that I think is -- it is involved. I didn't realize it was zero
8 population, but I knew it was definitely low.

9 Q. And are you aware that other experts on both sides of
10 this case have excluded zero population splits from their
11 counting of splits in this case?

12 A. That's a sensible thing to do, in my view.

13 Q. And in fact, Jefferson City -- in Jefferson City, the
14 line -- the district line runs on the Missouri River; are you
15 aware of that?

16 A. Yes.

17 Q. And the portion of Jefferson City north of the
18 Missouri River contains zero population; are you aware that?

19 A. It doesn't surprise me, given that it's a -- I
20 believe, it's an airport.

21 Q. And if we zoom back out of this paragraph, other than
22 Columbia and Jefferson City, you did not assess political
23 subdivision splits in the 2025 plan outside of Kansas City,
24 correct?

25 A. In the -- in the follow-up report, I did describe a

1 statewide analysis where I added up the number of voters
2 affected by splits statewide, but I did not have a, kind of, a
3 itemized analysis of individual split municipalities outside of
4 Jackson County.

5 Q. So even within Jackson County, you didn't examine the
6 number of municipal splits that are in Jackson County but
7 outside of Kansas City, correct?

8 A. That's right. That was something that was -- the Dr.
9 Trende pointed out and I responded by putting -- including the
10 additional information about the number of people who were
11 affected by those splits.

12 Q. And you don't dispute Dr. Trende's analysis that there
13 were eight split municipalities of Jackson County in the 2022
14 plan, do you?

15 A. No.

16 Q. And you also don't dispute that the 2022 plan split
17 Independence, Missouri into three districts, correct?

18 A. That's correct.

19 Q. And you're aware that the 2025 plan does not split
20 Independence? It has them in a single district.

21 A. That's correct.

22 Q. And you're also aware that the 2025 plan, in fact,
23 fixes all the municipal splits in Jackson County, other than in
24 Kansas City; is that right?

25 A. I believe that's right.

1 Q. Let's go to page 37 of your report and take a look at
2 the figure -- I think it's Figure 25 that shows the map.

3 And you talked about this a little bit on your direct
4 testimony; do you recall that?

5 A. Yes.

6 Q. And looking at the 2025 plan on the right, it's
7 probably easier to see in the top right than on the bottom
8 right, you don't dispute Dr. Trende's conclusion that the 2025
9 plan split of the central business district of Kansas City
10 follows state senate district lines, correct?

11 A. The question is whether this -- I don't
12 believe --

13 Q. You've testified about the central business district
14 in Kansas City, correct?

15 A. Yes. I'm just -- so we're looking at the upper right-
16 hand corner?

17 Q. Correct.

18 A. And the question is whether, if we're looking in the
19 central business district --

20 Q. Whether the split of that district follows senate
21 district lines.

22 A. Part of it does, yes.

23 Q. And the split places Senate Districts 9 and 11 in
24 District 5; is that correct?

25 A. Yes.

1 Q. Okay. And let's go to the rebuttal report, which is
2 on -- which is Plaintiff's Exhibit 28 and go to page 17, Figure
3 7. And you testified about this on direct examination, as well;
4 is that right?

5 A. Yes.

6 Q. And Figure 7 shows the number of whole districts in
7 Jackson County contained in District 5?

8 A. Yes.

9 Q. But the number of senate district fragments in
10 District 5 -- in any county -- correct?

11 A. Yes.

12 Q. So it's mixing and matching geography.

13 You have whole districts in Jackson County and fragments
14 outside of Jackson County or in Jackson County; is that right?

15 A. I think I'm just sort of specifying that those whole
16 districts are in Jackson County. To my recollection, there were
17 not additional whole districts outside of Jackson County to --
18 to include, but I may be misremembering.

19 Q. And we discussed earlier that the 2025 plan expanded
20 District 5 into a number of rural counties, correct?

21 A. Yes. And part of the -- part of the cost of doing
22 that was a greater fragmentation of state senate districts.

23 Q. And it picked up more state senate district fragments,
24 because it expanded into more counties, correct?

25 A. Not necessarily. I mean, it could have -- there could

1 have been ways of following those boundaries in rural areas and
 2 then producing more splits in Kansas City. The choice was made
 3 here to keep those two districts that you showed me -- 9 and 11,
 4 I believe -- to keep those whole and pursue a lot of splits in
 5 rural areas. But one, certainly, could have tried a different
 6 approach if one was trying to reduce the number of split state
 7 senate districts.

8 It's not clear to me why one would favor splitting -- if
 9 one cared about state senate districts, why they would have an
 10 asymmetric level of care versus -- in urban versus rural areas;
 11 that logic is, just, not clear to me.

12 Q. And the 2022 version of District 5 did not include any
 13 of those rural districts -- those rural counties, correct?

14 A. In the 2022 version, not the ones to the east. I
 15 mean, it moved up into Cass County, but not to the east.

16 Q. Thank you, Dr. Rodden. I have no more questions.

17 THE COURT: All right. Let's take a morning
 18 break, here. It's 10:28. Let's plan to start at 10:45 and
 19 like tomorrow[sic], we'll try to go to 12:15. Okay.

20 (COURT WAS IN RECESS.)

21 THE COURT: We're back from our recess.

22 MS. HUNKER: State Defendants have no questions.

23 THE COURT: Okay. Additional questions for the
 24 plaintiff? Go ahead.

25 MS. GAMBHIR: Yes, Your Honor.

REDIRECT EXAMINATION BY MS. GAMBHIR

1

2

Q. I'll ask that we pull up Figure 5 of PX 28, Dr.

3

Rodden's rebuttal report -- or Figure 6, rather. Thank you.

4

Doctor Rodden, you were asked a few questions about the

5

configuration of state senate districts in this area; do you

6

remember that?

7

A. Yes.

8

Q. And Dr. Rodden, in your view, can the 2025 plan's

9

configuration in this area be explained by a desire to adhere to

10

state senate districts?

11

A. No. It's my testimony that -- that can't be the case,

12

given that the -- by and large, the district does not adhere to

13

state senate districts, other than in this one this -- this one

14

instance of SD9 and SD11.

15

Q. And are there any instances, even within this frame,

16

that reflect a lack of adherence to state senate districts?

17

A. Well, yes. I maybe pointed out earlier that SD7 is

18

split into three different -- or is split into three different

19

congressional districts which seems something that if you were

20

trying to minimize splits of state senate district, presumably,

21

you would not do.

22

Q. Thank you. We can take the image down.

23

And Dr. Rodden, you were also asked a few questions about

24

the phrase "district sprawl," and you testified that this case

25

is the first time that you've used that particular phrase; is

1 that right?

2 A. That's correct.

3 Q. But the underlined concept of median population
4 centers, is that something that is new to your work on this
5 case?

6 A. No. It's something I've presented in both academic
7 work and in -- in legal cases before. It's a useful way of
8 understanding how a district's population is structured within
9 the district. It's a way of looking beyond, just, the image of
10 the map and giving us a sense of where the population is
11 relative to the structure of the district, and that is something
12 I've used on a number of occasions.

13 Q. And then, I'll ask that we'll, just, pull up Figure 2
14 of Dr. Rodden's opening report. And Doctor Rodden, you were
15 asked if, like prior plans, this map splits Kansas City into
16 three districts.

17 In your view, is this plan like prior plans in that regard?

18 A. No. It's a -- I think anyone who would look at these
19 maps and make the comparison would, probably, draw the same
20 conclusion as me, that when we say that -- when we say that some
21 previous versions of the map extended in District 4, we're
22 referring to that little -- that little piece of blue that
23 crosses over the boundary with Cass County. And it is, in that
24 respect, that -- it is, technically, the case in many of those
25 plans -- that Kansas City is divided across three districts.

1 But the way in which, you know, the obvious point here is
 2 that the way in which Kansas City is divided is quite
 3 substantially different in this map than in the others. The
 4 notion of having districts that extend from the central business
 5 district of Kansas City to Hannibal, Missouri, is something that
 6 is really quite -- quite new. Or having a district that goes
 7 from Kansas City to Fort Leonard Wood, that's really quite a new
 8 -- a new way of dividing Jackson County and Kansas City.

9 Q. And Dr. Rodden, based on all of the indicia that you
 10 looked at in your analysis here, does the 2025 plan align with
 11 Missouri's history of drawing congressional districts? Or does
 12 it depart from it?

13 A. It's a major departure; that's very clear.

14 Q. I have no further questions. Thank you, Dr. Rodden.
 15 MS. GAMBHIR: Thank you, Your Honor.

16 THE COURT: Additional cross-examination?

17 MR. GORE: None, Your Honor.

18 MS. HUNKER: None for the State.

19 THE COURT: All right. You can step down. Thank
 20 you.

21 THE WITNESS: Thank you very much.

22 THE COURT: If you'd like to call your next
 23 witness.

24 MS. KHANNA: The Healey Plaintiff will call
 25 Plaintiff, Giselle Anatol.

1 THE COURT: We can -- we can do it now.

2 THE WITNESS: Okay.

3 THE COURT: If you want to raise your right hand.

4 **DOCTOR GISELLE ANATOL,**

5 having been sworn by the Court testifies as follows:

6 THE COURT: All right. Then, go have -- go ahead

7 and have a seat. Thank you.

8 MS. ASTARITA: Your Honor, good morning.

9 Julianna Astarita for the Healey Plaintiffs.

10 **DIRECT EXAMINATION BY MS. ASTARITA**

11 Q. Good morning, Dr. Anatol.

12 A. Good morning.

13 Q. Could you, please, state your full name for the
14 record?

15 A. Giselle Liza Anatol.

16 Q. Could you spell that, please?

17 A. G-I-S-E-L-L-E, L-I-Z-A-, A-N-A-T-O-L.

18 Q. Could you bring the microphone a little closer to you?

19 A. Sure.

20 Q. Doctor Anatol, are you a Plaintiff in this case?

21 A. Yes.

22 Q. And are you a registered voter?

23 A. Yes.

24 Q. Where are you registered to vote?

25 A. In Jackson County, Kansas City.

1 Q. Do you pay taxes in Missouri?

2 A. Yes.

3 Q. And what district do you live in under the 2022 map?

4 A. In District 5.

5 Q. And what district will you be in under the 2025 map?

6 A. In District 4.

7 Q. How long have you lived in Kansas City?

8 A. I first moved to Kansas City around -- in 1999, 2000.

9 Q. And what neighborhood do you live in?

10 A. South Hyde Park.

11 Q. Can you describe where that is for us?

12 A. Sure. It is a couple of blocks west of Troost, near

13 the Nelson Atkins Art Museum, Westport area.

14 Q. And what made you pick that neighborhood?

15 A. It's really -- I love the historic homes there, but
16 it's also a really a diverse community. There are -- in being

17 close to Troost, it's a little bit more racially diverse than

18 some neighborhoods further west that we looked at whenever we

19 were looking for places to live. It's also pretty class

20 diverse, ethnically diversified.

21 I was moving from Lawrence, Kansas where I had first moved
22 from the East Coast and so wanting a more -- I love to eat --
23 more restaurants of different kinds of food, different people of
24 different religious backgrounds and stuff kind of concentrated
25 in a smaller neighborhood and it was very walkable.

1 Q. Okay. And is there a reason it was so important for
2 you to live in a diverse neighborhood?

3 A. Yes. I had moved out here from the East Coast, close
4 to -- I grew up near to New York City and then lived in
5 Philadelphia before moving here and was really wanting a more
6 urban environment. Lawrence felt a little bit small at the
7 time, it's grown a lot, but I also was -- from myself, as -- at
8 the time, I was moving with a girlfriend and she was coming from
9 Kansas -- from York City.

10 And some of her clients -- she was in medical care -- and
11 she said, I'm moving with my girlfriend at KU. And they were,
12 like, Oh, KU. And what like, What? So I think Lawrence, as a
13 university town, pulls a lot of young people to go to school
14 because -- from rural communities where they don't feel safe or
15 they don't feel comfortable. So it's a little bit more --
16 there's a little bit more gender sexual diversity there, but
17 when I moved there I felt -- I very much felt like I was under a
18 microscope.

19 There were -- I went to an event and felt very stared at as
20 a woman of color. So I just wanted a more, kind of,
21 cosmopolitan location. And then --

22 Q. Is there a reason that your family specific -- for
23 your family, specifically, that you wanted to live in a diverse
24 neighborhood?

25 A. Yes. And then, I was -- when I had kids, I have one

1 white child and one black child and so I wanted each of them to
2 be able to see people who look like them interacting. So the
3 park near our house, it has kids who come from a private school,
4 Notre Dame de Sion, it has kids who come from the east side of
5 Troost; so people of different -- from different communities,
6 kind of, interacting together.

7 And I, when I grew up, my brother was stopped by the
8 police, you know, and made to get out of the car with his hands
9 in the air. It was a very frightening experience for us. He
10 was stopped by the police, kind of, walking from the school to
11 my home and asked where he was going, we were the only black
12 family that lived on the block. But I never wanted my kids to
13 have to experience things like that. I wanted them to be able
14 to, you know, feel free to be kids and, you know, comfortable in
15 their environment.

16 Q. And you mentioned you worked at KU; is that right?

17 A. Yes.

18 Q. And what's your role at the university?

19 A. I am a professor in the English department and then
20 for the past four years -- this is my fourth year -- I'm the
21 director of the Hall Center for the Humanities.

22 Q. And can you tell me a little bit more about the Hall
23 Center's mission?

24 A. Sure. Our mission is to foster and support and share
25 humanities research and -- through a variety of programs, but

1 also helping professors, faculty, and graduate students to apply
2 for grants to support their own research projects.

3 Q. And could you give me some examples of programs that
4 you've worked on as the director of the Hall Center?

5 A. Sure. So we have programs that are, kind of, more
6 academic facing and then some that are more public facing. We
7 have the, recently, the Stories for All Project that was an oral
8 history project for different organizations in the regional
9 community, but then expanded nationally.

10 We have an AI and Digital Literacy Institute that started
11 off as a summit for junior high and high school teachers from
12 public schools, private schools, charter schools, rural
13 communities, suburban, urban communities coming together with
14 instructors, writing instructors, humanities instructors from
15 community colleges, R1 research universities, to talk about the
16 impact of AI in classrooms, writing history, and the anxieties
17 that different instructors faced but also -- and challenges --
18 kind of, information sharing and collaborating about ways to use
19 it in the classroom so, kind of, pros and cons.

20 Q. And you mentioned it started out as a summit. How did
21 that program evolve over time?

22 A. We thought it was really important to -- for the
23 summit, was just a half day -- but to gauge what people wanted
24 to learn about and what they were nervous about, what we could
25 do to, kind of, share more information. Then, the next year, we

1 -- it was a one-week institute and different instructors could
2 apply and it was Kansas City metropolitan area but we had people
3 who came from western Kansas all the way to Missouri -- sorry --
4 to St. Louis, the eastern part of Missouri.

5 And then, the year after that, we applied for grant funding
6 and it made it, kind of, more national. So we pulled teachers
7 from the West Coast to the East Coast and north and south to
8 come together for these conversations to share ideas. And that
9 was, again, we needed the funding to -- since high school
10 teachers do not get a lot of pay and cannot often, like, afford
11 something like that -- we generated funding to help pay for
12 their plane tickets to get to Lawrence and their hotel stay and
13 a small stipend, so that they could, you know, take care of
14 childcare or whatever they had to take care of back home for
15 that week.

16 Q. And you mentioned it was grant funded; what kind of
17 grant was it?

18 A. That was -- for the last one, was an NEH grant, was --
19 we were really lucky to -- because it's very competitive -- to
20 get an NH -- a National Endowment for Humanities grant to pay
21 for that, yeah.

22 Q. And where does money for that NEH come from?

23 A. Federal funding, yeah.

24 Q. And has this -- has the Hall Center faced any
25 challenges recently?

1 A. Yes. So the -- last April, the funding was rescinded
2 for that. So we really had to, kind of, scramble to try to
3 figure out -- many of the teachers had already bought -- who
4 were selected -- had bought their tickets to come to Lawrence,
5 and so, but that was one. We've had several professors who have
6 received research grants to work on their -- their projects and
7 some of those -- at least, three, I think -- were rescinded in
8 the spring, last spring.

9 And there was our area study centers. So the foreign
10 language study and culture study centers at KU are nationally
11 recognized because there are several less frequently taught
12 languages that are -- that we've made a name for ourselves at KU
13 and those fall under the -- the umbrella of the humanities study
14 of languages, literatures, cultures.

15 And so they had a three-year Title VI grant, that group --
16 so I'm sorry -- East Asian languages and cultures, Central
17 Eastern European Russian studies, central -- the Center for
18 Latin American and Caribbean studies and the Kansas African
19 Study Center together had Title VI grants and their last year of
20 funding got pulled back and rescinded.

21 Q. And all these grants you've been talking about, these
22 are federal?

23 A. Yes. Yeah.

24 Q. And are you familiar with who your congressional
25 representative is in CD5?

1 A. Yes. Emanuel Cleaver.

2 Q. And what's your understanding of his stance on higher
3 education and funding for higher education?

4 A. Oh, he's a really, kind of, local advocate for higher
5 education, which is really important to me; especially, in our,
6 kind of, current climate where we have some more anti-
7 intellectualism. People constantly talking about the crisis of
8 the humanities, but, yes, so talking about the importance of
9 higher education and funding for educational projects. Yeah.

10 Q. And what does that support mean to you, as one of his
11 constituents?

12 A. Oh, it's -- anytime we can get people to, kind of,
13 understand what it is we do in higher education, that's
14 incredibly important. I think some people -- I've seen news
15 stories where people are, kind of, framing it as just for the
16 elite or, you know, it's just a money suck, but I think not just
17 for me as an individual and as a professor because it is my job,
18 but just I have a strong passion for education. I'm married to
19 an educator. My mother was an educator.

20 So to have someone who is -- who is vocal and passionate
21 about the power of education to improve people's lives, to
22 improve our country as people are able to think critically, and
23 I think it's the exact opposite of higher education as a, kind
24 of, side of indoctrination. I think if you're not well educated
25 to be able to think critically and negotiate, then, that -- you

1 become -- you can easily become a victim of indoctrination.

2 Yeah.

3 Q. And how, if at all, will the new district
4 configuration of Kansas City affect your community in Kansas
5 City and your interests?

6 A. I live really near to the dividing line, the new
7 dividing line, so I will be not blocked in with much of my old
8 community. And now with a voting block that extends further
9 south to a lot of our rural communities. And so, to me, that --
10 it looks like a lot of my vote will be neutralized, in terms of
11 the ways that people from different -- in the new -- the new
12 block, the new district -- might not be as invested in the
13 issues that the people in my current neighborhood as its
14 configured are interested in.

15 Q. Thank you so much for that.

16 MS. ASTARITA: Your Honor, I pass the witness.

17 THE COURT: Okay.

18 **CROSS-EXAMINATION BY MR. SUTTON**

19 Q. Hi, Dr. Anatol. It's nice to meet you.

20 A. Nice to meet you, too.

21 Q. My name is Nathaniel Sutton, and I represent the
22 defendant intervenors.

23 So Dr. Anatol, you're testifying about your community here
24 in Kansas City; is that correct?

25 A. (Nonverbal response.)

1 Q. You're not testifying about other areas in the state,
2 correct?

3 A. Well, I am talk -- I'm testifying as a person who
4 lives and has raised a family in Kansas City.

5 Q. Sure.

6 A. Yes. Sure.

7 Q. And you're not here to talk about how the map treats
8 communities in Columbia, correct?

9 A. No.

10 Q. And you're not here to talk about how the map treats
11 communities in St. Louis, right?

12 A. No.

13 Q. And that's because, in your view, your home, your
14 friends, your neighborhood, they're all part of one community;
15 is that right?

16 A. (Nonverbal response.)

17 THE COURT: I'm sorry, Doctor. Is that a yes?

18 A. Yes. Sorry.

19 THE COURT: That's okay.

20 Q. And as I understand your testimony, we know this area
21 is a community because it shares certain interests in common?

22 A. Yes.

23 Q. And these common interests you've described, they're
24 what bind your community together; is that correct?

25 A. Yes.

1 Q. Now, you agree that your community is still a
2 community, right, regardless of where the district lines are
3 drawn?

4 A. I'm not sure, but, yes, I could say.

5 Q. Yeah. You're not saying that the new congressional
6 district lines prevent your community from existing, right?

7 A. Correct. Yes.

8 Q. And you're aware that the '22 -- 2022 map also divided
9 Kansas City into three districts?

10 A. No.

11 Q. Okay. That's all I have. Thank you.

12 MS. ASTARITA: No further questions.

13 THE COURT: Actually, let me -- do the state
14 defendants have any questions?

15 MR. SULLIVAN: No questions, Your Honor.

16 THE COURT: Okay. Now, go ahead.

17 MS. ASTARITA: No further questions, Your Honor.

18 THE COURT: All right. You can step down. Thank
19 you.

20 THE WITNESS: Thank you.

21 THE COURT: If you'd like to call your next
22 witness.

23 MS. ASTARITA: Yes. The Healey Plaintiffs would
24 like to call Mr. Louie Wright.

25 THE WITNESS: Excuse me. Sorry.

1 THE COURT: If you can, please, raise your right
2 hand.

3 LOUIE WRIGHT,
4 having been sworn by the Court testifies as follows:

5 THE COURT: Thank you. Have a seat, please.

6 **DIRECT EXAMINATION BY MS. ASTARITA**

7 Q. Good afternoon, Mr. Wright.

8 Could you please state your full name for the record?

9 A. First name, Louie, L-O-U-I-E, middle initial, A., last
10 name, Wright, W-R-I-G-H-T.

11 Q. And Mr. Wright, you're a Plaintiff in the Healey case,
12 correct?

13 A. That's correct.

14 Q. Are you a registered voter?

15 A. I am.

16 Q. And where are you registered to vote?

17 A. Kansas City, Missouri.

18 Q. And do you pay taxes in Missouri?

19 A. I do, indeed.

20 Q. How long have you lived in Kansas City?

21 A. My residence has been in Kansas City for my entire
22 life. On two occasions I was temporarily out of the city when I
23 was going to school.

24 Q. And what do you do for work?

25 A. Well, currently, I have a solo law practice. Several

1 years ago I retired from the Kansas City Fire Department after a
2 career of almost 40 years, and --

3 Q. And are you still involved with the fire department?

4 A. I am. I was -- while I was employed, most of the
5 years I was employed by the fire department, I served in one or
6 another union office within Local 42 of the International
7 Association of Fire Fighters and, probably, for, slightly, over
8 25 of those years, I was the local president. I, currently,
9 still serve on the executive board of Local 42.

10 I have been denominated as president emeritus and am a
11 voting member of Local 42's executive board. I also served a
12 number of years as a district field service representative for
13 the International and from 2000 to 2008, was the international
14 vice president with responsibilities for the states of Missouri,
15 Iowa, Nebraska and Kansas.

16 Q. And when you say, "international," what is that? How
17 wide does the union extend?

18 A. I've often joked that it is, kind of, an
19 overstatement. International means we have members in the
20 United States and Canada.

21 Q. And who does the Local 42 represent?

22 A. Well, currently and historically, they've represented
23 Kansas -- members of the Kansas City, Missouri Fire Department
24 at the rank of captain and below; firefighters and, pardon me,
25 EMTs, paramedics, people in the communications center, the shop,

1 etc. Also, Local 42 currently represents a separate bargaining
2 unit that includes the Jackson County, Missouri Prosecutors.

3 Q. And you mentioned that you still serve on the
4 executive board of the Local 42.

5 What are your responsibilities?

6 A. Well, my responsibilities now -- the executive board
7 administers and oversees the operations of the Local. You could
8 think of that as, kind of, an analog to the -- a board of

9 directors. Also, at times and until recently, quite a bit, I
10 served in a representative capacity representing members of the
11 Local in everything from grievances, arbitrations, collective
12 bargaining, advancing legislation, lobbying, etc.

13 Q. And when did you first join the Union?

14 A. Do you really have to know? 1972; May 1, 1972.

15 Q. And do you know how many people are currently members
16 of the Local 42?

17 A. Currently, there's a little over 1,900 members, less
18 than 2,000, but between 1,900 and 2,000.

19 Q. And you mentioned that you were the district vice
20 president covering more than just Kansas City.

21 What were -- could you remind me what your agencies were?

22 A. Represented the IAFF local union affiliates in
23 Missouri, Iowa, Nebraska, and Kansas.

24 Q. And what did you do as the district vice president?

25 A. Well, provided assistance to the local union officers

1 and leadership in the areas I mentioned before, collective
2 bargaining, grievances, disputes, arbitrations, legislation,
3 lobbying, etc.

4 Q. And are there rural and urban branches of the IAFF?

5 A. Yes. There are locals, IAFF local unions across the
6 United States and Canada that include both urban, metropolitan
7 departments, and to the degree there are paid fire departments
8 in rural or out state areas, a number of those that are also
9 organized into unions.

10 Q. You mentioned earlier that you engaged in lobbying;
11 what sort of lobbying?

12 A. Well, obvious -- maybe not obviously, but they engage
13 in interactions with local governmental leaders on everything
14 from municipal laws to approval of collective bargaining
15 agreements. They lobby and introduce and support legislation at
16 the state level, and also at the federal level.

17 Q. And could you, briefly, describe some examples of the
18 federal lobbying that you've engaged in?

19 A. I can give you a few. Probably, the first one that I
20 was exposed to had to do in the mid-70s, amending the Fair Labor
21 Standards Act, which is the federal wage and hour law, to cover
22 public employees; prior to that it only applied to the private
23 sector employees. That process, before it was finalized took
24 several years, but then it included and covered public
25 employees, including members of the fire department.

1 Subsequent to that, they were efforts to amend that
2 legislation to provide provisions for special hourly provisions
3 for fire departments, due to the fact that, predominantly across
4 the United States, fire fighters for municipal and local fire
5 departments work different schedules than the 5-day, 8-hour day,
6 40-hour a week; so efforts to amend that. Another one that was
7 quite important was the Federal Public Safety Officers Benefit
8 Legislation that pays a death benefit to fire fighters and
9 certain other public safety workers who die or killed in the
10 line of duty.

11 And there have been others, most recently, if my memory's
12 correct, I think, in September 2025 -- I don't want to get too
13 deep in the weeds -- but certain public entities are allowed to
14 have non-Social Security pension systems for fire fighters,
15 teachers, and police. Prior to 2025, if someone retired under
16 one of those non-Social Security pension systems, but had worked
17 the number of quarters to be eligible to also collect Social
18 Security, there was an offset; they called it the windfall
19 offset.

20 They said, You had a job. You didn't pay Social Security,
21 even though you had one that did, whatever your Social Security
22 benefit would be, we're going to deduct part of that and there
23 was a lesser amount. I believe, it was in September of 2025,
24 that windfall offset legislation was passed that got rid of that
25 windfall offset.

1 Q. And are you a member of any other boards or
2 organizations in Kansas City?

3 A. I am currently, and over the years in my involvement
4 with the union, I have been a member of dozens of different
5 boards, etc. Currently, I'm a member of the Kansas City
6 Healthcare Trust, which administers the health insurance program
7 for all employees of the City of Kansas City, Missouri. A
8 similar board, I'm a member of the Kansas City Work Comp Board,
9 which administers the Workmen's Compensation program for all
10 members of the City of Kansas City, Missouri.

11 I, currently, serve as a member of the fire fighters --
12 Kansas City Fire Fighters Pension System. And, again, over the
13 years, I've served on other pension boards, state, county, and
14 local boards, etc.

15 Q. Have you previously served on other boards?

16 A. Yes. And I can give you a few and not just boards,
17 but other things that I have done. I was an adjunct professor
18 at UMKC Law School for about 15 years; until last fall, taught
19 the labor law course at UMKC. I was a member of the Labor
20 Management Council of greater Kansas City. I was a delegate, I
21 mean, a executive board member of that organization. I'm
22 currently a delegate, a voting delegate, of the greater Kansas
23 City AFL-CIO, for an example. And I could go on and on, but
24 those are a number of examples.

25 Q. Do you have any experience with the Kansas City public

1 transit?

2 A. I was also a commissioner. The mayor had appointed me
3 to the -- as a commissioner and I served for, maybe, around, 10
4 years for the Kansas City Area of Transportation -- pardon me --
5 Authority.

6 Q. What is the Kansas City Area Transportation Authority?

7 A. It provides the -- primarily, the bus service, the
8 public transportation for the Kansas City metropolitan area.

9 Q. And when you say the Kansas City metropolitan area,
10 what you describing?

11 A. Well, Kansas City proper, for sure. It also goes into
12 and provides service to parts of Kansas City, Kansas. Kansas
13 City's also interesting. There are communities, separate cities
14 in some cases, that are completely surrounded by Kansas City.
15 One example of that is North Kansas City. The transit system
16 goes through and, therefore, serves certain services in North
17 Kansas City and other similar communities; they'll drop-off and
18 pickup for riders in those areas.

19 Q. Based on your experience with the Kansas City Area
20 Transportation Authority, what's your understanding of how the
21 Kansas City community uses the transit system?

22 A. Well, I would say primarily, not exclusively, but,
23 primarily, it's people who live and work in the city, typically
24 of a lower socioeconomic group. They don't own a car. They --
25 many of them don't own their own houses and they use public

1 transportation to get to and from their jobs, to get their
2 groceries, to and from medical appointments, etc. And, again,
3 not exclusively, but largely, it's members of a lower
4 socioeconomic group in Kansas City.

5 Q. Are there reasons why voters in the Kansas City
6 metropolitan area might have common concerns to raise with the
7 federal level?

8 A. Well, I can -- first of all, my opinion is, yes,
9 absolutely. And drawing on my experience as a union officer and
10 union representative that served union members in both urban and
11 metropolitan areas, as well, in outlying areas, what I have
12 found is the experience in urban areas is different than in
13 rural communities or outlying areas. I think -- and if you use
14 Kansas City as an example, socioeconomically, racially,
15 demographically, it is much more diverse than many outlying
16 rural areas. And the differences in terms of -- in terms of,
17 again, of public safety, the number of incidents, the number of
18 calls, the number and degree of service provided is much greater
19 in an urban area.

20 Also, the concentration of unions and union members is,
21 typically, greater in urban area like Kansas City.

22 Q. I definitely want to go back to that. I actually -- I
23 asked a question inartfully.

24 Are there reasons why people who take Kansas City public
25 transportation might have common concerns to raise at the

1 federal level?

2 A. Well, first of all, some of the funding comes from the
3 federal government. The uniquely --, certain transportation
4 authorities, their union relationships are governed by a federal
5 statute, so the people that work there have that concern, which
6 impacts and affects the ridership. And, again, as I said, the
7 funding it's -- until recently I think there's -- I'm not on the
8 board anymore -- but I think there's talk of changing it, but
9 for a number of years it was everybody rode free.

10 Well, if they rode free, that's because there was subsidies
11 from state, local, and federal level. And again, that directly
12 impacted and advantaged the poorest people in the community that
13 didn't have to worry about finding a buck or buck and a half to
14 ride the bus.

15 Q. And in your capacity at the Kansas City Area
16 Transportation Authority, did you ever lobby members of
17 Congress?

18 A. Yes. And one example that comes to mind, it was -- I
19 would call it educational and lobbying -- the -- the Kansas City
20 Area of Transportation Authority hosted an event where they
21 invited the Kansas Congressional, Sharice David, and Kansas
22 City, Missouri representative, Emanuel Cleaver to meet. There
23 was a slightly new or differing route to take a ride on a bus
24 over this new route and then a day at the transit headquarters,
25 where they went through questions and answers and a presentation

1 about the work done and the service provided by the
2 transportation board.

3 Q. And you mentioned Representative Cleaver; how long
4 have you known Emanuel Cleaver?

5 A. Almost as long as I was on the fire department.
6 Emanuel Cleaver, I met him when he ran for city council in
7 Kansas City, Missouri and knew him throughout that period of
8 time and dealt with him on local issues. Subsequent to that, he
9 was elected mayor of Kansas City and, again, obviously, I think
10 dealt -- continue to deal with him. And I have dealt with him
11 consistently since he's been elected to the United States
12 Congress.

13 Q. And what's your relationship with Representative
14 Cleaver like?

15 A. Well, I -- he is a valued representative and I would
16 and, I think, he would agree -- I would call him a friend. I
17 mean, he is readily accessible, readily available, easy to
18 communicate with. And one example, is he, typically has, at
19 least once a year, a picnic at his house and which is well
20 attended and always a great event. Also, much of his staff
21 lives in Kansas City, Missouri. Some of them have been former
22 City employees and they're accessible.

23 And I say that, in my experience, having dealt -- as, I
24 think, I said -- I think the experiences in an urban area are
25 different than in out-state or rural areas, and having a

1 representative like Emanuel Cleaver, who has lived and worked in
2 this district in Kansas City, Missouri, familiar with that area
3 and some of the unique challenges faced by urban areas, as well
4 as those attributes in his staff are extremely helpful in terms
5 of the educational and lobbying process.

6 Q. And do you believe it's important to have a Kansas
7 City-based representative?

8 A. Well, and I will use my example. I am -- currently
9 reside in and vote in -- which I have most of my working life --
10 in the Fifth Congressional District. Having a representative
11 who also lives and works in that district and is intimately
12 familiar with unique or different facets of the urban
13 population, the urban community, and the challenges both the
14 workforces and the citizens face, I have found greatly
15 important. And the proposed changes offers two possibilities
16 and I would go so far as to say likelihoods.

17 One, is quite possible that my representative -- I would be
18 in the Sixth District -- in those boundaries, it's possible that
19 my elected representative could live 100 or more miles away from
20 where I live and where I work in the community that I served on
21 the fire department. And accessibility, intimate, firsthand
22 knowledge of what you deal with in the urban area, the ability
23 to meet, educate, lobby would be greatly diminished. And,
24 candidly, their innate understanding of what it's like to live
25 in an urban area, I think would be removed.

1 I also, at least to the degree I apprehend the proposed
2 map, I think the Fifth District or Kansas City -- pardon me --
3 Kansas City would be cut up into three congressional districts.
4 It's quite possible none of those new districts would have a
5 representative who lived and worked and was intimately familiar
6 with the Kansas City urban area.

7 Q. And you mentioned there are unique problems that may
8 be faced in an urban area. What are some of the problems that
9 your union members face in urban areas?

10 A. Well, first of all, the number of calls they respond
11 to; the higher incidences of both medical calls, other emergency
12 calls, fire calls, is much greater for that workforce. The fact
13 that they are serving and exposed to a widely divergent
14 community. Some very, very poor; some, at least, for my
15 standards, appear pretty wealthy. People of various ethnic
16 groups and races. I think that the last time I looked, there
17 might be 42 different languages spoken in Kansas City proper
18 from immigrants and local people.

19 And, frankly, in the urban areas, I think across the
20 country you are seeing an increased incidence of criminal
21 behavior confronted by public safety workers on call. Within
22 the last year, we had a firefighter/paramedic who responded to a
23 call and was providing emergency medical service to a woman in
24 the back of an ambulance and she stabbed him to death. A couple
25 of days before, she had attacked and bitten an off-duty police

1 officer. Those incidents aren't nearly as prevalent in
2 outlying, rural areas, number one; number two, the number of
3 those types of incidents is far lesser.

4 Q. And so in your expense, do rural unions face those
5 same concerns?

6 A. There are some similar concerns, in terms of they're
7 worried about pay, they're worried about job security. But,
8 again, there are many rural communities that the public safety
9 -- they don't have a paid public safety or fire department. So
10 they might have a volunteer fire department. The number of
11 calls are far more remote. Smaller communities, at least, in my
12 experience, having served local unions in Missouri, Iowa,
13 Nebraska, and Kansas, some of which were in small communities,
14 some of which were in urban areas.

15 My experience in the small communities, the person whose
16 ridin' on the back of a fire truck might be -- let me state it
17 differently. The communities are much more insulated.
18 Everybody seems to know everybody. That's a bit of an
19 overstatement, but the familiarity with everyone in the
20 community, to repeat myself, the far lesser number of calls and,
21 candidly, the seriousness of the challenges encountered seem to
22 be lesser, again, in my experience.

23 Q. And based on your experience with labor issues in
24 particular, are rural congressional representatives receptive to
25 education about labor issues?

1 A. I think, as a general rule, less so, and I think it
2 has to do a lot with the lack pf familiar or experience. They,
3 less likely, were union members. They, less likely, were
4 involved in a business that was unionized, and their personal
5 experience and knowledge is, somewhat removed, if not completely
6 remote. And I think that lack of familiarity does a couple
7 things.

8 One, it makes them less inclined on their own to be
9 sensitive to or knowledgeable of labor or union issues. And it
10 makes it more difficult to successfully educate them and make
11 them understand the differences that are encountered in an urban
12 area.

13 Q. And do you agree that people in more rural areas face
14 their own unique concerns different from people in cities?

15 A. Well, as I said, I think some of the similarities, if
16 there are unions -- if there are unions, and often there aren't
17 -- they're worried, probably, about pay and job security. But
18 some of the other issues, some the safety concerns, and I
19 mentioned the public safety officer benefit, the sensitivity,
20 the number of rural fire fighters who are killed or die in the
21 line of duty are far less.

22 Those who are exposed to job-related cancer or cardiac
23 disease, because of the lesser number of calls, the lesser
24 exposure, are far less. So there may be a general awareness,
25 but the priority is much different on those issues, if they are

1 a concern at all.

2 Q. Do you think that Kansas City's interests are more
3 important than rural interest?

4 A. No; but they are different and, again, they need to be
5 addressed. And, again, in my experience, the likelihood of
6 having those interests understood and addressed by someone who's
7 far removed from living and working in that community is greatly
8 diminished.

9 Q. And you mentioned you currently reside in
10 Congressional District 5, right?

11 A. Yes.

12 Q. And under the new map, you'll be in what district?

13 A. Six.

14 Q. And what affect will it have on your community,
15 specifically, where you live under the new map?

16 A. Well, again, and I think I at least alluded to it, is
17 the possibility of having a representative who, frankly, is not
18 familiar with the Kansas City area, who hasn't lived or worked
19 there, has limited or, perhaps, no exposure to the labor unions,
20 or the operations of labor unions, and may well come from a far
21 less diverse community along racial, ethnic, and socio-economic
22 lines. And I think those all -- I think your experience and
23 what you know from your own experience impacts your points of
24 view and how you would govern or serve and what you're open to
25 and understand.

1 Q. Thank you so much.

2 MS. ASTARITA: No further questions Your Honor.

3 THE COURT: Okay.

4 **CROSS-EXAMINATION BY MR. SULLIVAN**

5 Q. Good morning. I'm Patrick Sullivan. I'm with the
6 Attorney General's Office.

7 The legislature held hearings when it was considering
8 whether to adopt the new maps that the governor called the
9 Missouri First Congressional Maps, did it not?

10 A. I believe, they did.

11 Q. Did you testify at those hearings?

12 A. No. But I believe there were representatives from
13 Local 42 and the IAFF who did, but I did not.

14 Q. Have you read any of the expert reports prepared for
15 the plaintiff's side in this case?

16 A. The expert reports?

17 Q. Yes.

18 A. No.

19 Q. Do you know if any of those experts created
20 alternative maps that combine Kansas City and the rural areas?

21 A. Well, I think from what I heard sitting here today, I
22 think that occurred, but I was not -- not, personally, familiar
23 with those.

24 Q. Okay. Thank you. I don't have any more questions.

25 **CROSS-EXAMINATION BY MR. ELLINGER**

1 Q. Good morning, Mr. Wright.

2 A. Good morning.

3 Q. My name is Marc Ellinger. I represent the intervenor.

4 Just have a couple of quick questions for you. You mentioned
5 the -- is it okay if I used the term IAFF?

6 A. Sorry. International Association of Fire Fighters.

7 Q. Would you prefer the full term?

8 A. I --

9 Q. Or does IAFF work okay?

10 A. In fact, just fire fighters works for me.

11 Q. Well, the International Association of Fire Fighters,
12 it has a local in Jefferson City, Missouri, correct?

13 A. That's correct.

14 Q. That's Local 671, correct?

15 A. I think that's correct.

16 Q. And the International Association of Fire Fighters has
17 a local in Sedalia, Missouri, correct?

18 A. Yes, it does.

19 Q. And that's Local 103, correct?

20 A. That's correct.

21 Q. And the International Association of Fire Fighters has
22 a local in Columbia, Missouri, correct?

23 A. Correct.

24 Q. And that's Local 1055, correct?

25 A. I think that's correct, too.

1 Q. And the International Association of Fire Fighters has
2 a local in St. Joseph, Missouri; also, correct?

3 A. Correct.

4 Q. And that's Local 77, correct?

5 A. Correct.

6 Q. The International Association of Fire Fighters has
7 other locals throughout the state of Missouri, correct?

8 A. Yes.

9 Q. I know you talked about Kansas, Iowa, and Nebraska --

10 A. Right.

11 Q. -- and they have locals throughout those areas too,
12 correct?

13 A. Yes, they do.

14 Q. Okay. Does the IAFF lobby Missouri state government
15 in Jefferson City?

16 A. The structure of the IAFF -- there's the International
17 Association of Fire Fighters, which is what I think would more
18 appropriately be called a national union. Many states also have
19 what they call a state counsel. Missouri has the Missouri State
20 Counsel of Fire Fighters, which, primarily, lobbies the state
21 level, and then the Locals lobby at the local, state, and
22 federal level.

23 Q. And the Missouri -- excuse me -- Missouri Council of
24 Fire Fighters has a membership that includes these Locals that
25 we referenced earlier --

1 A. Sure.

2 Q. Sorry. You have to let me finish my question --

3 A. Yes. I'm sorry.

4 Q. Yeah. I apologize. The court reporter has a hard
5 time if we talk over each other.

6 A. Yes.

7 Q. Okay. And under the Missouri First Map, a portion of
8 Kansas City will be in the same congressional district as

9 Jefferson City and Columbia and Sedalia and St. Joseph,
10 depending on which congressional district you're in, correct?

11 A. Yes.

12 Q. And then, you mentioned you were on the -- I think
13 there were a number of questions about the -- and I always get
14 term wrong, so apologies -- the Kansas City Area Transit
15 Authority; is that right?

16 A. Yes.

17 Q. Okay. It gets some federal funding, doesn't it?

18 A. Yes, it does.

19 Q. Okay. And I think you mentioned that you're now going
20 to be in Congressional District 6; is that correct?

21 A. Yes.

22 Q. And who's the congressman for Congressional District
23 6?

24 A. I could be wrong, but I think it may be Sam Graves.

25 Q. Okay. And --

1 A. Is that accurate?

2 Q. That --

3 A. What -- amazing. (Laughter.)

4 Q. So you're learning -- your learning your district
5 already.

6 And Congressman Sam Graves is the chair of the House
7 Transportation Committee, correct?

8 A. I can't say with certainty, but I'll take your word
9 for it.

10 Q. Congressman Cleaver doesn't serve on the house
11 transportation committee, does he?

12 A. I don't know.

13 Q. You mentioned that you had a concern about having
14 representation from the Kansas City metropolitan area, correct?

15 A. Yes.

16 Q. Congressman Mark Alford lives in the Kansas City
17 metropolitan area, doesn't he?

18 A. I believe he does. I can't tell you, precisely, where
19 he lives.

20 Q. You probably know Mark Alford, fairly -- at least,
21 through your years?

22 A. I'm -- yeah.

23 Q. He's got a long history in the Kansas City
24 metropolitan area, doesn't he?

25 A. Well, he's got a history, yeah.

1 Q. I mean, he was a local news host for, what, 25 years
2 in Kansas City?

3 A. Awhile, yes.

4 Q. And Congressman Alford serves on the House
5 Appropriations committee also, doesn't he?

6 A. I can't tell you that for sure.

7 Q. Congressman Cleaver doesn't serve on the House --

8 A. I can't --

9 Q. -- Appropriation Committee?

10 A. I don't know for sure.

11 Q. Okay.

12 MR. ELLINGER: No further questions, Judge.

13 MS. ASTARITA: No further questions, Your Honor.

14 THE COURT: Okay. You can step down. Thank you.

15 THE WITNESS: Thank you. I will try not to bump
16 into that, again.

17 MR. MULJI: Yeah, sorry. There's a -- it angles
18 out there.

19 Your Honor, the Wise Plaintiffs had intended to call
20 the mayor next. When we became aware that -- and that was

21 gonna happen after lunch -- when we became aware that the
22 morning was going a little bit faster than anticipated, we
23 asked our expert who was gonna go next to head over. And
24 he is on his way, I believe. But it may be, I think about
25 five to ten minutes, at least, five to ten minutes before

1 he arrives.

2 THE COURT: Okay.

3 MR. MULJI: But what we propose, perhaps, is if
4 the Court is amenable, is taking, perhaps, a lunch break a
5 little bit earlier. The mayor is set to arrive at 12:45, I
6 believe, is that right? About. And so that's one option.
7 Otherwise, if we take a short break, perhaps, our expert
8 will arrive and we can proceed with him.

9 But I'll just note with the Court, that I think we
10 have just those two remaining witnesses for the Wise
11 Plaintiffs and I believe one additional witness for the
12 Healey Plaintiffs, so either way, we will wrap up today in
13 either event.

14 THE COURT: Do you all have a position?

15 MS. HUNKER: I think, Your Honor, we'd prefer to
16 take a short break and wait for Doctor -- is it Cromartie?

17 MR. MULJI: Yes. I can't -- I can't say,
18 exactly, when he'll arrive, Your Honor. And so if -- if,
19 perhaps, we could take an hour and five minute lunch break,
20 then we'll be ready with our next witness after the lunch
21 break.

22 THE COURT: If you think Dr. Cromartie's going to
23 be here soon, my preference would be to just press on with
24 that; partially because, as you on all know, our court
25 reporters are switching off during the lunch hours, and it

1 allows me to, kind of, balance that workload, partially for
 2 your benefit, and so -- because my understanding is you all
 3 are getting transcripts every, kind of, half day and it
 4 helps me manage that a little bit.

5 And so if he's on his way, let's just start as soon as
 6 he's here. Just, let our law clerk know and we'll be on
 7 standby and ready to go.

8 MS. LEEPER: Your Honor, Dr. Cromartie has
 9 arrived. (Laughter.)

10 THE COURT: We just manifested it.

11 MR. MULJI: We'll proceed then, Your Honor.

12 THE COURT: Okay. I assume -- Doctor, are you
 13 ready to go? I know we're catching you right when you came
 14 in the door, here.

15 THE WITNESS: Yes.

16 THE COURT: Okay. Come on up and we'll get you
 17 sworn in. If you can, please, raise your right hand.

18 **DOCTOR JOHN CROMARTIE,**
 19 having been sworn by the Court testifies as follows:

20 THE COURT: All right. Thank you. Have a seat,
 21 and feel free to take a second to get settled.

22 THE WITNESS: Okay. Thank you.

23 **DIRECT EXAMINATION BY MS. LEEPER**

24 Q. Good morning, Dr. Cromartie.

25 A. Good morning.

1 Q. Thank you for rushing over in the heat of the moment.

2 A. Sure.

3 Q. Doctor Cromartie, why are you here today?

4 A. I was asked to examine two questions related to this
5 case. First, Does Kansas City constitute a closely united
6 territory? And second, Does the 2025 configuration of CDs 4 and
7 5 in Missouri, do a better job or a worse job in keeping
8 together a like territory?

9 Q. You said you were asked; who asked you that, Dr.
10 Cromartie?

11 A. Counsel for the plaintiffs.

12 Q. And on those two questions, what was your topline
13 conclusion?

14 A. Topline conclusion was, yes, Kansas City does
15 constitute a closely united territory. And second, the 2025
16 configurations does not do as good a job at keeping together a
17 like territory compared with the 2022 configurations.

18 Q. Doctor Cromartie, is this your first time in Missouri?

19 A. No.

20 Q. When were you here previous?

21 A. I lived in Kansas City from 2020 to 2025.

22 Q. Okay. What is your educational background?

23 A. I have a PhD in geography from the University of North
24 Carolina.

25 Q. Any other degrees?

1 A. I also have a BA in history and a Masters in geography
2 from the same institution.

3 Q. Did you have a specialization from your master's
4 program?

5 A. Yes. I specialized in population geography with a
6 second interest in cartography, geographic information systems.

7 Q. And what was the area of specialization for your PhD
8 program?

9 A. Same. Same.

10 Q. When you say "population geography," what does that
11 mean?

12 A. So population geographies look at demographic
13 questions from a spatial perspective. That is, they compare
14 areas that are -- say, for instance, if you're looking at
15 population change, why do some areas grow and other areas
16 decline? They explain those phenomenon in terms of economic and
17 social conditions in those differing areas.

18 Q. What did you do after you received your PhD?

19 A. I took a job with the Department of Agriculture, with
20 the USDA.

21 Q. And what agency within USDA?

22 A. I worked for the Economic Research Service.

23 Q. How long did you have that position?

24 A. I worked there for 35 years.

25 Q. What kind of research did you do while you were at

1 USDA?

2 A. So I primarily did research on population trends with
3 a focus on how those trends affected rural areas, and -- and
4 also very much focusing on questions that were important to
5 policymakers at USDA. I also developed a specialty in rural and
6 urban classification systems, especially as they apply to policy
7 settings.

8 Q. Let's break those down.
9 For your research on population trends, what did that
10 research entail?

11 A. It entailed, primarily, taking advantage of census
12 data on population growth and its components on migration, on
13 birth rates, and death rates, and looking at -- taking a
14 comparative perspective on that. So comparing -- and taking a
15 national perspective, as well -- on how places differ in terms
16 of population change and related economic and social conditions.

17 Q. What kind of work product did you create to present
18 that research on population trends?

19 A. So the work was very -- the products were, very much,
20 focused on a policy audience. So the bulk of my -- the research
21 ended up in reports published by USDA, designed for, again,
22 policymakers in the federal government.

23 Q. What kind of applications did that research and those
24 reports have?

25 A. The population studies were -- were used by

1 policymakers to understand the issues affecting rural areas and
2 how economic trends and conditions might be changing in rural
3 areas. So it was important background for policy decisions, the
4 population -- the population studies were, yes.

5 Q. Okay. And you said the second area of your focus was
6 rural and urban classification; is that right?

7 A. That's right.

8 Q. Okay. What did that research entail?

9 A. That research entailed studying classifications used
10 both in research but -- but mostly in policy settings and
11 looking at ways that they might be improved.

12 Q. Okay. What kind of work products did you make for
13 that research?

14 A. So one of the main products that I developed were the
15 Rural-Urban Commuting Area codes and we call them RUCA codes,
16 and they were designed to improve targeting for federal programs
17 aimed at improving conditions in rural areas.

18 Q. So it's Rural-Urban Community Area codes; we'll call
19 them RUCA codes from now on.

20 A. RUCA codes.

21 Q. But what kind of applications did the RUCA codes have?

22 A. So there are many federal programs aimed at -- rural
23 development programs, aimed at improving conditions in rural
24 areas and all of those programs require a way of defining
25 rurals, to determine what places would be eligible for those

1 funds. And the RUCA codes were adopted, for example, by HHS for
2 a number of their healthcare program, rural healthcare programs,
3 and that gave them a more accurate delineation of the
4 eligibility and more flexibility.

5 Q. Have you done any peer-reviewed publications about
6 population trends or rural-urban classifications?

7 A. Yes, both.

8 Q. Looking at page 22 of your initial report, which has
9 been marked as Plaintiff's Exhibit 25 and we don't need to pull
10 up on the screen, but I see here a list of presentations.

11 Is this list I think I see it's, Selected briefings and
12 invited presentations; is that right?

13 A. Yes. That was just a sample of presentations I made.

14 Q. How many presentations would you say you made in,
15 about, your 35 years at USDA?

16 A. Oh my gosh. If I had to guess, it would be close to
17 200.

18 Q. To what audience did you give these presentations?

19 A. Again, they were -- I did present in academic
20 conferences, but they really were, primarily, aimed at policy
21 audiences. So for instance, I made -- I gave testimony at
22 congressional hearings. I made presentations to White House
23 committees, to -- let's see -- the Federal Reserve, the National
24 Academy of Sciences, even the United Nations.

25 Q. And how many of those presentations that you gave

1 related to population trends?

2 A. I would say half.

3 Q. And how many of them were related to rural urban
4 classifications?

5 A. It would pretty much be the other half, yes.

6 Q. All right. Looking at the next page, there's some
7 awards listed here; I want to ask you about two of them. One of
8 them is the REE Under Secretary's Award for major contributions
9 to the Report of the Task Force on Agriculture and Rural
10 Prosperity.

11 What was that?

12 A. Let's see, well, any time a new administration comes
13 in, there's a guidebook put together to provide an overview of
14 the key issues and, sort of, burning questions among
15 policymakers at USDA, and for that particular one -- that
16 particular one used findings from my research.

17 Q. Okay. And then, what about the USDA Secretary's Honor
18 Award for Superior Service for outstanding accomplishment and
19 exemplary service in the design and implementation of the Atlas
20 of Rural and Small Town America?

21 A. Yeah. That was a web-based mapping data product that
22 I developed. It -- starting in 2011, that provides -- that
23 gives access to users to a whole range of economic and social
24 indicators, indicators of population change at the county level,
25 allowing them to zoom into particular areas of interest and it

1 really provided, sort of, key information to policy remake
2 makers.

3 Q. Doctor Cromartie, I'm not sure if we covered this, but
4 how long were you at USDA ERS?

5 A. Thirty-five years.

6 Q. And when did you leave USDA?

7 A. The end of September of last year.

8 Q. And what have you been doing since?

9 A. I'm retired.

10 Q. Congratulations.

11 A. Thank you.

12 MS. LEEPER: Your Honor, at this time and in

13 keeping with the parties stipulations, I'd like to offer

14 Dr. Cromartie as an expert in population geography, rural
15 demography, and urban-rural classification.

16 MR. ELLINGER: No objection from Intervenors,
17 Judge.

18 MS. HUNKER: No objection from State Defendants.

19 THE COURT: Okay. You can jump right into
20 opinions as soon as you're ready.

21 Q. (MS. LEEPER) All right. As I mentioned earlier, Dr.
22 Cromartie, your report has been admitted in this case as
23 Plaintiff's Exhibit 25.

24 A. Yeah.

25 Q. Can you pull that up in the folding in front of you?

1 A. Is it in the middle?

2 Q. I think that's the one.

3 A. Whoops. Let's see, I'm not finding it here. Would
4 it --

5 Q. Here's the --

6 A. Oh, I'll look at the table of contents, yeah.

7 Q. Oh, that would be because this is not the full exhibit
8 folder.

9 A. Okay.

10 MS. LEEPER: Do we know where Plaintiff's, like,
11 the exhibits for the witness folder is?

12 (Counsel confer.)

13 THE COURT: If you want to use my hard copy
14 binder --

15 MS. LEEPER: Is that -- or I --

16 THE COURT: I've got the electronic up, so why
17 don't you take this one.

18 MS. HUNKER: We also have ours, if you --

19 MS. LEEPER: Do y'all mind?

20 MS. HUNKER: No.

21 MS. LEEPER: Okay. Thank you so much.

22 Apologizes. It seems to have gotten lost since yesterday.

23 MR. SULLIVAN: It was just up there, wasn't it?

24 MS. LEEPER: It -- I think he had a folder that
25 just had his report in it. Not the -- not the full one.

1 THE WITNESS: Okay. Thank you.

2 MS. LEEPER: Thank you.

3 Here you go.

4 MS. HUNKER: Thank you.

5 Q. (MS. LEEPER) Okay. Doctor Cromartie, do you now have
6 your exhibit in front of you?

7 A. Yes.

8 Q. What were you assessing in this report?

9 A. I was, again, assessing these two questions about
10 closely united territory. Whether -- whether Kansas City
11 constitutes closely united territory and whether the 2025
12 configurations of CDs 4 and 5 do a better job or worse job
13 compared with 2022.

14 Q. When did you first hear that term, "closely united
15 territory"?

16 A. I believe I encountered it in reading the petition,
17 and then I also had a brief discussion with Plaintiffs Counsel.

18 Q. What did Plaintiffs' Counsel tell you about the
19 concept of closely united territory?

20 A. They provided a very brief, sort of, concept that
21 included the fact that -- that differing -- that territories can
22 be united by common policy concerns, by common socio -- social
23 and economic characteristics.

24 Q. And how do you define closely united territory as you
25 use it in your report?

1 A. Yeah. So I -- I defined territory based on shared
2 demographic history and on the shared, again, the shared
3 economic and, sort of, the shared needs of communities that have
4 been defined by that -- by that demographic history.

5 Q. Do the rural-urban classifications, at all, play into
6 your definition of closely united territory?

7 A. Yes.

8 Q. How so?

9 A. Well, because they are areas that share common
10 demographic trends that have shaped economic conditions that
11 differ in significant ways across that rural-urban continuum.

12 Q. Doctor Cromartie, how did you come to your definition
13 of closely united territory?

14 A. Oh, well, it was -- it was based on 35 years of doing
15 this exact kind of research; of describing economic conditions
16 and trends and how they are closely tied to changing demographic
17 conditions.

18 Q. Is the type of analysis you did to assess closely
19 united territory in your report similar to any analysis you did
20 in your work at USDA?

21 A. Yes. It was very similar in the sense that I was
22 providing information that was -- in my career it was important
23 to -- what I did was provide information and analysis that was
24 relevant to policy concerns at USDA, without being directly
25 involved with the policymaking decisions, themselves. It was

1 important to maintain that separation. And I think that
2 separation exists in this research, as well.

3 Q. Okay. Even though you had never used or heard of the
4 term closely united territory, are there similar concepts that
5 you assessed at USDA?

6 A. Yes. It certainly resonated, given that -- that
7 socio-economic conditions are a component of defining closely
8 -- important to the concept of closely united territory. That
9 -- that meant that the work that I had done for 35 years was
10 relevant to these questions.

11 Q. Can you describe the methodology that you employed in
12 your research for this report?

13 A. Sure. I begin by describing the ways in which
14 demographic trends shape economic differences, especially,
15 across the rural-urban divide. I, then, provide an analysis and
16 description of population change in western Missouri, the area
17 of western Missouri that was the focus of this analysis, going
18 back 50 or 60 years. And then, finally, I examine the rural-
19 urban continuum a seven -- using seven categories across that
20 continuum, comparing the different congressional district
21 configurations, comparing 2022 and 2025 related to the
22 distribution of population across that rural-urban continuum.

23 Q. What kinds of sources do you consider in -- let's
24 break it down -- this -- first, the section of your report
25 related to population analysis?

1 A. I used decennial census data for each decade going
2 back to 1950 and I combine that with a definition -- a very
3 commonly used way of defining urban and rural areas, which
4 employees the Office of Management and Budgets definition of
5 metropolitan areas. I also used a number of secondary data
6 sources as background to the study -- to the analysis.

7 Q. Okay. And what kinds of sources did you use for your
8 rural-urban profile?

9 A. There, I employed the RUCA codes that we spoke of,
10 again.

11 Q. Are the resources that you relied upon in this report
12 typical sources that you would rely upon as USDA?

13 A. Yes.

14 Q. Okay. We've been saying the words urban and rural a
15 fair amount --

16 A. Right.

17 Q. -- I think it's time we define them.

18 A. Sure.

19 Q. How do you define urban?

20 A. So in this analysis and in almost all the research
21 I've done, rural and urban is defined using the OMB definition
22 of metropolitan areas. So urban is -- are -- consist of areas,
23 it's a county level definition, consisting of areas of 50,000 or
24 more and any adjacent counties that are integrated with those
25 areas through commuting.

1 Q. Okay. And that's the county level definition.

2 A. Right.

3 Q. Can you pull up Figure 2 from page 11 of your initial
4 report?

5 A. Yeah.

6 Q. So are these the RUCA codes we've been talking about?

7 A. Yes.

8 Q. How do you apply your definition of urban when you do
9 your RUCA code analysis?

10 A. It's a similar definition in that urban is defined as
11 metropolitan areas, so that would be RUCA codes 1 to 3, and
12 rural areas are defined as RUCA codes 4 to 10, which is similar
13 to non-metro areas.

14 Q. And that's non-metro for the OMB definition, as well;
15 is that right?

16 A. Yes.

17 Q. Now, you mentioned also that your RUCA code analysis
18 employs a seven-layer analysis, but I see ten RUCA codes here.
19 How did you get from ten to seven?

20 A. Yes. So the analysis combines the areas that are --
21 that are meant to define outlying areas of -- so that would be
22 codes 3 and 4 combined, codes --

23 Q. Oh, is that 2 and 3?

24 A. I'm sorry. I apologize. Yes, 2 and 3. Let me get
25 this right. Codes 2 and 4, Codes 4 and 5, Codes 8 and 9 are

1 combined for this analysis.

2 Q. Is combining those RUCA codes typical for this kind of
3 analysis?

4 A. Yes. Yeah.

5 Q. In what other context would there be, sort of, a seven
6 layer RUCA analysis rather than using all ten?

7 A. Well, for instance, the -- most of the applications
8 that HHS uses combines Metropolitan Areas 2 and 3 for their
9 policy applications, and most research that I have seen does

10 that same -- adopts the same --

11 Q. Okay. We can --

12 A. -- method.

13 Q. -- pull that down. Now, we talked about why you did
14 the seven layer analysis.

15 Is the divide that you have, these definitions of urban and
16 rural, are those used in any other context?

17 A. Those are -- those are the ways that -- it is the
18 standard practice among researchers focused on rural and urban
19 areas. It is the standard that I use and that -- and that most
20 academic colleagues used over the entire course of my career.

21 Q. But why didn't we use the census definition of rural
22 for your analysis here?

23 A. Because the census definition is -- doesn't take into
24 account the economic dimensions of rural and urban differences.
25 It's a definition based completely on population density. So it

1 doesn't include that commuting aspect.

2 Q. You know, I noticed when you were looking at that
3 chart, that RUCA 10 is rural areas.

4 A. Yes.

5 Q. So why didn't you use the RUCA Code 10 definition for
6 rural?

7 A. That's based on -- that is labeled rural because it
8 coincides very closely with the census definition of rural and,
9 again, that's not really -- it isn't a useful definition for the
10 particular applications here.

11 Q. I think in your deposition it came up that there are
12 secondary RUCA codes in addition to these primary RUCA codes; is
13 that right?

14 A. Yes.

15 Q. Why didn't you use the secondary RUCA codes in your
16 analysis?

17 A. Again, it's -- it's been a standard practice to
18 characterize places based on the largest commuting flow for that
19 area, and that's what the primary RUCA codes do. Secondary RUCA
20 codes are characterizing -- are characterizing the areas based
21 on these second largest flow, so, again, it's standard practice.

22 Q. And when you say "standard practice," in what context?

23 A. Well, in the -- again, with the policy context and in
24 the research that I've seen that have used the RUCA codes.

25 Q. Now, what area of Missouri did you assess for this

1 report?

2 A. I assessed the area covered by the congressional
3 districts that were the focus of the research; both the 2022 and
4 2025 versions of those districts, I included that territory.

5 Q. And I think you, in your report, you refer to that as
6 western Missouri; is that right?

7 A. Yes.

8 Q. You're aware that, geographically, the Western area of
9 Missouri has more areas than just the ones you covered?

10 A. Yes.

11 Q. And you used that as a term of convenience?

12 A. That's how I saw it, yes.

13 Q. Okay. And if I were to use the term "western
14 Missouri" in our questioning, we understand we're referring to
15 those CD4 and 5 areas from 2022 and 2025; is that right?

16 A. That is right.

17 Q. Okay. Have you ever done an analysis of this area
18 before?

19 A. Well, this area has been included in pretty much all
20 the analysis that I've done that takes a natural perspective,
21 and I -- and in the county level mapping that I have done for
22 that research. And in a number of data products, we do -- we --
23 and I was involved in data products that do provide state-level
24 breakdowns of the -- of these economic and demographic trends.

25 Q. Doctor Cromartie, let's flip to your rebuttal report,

1 which is marked as Plaintiff's Exhibit 26.

2 What are the differences between your initial report that
3 you submitted and this rebuttal report?

4 A. This takes into account changes to two counties in the
5 area of study. One was a coding error that I made, so we -- we
6 provided a fix of that coding error. The second one was in
7 response to a comment made by one of the expert witnesses
8 because I chose not to include a particular county in the
9 analysis -- in the population analysis.

10 Q. Okay. We'll get into each of those. I have to ask,
11 though, you said we provided.

12 A. I --

13 Q. Did anyone else work on this report with you?

14 A. I apologize. No. No one worked in this report. It's
15 hard to break habits.

16 Q. From your time at the USDA?

17 A. Yes. From my time at the USDA.

18 Q. Okay. Let's look at the first thing.

19 You said there was a miscoding of a county; which county
20 was that?

21 A. That was Cole County.

22 Q. And what was that original miscode?

23 A. Yeah. In the initial report, I had Cole County as --
24 labeled as a metro-outline county and it is, in fact, a metro
25 core county.

1 Q. And if you can turn to page 5 of your rebuttal report,
2 Table 1A and Figure 3A, what are these tables and figures here?

3 A. These show the -- they're showing population change in
4 the region and, I believe, this is the table which takes into
5 account that recoding of Cole County.

6 Q. Now, did that recording of Cole County change your
7 conclusions related to population growth? That we'll talk about
8 later.

9 A. No.

10 Q. Why not?

11 A. Well, in fact, it reinforced the findings that I made
12 regarding the differences between growth in core and outline
13 counties. It had no impact on the overall metro and non-metro
14 statistics.

15 Q. Did the recoding in Cole County have any impact on
16 your analysis of the rural and urban territory included in CDs 4
17 and 5?

18 A. No.

19 Q. Why not?

20 A. Well, that was a different analysis using the RUCA
21 codes and the RUCA codes weren't affected by that.

22 Q. Okay. You said the second issue, change, was a county
23 that wasn't originally included.

24 What county was that?

25 A. That was Boone County.

1 Q. And why didn't you originally include Boone County?

2 A. I chose not to include Boone County because it was one
3 of -- one county that -- where only part of the county was in
4 the territory covered by the congressional districts of
5 interest. It only included half of Boone County and I made the
6 decision that it was, perhaps, going to be was misleading to
7 include the population data for the whole county, given that
8 only a certain part of the county was included.

9 Q. Now, in your rebuttal report, you did include Boone
10 County in your analysis in a different part of the report?

11 A. Right.

12 Q. Did the inclusion of Boone County change your
13 conclusions related to population growth that we'll discuss
14 later?

15 A. No.

16 Q. Why not?

17 A. Well, again, and it, in fact, reinforced the findings
18 I made regarding the more rapid growth in metropolitan counties
19 versus non-metropolitan.

20 Q. Did Boone County's exclusion from the initial report's
21 county level analysis have any impact on your analysis of the
22 rural-urban territory included in CDs 4 and 5?

23 A. No.

24 Q. And is that, again, because that was a different data
25 set?

1 A. Yes.

2 Q. Okay. Let's go back to your initial report beginning
3 at page 12, looking at the section with the header, Rural and
4 Urban Areas Distant, Disconnected, Disadvantaged.

5 A. Page 12?

6 Q. That's right.

7 A. Yes.

8 Q. What topline conclusions do you make in this section
9 of the report related to urban and rural areas, generally?

10 A. So I described the -- the way in which differences in
11 population growth trends over several decades have created --
12 have had significant impacts on rural and urban areas in ways
13 that are very distinct and that have created a whole set of very
14 distinct needs and conditions in those areas.

15 Q. What are some of those distinct needs and conditions?

16 A. So I described, for example, that poverty levels tend
17 to be higher in rural areas. There -- it tends to be a higher
18 unemployment, lower job -- fewer job opportunities, and also
19 it's much fewer -- less access, I would say, to essential
20 services, such as healthcare.

21 Q. On what do you base these conclusions about urban and
22 rural areas, generally?

23 A. On 35 years of doing research on this and, yes,
24 basically.

25 Q. Okay. What topline conclusions do you make in this

1 section of the report that relate to western Missouri,
2 specifically?

3 A. Well, I did a background assessment and I do describe
4 that -- that, on average, Missouri -- this part of western
5 Missouri very much follows the trends that you see for rural
6 areas nationally, in that it shows very distinct differences
7 between urban and rural components.

8 Q. I see that you specifically cite access to healthcare
9 as one of the areas in which this region mirrors the disparity
10 on the national level.

11 On what do you base your conclusion about access to
12 healthcare?

13 A. I looked at a number of indicators of healthcare for
14 these counties -- for the counties in this region, in
15 particular, and did -- was able to confirm this, that there are
16 significant disadvantages in rural areas, and in this part of
17 the country when it comes to healthcare access, so.

18 Q. And I see you also had access to high-speed Internet
19 as another area.

20 On what did you base your conclusions regarding high-speed
21 Internet disparities in western Missouri?

22 A. Yeah. I examined the national broadband map that the
23 FCC provides showing and, in fairly great geographic detail, the
24 differences in access to broadband Internet and noticed that in
25 this part of the country the -- what we call the digital divide

1 between rural and urban areas, exists.

2 Q. Did you look at any other resources specific to
3 western Missouri to assess whether this urban-rural divide
4 existed?

5 A. Yes. I examined, for instance, the -- a number of ERS
6 data products, including the Atlas of Rural and Small Town
7 America. I looked at differences in poverty levels, differences
8 in employment. I also examined our -- the USDA's county
9 typology codes which provide a number of classifications of
10 counties, including, for instance, identifying counties with low
11 employment, and noticed that there were, indeed, several rural
12 counties in that area that had -- that they were classified as
13 low employment counties.

14 Q. Doctor Cromartie, how would you characterize your
15 level of confidence in your findings regarding the rural-urban
16 divide in western Missouri that you make in this section?

17 A. I'm very confident in those findings.

18 Q. Okay. Let's move onto the next section. Population
19 change in western Missouri, and this begins on page 13 of your
20 initial report.

21 A. All right.

22 Q. What information do you provide in this section of the
23 report related to urban and rural areas, generally?

24 A. I provide data on population trends for, really, two
25 time periods. One, is the overall time period 1950 to 2020,

1 and, then I focus in on the last decade; in particular, 2010 to
2 2020.

3 Q. And did you find that data on the national level or on
4 the western Missouri level?

5 A. The analysis here was for the counties in western
6 Missouri.

7 Q. What conclusions do you make in this section of the
8 report related to western Missouri, specifically?

9 A. Well, the historic data, the analysis going back to
10 1950s, shows that this area participated in the, really, the
11 reshaping of the country demographically, with decades of
12 massive urbanization, population growth, very much focused on
13 metropolitan areas, leaving behind rural areas that were either
14 losing population or growing very slowly.

15 Q. Let's pull up page 5 of your rebuttal report and look
16 at Table 1A and Figure 3A, again.

17 What does Table 1A depict?

18 A. The rebuttal report? I'm sorry.

19 Q. Yes. That's right, page 5.

20 A. Yeah. Yep. What does the table --

21 Q. The table, yes.

22 A. Yes. It shows differences in population change and
23 the distribution of that change between metropolitan and non-
24 metropolitan areas in western Missouri and the -- and within
25 metro areas, showing the differences between the core and

1 outlying parts.

2 Q. And what about Figure 3A? What does that show?

3 A. That is showing -- that is taking the data from the
4 table and showing how population growth was distributed among
5 those components of western Missouri.

6 Q. Okay. Let's look at the sections of the table going
7 from 1950 to 2020.

8 A. Yeah.

9 Q. What is the significance of the population growth
10 information in those columns of the table?

11 A. What I would say is that the -- looking at that third
12 column, you can see that over three quarters of the growth
13 during that entire time period occurred in the metro areas of
14 that area region, and that would primarily be the Kansas City
15 metro area.

16 Q. And then, what about the columns covering 2010 to
17 2020? What are the significance of those?

18 A. So the -- the 1950 to 2020, so it gives you the
19 historical perspective. The data from 2010 to 2020 really
20 demonstrates that those -- the differences that have emerged
21 between rural and urban demographic trends is continuing to this
22 day and it has even become more sharp and in more sharp relief,
23 so to speak, in that particular decade.

24 Q. What's the significance of the numbers that we see
25 with the non-metro row?

1 A. You see that for the -- really for the first time,
2 non-metro areas in western Missouri and for the country as a
3 whole, have reached that, sort of, zero population growth and
4 have even, sort of, began to tip over into negative population
5 growth, which is a significant marker.

6 Q. Why is it a significant marker up even though it's
7 only .5 percent decrease?

8 A. Right. Well, I would say the comparison of growth
9 between metro areas and non-metro areas has widened in western
10 Missouri; that's significant. But the -- the -- reaching this
11 point of population decline is significant because the trend --
12 the conditions are such that that is likely to continue into the
13 future, so it's a marker.

14 Q. Your data in this table and figure stop at 2020. Were
15 any of your opinions in this section based on any data that went
16 beyond 2020?

17 A. I do have a brief description of the emergence of a
18 phenomenon we call population natural decrease, which is where
19 counties are -- show more deaths than births, and this was
20 contributing to this move towards population decline in non-
21 metro areas, and for that I looked at data from 2020 to 2024.

22 Q. Okay. Does this section of your analysis have any
23 relation to the conclusions of the prior section on the urban-
24 rural divide?

25 A. Yes.

1 Q. What is that connection?

2 A. The -- the -- could you repeat the question? I'm a
3 little bit lost.

4 Q. Yeah. Absolutely.

5 A. Yeah.

6 Q. You know, this, obviously, just, shows population in
7 numbers; is that right?

8 A. Right.

9 Q. How does this fit into the --

10 A. Right.

11 Q. -- greater story or the findings that you make
12 about --

13 A. Right.

14 Q. -- the urban-rural divide?

15 A. Well, it is -- it's connected because these trends
16 that are shown here really helped to shaped -- to shape the
17 economic and social conditions, the inequalities that exist
18 between urban and rural areas, so they're very -- they're very
19 closely linked.

20 Q. In your experience, is population growth a causal of
21 -- had to have a causal relation to changes in circumstances for
22 communities? Or is it just a correlation?

23 A. It is -- it is both a cause and a consequence.

24 They're very closely linked, yes. It is a central determinant
25 of those conditions.

1 Q. Okay. Let's go to the next section of your initial
2 report --

3 THE COURT: Let me -- I'm gonna jump in and cut
4 you off for now, just so we can take your lunch break and
5 stay on our schedule. It is 12:20 now; does 1:20 work for
6 everybody? Okay. Anything you need from us before we
7 break?

8 MR. MULJI: No, Your Honor.

9 MS. HUNKER: I don't think so.

10 THE COURT: Okay. We'll see you at 1:20. Thank
11 you, everybody.

12 (COURT WAS IN RECESS.)

13
14 (MORNING COURT REPORTER WAS RELIEVED BY AFTERNOON COURT REPORTER
15 FOR THE REMAINDER OF THE DAY.)

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1 THE COURT: Go ahead and proceed.

2 MS. LEEPER: And I realize I did not state my name
3 for the record, so I'm Simone Leeper representing the Wise
4 plaintiffs.

5 THE COURT: Thank you.

6 **DR. JOHN CROMARTIE,**

7 resumed the stand and testified:

8 **DIRECT EXAMINATION(continued)**

9 BY MS. LEEPER:

10 Q. Dr. Cromartie, Good afternoon.

11 A. Good afternoon.

12 Q. I hope you had a nice lunch.

13 A. Yes.

14 Q. Just confirming that during that lunch we did not
15 speak at all about your testimony or any of the subject matter
16 in here.

17 A. That's correct.

18 Q. Before the break I think we had just flipped to the
19 section of your report beginning on page 16 differences in
20 rural and urban territory among 2022 and 2025 Congressional
21 Districts four and five.

22 A. Yes.

23 Q. What is your top line conclusion in this section?

24 A. The top line conclusion is that the 2025
25 configurations of CDs four, five do not do -- do a worse job at

1 keeping together closely united territories in western
2 Missouri.

3 Q. What methodology did you use in this section?

4 A. So my methodology involved mapping the seven
5 categories of the RUCA codes and overlaying that with the
6 congressional districts in question, but do districts from 2022
7 and the newer version from 2025.

8 Q. We already discussed why you employed a seven level
9 RUCA classification; is that right?

10 A. Yes.

11 Q. And RUCA codes are at the census tract level; is that
12 correct?

13 A. Yes.

14 Q. Where as a the congressional districts are formed at
15 the census block level?

16 A. Right.

17 Q. And that creates a slight mismatch between your
18 districts and the congressional districts; is that correct?

19 A. That's true.

20 Q. Did that slight mismatch have any impact on your
21 conclusions?

22 A. No.

23 Q. Why not?

24 A. Because it was a very small mismatch. It was
25 distributed over several of the categories and it was really

1 too small to affect the findings.

2 Q. Okay. Let's turn to table two on page 16 of your
3 report. What did your analysis show in here show about the
4 2022 configuration of CD4?

5 A. CD4 in 2022 was a predominantly Nonmetropolitan
6 district. That is a majority of the population resided in
7 areas classified as Nonmetropolitan or rural in that year.
8 Yes.

9 Q. And what about the 2025 configuration of CD4?

10 A. There was a large decrease in the percentage of the
11 population living in rural areas and a corresponding increase
12 to -- in the number of percentage in residents living in
13 Metropolitan areas to such an extent that it became a majority
14 Metropolitan area.

15 Q. All right. Now looking at the next row, what did
16 your analysis show about the 2022 configuration of CD5?

17 A. The 2022 CD5 was pretty close to one hundred percent
18 Metropolitan and it was completely made up of residents in the
19 Kansas City Metropolitan area.

20 Q. Do you draw any conclusions based on the breakdown in
21 2022 CD5 between Metro Core and Metro Outlying?

22 A. Yes. And the population was predominantly in the
23 Metro Core. The very -- the built up area of Kansas City as
24 opposed to the outlying suburbs.

25 Q. All right. What about the 2025 configuration of CD5

1 what did your analysis show about that?

2 A. Well, here we see a significant decline in the
3 populations in Metropolitan areas in CD5 for 2025. And the
4 analysis now shows that there are residents in that
5 congressional district in every -- in all seven of the RUCA
6 categories shown.

7 Q. Let's turn to figure five on page 18 of your report.
8 What does this figure depict?

9 A. It depicts a Congressional District five that is very
10 much made up of the core population of Kansas City.

11 Q. And what about Congressional District four, what does
12 it show about four?

13 A. It shows the Congressional District four for one
14 thing included really extensive areas in that very lowest about
15 the smallest population category of RUCA codes. But that it
16 included primarily areas that were Nonmetropolitan.

17 Q. Okay. Let's turn to figure six on page 20 of your
18 report. What does this figure depict?

19 A. Well, for Congressional District five we now have a
20 district that is spread across pretty much all -- definitely
21 all categories of the RUCA codes shown here. And it includes
22 parts of smaller Metropolitan areas including Jefferson City.

23 Q. What is it show about CD4?

24 A. CD4 now includes a much larger part of Metropolitan
25 Kansas. And correspondingly a much smaller area in that very

1 lowest category and in Nonmetropolitan categories in general.

2 Q. Do you glean anything from this maps Metro Core area
3 of CD5 or that was previously largely in CD5?

4 A. Well, if you really look at the core area of Kansas
5 City that was initially part of CD5 that area is now divided
6 into three Metropolitan -- into three congressional districts.

7 Q. Dr. Cromartie, how does the analysis in this section
8 of your report relate to your overall conclusions?

9 A. It shows that, in fact, the conclusion is that the
10 2025 version of CDs four and five does a worst job at keeping
11 together a light territory compared with 2022.

12 Q. Dr. Cromartie, do you have any prior experience with
13 redistricting?

14 A. No.

15 Q. Are you offering any opinions today on what criteria
16 need to be considered in a redistricting plan in Missouri?

17 A. No.

18 Q. How would you compare the information that you're
19 providing the Court today to the information that you provided
20 in your career at USDA?

21 A. I would say it has a similar relationship in that it
22 is meant to be informative of the redistricting questions being
23 asked, but has no -- it doesn't provide any opinion or direct
24 opinion about those questions. It provides information.

25 Q. And what is your level of confidence in the

1 conclusions contained in your reports and that we discussed
2 today?

3 A. I'm very confident in the results.

4 MS. LEEPER: Your Honor, I pass the witness.

5 **CROSS-EXAMINATION**

6 BY MR. ELLINGER:

7 Q. Good afternoon, Dr. Cromartie.

8 A. Hello.

9 Q. Nice to see you again.

10 A. Good to see you.

11 Q. My name is Marc Ellinger. We've met before.

12 A. Yeah.

13 Q. And I have a few questions. I represent the

14 intervenor the Missouri Republican State Committee. You've
15 never testified in court before, have you?

16 A. No, I haven't.

17 Q. And you've never served as -- been an expert witness
18 in any case before, have you?

19 A. No.

20 Q. And no court's ever relied upon your expert opinions
21 in any case before, have they?

22 A. Not that I know of.

23 Q. You worked for the USDA for 35-years?

24 A. Yes.

25 Q. And you never worked on redistricting issues at the

1 USDA in those 35-years, did you?

2 A. No.

3 Q. You never worked on voting rights issues in those
4 years at the USDA either, did you?

5 A. No.

6 Q. And you never worked on any type of political
7 representation issues at the USDA in those years either, did
8 you?

9 A. No.

10 Q. You've never published any articles on redistricting?

11 A. No.

12 Q. And isn't it correct, you've never published any
13 articles or research on gerrymandering?

14 A. That is correct.

15 Q. And you've never published any research on
16 communities of interest; correct?

17 A. That is correct.

18 Q. And you've never published any research on closely
19 united territory; correct?

20 A. I'd never used that term in my research.

21 Q. And you've never published anything about using the
22 RUCA codes for redistricting analysis; correct?

23 A. Correct.

24 Q. RUCA codes. I guess, you're the creator of RUCA
25 codes, right?

1 A. Right.

2 Q. RUCA codes were not developed for redistricting
3 purposes, were they?

4 A. No.

5 Q. They were developed for federal programming
6 eligibility purposes; correct?

7 A. And for research.

8 Q. You took the next question out of my mouth. But
9 you're not aware of RUCA codes ever being used in a redistrict
10 case before, are you?

11 A. I am not.

12 Q. And you're not aware of any court cases that refer to
13 or address RUCA codes and redistricting context; correct?

14 A. Correct.

15 Q. And you don't know of any examples of the RUCA codes
16 being used in redistricting using the same classifications that
17 you used in your report; correct?

18 A. Can you repeat the question?

19 Q. You don't know any examples of RUCA codes being used
20 in redistricting cases using those same classifications that
21 you used in your report; correct?

22 A. That is correct.

23 Q. Before you were contacted about this case you had
24 never used the term closely united territory in your research,
25 had you?

1 A. I had taught.

2 Q. It's not a term -- that particular term is not used
3 in demography. Is it?

4 A. I wouldn't be able to say all of demography. It's
5 not a term I use.

6 Q. It's not a term you've encountered in geography
7 either. Is it?

8 A. I have not.

9 Q. You never published any academic articles defining
10 closely united territory, have you?

11 A. Not using that term. No.

12 Q. You're not familiar with any academic literature that
13 uses the term closely united territory, are you?

14 A. That is correct.

15 Q. You've never published anything about defining what
16 closely united territory means; correct?

17 A. Correct.

18 Q. You were only asked to analyze Congressional
19 Districts four and five; correct?

20 A. That is correct.

21 Q. The converse is you didn't analyze any of the other
22 Missouri congressional districts; correct?

23 A. Correct.

24 Q. You didn't look at the full congressional plan
25 enacted by the legislature either in 2022 or 2025; correct?

1 A. I had the map. But correct, I did not focus on it.

2 The other parts.

3 Q. You didn't analyze whether Congressional District six
4 was impacted by changes to Congressional Districts four or
5 five, did you?

6 A. I did not.

7 Q. You acknowledge that a significant portion of the
8 Kansas City Metropolitan area is in Congressional District six;
9 correct?

10 A. Yes.

11 Q. You were only asked to compare the 2022 plan to 2025
12 plan; correct?

13 A. That's correct.

14 Q. You don't have any understanding of Missouri's 2012
15 Congressional Plan, do you?

16 A. No.

17 Q. Or any plans prior to that?

18 A. Correct.

19 Q. You didn't compare the 2025 redistricting plan to any
20 other proposed map or plans, did you?

21 A. No.

22 Q. And you didn't analyze whether alternative
23 configurations would've kept communities better together, did
24 you?

25 A. No.

1 Q. Let's talk a little bit about western Missouri.

2 Okay. You defined in your report western Missouri as only

3 those counties in Congressional Districts four and five;

4 correct?

5 A. I wouldn't agree with that.

6 Q. Okay. Let's go to your report on page 11. If we can

7 pull up Plaintiff's Exhibit 25, page 11, please. If you'd look

8 at the bottom of that page where it says under the heading

9 western district. Do you see where I'm at on your report,

10 Dr. Cromartie?

11 A. Sure.

12 Q. You said I refer to the area I assess which covers

13 the areas included in either of the 2022 or 2025 Congressional

14 District four and five that is western Missouri; is that

15 correct?

16 A. Yes.

17 Q. And then you have a list of counties that are

18 included; correct?

19 A. Right.

20 Q. And you recognize that Boone County was added in your

21 rebuttal report; correct?

22 A. Right.

23 Q. So do you know where Platte County, Missouri is?

24 A. Yes.

25 Q. Platte County, Missouri is not in western Missouri

1 under your definition, correct?

2 A. I was -- I didn't make that -- I didn't draw that
3 conclusion by using the term to refer to these counties.

4 Q. Okay. Was the term western Missouri provided to you?

5 A. No.

6 Q. So you selected these counties; correct?

7 A. That's right.

8 Q. And you did not include Platte County?

9 A. That's correct.

10 Q. And by using this term western Missouri you didn't
11 mean to imply that these counties are united or that grouping
12 them together is logical, did you?

13 A. That's correct.

14 Q. Other reports that you're aware of don't use this
15 particular grouping of counties as western Missouri; correct?

16 A. I would agree with that, yes.

17 Q. Three of the counties that are on that list are only
18 partially included in Congressional Districts four and five;
19 correct?

20 A. That's right.

21 Q. And that's Boone, Clay, and Webster counties;
22 correct?

23 A. Correct.

24 Q. I think you went through the fact that you initially
25 chose Clay and Webster but excluded Boone; correct?

1 A. Correct.

2 Q. And then on your rebuttal report you did include

3 Boone; correct?

4 A. Correct.

5 Q. Okay. You did include Clay County in your analysis;

6 correct?

7 A. Yes.

8 Q. Okay. Is all of Clay County in Congressional

9 District four or Congressional District five under the 2022
10 map?

11 A. No.

12 Q. What about under the 2025 map?

13 A. No, I don't believe so.

14 Q. Would it surprise you to know that all of Clay County
15 in the 2025 map is Congressional District six?

16 A. I would have to look at the map, and then it doesn't
17 have the county outlined. I was under the impression that part
18 of it was still in, but I'd have to look and see.

19 Q. You just don't know off the top of your head?

20 A. I don't know.

21 Q. You don't know. And you didn't look at that in your
22 report; correct?

23 A. I did look at the overlay between the four districts
24 and the counties in that area to make those determinations.

25 Q. But you didn't look at Clay County being in

1 Congressional District six with respect to the 2025 Missouri
2 First Map; correct?

3 A. That is correct.

4 Q. When you looked at Clay County that was included in
5 the 2022 congressional maps you didn't examine what percentage
6 of Clay County was included, did you?

7 A. I only did that by visual examination.

8 Q. You didn't look at what population was included, did
9 you?

10 A. I did not look at the specific statistics.

11 Q. From a visual review in the 2022 map physical bulk of
12 Clay County was not in the Congressional District five but was
13 in Congressional District six; correct?

14 A. Again, I don't have the county overlays on there, but
15 I take your word.

16 Q. Let's talk about some of these communities if we
17 could. You didn't do any surveys of any residents in these
18 communities, did you?

19 A. No.

20 Q. You didn't go talk to any residents of these
21 communities, did you?

22 A. No.

23 Q. You didn't read local newspapers to see what issues
24 were of concern to these communities -- residents in these
25 communities?

1 A. No.

2 Q. You didn't attempt to determine individually what the
3 concerns of these communities were in what you define as
4 western Missouri; correct?

5 A. That's correct.

6 Q. In your report on page 17. If we go to page 17,
7 please. And I'd like you to look at the last sentence on that
8 page?

9 A. Yes.

10 Q. Okay. Could you read that last sentence out loud,
11 please?

12 A. This was a district made up largely of Nonmetro,
13 Rural, and Small Town communities united by shared concerns
14 regarding rural opportunities and challenges.

15 Q. You didn't do any specific analysis of these
16 communities to make that determination, did you?

17 A. No.

18 Q. You didn't talk to anybody in these areas to make a
19 determination about these united and shared concerns, did you?

20 A. No.

21 Q. I think you already mentioned you didn't read any
22 newspapers to try to determine what those shared concerns were,
23 did you?

24 A. Right.

25 Q. You can take down that page, please. You decided to

1 combine some of the RUCA codes; correct?

2 A. Correct.

3 Q. And you originally created the RUCA codes, right?

4 A. Correct.

5 Q. And you created ten RUCA codes; correct?

6 A. Yes.

7 Q. For this report, you decided to knock that number
8 down to seven; correct?

9 A. That is correct.

10 Q. Okay. And you classified codes one through three as
11 urban metro; correct?

12 A. Correct.

13 Q. And I'd liked you to pull up page 11, figure two,
14 please. Again, one, two, and three are Metropolitan core,
15 Metropolitan high community, and Metropolitan low community;
16 correct?

17 A. Correct.

18 Q. And that's what you've defined as urban metro;
19 correct?

20 A. Correct.

21 Q. And then you combine four through ten and define
22 those as a rural Nonmetro; correct?

23 A. That is correct.

24 Q. And that was your decision to make for purposes of
25 this report; correct?

1 A. That was my decision.

2 Q. Okay. And you made a decision to classify RUCA code
3 four, which is the Micropolitan core as rural; correct?

4 A. Correct.

5 Q. And effectively RUCA code four is the core urban
6 areas of Micropolitan areas; correct?

7 A. That is correct.

8 Q. And those areas would have populations between ten
9 and 49,999 persons; correct?

10 A. Yes.

11 Q. So if they have 50,000 people they're out of that
12 code; correct?

13 A. Correct.

14 Q. Okay. So a city with its commuting surroundings that
15 has 40,000 people, in your opinion, is a rural community;
16 correct?

17 A. Correct.

18 Q. It's reasonable to believe that an average person
19 would view a town of 40,000 or almost 50,000 people as not
20 being a rural community, isn't it?

21 A. It is possible, yes.

22 Q. Columbia Missouri, which has approximately 126,000
23 people is not considered rural; correct?

24 A. Correct.

25 Q. And it's a Metropolitan area, therefore, it's not

1 considered rural; correct?

2 A. Correct?

3 Q. And Jefferson City with a population of about 43,000
4 people, however, is also not considered rural; correct?

5 A. Correct.

6 Q. And that's because it has a Metropolitan area around
7 it; correct?

8 A. Yes.

9 Q. You could reasonably classify my Micropolitan core
10 areas as urban; couldn't you?

11 A. In the economic analysis that I do, it's made based
12 on my experience and research. It makes more sense to consider
13 it rural, but yes.

14 Q. And there are research applications where you would
15 make that distinction; correct?

16 A. Outside of sort of economic and demographic analysis
17 there would be applications.

18 Q. Okay. Let's talk a little bit about the urban-rural
19 divide, I think, is the term you used; is that correct?

20 A. Correct.

21 Q. Okay. Now you talk about the urban-rural divide and
22 you start by talking about poverty rates; correct?

23 A. I don't believe I start there, but I do use that as
24 an example.

25 Q. Okay. Let's go to page 12 of your report in the

1 second paragraph under that heading that starts on average. Do
2 you see that?

3 A. I do.

4 Q. Okay. And it's got three different items that you
5 address; correct? Higher poverty rates, higher unemployment
6 and lower educational attainment; correct?

7 A. Correct.

8 Q. So you started with poverty, but we're going to cover
9 all three of them; is that okay?

10 A. Sure.

11 Q. Okay. Not all rural areas have higher poverty rates
12 than metro areas; correct?

13 A. Correct.

14 Q. Not all rural areas have higher unemployment rates
15 than metro areas; correct?

16 A. That's correct.

17 Q. And not all rural areas have lower educational
18 attainment than Metropolitan areas?

19 A. Correct.

20 Q. There are wealthy rural areas; correct?

21 A. Yes.

22 Q. And there are poor urban areas; correct?

23 A. Correct.

24 Q. And there are rural areas with low unemployment;
25 correct?

1 A. Correct.

2 Q. And there are urban areas with low unemployment;
3 correct?

4 A. That is true.

5 Q. You didn't analyze the individual poverty rates in
6 any of the counties in western Missouri for your report, did
7 you?

8 A. I did examine those trends as background for this
9 report.

10 Q. Okay. But they're not reported in your report;
11 correct?

12 A. They're not reported.

13 Q. And did you do individual analysis of counties
14 unemployment rates that are in western Missouri?

15 A. I examined those patterns, but no.

16 Q. And you didn't do individual analysis of educational
17 attainment in these counties; correct?

18 A. Correct.

19 Q. You note that western Missouri Nonmetro counties
20 benefit from I-70 and the Ozarks recreational areas; is that
21 correct?

22 A. Yes.

23 Q. So it's fair to say, not all rural areas in Missouri
24 fit into the pattern of decline and disadvantage; correct?

25 A. From a comparative perspective there would be

1 inceptions to that rule.

2 Q. Economic growth at the Lake of the Ozarks, for
3 example?

4 A. I didn't look at that data.

5 Q. Okay. The economic growth that occurs from major
6 highway projects going in; correct?

7 A. That does provide economic advantages.

8 Q. So your conclusions with respect to rural areas
9 having higher poverty rates, higher unemployment, and lower
10 educational attainment are general conclusions, not specific
11 conclusions about these particular counties; correct?

12 A. It is conclusions based on the area in general, yes.

13 Q. I think you also talk about how rural areas are
14 disproportionally dependent on resource based industries;
15 correct?

16 A. Correct.

17 Q. And I think you defined resources based industries to
18 describe industries in agriculture mining and manufacturing;
19 correct?

20 A. That's right.

21 Q. But there are urban areas that are dependent upon
22 manufacturing; correct?

23 A. Different type, but yes.

24 Q. There are rural areas that are not dependent upon
25 agriculture mining and manufacturing; correct?

1 A. That's right.

2 Q. So urban and rural areas can share a common interest,
3 can't they?

4 A. That's true for all the areas. Yes, I would agree
5 with that.

6 Q. They can be part of the same community; correct?

7 A. I didn't use the term community, so I really don't
8 have an opinion on that.

9 Q. Let's talk a little bit about the population changes.
10 Let's go to page 14, table one. Do you see where I'm at?

11 A. Yes.

12 Q. Okay. So from 1990 to 2020 Nonmetro areas grew by
13 almost 64 percent in this region; correct?

14 A. That is a mislabel of that first column. It's
15 actually 1950 to 2020. The title is correct.

16 Q. My part, yes. From 1950 to 2020 Nonmetro areas grew
17 by almost 64-percent; correct?

18 A. Correct.

19 Q. And in that same 70-year period Metro areas grew by
20 approximately 74-percent; correct?

21 A. Yes.

22 Q. Okay. Only in 2010 through 2020 in that ten-year
23 cycle was there a decrease in the nonmetropolitan area growth
24 rate; correct?

25 A. Not only in that period, but you could look at others

1 specific decades. But yes, that was -- that's what that table
2 shows. Yes.

3 Q. Other decades might have had diminishment of growth
4 in Nonmetropolitan areas; correct?

5 A. The trends varied over the decade. This shows the
6 average that the total changed for those six-decades.
7 Seven-decades.

8 Q. Seven-decades. Yes. So during that seven-decades you
9 had years that grew -- the nonmetro areas grew very quickly;
10 correct?

11 A. There were some areas where they grew more rapidly
12 than this average. Yes.

13 Q. And then other years when they didn't grow as fast or
14 even had negative growth; correct?

15 A. Correct.

16 Q. And that's 70-years of snapshots showing 64-percent
17 growth; correct?

18 A. Correct.

19 Q. The second column. The second under 2010 to 2020
20 that's simply one seventh of the amount of time; correct?

21 A. Correct.

22 Q. So the next cycle that could change also?

23 A. There are reasons to believe that it would be
24 difficult to change, but yes.

25 Q. So in the seven-decades roughly a quarter of the

1 actual population growth occurred in the Nonmetro areas; is
2 that correct?

3 A. Correct. Less than a quarter.

4 Q. Just slightly, right?

5 A. Right.

6 Q. Yeah. And roughly three quarters was in the Metro
7 area, right?

8 A. Correct.

9 Q. Metro areas tend to have higher populations to start
10 with. Correct, based upon the RUCA codes?

11 A. Correct.

12 Q. You designated -- you looked at counties in this to
13 designate them as Metro aka core, Outlying, and Nonmetro;
14 correct?

15 A. Correct.

16 Q. And over that, I guess, 80-year period -- let's go
17 1950 to 2020 there were counties that changed their
18 classification over that period of time; correct?

19 A. That is correct.

20 Q. The Metro Core changes over a period of time?

21 A. Yes.

22 Q. Metro Outlying changes over a period of time?

23 A. Yes.

24 Q. The Nonmetro areas change over a period of time?

25 A. Right.

1 Q. But for 1950 to 2020 analysis, you just used the 2020
2 definitions; is that correct?

3 A. That is correct.

4 Q. You talked a little bit about natural decrease. Do
5 you remember that conversation?

6 A. Yes.

7 Q. I think you found that 22 of 32 counties had natural
8 decrease by 2020; is that correct?

9 A. Right.

10 Q. The ten counties had natural increase in the
11 quote-unquote western Missouri area; correct?

12 A. Correct.

13 Q. Of those ten, roughly half were Metropolitan;
14 correct?

15 A. Correct.

16 Q. And half were Nonmetropolitan; correct?

17 A. That is correct. Well, I would have to look. I'm
18 sorry. I agreed too quickly. I would have to look, but I take
19 your word for it.

20 Q. Okay. Let's move onto economic integration. You
21 talked a little bit about. Do you recall that?

22 A. Yes.

23 Q. Did you consider economic integration beyond the RUCA
24 code commuting patterns?

25 A. And the OMB definition were. No.

1 Q. You didn't independently evaluate transportation
2 networks in these counties in western Missouri, did you?

3 A. No.

4 Q. You didn't individually evaluate community corridors
5 in these counties, did you?

6 A. That's correct.

7 Q. You didn't consider media markets that are in these
8 counties, did you?

9 A. No.

10 Q. You didn't consider political behavior or voting
11 patterns; correct?

12 A. Correct.

13 Q. You didn't analyze voting patterns in Kansas City,
14 for example, did you?

15 A. No.

16 Q. You didn't analyze voting patterns in the suburbs of
17 the city of Kansas City; correct?

18 A. That's correct.

19 Q. You didn't study partisan affiliation differences
20 between rural and urban populations, did you?

21 A. No.

22 Q. And you've not analyzed how demographic
23 classifications translate into voting outcomes; correct?

24 A. That's correct.

25 Q. In considering demographics, you didn't consider

1 religious communities, did you?

2 A. Not in this analysis.

3 Q. And you didn't consider educational institutions in
4 this analysis?

5 A. No.

6 Q. You didn't consider shared institutions like the
7 schools in your analysis; correct?

8 A. Correct.

9 Q. And you didn't consider shared institutions like
10 hospitals in your analysis; correct?

11 A. Correct.

12 Q. You concluded on page 21 of your report that -- and
13 you don't need to put this up -- that the Kansas City urban
14 Metro areas, that closely united territory that experiences
15 more domestic migration, immigration, and natural population
16 growth. Do you recall that language?

17 A. Yes.

18 Q. Okay. That first sentence is entirely based upon
19 actual population numbers; correct?

20 A. Correct.

21 Q. You didn't in those numbers consider economic
22 integration in that sentence, in that conclusion; correct?

23 A. In that big of a sentence.

24 Q. In your second sentence, you say these trends create
25 significant differences in the social and economic lives of

1 western Missouri's urban and rural communities; correct?

2 A. Correct.

3 Q. You refer in that sentence back to portions of

4 analysis that describe linkages between population change and

5 social and economic conditions; correct?

6 A. Yes.

7 Q. Let's talk a little bit about Kansas City real quick.

8 It's the largest Metropolitan area in the western Missouri

9 area; correct?

10 A. Correct.

11 Q. Kansas City has many different neighborhoods, doesn't

12 it?

13 A. Yes.

14 Q. It has a downtown; correct?

15 A. Yes.

16 Q. It has residential neighborhoods; correct?

17 A. Yes.

18 Q. It has suburban areas; correct?

19 A. Yes.

20 Q. It has industrial areas; correct?

21 A. Yes.

22 Q. All those areas have different interests amongst

23 them; correct?

24 A. Along with their commonalities. Yes.

25 Q. There's a lot of economic diversity in Kansas City,

1 isn't there?

2 A. Yes.

3 Q. You have a wide dispersion from poor to rich in
4 Kansas City; correct?

5 A. That is true.

6 Q. There's significant income diversity in Kansas City
7 too; correct?

8 A. Correct.

9 Q. And Kansas City's in multiple counties on top of it;
10 correct?

11 A. Correct.

12 Q. A sizable portion of it's in Jackson County; correct?

13 A. Yes.

14 Q. A sizable portion of it's in Clay County; correct?

15 A. Yes.

16 Q. There's a part that's in Platte County; correct?

17 A. Correct.

18 Q. And a part that's in Cass County?

19 A. Yes.

20 Q. All right. Let's talk a little bit about Metro Core
21 and Metro Outlying interests. The 2022 map of Congressional
22 District five included both Metro Core and Metro Outlying
23 areas; correct? We can pull that up if that helps you.

24 A. 2022 CD5. Yes. It was overwhelmingly poor, but yes
25 it included parts of --

1 Q. Okay. Metro Core and Metro Outlying have different
2 characteristics though, don't they?

3 A. Along with being very tightly integrated they do show
4 different characteristics.

5 Q. Metro Outlying's more suburban; correct?

6 A. Correct.

7 Q. Metro Core can have a higher density of population;
8 correct?

9 A. Correct.

10 Q. Okay. People in Metro Core have all sorts of
11 different interests and things than perhaps people in Metro
12 Outlying; correct?

13 A. I didn't examine that for this analysis.

14 Q. Suburbs in urban cores tend to have different
15 interests, don't they?

16 A. Again, I'm not an expert. But I can agree with that
17 statement.

18 Q. Let's talk about CD4 under the 2022 map. Okay. CD4
19 had population from all seven of your classifications; correct?

20 A. Correct.

21 Q. It included primary rural and small towns, right?

22 A. Right.

23 Q. About 35-percent lived in Metro Core. Does that
24 sound correct to you?

25 A. I don't have those in front of me, but I can take

1 your word for it.

2 Q. Let's go to page 16, table two. We can refresh your
3 memory. Okay. So, again, we're on the 2022 CD4. Do you see
4 that where I'm at now, Dr. Cromartie?

5 A. Yes.

6 Q. There were 157,000 people in CD4 that were in the
7 Metro Core; correct?

8 A. Yes.

9 Q. That's about 35-percent. Does that sound right you?

10 A. Sounds right.

11 Q. And then there were 152,517 in the Metro Outlying;
12 correct?

13 A. Correct.

14 Q. So there's a pretty significant portion of the
15 population that was in the Metro areas; correct?

16 A. Yes.

17 Q. Do you know what the Missouri distribution is of
18 Metro Core, Metro Outlying, and Nonmetro across the entire
19 state?

20 A. I believe the percentage in Nonmetro areas is around
21 30-percent.

22 Q. Okay. So if you have something that would match the
23 state average you would expect 30-percent Nonmetro for the
24 state average; correct?

25 A. That's right.

1 Q. Okay. In 2022, CD4 combined urban and rural areas;
2 correct?

3 A. Correct.

4 Q. I mean, it was a majority Nonmetro in your
5 classification; correct?

6 A. Yes.

7 Q. It included parts of Columbia; correct?

8 A. I believe that's true. Yes.

9 Q. It included parts of Jefferson City; correct?

10 A. Yes.

11 Q. In 2022. Yes. We're focused on 2022. And it
12 included part of the Springfield Metropolitan area; correct?

13 A. Can we go back?

14 Q. Yes.

15 A. I'm sorry. In 2022 Jefferson City was outside of
16 CD4.

17 Q. Okay. What about the Jefferson City Metropolitan
18 area?

19 A. It looks like it was not included in CD4.

20 Q. But the Columbia Metropolitan area was?

21 A. Yes.

22 Q. And the Springfield Metropolitan area was?

23 A. Yes.

24 Q. Now I think in your report one of your comments about
25 the 2025 map is that it combines urban and rural areas;

1 correct? That's one of your concerns?

2 A. Can you repeat that?

3 Q. That the 2025 map one of your concerns is that it
4 combines urban and rural areas particularly with respect to
5 CD5; correct?

6 A. CD5. I don't think that was my primary conclusion.

7 Q. The CD5 under the 2025 map goes from being almost
8 entirely metro to being metro and rural; correct?

9 A. Yes.

10 Q. And you critique that that's not a good match, I
11 think. Is that correct?

12 A. That's correct.

13 Q. But you don't have the same critique of Congressional
14 District four under the 2022 map, do you?

15 A. I have a different conclusion about CD4.

16 Q. Under the 2022 map?

17 A. Right.

18 Q. It was okay, right?

19 A. I don't know what you mean by the term okay.

20 Q. Well, you're not saying that it was unconstitutional
21 or an invalid combining of -- strike that question. You're
22 saying that it was inappropriate combining the rural and metro
23 areas, are you?

24 A. I didn't draw any conclusions about appropriateness.

25 Q. You only looked at the 2025 maps for that purpose;

1 correct?

2 A. I didn't look at them for that -- any of them for
3 that purpose.

4 Q. Let's take a look at the 2025 CD5. Okay. And on
5 this I'd like to go to page 16, table two. Do you see where
6 I'm at?

7 A. Yes.

8 Q. Okay. CD5 in 2025 has a majority of population being
9 Metro Core, Metro Outlying; correct?

10 A. Correct.

11 Q. It's about 426,000 in the core; correct?

12 A. Yes.

13 Q. It's about 114,000 in the Outlying; correct?

14 A. Yes.

15 Q. And you've looked at other counties in the western
16 Missouri area; correct?

17 A. I'm not sure.

18 Q. In the course of your research, you've looked at

19 another counties in the western Missouri area; correct, aside
20 from Jackson County?

21 A. I'm misunderstanding the question.

22 Q. Let me strike that, and I'll ask this a different
23 way. 426,000 people is more than the population of most
24 counties in western Missouri; correct?

25 A. I suppose that is correct.

1 Q. CD5 if you add up the Metro Outlying and the Metro
2 Core, which you call the urban or the metro area, it's about
3 540,000 people; correct?

4 A. Correct.

5 Q. And it's roughly 70-percent of the district; correct?

6 A. Yes.

7 Q. It also includes Micropolitan areas; correct?

8 A. The district does.

9 Q. Yes. My apologies. Congressional District five
10 under the 2025 still includes -- also includes Micropolitan
11 areas; correct?

12 A. Correct.

13 Q. The Census Bureau defines those areas as being urban;
14 correct?

15 A. We are applying the term urban to synonymously with
16 Nonmetropolitan. So yes, Census Bureau would count that as
17 urban under their definition.

18 Q. And those Micropolitan areas have commercial
19 districts; correct?

20 A. Yes.

21 Q. And town centers; correct?

22 A. Smaller ones, yes.

23 Q. If you look at the last column on this particular
24 figure -- or table. Excuse me. There's about 100,000 people
25 from the rural area; is that correct?

1 A. That's correct.

2 Q. And even if you add up the Micro Outlying, the Small
3 Town, the Small Town Outlying and the Rural, you end up with
4 less than 200,000 people that would be in those categories
5 combined; correct?

6 A. Correct.

7 Q. Versus 540,000 it would be in the urban areas;
8 correct?

9 A. Correct.

10 Q. Under the 2025 plan CD4 there are 287,000 people
11 living in the Metro Core; correct?

12 A. Correct.

13 Q. And 191,000 living in Metro Outlying; correct?

14 A. Yes.

15 Q. So I think if my math holds that's about 478,000
16 people; correct?

17 A. Yes.

18 Q. That's more than a majority of the number of people
19 that are in a congressional district; correct?

20 A. I wouldn't know.

21 Q. A congressional district has to have 769,000 people.
22 Did you know that?

23 A. No.

24 Q. You haven't looked at what it takes to have
25 populations in congressional districts?

1 A. That is correct.

2 Q. Certainly, if you add those two numbers up in 2025
3 for CD4 and you compare them all of the things that you
4 quantify as rural, it's a majority that are Metro; correct?

5 A. I don't understand it. Could you repeat the
6 question?

7 Q. If you add up the Metropolitan Core and Metropolitan
8 Outlying you get roughly 488,000 people; correct?

9 A. Right.

10 Q. And if you add Micro Core, Micro Outlying, Small
11 Town, Small Town Outlying, and Rural if you combine that group
12 together that's less than the Metropolitan urban area; correct?

13 A. Correct.

14 Q. So the urban area has a majority of the population in
15 CD4 and CD5; correct?

16 A. Yes.

17 Q. I think we can take this down. In preparing for this
18 you didn't review any literature on redistricting principles,
19 did you?

20 A. No.

21 Q. You didn't review any literature defining communities
22 of interest; correct?

23 A. No.

24 Q. You didn't review any case law in preparation for
25 your report, did you?

1 A. Correct.

2 Q. You didn't review any Missouri statutes; correct?

3 A. That's correct.

4 Q. You didn't review any Missouri constitutional

5 provisions; correct?

6 A. Correct.

7 Q. You're not familiar with traditional redistricting

8 principles, are you?

9 A. I am not.

10 Q. You're not familiar with the principle of contiguity?

11 A. That's correct.

12 Q. You're not familiar with the principle of

13 compactness?

14 A. No.

15 Q. You didn't do a compactness analysis on the 2025 map,

16 did you?

17 A. No, I didn't.

18 Q. You didn't do one on the 2022 map, either?

19 A. No.

20 Q. You didn't do an equal population analysis on the

21 2025 map, did you?

22 A. No.

23 Q. And you didn't do an equal population analysis on the

24 2022 map either; correct?

25 A. Correct.

1 Q. You didn't analyze county splits with respect to the
2 2025 map across the state; correct?

3 A. I'm not sure I understand the question.

4 Q. Where counties are split into parts you didn't do an
5 analysis of those splits, did you?

6 A. I took into account the splits. But, no, I did not
7 do an analysis.

8 MR. ELLINGER: I have no further questions, Judge.

9 Thank you. Thank you, Dr. Cromartie.

10 THE WITNESS: Thank you.

11 MR. SULLIVAN: No questions.

12 **REDIRECT EXAMINATION**

13 BY MS. LEEPER:

14 Q. Good afternoon again, Dr. Cromartie.

15 A. Hello, again.

16 Q. Just a few questions here. We discussed earlier, and
17 you were discussing my colleague from the other side your usage
18 of the RUCA codes in your definition of urban and rural. Do
19 you recall that?

20 A. I do.

21 Q. What are some examples of other applications in which
22 -- or other usages that use the same break down of urban and
23 rural that you apply for the RUCA codes?

24 A. It has been used for probably 60 or more years in
25 pretty much all analysis of rural and urban demographic trends

1 as the way that urban and rural is defined in that research and
2 in my research over the course of my whole career at USDA.

3 Q. Okay. I'm doing some math here. You've been at USDA
4 for 35-years. You said this definitions been used for 60. How
5 is that?

6 A. Among academic studying rural and urban trends before
7 my time and among policymakers the concept of Metropolitan,
8 Nonmetropolitan as being synonymous with rural and urban was
9 really established beginning in the 60s and 70s.

10 Q. Okay. And then for RUCA code specifically that break
11 down of one through three being urban and four through 10 being
12 rural. What are some examples of maybe other government
13 agencies or other used cases for that?

14 A. Well, I mentioned the application for healthcare
15 programs and health and treatment services. But pretty much
16 across the board when you have agencies focused on rural
17 issues, whether it's the Department of Education, Department of
18 Transportation. And of course my own USDA much of the research
19 that inform policy uses that basic divide.

20 Q. Okay. This might go without saying. RUCA codes
21 remind me what RUCA stands for?

22 A. Rural, urban, commuting, areas.

23 Q. So the RUCA codes take into account commuting; is
24 that right?

25 A. Right.

1 Q. And so what does that encompass why do you use that
2 as a factor?

3 A. Because commuting reflects in very significant ways
4 the relative level of economic integration between the core
5 areas of metropolitan areas and adjacent Outlying areas.

6 Q. Let's pull up table 1A from your rebuttal report.

7 MS. LEEPER: And I'll note for the record, that my
8 colleague from the other side was using table one from the
9 initial report, which shows the uncorrected numbers for the
10 miscoding of Cole County. Table 1A is the corrected numbers.

11 Q. (BY MS. LEEPER) And Dr. Cromartie you testified that
12 that did not change your conclusions; correct?

13 A. Correct.

14 Q. There might be some different numbers that we were
15 talking about earlier than you talking about with the
16 Intervenor; is that right?

17 A. That's correct.

18 Q. Okay. So looking at table 1A here, and specifically
19 the column -- oh, pardon me. I pulled up the wrong table, and
20 you were using the right one. My apologies. I was going to
21 look at table two. Trying to help you out.

22 THE COURT: Are you back on --

23 MS. LEEPER: The initial report. My apologies.

24 THE COURT: Okay. Table two on page 16.

25 MS. LEEPER: That's right, Your Honor.