IN THE CIRCUIT COURT OF THE SECOND JUDICIAL CIRCUIT
IN AND FOR LEON COUNTY, FLORIDA

BLACK VOTERS MATTER CAPACITY
BUILDING INSTITUTE, INC., et al.,

Plaintiffs,

v. Case No: 2022 CA 0666

CORD BYRD, in his official capacity as
Florida Secretary of State, et al.,

Defendants.
_____/

DECLARATION OF DR. DOUGLAS JOHNSON

1. I am over the age of eighteen (18) and am competent to testify to the matters set forth herein. The following is true of my own personal knowledge and I otherwise believe it to be true.

2. I am the President of National Demographics corporation and have consulted on redistricting nationally. A copy of my CV is attached. My CV lists my history of redistricting and related expert witness experience.

3. I am being compensated $300 per hour for my work on this case.

4. I was hired by the Florida Secretary of State on April 22, 2022, to serve as an expert witness and to testify regarding the topics covered in my initial declarations, along with the following opinions regarding Professor Ansolabehere's expert report:

DATA USED FORMING THESE OPINIONS

5. I used the same Benchmark, Enacted, and Demonstration maps referenced by Dr. Ansolabehere in his report.

6. The Census data and geography I use are the official PL94-171 data from the Census Bureau processed into Maptitude software files by Caliper Corporation (the makers of the Maptitude software) and the Census data posted by the state on the Florida State government redistricting website: https://www.floridaredistricting.gov/pages/resources.

7. I added into my Maptitude software database the Census Block database of voter registration by party and race and election results data used by state officials in redistricting, downloaded from https://www.floridaredistricting.gov/pages/resources.

8. The remaining election data cited in this report are from Dr. Ansolabehere's report and data.

9. Other data and documents mentioned in this report are referenced in footnotes in the report.

OPINIONS

10. The demonstration map fails to create a Congressional District where Black residents are a majority of the Voting Age Population and ignores evidence of Republican support for Black candidates in the largest jurisdiction in the demonstration map's Congressional District 5.

11. Plaintiffs' expert's claims of cohesion among "all minority groups" in the Demonstration Map's Congressional District 5 are not supported by plaintiffs' expert's data.

12. The demonstration map's CD5 follows the earlier "plaintiffs' preferred map "CD5" by identically replicating the 200-mile-long string of distant majority-Black communities through a non-compact shape where race is the predominate factor.

13. Plaintiffs' expert's analysis accuses the State of unnecessarily changing the District lines in the Orlando region while not acknowledging the fact that the benchmark Congressional

Districts in the Orlando area were significantly over-populated and thus Constitutionally required extensive revision.

14. Much of the plaintiffs' expert's analysis relies on data that have been changed from their official form, introducing an element of error to the data, and much of the statistical analysis provided veers into the territory Chief Justice Roberts termed "sociological gobbledygook" in the oral arguments for *Gil v Witford* (2017).

15. Dr. Warshaw's report ignores constitutional requirements, is internally contradictory, arrives at different values than the very sources the report cites as validating the methodology employed in the report, and makes generalized opinions about the map as a whole without stating any opinion on the partisan gerrymandering (or lack thereof) in any individual district.

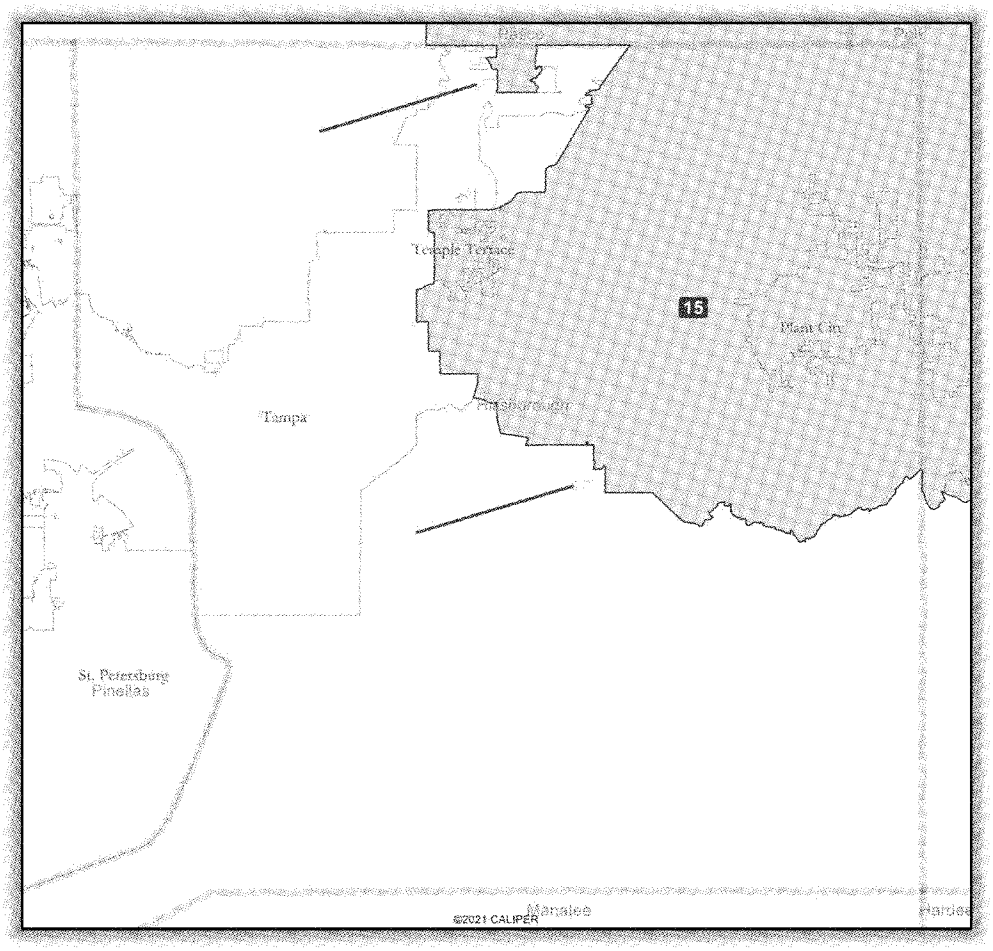
DEMONSTRATION MAP SPLITS MORE COUNTIES

16. Plaintiffs' expert cites what he considers multiple "not required" county splits in the enacted map, but the facts do not support that opinion. For example, paragraph 131 states "The Enacted Map's division of Volusia County was not required to equalize population. Benchmark CD-6 was over-populated by just 27,033 people, which could have been addressed by reducing the footprint of CD-6 in Lake County." But the report downplays the Enacted Map's reduction of Lake County divisions to just two, from three in both the Benchmark map (among districts 6, 11, and 15) and the Demonstration Map (6, 11 and 18). This reduced number of splits in Lake County is directly tied to the mapping decisions in neighboring Volusia County, though that relationship goes unmentioned in the report.

17. When one looks at the contested districts of each map as a whole, one discovers the Enacted Map divides fewer counties (13), and creates fewer county 'pieces' (33) than the Demonstration Map (14 counties divide and 35 county 'pieces' created).

18. Sometimes a district splits a county, leaves the county, and then re-enters the county, as happens with both Demonstration Congressional District 15 in Hillsborough County and Demonstration District 5 in Leon County.

19. In the Enacted Map only District 11 has two separate pieces of a county: in District 11's case, Lake County. In the Enacted Map, the double-split is clearly drawn that way to avoid splitting the City of Mount Dora. But there is no explanation for the double-split of Hillsborough County by Congressional District 15 in the Demonstration Map:



20. At first glance the double-split may appear to be an attempt to keep Tampa together, but a detailed look reveals the northwestern 'notch' of CD15 does not pick up all of the non-Tampa area in the north – in fact the northwestern 'notch' defies all definition of "community" by carving right through the middle of a neighborhood:

21. As previously discussed and illustrated in this report, and as discussed in my earlier declarations, the Demonstration Map's double-split of Leon County by Congressional District 5 is where District 5 picks up the sparsely populated northern piece of the county to make a land bridge between Gadsden and Jefferson Counties, then swings through Gadsden and re-enters Leon County to pick up the heavily Black western and southern portions of Tallahassee.

DEMONSTRATION MAP SPLITS THE SAME NUMBER OF CITIES

22. In its discussion of the Tampa Bay region the plaintiffs' expert report again makes a localized statement that the Enacted Map is "unnecessarily dividing the cities of St. Petersburg and Tampa." But, as with counties, such mapping decisions cannot be made in isolation. Looking at all of the cities in the contested Districts, the Enacted Map and the Demonstration Map are nearly identical: the Enacted Map divides 6 cities and the Demonstration Map divides 5. Where the Enacted map splits Lakeland, Tampa and St. Petersburg (all of which are undivided in the Demonstration Map), the Demonstration Map splits Dunedin and Tallahassee (both of which are undivided in the Enacted Map).

23. Dunedin is in the St. Petersburg / Tampa region. So where plaintiffs' expert report spends so much time saying Tampa and St Petersburg splits were unnecessary, plaintiffs' expert also found it necessary to split a city in the same region. The Demonstration Map just split different cities than the Enacted Map. No explanation is presented by plaintiffs' expert of why some splits are acceptable (and apparently not even meriting a mention) versus why the same number of splits, just of different cities, are objectionable.

THE BENCHMARK CONGRESSIONAL DISTRICTS WERE SIGNIFICANTLY OVER-POPULATED IN THE ORLANDO REGION

24. When plaintiffs' expert report makes statements such as "changes in the locations of CD-7 and CD-10 in Orange County were unnecessary to equalize population" (paragraph 149), the report ignores the reality that major changes were required in the Orlando area. As the report notes, "The Orlando area is centered in Orange County, which itself has a population of 1,429,908, enough population for one entire CD and 86 percent of a second CD." But the Demonstration Map divides Orange County among three districts, not just two. Even the Demonstration Map makes clear that categorical statements such as "unnecessary" ignore the bigger picture of the need to make decisions across the entire state, not just in one county or district.

25. The mapping challenge in the Orland region was daunting: the seven Benchmark Map districts in the area (CDs 6, 7, 8, 9, 10, 11 and 15) contained over 450,000 extra population[1] – enough population to form 59% of a new Congressional District. On average, each of these seven Benchmark Congressional Districts needed to lose 64,867 people – more than the entire population of the city of Port Orange (62,596).

26. As a result of this population pressure, both the Enacted and the Demonstration Maps pushed District 15 out of the Orlando area and entirely into the Hillsborough / Tampa region.

27. The Demonstration Map created a brand-new District 18 take in most of the area left behind by District 15's westward shift. But this new District 18 in the Demonstration Map is 164-mile-long narrow district that includes Lake County's City of Clermont in the north and a part Collier County in the south, and it leaves Lake County split among three districts.

28. The Enacted Map also created a new District 18, but kept it significantly more compact by extending it no farther north than Polk County. Instead of creating a narrow extended District 18, the

[1] 454,072 to be exact. District by district numbers are in Table 6 at the end of this report.

Enacted Map shifted District 11 east to pick up most of the area left behind by District 15's westward shift. The Enacted Map's approach unified all the communities around Lake Apopka into a single Congressional District (District 11). This unification of Lake Apopka communities in District 11 requires District 10 to shift eastward, resulting in compact, but significantly redrawn districts, in Orange County.

29. In summary of this section of my opinions, the tradeoff for the Demonstration Map's focus on preserving the status-quo Districts in Orange County is the 164-mile stretch and three-way split of Lake County of Demonstration District 18, and maintaining the division of the Lake Apopka communities among three different Congressional Districts.

30. Also notable, if I may briefly return to the topic of compactness, is that plaintiffs' expert provides no explanation for the unusually jagged zigs and zags of the Demonstration Map Congressional Districts throughout Orange County. Those lines are noticeably more jagged, and as a result divide more neighborhoods, than the Enacted Map district borders in the county, which predominately follow state highways and major roads through the county.

DEMONSTRATION MAP CD5 IS NOT MAJORITY-BLACK

31. Plaintiffs' expert report acknowledges that "Black voters comprised 45.3 percent of all registered voters in Benchmark CD-5" (paragraph 79) and acknowledges Black voters were only 41.8% of 2020 general election voters in the Demonstration Map's CD5. The Black voter share of those casting ballots rises slightly in the 2018 General Election (44.5%) and the 2016 General Election (43.8%) [All three figures from the plaintiffs' expert report Table 9].

32. The Hispanic share of voters in each General election is not sufficient to bring Black and Hispanic voters above the 50 percent mark in any of the 2016, 2018, and 2020 general elections, even if they were cohesive (and plaintiffs' expert makes no such claim and includes no analysis of cohesion between Black and Hispanic voters).

33. Only the combination of Black, Hispanic, and "Other" voters reaches a majority of voters in Demonstration Map CD 5, and again plaintiffs' expert report makes no claim of cohesion and includes no analysis of cohesion among Black, Hispanic and Other voters.

34. While some may cite national or even statewide studies to assert cohesion among Black, Hispanic and/or Other voters, it is notable that the area covered by Demonstration Map CD5 is unlikely to follow the models of national or even statewide voting, as two of the five at-large Councilmembers in Jacksonville (a city that constitutes two-thirds of the voters in Demonstration CD 5[2]) are Black Republicans, and another at-large Councilmember in Jacksonville is a Black Democrat[3], meaning Black individuals hold three of the five at-large Council seats in this city where Whites are a 56.5 percent majority of registered voters.

35. Similarly, Black residents are less than a majority of Demonstration Map CD5 by total population (46.26%), and voting age population (43.48%), according to 2020 Census data, even when "Any Part Black" Census respondents are counted (meaning if a resident marked "Black" on the Census form that resident is included in these percentages, even if that resident also recorded themselves as one or more additional categories and/or a member of the "Hispanic" ethnicity category.

[2] Voters in Jacksonville / Duval County are 66.0% (2[redacted] of the voters casting ballots in the 2020 General Election in Demonstration Map CD5, according to the state redistricting data.

[3] https://www.coj.net/city-council.aspx#digital_river_frame_1, accessed February 26, 2023.

CLAIMED MINORITY GROUP "COHESION" IN DEMONSTRATION CD5 ARE NOT SUPPORTED BY THE DATA

36. In paragraph 76 plaintiffs' expert report states "(iii) minorities vote cohesively" and refers readers to Table 12 of the report. Table 12 states that 89% of Black voters, 83% of "Minority" voters and 33% of Non-Hispanic White voters are "Voting Democratic."

37. Even if the Court accepts plaintiffs' assumption that voting along partisan lines is racially polarized voting despite the track record in Jacksonville (the largest population center of this District) of multiple electing Black Republicans to the City Council[4], the numbers still do not add up.

38. Plaintiffs' expert Table 9 notes that in the Demonstration Map CD5, Black voters are 44.4% of voters casting ballots in the 2020 General Election, while Non-Hispanic Whites are 44.9%, Hispanics are 4.3%, and "Other" are 6.5%. If we drop the Non-Hispanic White voters from this math to calculate the racial makeup of Table 12's "Minority" voters, the result is that the "Minority" group is 80.4% Black, 7.8% Hispanic, and 11.8% "Other."

39. Going back to Table 12, when only Black voters are considered 89% of votes are estimated to go to Democratic candidates. It is notable that plaintiffs' expert reported "All Minority" (including Black) and not separate scores for Hispanic and Other voters. One presumes this approach was done because the Hispanic and Other voters were too small in number to generate statistically reliable estimates. Instead, the categories of Table 12 could also be labeled "Black," "Non-Hispanic White," and "Mostly Black," since over 80% of the "Minority" category is Black voters.

[4] https://www.coj.net/city-council/city-council-members, accessed March 8, 2023

40. Black voters are obviously 100% of the voters in the "Black" category, and 89% of that category's voters voted Democratic. When the "Black" share drops from 100% to 80.4%, as it does when we move from the "Black" to the "Minority" category, the percentage of voters casting ballots for Democratic candidates drops from 89% to 83%.

41. If Hispanic and "Other" voters were just as likely to vote for Democratic candidates as Black voters, the percentage of voters casting ballots for Democratic candidates would remain the same: 89%. Instead, diluting the Black votes from 100% of the category to 80.4% of the category, and adding in 19.6% "Hispanic" and "Other" voters, drops Democratic support from 89% to 83%. Some straightforward multiplication of these fractions uncovers that only 58% of the combination of "Hispanic" and "Other" voters support Democratic candidates. Yes, that is a majority, but just barely (and likely within the statistical margin of error), and that bare majority means the data are entirely inconclusive as to whether Hispanic, Other, or very slim majorities of each, actually support Democratic candidates in plaintiffs' expert's math.

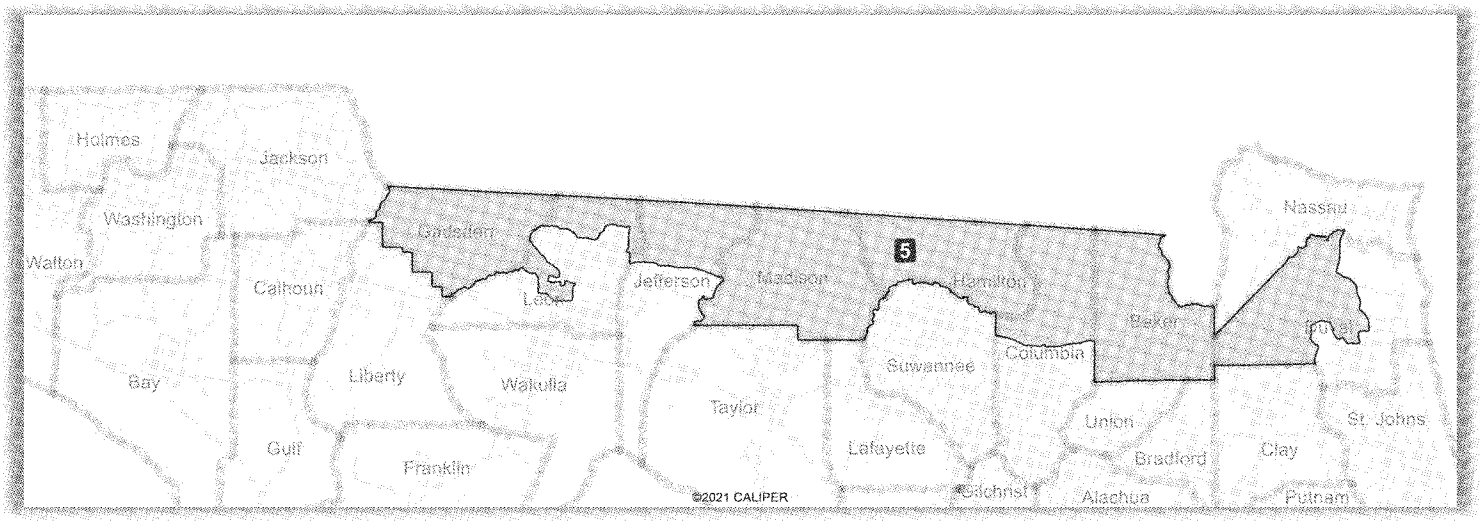
42. If we go back to plaintiffs' expert's Table 9 data, we now see how crossover Non-Hispanic White voters are the key Democratic candidates win the Demonstration Map's proposed Congressional District 5: Democratic candidates receive 89% of the Black vote, and Black voters are 44.4% of the District, so Black voters alone give the Democratic candidate only 39.2% of the total vote. Democratic candidates receive 58% of the "Hispanic" and "Other" vote, and "Hispanic" and "Other" voters combine to make up 10.8% of the voters, so they provide another 6.3% of the total vote. Combined, by plaintiffs' expert's own numbers, even though "Minority" voters constitute 55.2% of the voters in the District, a Democratic candidate relying only on their

support would receive only 45.4%[5] of the vote. By plaintiffs' expert's own numbers, despite all the claims of stark racial polarization, the math shows that even with the Demonstration Map's connection of distant concentrations of Black voters in one district, and the stretching of that district over 200 miles, Democratic candidates still only win in District 5 if more than 10% of White voters crossover to provide the votes to boost Democratic candidates from 45.4% to a majority of the vote. Because even with the extreme drawing of District 5, Black voters are not a majority (and in the 2020 general election were not even a plurality) of voters in this extreme District 5, and plaintiffs' expert's claims of cohesion among Black, Hispanic, and "Other" voters are not supported by the data.

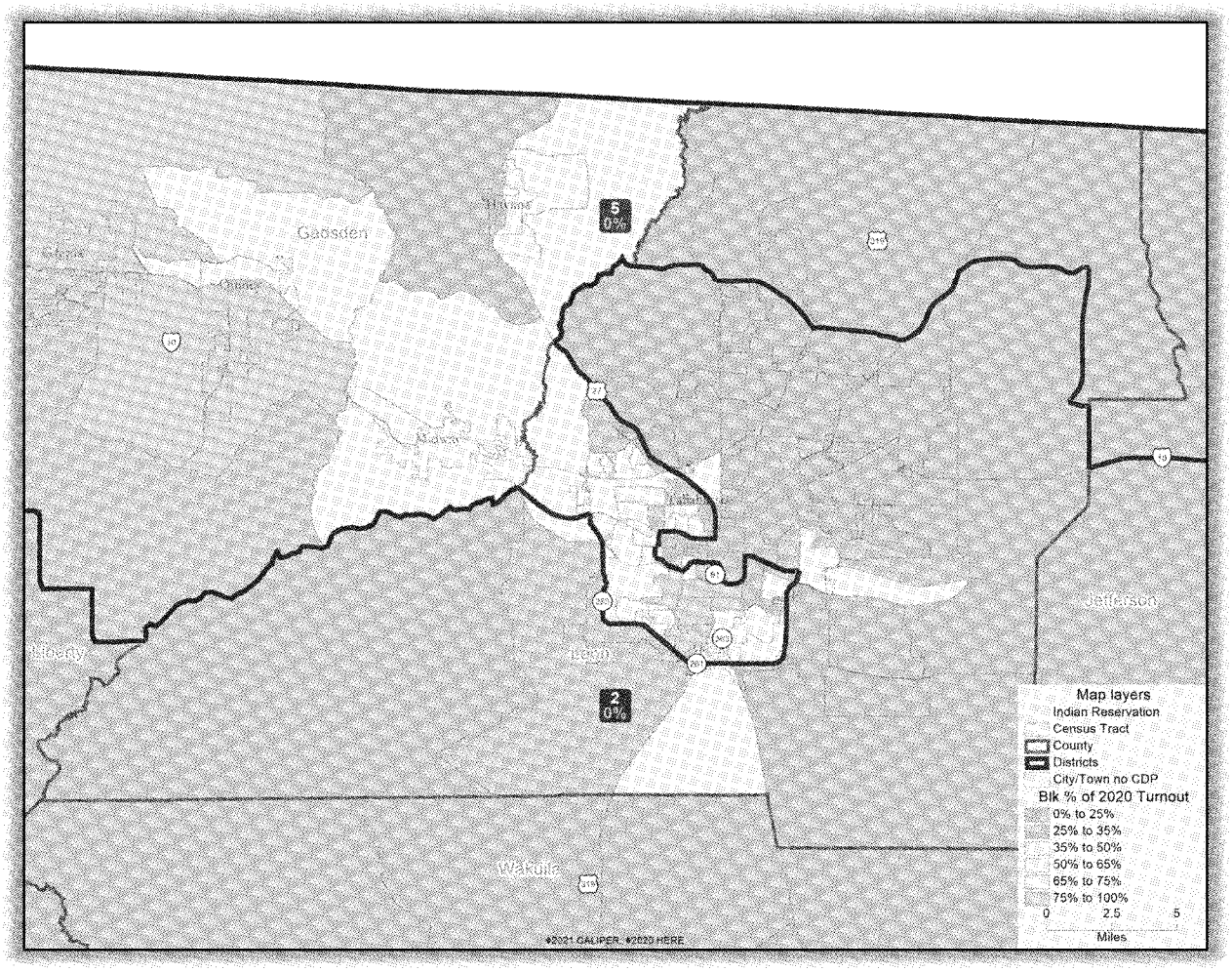
CD5 IN THE DEMONSTRATION MATCHES THE NON-COMPACT, RACIALLY-FOCUSED CD5 IN "PLAINTIFFS' PREFERRED MAP"

43. In my previous report I analyzed in detail the non-compact and apparent predominance of race over all other considerations in Congressional District 5 in Plaintiffs' Preferred Map. All of those opinions also apply to Congressional District 5 in the new Demonstration Map, and the two versions of Congressional District 5 are identical:

[5] 39.2% comes from receiving 89% of the vote among Black voters, while 6.3% comes from receiving 58.4% of the vote among the combined Hispanic and Other group, for a total of 45.5%.



44. This proposed Congressional District 5 stretches more than 200 miles across the state to pick up pockets of population whose predominate shared characteristic is race. At first glance, I thought a claim might be made that the proposed Congressional District 5 is a collection of communities united by Interstate 10, but further analysis showed that the proposed District carefully carves outside the Interstate 10-adjacent communities of northern Suwannee County and northern Tallahassee, while swooping away from Interstate 10 to take in majority-Black southern Tallahassee, as I noted in the image included in Paragraph 27 of my original report:



A NOTE ABOUT GEOGRAPHY

45. For each decennial Census, the Census Bureau divides all of Florida into Census Blocks, Block Groups, and Tracts. Florida's 67 counties become 5,160 Census Tracts, ranging in population from 0 to 22,780[6]. Those Census Tracts are subdivided into 13,388 Block Groups, ranging in population from 0 to 18,071 and rarely exceeding 5,000 in population[7]. Those Block

[6] Zero-population tracts are almost always water blocks: either ocean areas or large lakes.
[7] Only 98 of the 13,388 Block Groups (7.3%) are over 5,000 in population.

Groups are subdivided into 390,066 Census Blocks, ranging in population from 0 to 6,107 but almost always less than 2,000 in population[8].

46. Those hundreds of thousands of Census Blocks become the base unit for redistricting for a variety of reasons, including (a) they are the smallest unit of geography for which the Census Bureau generates official population counts; and (b) Census Blocks to not cross county or city lines. Both Block Groups and Tracts often cross city borders, so using either as the base unit for redistricting would result in a technical decision leading to the division of multiple incorporated cities.

47. There is, however, no requirement that voting precincts follow Census Block lines – or that voting precincts remain constant from one election year to another. So the voters in a given 2020 Census Block may be divided into different voting precincts in the 2018 or earlier elections (and even, in some situations, in 2020 elections, despite the proximity of that election to the 2020 census date).

48. Because individual voting decisions and individual decennial Census responses are tightly guarded and appropriately private information, the only official data available are Census data at the entire Block level and precinct data at the entire precinct level. This poses a challenge forcing either the estimation of official Census data into precinct-level geography, or the estimation[9] of precinct data into Census Blocks. Due to the strict constitutional requirements for equal population, and the fact that precincts can change from year to year, the overwhelming majority of time the precinct data is disaggregated to Census Blocks rather than the other way around.

[8] Only 148 of the 390,066 Census Blocks (0.04%) are over 2,000 in population.
[9] Generally referred to as "disaggregation" as whole, or aggregate, precincts are statistically estimated into the smaller Block by Block geographies.

49. There are two ways to do this estimation or disaggregation of Precinct data down to the Census Blocks. If one has the voter registration and voter history datafile geocoded so one knows the precise location of each voter, one can simply count how many of a precinct's voters are in each underlying Census Block and assign the Census Block that share of the precinct's actual votes.

50. If one does not have the voter history file, the next-most accurate method is to look at which Census Blocks are partially in and partially out of the precinct, assign to that precinct the share of the Census Block's voting age population corresponding to the share of the Census Block territory in the precinct, and then divide the precinct's votes among the underlying whole and partial Census Blocks according to each whole or partial Census Block's share of the voting age population in the precinct. This is complicated and time-consuming, but it minimizes the error introduced into the data by this process.

51. The easiest way to disaggregate the data is to simply give each Census Block the percentage of a precinct's votes that correspond with the Census Block's geographic area share of the precinct's total geographic area. This method is especially vulnerable to errors created by Census Blocks that contain apartment buildings or other dense population centers in just part of the Census Block. If a Census Block has one apartment building with 500 residents covering 25% of the Block geography, together with 75% unpopulated space (a riverbank, commercial area, etcetera), and a precinct line divides the Census Block, then the precinct that includes the unpopulated space will be erroneously credited with 75% of the apartment building's residents in the disaggregation math.

52. Plaintiffs' report notes having the voter registration and voter history datafile[10], yet plaintiffs' expert still relied on data using the least-accurate method of disaggregation: simply dividing precinct data among Census Blocks based on each Block's geographic share of the precinct's geographic area, as described in plaintiffs' expert report paragraph 33 and the ALARM website[11] that plaintiffs' expert describes as the source of the report's disaggregation methodology.

53. None of the disaggregation methods are perfect, and unfortunately the errors they insert into the data are not statistically quantifiable so we cannot state a margin of error of similar estimate of their impact at the District level (which is the geographic level where the data are used for mapping decisions and post-mapping statistical analysis such as that performed by plaintiffs' expert).

54. The state's data – and, for that matter, data I use in my redistricting work – also faces mismatched geography challenges. But the state's data are official government data. Furthermore, in official redistricting projects the data are presented to the public and to elected officials in reports that are closely read by the people in the specific districts, or at least by the elected representatives of those districts (though the amount of time for that review is often a hotly debated topic). All of these local individuals have their own personal experience and local knowledge they (consciously or subconsciously) compare to the data presented to them. This local expertise acts as a limited validation of the data. This is far from perfect, but at least it is some form of review, and it does involve official state records (or local government data, in my firm's local government redistricting work).

[10] This is stated in footnote 1 on page 17 of plaintiffs' expert's report: "These figures were calculated from the vote history data on the voter registration data files."
[11] https://alarm-redist.org/posts/2021-08-10-census-2020/, accessed March 7, 2023.

55. Plaintiffs' expert used some undisclosed amount of data from "the Voting and Election Science Team" (VEST). This data was not part of the state process and no review of its data (or review of the errors disaggregating its data might generate) is mentioned in plaintiffs' expert report. As noted below, the VEST data are often used in academic studies. But in general academic studies are more tolerant of wide margins of error and far-from-perfect data than may be appropriate for judicial decisions.

UNOFFICIAL DATA

56. The data and analysis in plaintiffs' expert report arguably are examples of Chief Justice Roberts's "sociological gobbledygook":

a. The report does not use official Citizen Voting Age Population (CVAP) data, rather "CVAP data is estimated to Census blocks proportionally from Census block groups by race group." While the challenge of using Census Block-Group level data in Census Block-level redistricting is common, this method (and all other methods) of disaggregation of official to unofficial data induces systematic errors into the data that cannot be statistically estimated. That error is compounded by the significant margins of error already present in the official Census Special Tabulation Census Block Group-level data.

b. Special Tabulation Block Group-level data are released in compliance with a request from the United States Department of Justice, even after the Census Bureau's own Technical Report wrote that, nationally, "An analysis of the fitness-for use of 2019 ACS CVAP estimates concluded that if the five-year estimates for the CVAP table were subjected to the ACS one-year data quality filtering rule, only 1,093 of 217,739 block-group tables could be released." Since 99.5 percent of

Block Group level estimates do not meet the Census Bureau's normal standards for reliability, it is easy to guess how many estimates would meet that standard after a significant additional amount of error is introduced when Block Group level data are "estimated to Census blocks proportionally from Census block groups by race group," as plaintiffs' expert (and others, including me) do when required to work with Census Block level geography. As I often tell my clients, in small areas the CVAP percentages by race can include errors as high ten percent, fifteen percent or more.

c. Plaintiffs' expert does not use official election returns in his analysis. The report notes the use of election returns from "the Voting and Election Science Team," which is not an official election agency but rather a collection of professors and undergraduates organized by the University of Florida and Wichita State University[12]. Their data is widely used by academics, though as plaintiffs' expert report notes on page 6, "Precinct data is linked to census block data following the process used by the ALARM Census data." On the ALARM website we read the following:

> "To produce election data using 2020 precinct boundaries, election results were projected down to the 2010 block level using voting-age population as weights. Results for 2020 blocks were then estimated using 2010 blocks and the land-use-based crosswalk files from VEST."[13]

[12] https://dataverse.harvard.edu/dataverse/electionscience

[13] https://alarm-redist.org/posts/2021-08-10-census-2020/, accessed March 7, 2023

d. These "crosswalk" comparisons are notoriously unreliable at the local level, as 2010 Census Blocks (and, via those Blocks, the 2020 precincts) are matched to 2020 Census Blocks based on how much land (not population) overlaps. If a 2020 Census Block overlaps with 30 percent of 2010 Census Block 101 and 50 percent of 2010 Census Block 201, the 2020 Census Block is assigned 30 percent of the population from Block 101 and 50 percent of the population of Block 201, regardless of whether the people in Blocks 101 and 201 are actually in the 2020 Census Block. Many Census Blocks consist of large unpopulated areas and small densely populated areas, but the work involved to analyze based on household locations in each block is extremely time-consuming and thus VEST and plaintiffs' expert rely on data using the much simpler, but less accurate, percent-of-territory translation. But the election data used by plaintiffs' expert have been manipulated twice: first to estimate it Census Block by Census Block by overlaying 2020 precincts with 2010 Census Blocks based on a percentage of land over-lap; then to "cross-walk" it from 2010 Census Blocks to 2020 Census Blocks again using (different) calculations of percentage of land over-lap. Each of these steps introduces a level of error into the election returns data. As those Census Blocks are re-aggregated into Districts some of that error is removed, if the original precinct is entirely kept within a district, but in the extensive zigs and zags found in many parts of the demonstration map (especially in the demonstration map's Congressional District 5), the transformation of data from the official precinct data to individually-assigned Census Blocks introduces a level of error that must be considered but cannot be measured.

57. These data revisions are not mathematical or logical errors. They are, however, statistical manipulations required to make the data fit into the models and formulas. And each of these statistical manipulations of the data can introduce degrees of error and/or imprecision into the data.

CONFLICTING COMPACTNESS COMPARISONS

58. Which map is mathematically more compact depends on what measure of compactness is used.

59. Plaintiffs' expert report cites three measures of compactness: Reock, Convex-Hull, and Polsby-Popper. All three are widely used, but other measures are also common that produce different results. The three measures cited by plaintiffs' expert were also the focus of the State Supreme Court's analysis of the 2011 redistricting plans. Notably, one of the three measures show the Enacted Map is more often compact than either the Benchmark Map or the Demonstration Map, one shows the Demonstration map is more often compact than the Enacted Map, and they tie (seven districts to seven districts[14]) using the third test. These three measures were also often used by my firm in our 2011 redistricting work. But in my firm's work, and, I suspect, in Florida in 2011, these three measures were chosen for their simplicity – and thus the speed with which they could be calculated by the computers in use at the time. Redistricting software in 2011 could generate these three reports in just seconds. Speed, not accuracy or the reliability of their results, was the reason these three measures were the most commonly used measures in 2011. In 2011 more complicated compactness measures, such as the population polygon, could take twenty or

[14] Districts 1-16 plus District 18. In the Reock test three districts generate the same Reock scores in both maps while the other 14 split 7-7. Full district by district results for all Maptitude compactness measures are in Table 5 at the end of this report.

more minutes to process and report results – an eternity when the audience at a public hearing or a subcommittee of elected officials is paused awaiting results. Where it used to take twenty minutes or more to run a single compactness measure, today in just five minutes the Maptitude redistricting software running on a relatively average redistricting computer can run all ten built-in district by district compactness measures (discussed in the next paragraph) for the entire state.

60. The widely-used Maptitude for Redistricting software includes ten different district by district measures of compactness (including the three cited by plaintiffs' expert), and, as the numbers plaintiffs' expert used reflect, the different measures return different results.

61. When one compares compactness scores for the districts in dispute between the Enacted map with the Demonstration map[15] the Enacted Map district is more often more compact by one of plaintiffs' experts' three measures and by five of Maptitude's measures of compactness, while the Demonstration Map district by one of plaintiffs' expert's three measures and by four of Maptitude's ten measures. By the Reock method there is a tie: seven of the districts in the Enacted Map are more compact than their pair in the Demonstration Map, and seven of the districts in the Demonstration Map are more compact than their pair in the Enacted Map.

62. The Enacted map districts are more often more compact by the Polsby-Popper, Population Polygon, Area/Convex Hull, Ehrenburg and Perimeter measures.

63. The demonstration map districts are more often more compact by the Reock, Schwartzberg, Alternate Schwartzberg, Population Circle and Length-Width measures.

64. Another way of looking at compactness is to analyze which map has more extreme case districts. The underpinning of this approach is that there is little or no significant policy difference between a reasonably compact district and an extremely compact district. Rather the

[15] Districts 1 through 16 plus 18 – see Tables 1 through 5 at the end of this report.

indication of a significant policy concern is a very non-compact district. If I use the standard of a "0.2 or less" Polsby-Popper score indicating a "very non-compact district,"[16] the Enacted Map has zero districts (among the contested districts 1-16 and 18). But both the Benchmark Map and the Demonstration Map have two "very non-compact districts" (Districts 4 and, no surprise, 5).

65. I believe this nearly even (four to five with one tie) split over which map is more compact among ten compactness measures, and the opinions plaintiffs' expert states about the non-compact nature of the Enacted Map even though the Demonstration Map contains more very non-compact districts than the enacted map, are examples of the perils of "sociological gobbledygook" that caused concern for the Chief Justice. Plaintiffs' expert's raw numbers themselves are not incorrect, but the different compactness measures give equally correct – and very different – answers.

66. In California, I was an advisor to the coalition working group that ultimately wrote and promoted 2008 Proposition 11 – the measure that created the California independent redistricting commission. That group, and ultimately California voters, reviewed these compactness measures and ultimately decided on a much more common-sense compactness rule: "nearby areas of population are not bypassed for more distant population."[17] (While I doubt very few if any from that working group would agree with Justice Roberts's term of "sociological gobbledygook," they came to a very similar conclusion.) By this measure, the Enacted Map is

[16] The 2001 Arizona State Independent Redistricting Commission, the first independently appointed and independently empowered statewide redistricting commission, and for which I served as Technical Consultant, adopted this standard as their "significant detriment to compactness" standard, as documented in *Arizona Minority Coalition v Arizona Independent Redistricting Commission*, Arizona Supreme Court case No. CV-08-0161-PR, Court of Appeals Division One case No. 1 CA-CV 07-0301 and Maricopa County Superior Court case No. CV2002-004380.

[17] California Constitution, Article XXI, Section 2(d)(5)

clearly more compact than the Demonstration Map, as among the contested districts the Demonstration Map's Districts 2, 4, 5 clearly bypass some populated areas and extend to take in more distant populations, while no Enacted Map districts do so.

BRIEF RESPONSE TO DR WARSHAW

67. Plaintiffs' expert Dr. Christopher Warshaw writes in Section 3 that "If the relationship between votes and seats systematically advantages one party over another, then some citizens will enjoy more influence – more "voice" over elections and political outcomes than others." While this is an interesting academic or theoretical approach to analyzing gerrymandering, it cannot be a constitutional one, as the United States Supreme Court's rulings that Congressional Districts must be equal in total population (rather than in the number of voters) have the effect of requiring what plaintiffs' expert describes as the problem: in the 2022 General Election – held just after redistricting so the Congressional Districts are essentially equal in total population – a total of 102,856 votes were cast in the general election for California's 22nd Congressional District. But in Congressional District 3, a candidate earning 102,856 votes would have finished a distant 3rd, as Representative Kevin Kiley was elected with 181,438 votes over candidate Kermit Jones with 156,751 votes, with 338,199 total votes cast.[18] Clearly when in one district 338,199 votes elected one Member of Congress but in another district only 102,856 votes elected another Member of Congress, "some citizens will enjoy more influence – more "voice" over elections and political outcomes than others." Rather providing an indication of

[18] California has a "top two" primary so there are only two candidates in each Congressional general election. Information on the "top two" and the data cited here are on the California Secretary of State website at https://www.sos.ca.gov/elections/prior-elections/statewide-election-results/general-election-nov-8-2022/statement-vote

unconstitutionality as plaintiffs' expert opines, that "more influence" is in fact a situation dictated by United States Supreme Court rulings.

68. The plaintiffs' expert section on "Background on Partisan Gerrymandering" discussion contradicts itself. It states in Section 4 that "In practice, this entails drawing districts in which the supporters of the advantaged party constitute either a slim majority or a small minority" (parentheticals omitted). But the very next paragraph begins with the statement that a partisan gerrymander creates "a plan that is *insulated* against changes in the public's preferences" (emphasis in the original). Clearly a district where the majority party has "a slim majority or a small minority" would be extremely vulnerable to "changes in the public's preference," not "*insulated*" from them. This contradiction in logic is not explained or even acknowledged by plaintiffs' expert. Just as Dr. Ansolabehere's report highlighted the "statistical gobbledygook" referenced by Chief Justice Roberts, this confusion in Dr. Warshaw's report may arise from the systematic challenge in identifying and measuring partisan gerrymandering that Justice O'Connor referenced in *Davis v. Bandemer*: "there is good reason to think that political gerrymandering is a self-limiting enterprise."[19]

69. Plaintiffs' expert also discusses four different academic formulas that claim to measure partisanship. Like compactness, each takes a significantly different approach and each has its own strengths and weaknesses, and all are vulnerable to significant shifts in voter opinion from one election year to the next and to data issues. For example, plaintiffs' expert notes in footnote 17 that "I weight the elections so that each year is given equal weight in the composite." This means that in the analysis the vote counts in non-Presidential years are inflated, and vote

[19] *Davis v Bandemer,* No. 84-1244 (1985), p. 152, referencing Cain, Bruce, The Reapportionment Puzzle (1984).

counts in Presidential years are deflated, from the official totals. Footnote 24 acknowledges "A factor that complicates the analysis of the 2022 congressional results is that some seats were uncontested. . . I estimate that the two-party vote share in districts with uncontested races based on previous and future elections in that district as well as the results in similar districts elsewhere." [20] This is not a small issue: in 2022, Florida's Congressional District 5 held no general election, and in Congressional Districts 6 and 18 there was no Democratic candidate in the general election. In other words, in more than 10% of Florida Congressional Districts plaintiffs' expert cited as Congressional District election results data that was not from that Congressional District, and that may have been from a completely different part of the state or even (the report does not say) from a district plaintiffs' expert considered "similar" in another state.

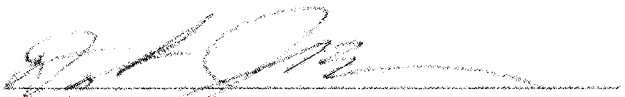
70. Not only is there no academic or judicial standard or accepted measure for identifying partisan gerrymandering, plaintiffs' expert report highlights (without acknowledging) that different people get different results even when using the same measure of partisan gerrymandering. In Section 5.2 plaintiffs' expert cites both the Princeton Gerrymandering Project and FiveThirtyEight. According to the citations listed in plaintiffs' expert report, plaintiffs' expert calculated an Efficiency gap of 18% but FiveThirtyEight calculated 20.2%. Plaintiffs' expert calculated a Mean-Median score of 2.9, but FiveThirtyEight calculated 6.0 and Princeton Gerrymandering Project calculated 3.2.

71. Rather than spending much time and paper walking through the detailed issues with the various measures and how each was calculated and interpreted in this report (the very measures Justice Roberts referred to in his "sociological gobbledygook" comment, I close by

[20] A technical error in plaintiffs' expert's report: no "future" elections have been held since the 2022 Congressional election, so no "future" election data could have been used plaintiffs' expert generation of simulated congressional district vote counts.

noting the one over-riding constant: each measure cited in plaintiffs' expert report is an evaluation of a statewide map as a whole. None of these measures analyze or make any conclusion about the partisan gerrymandering of an individual district. Plaintiffs' expert implicitly confirms this in the section "6 Conclusion," which talks only about the overall map and cites no individual district as being or not being partisan gerrymandered.

This the 10th day of March, 2023.

By: 
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Resume of Douglas Johnson, Ph.D.

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Employment

President, National Demographics Corporation, 2006 – present.
Senior Analyst, National Demographics Corporation, 2001 – 2006.
Research Affiliate, Rose Institute of State and Local Government, 2001 – present.
Project Manager and Senior Manager at three internet startup companies, 1999 - 2001.
U.S. Representative Stephen Horn, Legislative Director and System Manager. 1993 – 1997.
Coro Foundation, Fellowship in Public Affairs. 1992 – 1993.
Rose Institute for State and Local Government, Student Manager. 1989 – 1992.

Education

Claremont Graduate University, Ph.D. in Political Science, 2015. Dissertation: "Independent Redistricting Commissions: Hopes and Lessons Learned."
UCLA Anderson Graduate School of Management, MBA, 1999.
Claremont McKenna College, BA in Government (Political Science), 1992.

Academic Honors

Graduated Cum Laude from Claremont McKenna College.
Phi Beta Kappa. Philip Roland Prize for Excellence in Public Policy.

Publications and Articles

The CVRA [California Voting Rights Act] Tsunami Rolls Across California, with Dr. Justin Levitt. Paper presented at the American Political Science Association 2018 conference as part of the August 31, 2018, panel entitled "California Election Reform: Has It Improved Representation and Participation?"
Quiet Revolution in California Local Government Gains Momentum, Rose Institute of State and Local Government White Paper on California Voting Rights Act, November 3, 2016.
Visalia Times, "How to draw new city council districts," September 19, 2014.
Christian Science Monitor "Let the public help draw voting districts," October 25, 2013.
New York Times, "The Case for Open Primaries," February 19, 2009.
Los Angeles Times Opinion Articles:
"A neighbor's help on redistricting" June 24, 2007.
"A Trojan horse primary for the GOP" February 25, 2007.
"Where a porn palace stood" (article on redevelopment), July 30, 2006.
Fresno Bee Opinion Article: "The Poison Handshake" June 15, 2004.
Redistricting in America. Rose Institute of State and Local Government, 2010.
Restoring the Competitive Edge: California's Need for Redistricting Reform and the Likely Impact of Proposition 77. Rose Institute of State and Local Government, 2005.
"Competitive Districts in California" Rose Institute of State and Local Government, 2005.
Latinos and Redistricting: "Californios For Fair Representation" and California Redistricting in the 1980s. Rose Institute of State and Local Government, 1991.

Independent and Advisory Commission Redistricting Projects

Ohio Redistricting Commission, "Independent Map-Drawer," 2022
Arizona Independent Redistricting Commission, lead technical consultant, 2021
Santa Barbara County Independent Redistricting Commission, technical consultant, 2021
City of Menlo Park Advisory Districting Commission, lead technical consultant, 2018
Arizona Independent Redistricting Commission, lead technical consultant, 2001-2008
San Diego City Council Independent Redistricting Commission, lead technical consultant, 2011

City of Surprise Advisory Commission on Redistricting, 2011
Pasadena City Council Advisory Commission on Redistricting, co-lead technical consultant, 2011
Pasadena Unified School Board Advisory Commission on Redistricting, co-lead technical consultant, 2011
City of Modesto Independent Redistricting Commission, lead technical consultant, 2011
City of Modesto Independent Districting Commission, lead technical consultant, 2008

Speaker or Panelist

California Association of School Business Officers Northern Section Professional Development Institute, Presenter, "20 Years Later: An Update on the California Voting Rights Act and By-Trustee Area Elections," February 3, 2023.
California Conference of School Attorneys, Presenter, "California Voting Rights Act and By-Trustee Area Elections," December 1, 2022.
California Special District Association, Board Secretaries and Clerks Conference, Presenter, "Into the Tsunami: The California Voting Rights Act, Redistricting and Board Elections, November 9, 2022.
California State University San Marcos Leadership North County fellowship, Presenter, "To District or Not To District," October 20, 2022.
South Bay Council of Governments Meeting, Presenter, "To District or Not To District," April 20, 2022.
California League of Cities Los Angeles County Chapter, Keynote Speaker, "Redistricting Wrap-Up", March 3, 2022.
Tri-County Chamber of Commerce, "Redistricting Update," December 3, 2021.
Gateway Cities Council of Governments Meeting, Presenter, "2021 Redistricting: Everything Has Changed . . . Again," January 14, 2021.
California League of Cities Mayors and Council Members Executive Forum, "Coping with the New Reality of By-District Elections," June, 2020.
San Gabriel Valley Economic Partnership, ,June 26, 2019
Community Roundtable, " What's at Stake in the 2020 Census?," Hosted by U.S. Representative Ted Lieu. June 19, 2019.
Community Roundtable, "The Importance of the Census," Hosted by U.S. Representative Judy Chu. May 30, 2019.
League of Women Voters of Burbank and Glendale, Keynote Speaker, "Town Hall meeting on SB415" (The California Voter Participation Rights Act), May 8, 2018.
California League of Cities, City Manager Department Annual Conference, Panelist, "CVRA and the Profound Impact on Local Governance," February 15, 2019.
California League of Cities, Mayors and Councilmembers Executive Forum, Moderator, "The California Voting Rights Act and the District-Drawing Process," June 29, 2018.
California League of Cities, City Attorney Department, panelist, "The California Voting Rights Act: Recent Legislation & Litigation Outcomes," May 3, 2018.
California League of Cities, City Clerk Department, Co-Presenter, "California Voting Rights Act – Transitioning From At-Large To By-District Elections: A Practical Guide For City Clerks," April 19, 2018.
California School Board Association Annual Education Conference panelist: "15 Years with the California Voting Rights Act: Lessons Learned and Challenges Ahead." December 1, 2017.
University of California's National Public Service Law Conference: Civil Rights in the 21st Century: Moderator, "Voting Rights 101." September 23, 2017.
City Clerks Association of California Annual Conference panelist: "California Voting Rights Act: Putting the 2016 Legislation into Practice." April 13, 2017.
California School Board Association Annual Education Conference panelist: "The California Voting Rights Act: What Board Members Must Know." December 4, 2015.
Associated Cities of California – Orange County, Keynote Speaker, Newly Elected Officials' Reception and Dinner, "The California Voting Rights Act," January 29, 2015.
California League of Cities, City Manager Department, 2015 Department Meeting: "Opportunity to Engage Residents: The California Voting Rights Act." January 29, 2015.
California League of Cities, City Clerk Department, 2014 Annual Meeting: "Whose Line Is It Anyway: Making the transition from at-large to by-district elections." September 3, 2014.

National Conference of State Legislatures, Redistricting and Elections Standing Committee: 2007 Spring Forum, "The Arizona Independent Redistricting Commissions' experiences with the first-ever independent redistricting."

National Conference of State Legislatures, Redistricting and Elections Standing Committee: 2008 Spring Forum, "Communities of Interest In Redistricting: A Practical Guide."

National Conference of State Legislatures, Redistricting and Elections Standing Committee: 2009 Fall Forum, "The Key to Successful Redistricting."

National Conference of State Legislatures, Redistricting and Elections Standing Committee: 2010 Spring Forum, "Communities of Interest in Redistricting: A key to drawing 2011 plans (and for their defense)."

National Conference of State Legislatures, Redistricting and Elections Standing Committee: 2011 Winter Forum, "Citizen Voting Age Data from a line-drawer's viewpoint."

Luncheon Keynote Speaker, Santa Barbara's Channel Cities Club, "California's next experiment: independent, public redistricting," January 18, 2011.

Annual Conference, Arizona League of Cities and Towns, Presenter at "Redistricting Law and the Voting Rights Act: What It Means for Your City or Town in 2011," August 25, 2010.

Redistricting, The 2010 Census, and Your Budget, Sponsored by the Rose Institute of State and Local Government, California League of Cities, October 15, 2009.

Arizona Election Law 2010 Continuing Legal Education Conference, "Communities of interest and technology in redistricting," sponsored by the Arizona State Bar Association, March 2010.

California's New Independent Redistricting Commission, sponsored by the Irvine Foundation and the California Redistricting Collaborative, December 15, 2009.

Tribal Association of Sovereign Indian Nations (TASIN) Legislative Day 2009, "The 2010 Census and 2011 Redistricting in California," December 2, 2009.

California School Board Association, "Litigation Issues and the California Voting Rights Act," December 4, 2009.

California Latino School Boards Association, "Introduction to the California Voting Rights Act," August 20, 2009.

Building a National Reform Movement, Salt Lake City, Utah, 2006, conference on redistricting .reform hosted by the League of Women Voters, Campaign Legal Center, and The Council for Excellence in Government.

Texas Tech University, "A Symposium on Redistricting," May, 2006.

California League of Cities, "Introduction to the California Voting Rights Act."

Voices of Reform, a project of the Commonwealth Club of San Francisco: multiple forums on redistricting and / or term limits, 2006 – 2007.

Classroom speaker at Bellflower High School, Pepperdine University, the University of La Verne, Pomona College and Claremont McKenna College.

Charter and/or Ballot Language Consultant

Castaic Lake Water Agency and Newhall County Water District consultant advising on process, rules and legislation language for merger of the two districts including changing from at-large to by-district election system. (2015-2016)

City of Corona: consultant for City Council on a potential city charter and a move to by-district elections. (2015-2016)

City of El Cajon: consulted on writing of charter revision and public education campaign for ballot measure changing from at-large to by-district City Council elections. (2016)

City of Goleta: consulted on development of ordinances and ballot language asking voters what election system they preferred. (2003 – 2004)

City of Menifee: advised commission considering language on by-district elections. (2009 – 2010)

City of Modesto: advised commission that successfully developed a city charter change moving Modesto from at-large to by-district elections and created an independent redistricting commission. (2006 – 2008)

City of Pasadena (on behalf of Pasadena Unified School District): advised commission that successfully developed a city charter change moving Pasadena Unified from at-large to by-district elections and created a redistricting commission. (2011 – 2012)

Litigation Experience

Expert witness declaration in *Jacksonville Branch of the NAACP et al v City of Jacksonville*, United States District Court Middle District of Florida Jacksonville Division, Case No.: 3:22-cv-493-MMH-LLL litigation under the Federal Voting Rights Act.

Expert witness deposition for *Dr. Dorothy Naire et. al. v. R. Kyle Ardoin*, United States District Court for the Middle District of Louisiana, Civil Action No. 3:22-cv000178 SDD-SDJ litigation under the Federal Voting Rights Act.

Expert witness declaration and deposition for the City of Redondo Beach, California, in *City of Redondo Beach vs State of California*, Los Angeles County Superior Court Case Case No. BS172218 litigation regarding the California Voter Participation Act.

Expert witness declaration for West Contra Costa Unified School District in *Ruiz-Lozito vs West Contra Costa Unified School District,* Contra Costa Superior Court Case Number C18-00570, litigation under the California Voting Rights Act.

Expert witness declaration, deposition and testimony for Kern County, California, in *Luna v County of Kern* litigation under the Federal Voting Rights Act.

Expert witness declaration and testimony for North Carolina in *Covington v State of North Carolina* litigation under the Federal Voting Rights Act.

Expert witness declaration for City of Fullerton in *Jamarillo v City of Fullerton* litigation under the California Voting Rights Act.

Expert witness declaration for City of Whittier in *Diego v City of Whittier* litigation under the California Voting Rights Act.

Expert witness declaration and deposition for plaintiff in *Harris vs Arizona Independent Redistricting Commission* litigation.

Expert witness declaration and deposition for Santa Clarita Community College District in *Solis v Santa Clarita Community College District* litigation under the California Voting Rights Act.

Expert witness declaration, deposition and testimony for City of Highland in *Garrett v City of Highland* litigation under the California Voting Rights Act.

Expert witness declaration, deposition and testimony for City of Palmdale in *Jauregui et al vs City of Palmdale* and *Garrett v City of Highland* litigation under the California Voting Rights Act.

Testified as 30(b)(6) "Most Knowledgeable" witness for Arizona Independent Redistricting Commission in *Arizona Minority Coalition v Arizona Independent Redistricting Commission*, including seven days of direct testimony and cross-examination in the state court case. Also testified in the related federal court case.

Consulting expert for the following jurisdictions on their California Voting Rights Act-related cases, including preparing analysis and assisting with witness and attorney preparation: Cities of Anaheim; Compton, Modesto, Poway, Santa Clara, Santa Clarita, and Whittier; Santa Clarita Community College District; and Tulare Health Care District.

Voting Rights Act and Racial Bloc Voting Analysis

Attorney-client privilege bars the listing of most of NDC's specific clients, but NDC has performed racial bloc voting analysis for clients of the following law firms (and for other jurisdictions):

Nielsen, Merksamer, Parrinello, Gross & Leoni: Compiled and analyzed data for over 120 different jurisdictions facing voting rights litigation;

Lozano, Smith: Performed analysis of racial bloc voting in 4 separate jurisdictions.

Richards, Watson & Gerson: Compiled and analyzed potential liability under California Voting Rights Act and California Voter Participation Rights Act for about a dozen cities.

Atkinson, Andelson, Loya, Ruud & Romo: Performed/performing on analysis of racial bloc voting in dozens of jurisdictions and California Voter Participation Rights Act liability analysis for multiple school districts.

Dooley, Herr & Peltzer: Performed racial bloc voting analysis of 7 elections in 4 different election years. Also advised attorneys on rebuttal of plaintiff's racial bloc voting analysis.

Districting / Redistricting Clients Prior to 2021

(* Indicates advisory or independent commission. Jurisdictions in California unless otherwise noted.)

(My firm, NDC, had 225 districting and redistricting jurisdiction clients in the 2021/2022 redistricting cycle, but other than Ohio and the Arizona State Independent Redistricting Commission they are not yet added to this list.)

States

Arizona 2001 and 2021 Independent Redistricting Commissions *
Ohio 2021 Redistricting Commission, "independent mapmaker"
Florida State Senate 2001

Counties

Los Angeles
Merced
San Diego
San Bernardino
San Mateo
Yuma (AZ)

Cities

Anaheim
Apple Valley
Arcadia
Atwater City
Banning
Barstow
Bellflower
Big Bear Lake
Buckeye
Buena Park
Camarillo
Campbell
Carlsbad
Carpinteria
Cathedral City
Cathedral City
Ceres
Chino
Chino Hills
Chino Hills
Citrus Heights
Claremont
Colton
Compton
Corona
Dana Point
Dixon
Duarte
Eastvale
El Cajon
El Cajon
Encinitas
Escondido
Exeter
Firebaugh
Fontana
Fowler
Fullerton
Glendale (AZ)
Glendora
Half Moon Bay
Hemet
Hesperia
Hesperia
Highland
Imperial Beach
Indio
Jurupa Valley
King City
Kingsburg City
La Mirada
La Mirada
Lake Elsinore
Lake Forest
Lemoore
Lodi
Lompoc
Los Alamitos City
Los Banos
Madera
Martinez City
Menifee
Menlo Park
Merced
Mesa (AZ)
Modesto
Monrovia
Monterey Park
Moorpark
Moreno Valley
Morgan Hill
Murietta
Oakland
Ojai
Oxnard City
Pacifica
Palm Springs
Palmdale
Parlier
Pasadena
Paso Robles
Patterson
Peoria (AZ)
Placentia
Porterville
Poway City
Rancho Cucamonga
Redlands
Redlands
Redwood City
Reedley
Riverbank
San Clemente
San Diego
San Marcos
San Marcos
San Rafael
Sanger
Santa Barbara
Santa Clarita
Santa Maria
Santa Rosa
Santee City
Simi Valley
Solana Beach
South Pasadena
South San Francisco

NDC
National Demographics Corporation

Douglas M. Johnson, Ph.D.

Cities (cont.)

Stanton
Surprise
Tehachapi
Temecula
Torrance
Tulare
Turlock
Twentynine Palms
Vallejo
Ventura
Victorville
Victorville
Visalia
Vista
Wasco
West Covina
Whittier
Wildomar
Yucaipa
Yucca Valley

Community College Districts

Antelope Valley
Barstow
Coast
Cuesta
Glendale
Grossmont-Cuyamaca
MiraCosta
Palomar
Rancho Santiago
San Diego
Santa Clarita
Sierra
Southwestern

Special Districts

Alta Irrigation
Castaic / Newhall Water
Castaic Lake Water Agency
Chino Fire
Desert Healthcare
Desert Water Agency
Fallbrook Regional Healthcare
Fresno Irrigation
Grossmont Healthcare
Imperial Irrigation District
Joshua Basin Water
Jurupa Community Service District
Kings River Conservation District
Lake Arrowhead CSD
Leucadia Wastewater
Mojave Water Agency
Monterey Airport
Palmdale Water
Palomar Healthcare
Rowland Water
San Bernardino Water
Santa Clara Valley Water
Santa Maria Airport
Tri-City Health
Tulare Health Care District
Upper San Gabriel Valley
West Valley Water
Western Municipal Water
Westside Community Health Care District
Winton Water

School Districts

Alpine Union
Alpine Union Elementary
Alta Vista
Bakersfield City Schools
Barstow Unified
Bonsall Union Elementary
Borrego Springs Unified
Buena Park Elementary
Burton Elementary
Cajon Valley Union
Cajon Valley Union
Cajon Valley Union Elementary
Calistoga Joint Unified
Capistrano Unified
Capistrano Unified
Cardiff Elementary
Carlsbad Unified
Carlsbad Unified
Caruthers
Castaic Elem
Castaic Elementary
Cayucas
Centinela Valley
Central Unified
Central Union High
Centralia Elementary
Chula Vista Elementary
Claremont Unified
Clay Elementary
Clovis Unified
Coalinga-Huron
Coronado Unified
Covina Valley
Cypress Elem
Dehesa Elementary
Del Mar Union Elementary
Dinuba Unified
Eastern Sierra Unified
Eastside Union Elementary
El Monte Union High
Encinitas Union Elementary
Escalon Unified
Escondido Union Elementary
Escondido Union High
Exeter Elementary
Exeter High
Exeter Unified
Fallbrook Elementary
Fallbrook High
Fallbrook Union Elementary
Fallbrook Union High
Fillmore Unified
Firebaugh-Las Deltas
Fresno Unified
Fullerton Union High
Glendale
Glendale Unified
Golden Plains
Goleta Unified
Greenfield
Grossmont Union High
Hawthorn Elementary
Hughson Unified
Inglewood Unified
Irvine Unified
Jamul-Dulzura Union
Julian Union Elementary
Julian Union High

School Districts (cont.)

Kerman Unified
Kern High
Keyes Union
Kings Canyon Unified
Kings River
Kingsburg Elementary
Kingsburg High
La Mesa Spring Valley
La Mesa-Spring Valley
Lake Elsinore
Lakeside Union Elementary
Lakeside Union School
Lancaster Elementary
Lawndale Elem
Lawndale Elementary
Lemon Grove Elementary
Lindsay Unified
Los Alamitos Unified
Lowell Joint Union
Lucia Mar Unified
Madera Unified
Magnolia Elementary
Merced City Elementary
Merced Union High School District
Modesto City Schools
Modesto City Schools
Modoc Unified
Monson Soltana
Morgan Hill Unified
Morongo Unified
Mountain Empire
Napa Valley Unified
National Elementary
New Jerusalem
Newhall Elementary
Newman Crows Landing
Oak Grove Elementary
Oceanside Unified
Oceanside Unified
Pacific Union
Palo Verde
Panama Buena Vista
Pasadena Unified
Perris Union High
Pixley Union
Placentia Yorba Linda
Pleasant View
Pomona Unified
Porterville Unified
Poway Unified
Poway USD
Ramona Unified
Ramona Unified
Rancho Santa Fe Elementary
Redlands Unified
Redwood City Schools
Richland School District
Riverbank
Riverdale Unified
Rosemead Unified
Salida Union
San Benito High
San Dieguito
San Dieguito Union High
San Marcos Unified
San Pasqual Union Elementary
San Ramon Unified
San Ysidro Elementary
Santa Cruz City Schools
Santa Monica Unified
Santee Elementary
Selma Unified
Sequoia Union High
Sequoia Union High
Simi Valley Unified
Solana Beach Elementary
South Bay Union
South Pasadena Unified
South SF Unified
Spencer Valley Elementary
Strathmore Elementary
Sundale Union Elementary
Sweetwater Union High
Tulare City Elementary
Tulare City High
Tulelake Basin
Turlock Unified
Tustin Unified
Twin Rivers Unified
Vacaville Unified
Vallecitos Elementary
Valley Center Pauma Unified
Victor School District
Visalia Unified
Vista Unified
Walnut Valley Water
Warner Unified
Washington Unified
Washington Union
Waterford Union
West Contra Costa USD
West Fresno Elementary
Westminster Elem
Whittier City Schools
Whittier Union High
Whittier Union High
Woodlake Union