STATE OF NEW MEXICO
COUNTY OF LEA
FIFTH JUDICIAL DISTRICT

REPUBLICAN PARTY OF NEW MEXICO, DAVID GALLEGOS, TIMOTHY JENNINGS, DINAH VARGAS, MANUEL GONZALES, JR., BOBBY and DEE ANN KIMBRO, and PEARL GARCIA,

Plaintiffs,

v.

Cause No.
D-506-CV-2022-00041

MAGGIE TOLOUSE OLIVER, in her official capacity as New Mexico Secretary of State, MICHELLE LUJAN GRISHAM, in her official capacity as Governor of New Mexico, HOWIE MORALES, in his official capacity as New Mexico Lieutenant Governor and President of the New Mexico Senate, MIMI STEWART, in her official capacity as President Pro Tempore of the New Mexico Senate, and JAVIER MARTINEZ, in his official capacity as Speaker of the New Mexico House of Representatives,

Defendants.

PLAINTIFFS' POST-TRIAL AMENDED PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW

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Plaintiffs hereby submit these Post-Trial Amended Proposed Findings Of Fact And Conclusions Of Law, per this Court's order during the trial of this matter.

PROPOSED FINDINGS OF FACT

A. New Mexico's Congressional Maps

1. New Mexico, like all States, redraws its congressional-district map every decade after the federal census to reapportion equally its districts' populations. *See* U.S. Const. art. I, § 2; *Wesberry v. Sanders*, 376 U.S. 1, 7–9, 18 (1964).

2. For the last four decades, New Mexico's lines for its three congressional districts "have been more-or-less stable" and have "typically" relied upon a "regional basis for the state's districts." Pls.Tr.Ex.2 at 31 (Expert Report Of Sean P. Trende (Aug. 11, 2023)) (hereinafter "Trende Rep."); Tr. Day 1 at 232–33.[1] New Mexico's redistricting maps since 1982 have largely retained discernible regions of the State within a single district, with limited splitting of such regions across districts. *See* Trende Rep.27–31; *see generally id.* at 16–17. The Southeast region is the region most relevant here, and it comprises Curry, Roosevelt, Lea, Eddy, Chaves, De Baca, Lincoln, and Otero Counties. *Id.* at 17. This region is a cohesive community with its own economy, culture, values, and identity distinct from the rest of the State. *See* Pls.Ex.7; Tr. Day 1 at 82–83. The 1982 map placed the Southeast region in District 2, except for "only a single county" placed within District 1. Trende Rep.27–28; *see*

[1] Plaintiffs filed copies of the parties' cited Trial Exhibits with their Post-Trial Amended Proposed Findings Of Fact And Conclusions Of Law. Plaintiffs also filed Supplemental Exhibits with their Post-Trial Amended Proposed Findings Of Fact And Conclusions Of Law, submitting additional documents disclosed to them in post-trial discovery. Finally, the parties previously filed with the Court all other Exhibits referenced in these Post-Trial Amended Proposed Findings Of Fact And Conclusions Of Law.

Tr. Day 1 at 233. The 1992 map is similar, with the Southeast region largely falling within District 2, except for one county in District 3. *See* Trende Rep.29. The 2002 map "largely paralleled the 1992 lines," including as to the Southeast region. *Id.* at 30. And the 2012 map likewise saw "only modest changes." *Id.* at 31.

3. The regions of New Mexico also have an "overall stability" in terms of their voting patterns. *Id.* at 25. Since 1984 to 2020, "[t]he Southeast region is consistently the most heavily Republican region of the state." *Id.* With its rural and agricultural way of life, the region is distinctly conservative in terms of its culture, ideology, and values. *See* Pls.Ex.7; Tr. Day 1 at 82–83. The "North Central [region]," which contains Santa Fe, "is the most heavily Democratic region." Trende Rep.25. And the "Central region," which contains Albuquerque, "has moved significantly toward the Democrats over this time period, and is the most populous region." *Id.*; *see* Tr. Day 1 at 237.

4. For the past two redistricting cycles, courts drew New Mexico's congressional maps. In 2000, the State's political branches failed to adopt a map. *See* S.B.33 (2001 1st Spec. Sess.);[2] Pls.Ex.9, at 12–13. Due to that impasse, the District Court adopted a congressional map for the State. Pls.Ex.9, at 13 & n.39 (citing *Jepsen v. Vigil-Giron*, No. D-101-CV-200102177 (1st Dist. Ct. Jan. 2, 2002)). A similar result obtained in 2010, with the District Court adopting a court-drawn map for the State.

[2] Available at https://www.nmlegis.gov/Legislation/Legislation?Chamber=S&LegType=B&LegNo=33&year=01s (all websites last visited Oct. 3, 2023).

See Findings Of Fact & Conclusions Of Law 2–3, 15, *Egolf v. Duran*, No. D-101-CV-2011-02942 (1st Dist. Ct. Dec. 29, 2011).[3]

5. In 2011, the New Mexico Legislative Council, *see* NMSA § 2-3-1, adopted redistricting guidelines "consistent with traditional districting principles" that require districts to be "contiguous" and "reasonably compact," while allowing mapdrawers to "preserve the core of existing districts" and "consider the residence of incumbents," N.M. Legis. Council, Guidelines for the Development of State & Congressional Redistricting Plans (Jan. 17, 2011) (reproduced as Pls.Ex.10).[4]

6. New Mexico enacted the Redistricting Act of 2021 for the most recent redistricting cycle, which created the New Mexico Citizen Redistricting Committee ("Citizen Redistricting Committee" or "Committee") to propose redistricting maps for the Legislature's consideration. 2021 N.M. Laws, ch. 79, §§ 2, 4 (codified at NMSA § 1-3A-1, *et seq.*). The Committee comprises seven members, with a total of four members appointed by the majority and minority leadership in both Houses of the Legislature and the remaining three appointed by the State Ethics Commission—including the Committee's chairperson, who must be a retired New Mexico Supreme Court Justice or a retired New Mexico Court of Appeals judge. NMSA § 1-3A-3; *see generally id.* § 1-3A-4. The Committee must hold an initial round of at least six public hearings; then publish draft maps for the Committee's further consideration; then hold an additional round of at least six hearings on those draft maps; and ultimately

[3] Available at https://redistricting.lls.edu/wp-content/uploads/NM-egolf-20111029-congressional-decision.pdf.

[4] Available at https://www.nmlegis.gov/Redistricting/Documents/Approved%20Redistricting%20Guidelines.pdf.

propose at least three maps for the Legislature's consideration. *Id.* § 1-3A-5. The Committee "shall not . . . use, rely upon or reference partisan data, such as voting history or party registration data" when drawing its maps, *id.* § 1-3A-7(C)(1), and it must evaluate each map it proposes to the Legislature for "partisan fairness," *id.* § 1-3A-8.

B. The Committee Proposes Three Maps To The Legislature

7. After the 2020 federal census, New Mexico's three congressional districts were slightly malapportioned, *see* Trende Rep.31–32; Tr. Day 1 at 233–34, thus the State had to conduct the redistricting process under the U.S. Constitution, *see supra* p.1.

8. In June 2021, the Citizen Redistricting Committee—chaired by Justice Edward L. Chávez—set out to "develop[ ] maps" to propose to the Legislature "in accordance with the Redistricting Act." Pls.Ex.11, at 4–5 (hereinafter "Comm. Rep."). After holding a series of hearings and receiving online comments, *id.* at 7–9, the Committee "adopted three district plans for . . . New Mexico's congressional delegation" to submit to the Legislature, *id.* at 11. Those maps are identified as the "Congressional Concept A" Map, *id.* at 30–32; the "Congressional Concept E-Revised (Justice Chávez Map)," *id.* at 38–40; and the "Congressional Concept H" Map, *id.* at 34–36, or "the People's Map."

9. The Committee's Concept A Map "[m]aintain[s] the status quo" by largely preserving the existing congressional districts drawn by the District Court in 2011. *See id.* at 32. With respect to the Southeast region, the Concept A Map kept this region largely within District 2 by placing Otero, Lincoln, Chaves, Eddy, Lea, and

part of Roosevelt Counties in District 2, with only De Baca, Curry, and part of Roosevelt Counties in District 3. *See id.* at 30 (map of Concept A, with detailed map at https://districtr.org/plan/43318). The Concept A map splits only four municipalities and four counties, while eliminating the division of McKinley County that was present in the 2012 map. *Id.* at 30–32 & app.1, at 57–58. The Concept A Map is generally the most favorable map for Republicans recommended by the Committee, as explained below.

10. The Committee's Concept E-Revised Map (Justice Chávez Map)—which Justice Chávez put forward, as the map's name indicates—emphasized the compactness of District 1 while retaining the cores of Districts 2 and 3. *See* Comm. Rep.38–40. Thus, this map drew District 1 as an urban district centered on Albuquerque and its immediately adjacent urban and suburban areas. *Id.* at 38. As for the Southeast region, the Justice Chávez Map centers it in District 2, consistent with this district's history, by placing Chaves, Eddy, Lea, and part of Otero and Roosevelt Counties in this district, with Lincoln, De Baca, Curry, and part of Otero and Roosevelt Counties in District 3. *See id.* at 38 (Justice Chaves Map, with detailed map at https://districtr.org/plan/63307?portal). The Justice Chávez Map splits six counties and five municipalities, *id.* app.1, at 57–58, and it earned six of the seven Committee members' endorsements—the most of any of the three maps presented by the Committee, *see id.* at 31, 35, 39. Finally, the Justice Chávez Map is the most balanced map as between Democrats and Republicans, as explained below.

11. Finally, as for the Concept H Map—the so-called "People's Map"—it is the product of "a coalition of community-based organizations," Comm. Rep.36, including "the Center for Civic Policy," *see* Pls.Ex.12. The Concept H Map significantly redrew New Mexico's prior districts, especially as to the State's Southeast region. *See* Comm. Rep.34. The Concept H Map splits the Southeast region across the State's three districts—placing Lincoln, De Baca, and parts of Chaves and Otero Counties in District 1; Eddy and parts of Otero, Chaves, and Lea Counties in District 2; and Curry, Roosevelt, and part of Lea Counties in District 3. *See* Comm. Rep.34 (map of Concept H, with detailed map at https://districtr.org/plan/66395). This map also splits nine counties and seven municipalities—the most of the three plans adopted by the Committee. *Id.* app.1, at 57–58. And, as explained immediately below, the Concept H Map is the most favorable map to Democrats adopted by the Committee.

12. The Committee evaluated these three plans for "partisan fairness" by engaging Professor David Cottrell to compare each map "with a large ensemble [1,000] of random computer-generated maps" that he drafted "using the same criteria used . . . when drafting Committee plans." *Id.* The Concept H Map makes all of New Mexico's three districts majority-Democrat districts, thus it is the most favorable map for Democrats recommended by the Committee. *See id.* at 27. The Concept A Map creates two majority-Democrat districts and one district with a Republican composition between 55.0% to 54.1%, which makes it the most favorable of the three maps for Republicans. *See id.* Finally, the Justice Chávez Map makes two majority-

Democrat districts and one district with a Republican composition between 54.0% to 53.1%, thus it is the most balanced map. *See id.*

C. The Legislature Creates SB1 By Taking The Committee's Most Favorable Map For Democrats—The Concept H Map—And Modifying It Into A Near-Perfect Partisan Gerrymander

13. After the Citizen Redistricting Committee submitted its three maps to the Democrat-controlled Legislature, the Legislature did not adopt any of them. *Compare* Pls.Ex.1, *with* Comm. Rep.30–40. Instead, Democrat legislative leadership took the Concept H Map—the map most favorable to Democrats—and adjusted it to be a near-perfect partisan gerrymander for their party, *see* Pls.Tr.Ex.1 at 4, applying a consistent policy of no district falling below 53% on the Democratic Performance Index ("DPI"), Pls.Supp.Ex.1 at 59–60; *see also* Pls.Supp.Ex.2 at 143–44. That is, "the mapmakers took a map that was already favorably aligned toward Democrats," the Concept H Map, "and made it even more so." Trende Rep.67–68; Tr. Day 1 at 264–67, 270–71. Further, legislative leadership blocked Republican legislators from their map-drawing process in all material respects, perfunctorily meeting with Republicans about redistricting yet refusing to incorporate any Republican input into the map ultimately proposed. *See* Tr. Day 1 at 74–82, 98–106; Pls.Ex.8, ¶¶ 7–11; Pls.Ex.32, ¶¶ 7–11. In one instance, a Republican legislator was not allowed to participate in a meeting regarding SB1 between tribal leaders and Democratic legislators. Tr. Day 1 at 100–04. The Legislature ultimately introduced its gerrymandered map as Senate Bill 1 ("SB1"); the Legislature passed the map with only Democrats voting in support, while one Democrat Representative, an independent Senator, and all present and voting Republican legislators voted against

the map; and the Governor signed it into law. *See* Pls.Ex.13; Tr. Day 1 at 74–82; *see generally* Pls.Ex.14.

14. In a text-message conversation between the Center for Civic Policy and Defendant Senator and President of the Senate Mimi Stewart—who, along with other members of legislative leadership, was responsible for the redistricting process—reveals the Legislature's precise strategy. Pls.Tr.Ex.1 at 4. In this conversation, held during the drafting of SB1, Senator Stewart brags to a representative for Center for Civic Policy that "[w]e improved [the Concept H Map] and now have CD 2 at 53% dpi [Democratic Performance Index]!" *Id.* The representative from Center for Civic Policy then asks Senator Stewart, "Who takes the hit? . . . There's only so much dpi to go around, you know." *Id.* To this, Senator Stewart states that "[Legislative Defendant's expert] Sanderoff's dpi for your map H is 51.8% [for District 2]. That's not enough for a mid term election so we adjusted some edges, scooped up more of abq [Albuquerque] and are now at 53%. CD 1 is 54%, CD 3 is 55.4%." *Id.*

15. Email communications involving senior staff of the Democrat legislative leadership show that the Legislature applied a consistent policy of no district falling below 53% DPI with SB1. In those emails—involving Ms. Leanne Leith, an advisor to the New Mexico Speaker of the House, Tr. Day 1 at 39; Mr. Kyle Quinn-Quesada, the lead staffer for the New Mexico Senate Democrats; Ms. Kyra Ellis-Moore, the campaign manager of Congresswoman Teresa Leger Fernández; and others—these senior staffers debate various "options" for New Mexico's congressional redistricting map. Pls.Supp.Ex.1 at 52, 59–60. In those discussions, the question was raised

whether the leadership "require[s] that all 3 districts be above 53 using Sanderoff numbers?" in the map—that is, Mr. Brian Sanderoff's DPI calculations. *Id.* at 59–60. And to this, Mr. Quinn-Quesada responds, "Yes all three should be above 53% Sanderoff DPI." *Id.*; *see also* Pls.Supp.Ex.2 at 143.[5]

16. These revealing statements and communications from key legislators and senior legislative staffers are entirely consistent with objective analyses about SB1's lines. The Legislature partisan gerrymandered SB1 for the Democrats by cracking the State's Southeastern region among the State's three congressional districts. Trende Rep.17, 31–43, 67–68; Tr. Day 1 at 236–37, 280–82. SB1 pushes District 1 and District 3 further into Southeastern New Mexico, while shifting District 2 substantially into the Central region, which region is the most populous and Strongly favors Democrats. Trende Rep.17, 32. That is, with SB1, the Legislature made politically targeted changes to the prior congressional map, concentrated in the Southeastern and Central regions, *id.* 34–35, to "transform[ ]" District 2 "from one where Republicans would generally be favored into one where Democrats tend to

[5] Other candid statements from key Democratic legislators are also worth noting, although these statements are less revealing because they do not articulate the Legislature's precise redistricting strategy. The day after District 2 elected Republican Representative Yvette Herrell in 2020, New Mexico House Speaker Egolf stated publicly: "So this is the last election for New Mexico's 2nd Congressional District with a map that looks like it looks now;" "So next time it'll be a different district and we'll have to see what that means for Republican chances to hold it." Pls.Ex.15, at 1. In a December 11, 2021 email that Senator Joseph Cervantes (a sponsor of SB1) sent to his political supporters (i.e., his "Friends"), he explained that, "[h]istorically, conservative and Republican performing areas of the state were 'packed' into the southern district boundaries [*i.e.*, District 2] to assure easier margins for [the Democratic candidates in] the two northern districts." Pls.Ex.16, at 1. SB1 shifts some of the "very large [Democratic] advantages" in Districts 1 and 3 to District 2, such that New Mexico Democrats will no longer "sacrifice the southern district to ease electability [of Democrats] in the north." *Id.* at 1–2. And in a tweet that Senator Stewart sent just a few months after the text-message conversation described above, she responded to a tweet about Representative Herrell, that, "We are sorry we've sent her to DC. Our Redistricting session is offering a way out of her chaotic and divisive politics." Pls.Ex.17, at 1.

win"—*without* making District 1 and District 3 "so much less Democratic that they might seriously threaten their incumbent Democrats" in the process, *id.* at 42.

17. Simple partisan-composition calculations for each of the State's three districts under the 2011 Map and SB1—calculations prepared by each of the four experts collectively presented by Plaintiffs and Legislative Defendants here—demonstrate the Legislature's near-perfect gerrymander with SB1.

18. Beginning with Mr. Sanderoff, he performed DPI calculations that the Democrat-controlled Legislature specifically relied upon when drafting SB1, as the above communications provided during discovery show. Mr. Sanderoff calculated District 2 under SB1 to be 53% Democrat and 47% Republican. Leg.Def.Tr.Ex.D at 6 (Expert Report of Brian Sanderoff (Aug. 25, 2023) ("Sanderoff Rep.")). Then, as the above communications disclosed during discovery show, Mr. Sanderoff calculated District 1 to be 54% Democrat (thus 46% Republican) and District 3 to be 55.4% Democrat (thus 44.6% Republican), while providing these calculation to the Democrat legislative leadership. *See* Pls.Tr.Ex.1 at 4. Mr. Sanderoff also admitted in his deposition that the statewide DPI was 54.2%. Sanderoff Dep.45.

19. Moving to Mr. Trende, he performed similar calculations with two sets of data. Using 2020 presidential election vote data, Mr. Trende calculated that, under the *prior* map, District 1 was 61.7% Democrat; District 2 was 44.0% Democrat; and District 3 was 59.0% Democrat. Trende Rep.42; Tr. Day 1 at 244–45. Under *SB1,* however, District 1 was 57.4% Democrat; District 2 was 53.0% Democrat; and District 3 was 55.5% Democrat. Trende Rep.42; Tr. Day 1 at 244–45. Similar results obtained

under Mr. Trende's Democratic Index: Under the *prior* map, District 1 was 60.4% Democrat; District 2 was 46.1% Democrat; and District 3 was 59.9% Democrat. Trende Rep.42; Tr. Day 1 at 245. Under *SB1*, District 1 was 56.1% Democrat; District 2 was 54.6% Democrat; and District 3 was 57.3% Democrat. Trende Rep.42; Tr. Day 1 at 245.

20. Mr. Brace's numbers are in accord. Mr. Brace calculated that, under the *prior* map, District 1 was 57.70% Democrat; District 2 was 44.75% Democrat; and District 3 was 58.25% Democrat. Decl. & Expert Report Of Kimball W. Brace 51 (Aug. 25, 2023) ("Brace Rep.") (pdf page number). Then, under *SB1*, Mr. Brace calculated that District 1 is 53.57% Democrat (a decrease of 4.13%); District 2 is 52.73% Democrat (an increase of 7.98%); and District 3 is 55.97% Democrat (a decrease of 2.28%). *Id.* at 73 (pdf page number).

21. Finally, Dr. Chen provided similar figures using the Republican Performance Index. Leg.Def.Tr.Ex.C at 14. (Expert Report Of Jowei Chen, Ph.D. (Aug. 25, 2023) ("Chen Rep.")). Under *SB1*, District 1 was 46.5% Republican (53.5% Democrat); District 2 was 47.0% Republican (53% Democrat); and District 3 was 44.0% Republican (56% Democrat). *Id.* at 14.

22. Based upon the foregoing, it is clear that the Democrats in control of the Legislature adopted a policy of ensuring that each of New Mexico's congressional districts would have a DPI of at least 53%, and did, in fact, achieve that policy objective.

23. The voter-registration change in each of SB1's three districts leads to the same conclusion. As Mr. Trende calculated, under SB1, District 1 "gained 10,078 registered Democrats, 47,789 registered Republicans and 13,708 registered Independents," dropping the Democrat advantage here from 18.7% to 9.1%. Trende Rep.38; Tr. Day 1 at 240. In District 3, Democrat registration "dropped by 19,810, while the number of registered Republicans increased by 2,261," decreasing the Democratic advantage "from 21.4% to 17.6%." Trende Rep.38; Tr. Day 1 at 241. And "[w]ith the Democrats' advantage declining in two of the state's congressional districts, these voters could only go into the 2nd District." Trende Rep.38; Tr. Day 1 at 241. Indeed, under SB1, District 2 "added 21,615 Democratic registrants, while giving up 31,483 Republican registrants," providing the Democrats with "a 13% registration advantage in the district," Trende Rep.38, whereas District 2 had roughly even registration between Republicans and Democrats immediately prior to SB1, *id.* at 37; Tr. Day 1 at 241.

24. While the 2020 census required only minor population adjustments to reapportion New Mexico's districts, "mapmakers substantially altered the map for the first time in decades," diluting Republican votes through cracking and packing. Trende Rep.26, 32, 50, 78; Tr. Day 1 at 233–37.

25. SB1 shifted "more than twenty times the number of residents that had to be shifted to meet equal population requirements," Trende Rep.33, moving 505,952 residents instead of only about 23,000 as required, *id.* at 33, 36. After the 2020 census, New Mexico's districts were less than two percentage points away from the

ideal population—District 1 only needed to gain 11,264 residents; District 2 only needed to lose 8,181; and District 3 only needed to lose 3,082. Trende Rep.32; Tr. Day 1 at 234. Yet, under SB1, District 1 shifted 166,485 residents to District 2, although District 1 was underpopulated. Trende Rep.33; Tr. Day 1 at 235. District 3 gave 21,292 residents to District 2 and 122,222 residents to District 1, although it only had to give up 3,082 residents. Trende Rep.33; Tr. Day 1 at 235–36. And while District 2 was only overpopulated by 8,181 residents, it lost over 195,000 residents, giving 55,518 residents to District 1 and 140,435 residents to District 3—although, again, District 3 had to lose population. Trende Rep.33; Tr. Day 1 at 234–36; *see also* Trende Rep.34 (quantifying these changes in chart form).

26. The shifting of these residents was "not politically neutral." Trende Rep.35. The Legislature focused its cracking and packing in the Southeastern and Central regions—given that the former is highly Republican while the latter is highly Democrat—to pack a net "approximately 40,000 Democratic votes" into District 2 and flip District 2's partisan makeup. *Id.* at 35–36 (relying on presidential-vote data); *see also id.* at 36–43 (reaching same conclusion after relying on an "index of [ten] elections," "party registration data," "actual vote results," and the "ten statewide races included in [the] index individually").

27. With respect to the Southeast region, SB1 deeply fractures it among the State's three districts, "for the first time in the state's history." *Id.* at 35. Thus, District 1 contains De Baca, Lincoln, and part of Otero and Chaves Counties; District 2 contains part of Otero, Chaves, Eddy, and Lea Counties; and District 3 contains

Curry, Roosevelt, and part of Chaves, Eddy, and Lea Counties. *Compare* Trende Rep.17 (listing counties in this region), *and* Tr. Day 1 at 236–37, 280–82, *with* Pls.Ex.1.

28. As a result, SB1 packs or cracks voters based on their political affiliation, including the specific named Plaintiffs here.

29. Specifically, SB1 "cracked" Plaintiffs Gallegos, Gonzales, and the Kimbros into a district with a 53% DPI or higher—in these Plaintiffs' case, District 2—based on their affiliation with the Republican Party. Beginning with Plaintiff Gallegos, a Republican and New Mexico State Senator residing in Lea County, he testified at trial that SB1 splits Lea County and makes it "impossible" to "elect the congressperson of [his] choice" from District 2—and "less" likely to elect any Republican "post-redistricting" from this district. Tr. Day 1 at 128–34; Verified Compl. ¶ 2; *id.* at 36; Decl. of David Gallegos ¶¶ 1, 3–4, 6–10 (Aug. 16, 2023) ("Gallegos Decl."). Likewise, Plaintiff Gonzales, a registered Republican voter residing in Otero County, stated that SB1's "cracking" Republican voters in southeastern New Mexico, including in Otero County and Plaintiff Gonzales' district of District 2, substantially diluted his vote. Verified Compl. ¶ 5; *id.* at 32; Decl. of Manuel Gonzales ¶¶ 1, 3–4, 6–10 (Aug. 15, 2023) ("Gonzales Decl."). And for Plaintiffs the Kimbros, registered Republican voters living in Lea County, SB1's "cracking" of Republican voters in southeastern New Mexico moved them from District 2 into District 3, substantially dilutes their votes. Verified Compl. ¶ 6; *id.* at

29–30; Decl. of Bobby Kimbro ¶¶ 1, 3–9 (Aug. 16, 2023) ("B. Kimbro Decl."); Declaration of Dee Ann Kimbro Decl. ¶¶ 1, 3–9 (Aug. 16, 2023) ("D. Kimbro Decl.").

30. SB1 also "cracked" Plaintiffs Jennings, Vargas, and Garcia into districts with a 53% DPI or higher. Thus, SB1 moved Plaintiffs Vargas' and Garcia's residences into District 2, as part of the Democrat-controlled Legislature's plan to crack the State's most densely populated region of registered Republicans historically located in that district across the three redrawn districts, thereby diluting the votes of these Republican voters vis-à-vis Democrat voters. Verified Compl. ¶¶ 78, 86–95(b). For Plaintiff Jennings, SB1 separates "his community in Chaves County and the greater Roswell area" across the State's three redrawn districts, including by moving his own residence from District 2 to District 3, Verified Compl. ¶ 3; *id.* at 35; Decl. of Timothy Jennings ¶¶ 6–13 (Aug. 16, 2023) ("Jennings Decl.").

31. Based upon the foregoing, it is clear that the Democrats in control of the Legislature adopted a policy of adopting a near-perfect gerrymander of New Mexico's congressional districts, and did, in fact, achieve that policy objective.

32. SB1 splits a record number of counties and is not compact, given New Mexico's geography. Specifically, SB1 "splits nine" counties, which is "the most in New Mexico's history." Trende Rep.75–76. By "any metric" of compactness, "the districts produced [by SB1] are some of the least compact districts in New Mexico history." Trende Rep.76–77 (considering the Reock, Polsby-Popper, and Convex Hull metrics); *see also* Pls.Ex.18, at 2–3 (explaining how SB1 cracked the agricultural

industry and the oil and gas industry, which industries are longstanding communities of interest); Pls.Ex.7 (same).

33. These changes make it difficult for Republicans to win in District 2 for the following reasons:

(a.) Under SB1, District 2 has a DPI +3, which means that, in a typical year, with equal Democrat and Republican congressional candidates, the Democrat candidate will obtain 53% percent of the two-party vote, while the Republican candidate will receive 47% of the two-party vote. *See supra* pp.10–11. This 6% advantage for Democrats over Republicans in District 2 is significant, in that it makes it difficult for Republicans to win in District 2.

(b.) This conclusion that it would be difficult for Republicans to win in District 2 with a 53% DPI explains why the Democrat legislative leadership and key Democrat staffers were operating under a policy of not drawing any district below 53% DPI, as shown from the various statements and communications from these legislators and staffers discussed above. *Supra* pp.8–9 & n.5.

(c.) Legislative Defendants' own expert Mr. Sanderoff could only provide four examples of Republican's winning any type of race—state or federal—in all of New Mexico's history with a 53%-type DPI. Tr. Day 2 at 220–21 (discussing results of the 2014, 2020, and 2022 races for "House District 39" and the results of one race for "State Senate District 30"). Three of those races, moreover, occurred in a single House district, *id.*, and so are especially unhelpful as an indicator of Republicans' prospects in District 2, a congressional district.

(d.) Even in a pro-Republican year nationwide and with a Republican incumbent running for reelection in the district, District 2 elected Democrat Representative Gabriel Vasquez to Congress under SB1 rather than incumbent Republican Representative Yvette Herrell. Pls.Ex.21; Trende Rep.43 (explaining that, "generally speaking," Republicans enjoyed "a favorable environment" nationwide on Election Day 2022); Tr. Day 1 at 248–49. This made Representative Herrell one of only two Republican incumbents who lost in 2022. Trende Rep.43; Tr. Day 1 at 248 (further discussing Republican-incumbent performance in 2022). Further, Representative Herrell's defeat meant that New Mexico Republicans, despite having won "44.9% of the statewide vote for Congress" in 2022, won none of the State's three congressional districts. Trende Rep.43; *see* Tr. Day 1 at 248.

(e.) Now that the incumbent Representative from District 2 is a Democrat, it will be even harder for Republicans to win District 2, due to the incumbency advantage. Tr. Day 1 at 248–49. As Mr. Sanderoff, one of Legislative Defendants' experts, admitted at trial, incumbents "[o]ftentimes" have "an advantage at the polls." Tr. Day 2 at 245; *see also* Pls.Ex.25 at 54–55 ("Sanderoff Dep.").[6]

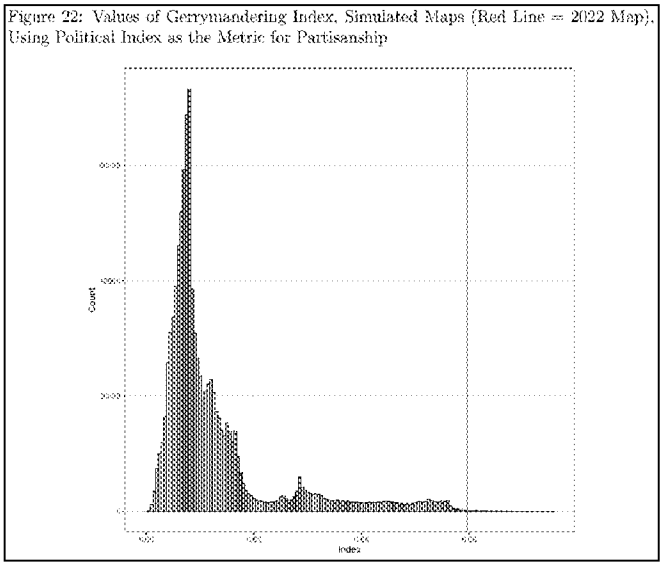
34. Although SB1's changes make Districts 1 and 3 more Republican, it remains difficult for Republicans to win either District 1 or District 3. As noted above, all experts to have calculated the DPI for District 1 and District 3 under SB1 agree that both districts are above 53% DPI. *See supra* pp.10–11. Thus, all of the above

[6] On this particular point, the Court finds not credible Mr. Sanderoff's contradictory claim during his trial testimony that it would be easier, not harder, for Republicans to unseat the Democrat incumbent running for reelection in District 2 because he now "has a record." *See* Tr. Day 2 at 245–46, 261–62.

conclusions with respect to Republican's difficulty winning District 2 under SB1—which district has a DPI of 53%—apply with equal force to Districts 1 and 3, as both have DPI's above 53%. *See supra* pp.10–11.

35. Plaintiffs' expert, Sean P. Trende, credibly testified that a simulation analysis further demonstrates that SB1 is a partisan outlier. Mr. Trende ultimately generated a total of 2,040,000 political neutral, simulated maps for his expert analysis. Trende Rep.44, 54–60, 61–75. Mr. Trende began by randomly generating one million politically neutral maps that adhere to New Mexico's redistricting criteria, but do not take partisanship into account. *Id.* at 43–44; Tr. Day 1 at 250–52. Then, Mr. Trende calculated the "gerrymandering index" for these one million maps, which index shows the expected percentage of Democrat vote shares across the maps from the most heavily Democrat district to the least. Trende Rep.44. The one-million map ensemble had an average gerrymandering index of around 1.3%, while SB1 had a gerrymandering index of 6.4%—meaning that it fell over four standard deviations away from the mean gerrymandering index of the million-map ensemble. *Id.* at 46. SB1 was more favorable for Democrats than 99.89% of the one-million ensemble maps (or 998,897 maps). *Id.* Mr. Trende then generated an additional one million simulated maps that only moved the precincts that the SB1 drafters had moved between districts. *Id.* at 54–60. These simulated maps had an average gerrymandering index of 0.62%, whereas SB1 had a gerrymandering index of 2.95%, over seven standard deviations from the mean. *Id.* at 54. Finally, Mr. Trende ran three sets of additional simulations of 10,000 maps to confirm his results in various

respects. *Id.* at 61–75; *see also* Supp. Decl. of Sean P. Trende (Sept. 26, 2023) (explaining that Mr. Trende generated 2,040,000 maps for his report, which includes an additional set of 10,000 simulated maps). Given the extreme disparities between SB1 and each set of ensemble maps—sets totaling 2,040,000 maps—Mr. Trende concluded that "it is implausible, if not impossible, that [SB1] was drawn without a heavy reliance upon political data and was likely drawn to favor or disfavor a political party." Trende Rep.46–47.



Id. at 51 fig.22 (red line = SB1).

36. The simulation analysis provided by Dr. Jowei Chen does not credibly contradict Mr. Trende's analysis because Dr. Chen included what this Court specifically finds is a partisan consideration in his simulation—the "Oil Industry Considerations"—which was provided to him by Legislative Defendants' counsel. *See* Chen Rep.8. As Legislative Defendants' counsel conceded at trial, whether the "Oil Industry Considerations" are a partisan consideration is "a dispute of fact." Tr. Day 1 at 21; Tr. Day 2 at 188–89. Further, Dr. Chen conceded during his testimony that

"it is important" that his algorithm to draw simulated maps "be partisan blind" and "ignore partisanship" in order for his simulation analysis actually to show whether a challenged map is an outlier from a set of non-partisan simulated maps. *See* Tr. Day 2 at 134–35; *see also* Chen Dep. at 22 ("[I]t is important that it is a partisan-blind algorithm."). Dr. Chen also admitted at trial that the "vast majority" of his simulated maps result with a Democrat majority in all three districts, Tr. Day 2 at 174–77 (discussing chart at Chen Rep.18)—meaning that, in a typical year, Democrats would win all three of New Mexico's districts, while Republicans win zero districts.

37. The "Oil Industry Considerations" are a pretextual partisan consideration, not a traditional "districting criteri[on]" or a "partisan"-free consideration, *Rucho v. Common Cause*, 139 S. Ct. 2484, 2517–19 (Kagan, J., dissenting), including for the following reasons:

(a.) Dr. Chen admitted at trial that the "Oil Industry Considerations" were not a traditional redistricting criterion. *See* Tr. Day 2 at 144–45.

(b.) Mr. Sanderoff stated at trial that he had not heard of anyone incorporating the Oil Industry Considerations in his over 40 years of redistricting experience in New Mexico, nor had he heard of anyone asking for this consideration. *See* Tr. Day 2 at 239–40; *see also* Sanderoff Dep.64.

(c.) Mr. Jim Townsend—who has experience in the oil industry, Tr. Day 1 at 84–86—testified that no one in the oil industry itself desired a redistricting map that adhered to this consideration, *see id.* Indeed, Legislative Defendants' own expert Mr. Sanderoff confirmed this same point. *See* Tr. Day 2 at 239–40.

(d.) Legislative Defendants have not identified any meaningful number of voters (or, indeed, any voters) who endorsed the "Oil Industry Considerations."

(e.) The "Oil Well Consideration" conflicts with how legislators traditionally take industry interests into account when redistricting—uniting those interests, not dividing them. As the U.S. Supreme Court recognized in *Miller v. Johnson*, 515 U.S. 900 (1995), a valid community of interest—like an industry—is one that has "actual *shared* interests," *id.* at 916 (emphasis added), such as would justify including that community together within a district to promote the community's "common thread of relevant interests," *id.* at 920. It should be no surprise, therefore, that splitting the oil industry here actually harms this community of interest, including by diluting its influence in Congress among three separate Representatives. Pls.Ex.18 at 2–3.

(f.) Legislative Defendants' citation of certain floor statements from Democrat legislators during the SB1 debates, Legislative Defendants' Annotated Findings Of Fact And Conclusions Of Law 21–22 (Sept. 15, 2023) ("Leg.AFFCL.") does not support a contrary conclusion. None of the Senators or Representatives making those floor statements assert that the "Oil Industry Considerations" are a redistricting criterion in New Mexico. *See* Leg.Def.Ex.27 at 10, 25, 31, 55, 57, 59 (statements of Senator Joseph Cervantes, Senator Daniel Ivey-Soto, Representative Gail Chasey, Representative Antonio Maestas, and Representative Nathan Small). Indeed, Senator Cervantes, a sponsor of SB1, suggested a desire to unite the oil industry with SB1, stating: "There has been, at times, discussion or interest in talking about keeping together what is sometimes referred to as the oil patch or the eastern part of

the state. This map does something which I think is important, which it does bring together a lot of the oil- and gas-producing parts of our state by going up in the San Juan area and bringing that around. And I think that's a unifying community of interest that's represented well on this map." *Id.* at 55. In any event, none of these floor statements show that the "Oil Industry Considerations" are anything more than a partisan pretext for the Democrat-controlled Legislature's policy of drawing each district in SB1 with at least 53% DPI.

(g.) Finally, the "Oil Industry Considerations" described in Dr. Chen's expert report compel the splitting of the Southeast region of the State, due to the location of the State's active oil wells. *See* Tr. Day 2 at 163–65; *see also* Pls.Ex.27; Pls.Ex.28 ("95% of the [State's] oil is produced from the Permian Basin," which is located in "Lea, Eddy, Chaves, and Roosevelt Counties in southeastern New Mexico[.]"). That is exactly what a Democrat-gerrymandering mapdrawer would have to do to create three districts with at least 53% DPI or pursue any other partisan-gerrymandering goal.

D. Plaintiffs Challenge SB1 As An Unconstitutional Partisan Gerrymander, And The Supreme Court Holds That Plaintiffs' Claim Is Justiciable Under Justice Kagan's Test From Her Dissenting Opinion In *Rucho v. Common Cause*

38. The Republican Party of New Mexico and a bipartisan group of New Mexico voters (collectively, "Plaintiffs") filed their Verified Complaint on January 21, 2022, alleging that SB1 is an unlawful partisan gerrymander in violation of Article II, Section 18 of the New Mexico Constitution. V. Compl. ("Compl.") ¶¶ 1–7, 15–17. After this Court denied Legislative Defendants' Motion To Dismiss this case based on

justiciability grounds, *see* Order Den. Mots. To Dismiss (July 11, 2022), Legislative Defendants challenged this Court's order by petitioning the New Mexico Supreme Court for a writ of superintending control, *see* Order, *Grisham v. Van Soelen*, No.S-1-SC-39481 (N.M. July 5, 2023) ("Superintending Order"); Am. Order, *Grisham v. Van Soelen*, No.S-1-SC-39481 (N.M. Aug. 25, 2023) ("Am. Superintending Order").

39. The Supreme Court issued its Superintending Order on July 5, 2023, amended on August 25, 2023. As relevant here, the Supreme Court's orders hold that Plaintiffs' partisan-gerrymandering claim was justiciable under Article II, Section 18 of the New Mexico Constitution and "is subject to the three-part test articulated by Justice Kagan in her dissent in *Rucho v. Common Cause*." Am. Superintending Order 3 (citing 139 S. Ct. 2484, 2516 (2019) (Kagan, J., dissenting)); *see Rucho*, 139 S. Ct. at 2516 (Kagan, J., dissenting) ("(1) intent; (2) effects; and (3) causation"); Superintending Order 3. Further, the Court explained that, while "some degree of partisan gerrymandering is [constitutionally] permissible," partisan gerrymandering that is "egregious in intent and effect" is not. Am. Superintending Order 2–3; Superintending Order 2–3. The Court also explained that "[i]ntermediate scrutiny is the proper level of scrutiny for adjudication of a partisan gerrymandering claim." Am. Superintending Order 4 (citing *Breen v. Carlsbad Mun. Schs.*, 2005-NMSC-028, ¶¶ 11–15, 30–32, 138 N.M. 331, 120 P.3d 413); Superintending Order 4. Remanding to this Court to adjudicate Plaintiffs' claim under this controlling standard, the Supreme Court also instructed that, "[i]n evaluating the degree of partisan gerrymandering in this case, if any," this Court must "assess whether individual

plaintiffs' party-affiliated votes were in fact substantially diluted by the challenged map by comparing objective district-specific data under that map against analogous evidence under the prior congressional map" and "shall also consider any other evidence relevant to the [ ] application of the [Justice Kagan] test." Am. Superintending Order 4.

40. Finally, the New Mexico Supreme Court issued an Opinion on in this case on September 22, 2023, which opinion reiterated that Justice Kagan's three-part test from her *Rucho* dissent governs partisan-gerrymandering claims in New Mexico and articulated the types of evidence that plaintiffs asserting a partisan-gerrymandering claim may rely upon. Opinion 37–39, 48, *Grisham v. Van Soelen*, No.S-1-SC-39481 (N.M. Sept. 22, 2023). The Court pointed specifically to the "extensive evidence of intent and effect indicat[ing] that the districting plans in North Carolina [at issue in *Rucho*] and Maryland," at issue in *Benisek v. Lamone*, 348 F. Supp. 3d 493 (D. Md. 2018) (consolidated with *Rucho*), were "highly partisan," while noting that those two cases "support[ ]" the conclusion "that many forms of evidence may be relevant to prove predominant intent and substantial effect for an egregious partisan gerrymander," Opinion at 48, *Grisham*, No.S-1-SC-39481 (N.M. Sept. 22, 2023). Indeed, the Court stated that *Benisek* and *Rucho* are "a useful evidentiary template" for partisan-gerrymandering claims like Plaintiffs' claim here. *Id.* The New Mexico Supreme Court also stated that, in particular, "comparing voter registration percentages or data for the political party affiliation of the individual plaintiffs under the prior districting map against parallel percentages or data under the challenged

districting map" is relevant to determining whether an egregious partisan gerrymander has occurred. *Id.* at 46–47.

PROPOSED CONCLUSIONS OF LAW

I. SB1 Is An Egregious Partisan Gerrymander, In Violation Of Article II, Section 18 of the New Mexico Constitution

41. Under Justice Kagan's controlling, three-part test from her *Rucho* dissent, a partisan-gerrymandering claim proceeds as follows: "First, the plaintiffs challenging a districting plan must prove that state officials' predominant purpose in drawing a district's lines was to entrench their party in power by diluting the votes of citizens favoring its rival." *Rucho,* 139 S. Ct. at 2516 (Kagan, J., dissenting) (citation omitted; brackets omitted). "Second, the plaintiffs must establish that the lines drawn in fact have the intended effect by substantially diluting their votes." *Id.* (citation omitted). "And third, if the plaintiffs make those showings, the State must come up with a legitimate, non-partisan justification to save its map." *Id.*

42. The partisan-gerrymandering litigation over Maryland's 2011 congressional redistricting map provides a useful analogue to the case here, including because the New Mexico Supreme Court expressly stated that this Court should use *Benisek* and *Rucho* as "useful evidentiary template[s]" for Plaintiffs' partisan-gerrymandering claim, Opinion at 48, *Grisham*, No.S-1-SC-39481 (N.M. Sept. 22, 2023), and because Justice Kagan ruled on that Maryland map under her own test, *Benisek*, 348 F. Supp. 3d at 497–509; *see Rucho*, 139 S. Ct. at 2516–17, 2519, 2521–22 (Kagan, J., dissenting). In 2011, Maryland comprised eight congressional districts, with the State reliably electing six Democrats and two Republicans to its

congressional delegation, including from its Sixth District. *Benisek*, 348 F. Supp. 3d at 497–98; *Rucho*, 139 S. Ct. at 2510, 2519 (Kagan, J., dissenting). After the 2010 census, Maryland needed to make only "modest adjustment[s]" in the populations of its districts to maintain its "two reliably Republican districts." *Benisek*, 348 F. Supp. 3d at 497–98; *Rucho*, 139 S. Ct. at 2519, 2521–22 (Kagan, J., dissenting). In particular, the Sixth District required only the removal of about 10,000 people, out of the District's more than 700,000 residents, to reach population equality. *Rucho*, 139 S. Ct. at 2519 (Kagan, J., dissenting). Yet, the Democrat officials overseeing the map-drawing process in the State—including the "State Senate President"—determined to "press their advantage" and flip the Sixth District alone from a Republican-majority district to a Democrat-majority district, while still protecting existing Democrat majorities in adjoining districts. *Id.* at 2510–11. To achieve this desired partisan gerrymander, the "Democratic officials reconfigured the entire [Sixth] [D]istrict" by "mov[ing] 360,000 residents out and another 350,000 in, while splitting some counties for the first time in almost two centuries." *Id.* at 2519. As a result, the new Maryland Sixth District ended up "with 66,000 fewer Republican voters and 24,000 more Democratic ones," leaving Republicans "little or no chance to elect their preferred candidate" "[i]n what was once a party stronghold." *Id.* Further, despite this blatant gerrymander, there was one election under the new Sixth District map where the Republican challenger lost by a narrow margin in a favorable Republican year. *See* Md. State Bd. of Elections, *Official 2014 Gubernatorial General Election*

Results for Representative in Congress (last updated Dec. 2, 2014) (reporting results for Congressional District 6 as 49.7% to 48.2%, in the Democrat candidate's favor).[7]

43. Justice Kagan concluded that Maryland's Sixth District map was an impermissible partisan gerrymander. As for the first element, Justice Kagan concluded that the Maryland mapmakers drew the Sixth District with the intent to entrench Democrats at the expense of Republicans. *Rucho,* 139 S. Ct. at 2517 (Kagan, J., dissenting); *see also id.* at 2510–11 (cataloging key statements from mapmakers). For the second element, Justice Kagan concluded that the Sixth District had the intended entrenching effect, since the mapmakers "reconfigured the entire district" by cracking 66,000 Republicans out of the district and packing 24,000 Democrats into the district. *Id.* at 2518–19. Finally, for the third element, Justice Kagan "pass[ed] quickly over [it]" because Maryland did not "offer[ ] much of an alternative explanation for the evidence that the plaintiffs put forward." *Id.* at 2516 n.2.

44. Plaintiffs satisfy Justice Kagan's three-part test here. First, the Legislature drafted SB1 with the egregious partisan intent to entrench Democrats in District 2 at the expense of Republicans, just like the mapdrawers in *Benisek*. *Infra* Part I.A. Indeed, Democrats acted with the partisan intent to enact a near-perfect gerrymander, which is an additional egregiousness factor not at issue in *Benisek*. *Infra* Part I.A. Second, SB1 has an egregious partisan effect, as it cracks Republican

[7] Available at https://elections.maryland.gov/elections/2014/results/General/gen_results_2014_2_008X.html. This Court may take judicial notice of facts that "can be accurately and readily determined from sources whose accuracy cannot reasonably be questioned," including from official government websites, at any stage of a proceeding. N.M. R. Evid. 11-201(B)(2), (D); *see Grisham v. Reeb*, 2021-NMSC-006, ¶¶ 22–23, 480 P.3d 852.

voters out of District 2 (which District the Legislature designed to have a 53% DPI) and into the State's other two districts, which also have a DPI of 53% or higher. *Infra* Part I.B. That conclusion rests on even stronger evidence than what was presented in *Benisek*, including because the Legislature here achieved a near-perfect gerrymander and because Plaintiffs here presented simulation analysis showing that SB1 was an extreme outlier, which the *Benisek* plaintiffs did not present. *Infra* Part I.B. Finally, Defendants cannot possibly carry their burden under the third element to justify their gerrymander, just like the defendants in *Benisek*. *Infra* Part I.C.

A. The Legislature Passed SB1 With Egregious Partisan Intent

45. Courts consider several factors when determining whether a mapdrawer has acted with impermissible intent to entrench their favored party in power, weighing both direct and circumstantial evidence of the mapdrawer's partisan intent for this element. *See Rucho*, 139 S. Ct. at 2520–21 (Kagan, J., dissenting); *see also, e.g.*, *Benisek v. Lamone,* 241 F. Supp. 3d 566, 575 (D. Md. 2017) ("[D]irect evidence, as well as circumstantial evidence, may be used to prove the element of intent."); *Harkenrider v. Hochul*, 197 N.E.3d 437, 452 (N.Y. 2022) ("Such invidious intent could be demonstrated directly or circumstantially[.]"). These factors include whether the "map-drawing process" itself was partisan, *see League of Women Voters of Ohio v. Ohio Redistricting Comm'n (LWV of Ohio)*, 192 N.E.3d 379, 410 (Ohio 2022), which may be demonstrated by, for example, "proof of a partisan process excluding participation by the minority party," *Harkenrider*, 197 N.E.3d at 452, "correspondence" and "contemporaneous statements" from mapdrawers, the "specific sequence of events leading up to the challenged decisions," and the like, *Ohio A.*

Philip Randolph Inst. v. Householder, 373 F. Supp. 3d 978, 1096 (S.D. Ohio 2019) (citation omitted), *vacated and remanded sub nom. Chabot v. Ohio A. Philip Randolph Inst.*, 140 S. Ct. 102 (2019); *see also Rucho*, 139 S. Ct. at 2510–11, 20–21 (Kagan, J., dissenting); *League of Women Voters of Fla. v. Detzner,* 172 So. 3d 363, 379–86, 388–89, 392–93 (Fla. 2015); *Common Cause v. Rucho,* 318 F. Supp. 3d 777, 861–64 (M.D.N.C. 2018), *vacated and remanded*, 139 S. Ct. 2484 (2019); *Whitford v. Gill,* 218 F. Supp. 3d 837, 887–98 (W.D. Wis. 2016), *vacated and remanded*, 138 S. Ct. 1916 (2018). The relevant factors also include the overall partisan impact or effect of the map—that is, whether the map "diminish[es] or dilut[es]" a "voter's voting power on the basis of his or her [political] views," *e.g.*, *Harper v. Hall*, 867 S.E.2d 554, 557 (N.C. 2022), or produces "discriminatory results," *Harkenrider*, 197 N.E.3d at 452. And the relevant factors include whether mapdrawers subordinated traditional redistricting criteria for partisan reasons. *Rucho*, 139 S. Ct. at 2521 (Kagan, J., dissenting) ("override . . . districting criteria"); *see also League of Women Voters of Pa. v. Commonwealth (LWV of Pa.),* 178 A.3d 737, 816–21 (Pa. 2018); *LWV of Ohio*, 192 N.E.3d at 412; *Harper*, 867 S.E.2d at 558. The State of New Mexico itself has endorsed these or closely related factors when gauging partisan intent for partisan-gerrymandering purposes, in the amicus brief it joined before the U.S. Supreme Court in *Rucho*. *See* Pls.Ex.29 at 10–13.

46. Here, the Legislature drew SB1 with clear partisan intent to entrench the Democrats in power, based upon all of these considerations.

47. *First*, direct evidence shows that the Legislature enacted SB1 with the partisan intent of maximizing a Democrat gerrymander by ensuring that all three congressional districts were above a DPI of 53%, thereby entrenching their party in power by making it difficult for Republicans to win any of the three districts. *Supra* pp.7–10; *accord Rucho*, 139 S. Ct. at 2510–11, 2517 (Kagan, J., dissenting).

48. Senator Stewart bragged that, with SB1, the Legislature had "improved the peoples map [the Concept H Map] and now have CD 2 at 53% dpi [Democratic Performance Index]!" Pls.Tr.Ex.1 at 4; *Rucho*, 139 S. Ct. at 2510–11, 2517 (Kagan, J., dissenting) (Maryland officials "openly admitted to a single driving purpose: flip [a single] District"). Further, in response to the question, "Who takes the hit? . . . There's only so much dpi to go around, you know," Senator Stewart explained how the Legislature had carefully drafted SB1 to provide safe Democrat-majorities in District 1 and District 3, while still flipping District 2 from a Republican-majority to a Democrat-majority district: "Sanderoff's dpi for your map H is 51.8% [for District 2]. That's not enough for a mid term election so we adjusted some edges, scooped up more of abq [Albuquerque] *and are now at 53%. CD 1 is 54%, CD 3 is 55.4%.*" Pls.Tr.Ex.1 at 4 (emphasis added); *compare Rucho*, 139 S. Ct. at 2510–11, 2517 (Kagan, J., dissenting) (Maryland officials desiring to "press their advantage" while still protecting existing Democrat majorities in other districts).[8]

[8] A tweet from Senator Stewart, made just a few months later, only bolsters what is obvious from Senator Stewart's text-message conversation—that the Legislature drew SB1 to flip District 2 from Republican to Democratic, while retaining Democratic control in the other two districts. In response to a tweet about Representative Herrell, Senator Stewart stated in her tweet, "We are sorry we've sent her to DC. Our Redistricting session is offering a way out of her chaotic and divisive politics." Pls.Ex.17 at 1; *compare Rucho*, 139 S. Ct. at 2510–11, 2517 (Kagan, J., dissenting).

49. The Legislature applied a consistent policy during the map-drawing process of no district falling below 53% DPI. Pls.Supp.Ex.1 at 52, 59–60; *see also* Pls.Supp.Ex.2 at 143. For example, in debating various "options" for New Mexico's congressional redistricting map, the lead staffer for the New Mexico Senate Democrats, Mr. Quinn-Quesada, explained that "all three [districts] should be above 53% Sanderoff DPI," in response to a question whether legislative leadership "require[s]" that result. Pls.Supp.Ex.1 at 52, 59–60; *see also* Pls.Supp.Ex.2 at 143. Other participants in this email chain included Ms. Leith, an advisor to the New Mexico Speaker of the House, Tr. Day 1 at 39, and Ms. Ellis-Moore, the campaign manager of Congresswoman Fernández. Pls.Supp.Ex.1 at 52, 59–60; *see also* Pls.Supp.Ex.2 at 143.[9]

50. Legislative Defendants are wrong when they argue that statements by Legislative leaders are not relevant to determining partisan intent. Justice Kagan did *not* limit the evidence that may satisfy the intent element of her controlling test to the text of the redistricting legislation itself. *Rucho,* 139 S. Ct. at 2510–11, 2517 (Kagan, J., dissenting); *see* Opinion at 48, *Grisham*, No.S-1-SC-39481 (N.M. Sept. 22,

[9] Other communications from key Democrat legislators are in accord. Just one day after Representative Herrell won election from District 2 in 2020, Speaker Egolf publicly announced, "So this is the last election for New Mexico's 2nd Congressional District with a map that looks like it looks now." Pls.Ex.15 at 1.; *compare Rucho*, 139 S. Ct. at 2510–11, 2517 (Kagan, J., dissenting). Speaker Egolf continued: "So next time it'll be a different district and we'll have to see what that means for Republican chances to hold it." Pls.Ex.15 at 1; *compare Rucho*, 139 S. Ct. at 2510–11, 2517 (Kagan, J., dissenting). A December 11, 2021, political-mobilization email from Senator Cervantes (a sponsor of SB1) to his "Friends" explains the different districts that Speaker Egolf had envisioned. Pls.Ex.16 at 1–2. "Historically, conservative and Republican performing areas of the state were 'packed' into the southern district boundaries [*i.e.*, District 2] to assure easier margins for [the Democratic candidates in] the two northern districts." *Id.* at 1. SB1 changes that, however, by shifting some of the "very large [Democratic] advantages" in Districts 1 and 3 to District 2—meaning that New Mexico Democrats no longer have to "sacrifice the southern district to ease electability [of Democrats] in the north." *Id.* at 1–2; *compare Rucho*, 139 S. Ct. at 2510–11, 2517 (Kagan, J., dissenting).

2023) (holding that *Benisek* and *Rucho* are "useful evidentiary template[s]" here). Rather, Justice Kagan repeatedly relied upon statements from the state officials overseeing the redistricting processes in the two States at issue there to conclude that the partisan-intent element was satisfied, in addition to other non-literal-text evidence. *Rucho,* 139 S. Ct. at 2510–11, 2517 (Kagan, J., dissenting); *see* Opinion at 48, *Grisham*, No.S-1-SC-39481 (N.M. Sept. 22, 2023). In *Benisek*, for example, Justice Kagan concluded that Democrat leaders' candid statements, including the governor's statement that he wanted "to create a map that was more favorable for Democrats over the next ten years," indicated their partisan intent. *Rucho,* 139 S. Ct. at 2010–11, 2017 (Kagan, J., dissenting). Further, Justice Kagan's consideration of such statements from state officials is consistent with numerous courts across the country to have adjudicated partisan-gerrymandering claims, which courts similarly relied upon statements from key state officials to find that the map at issue was drawn with impermissible partisan intent. *See, e.g.*, *League of Women Voters of Fla. v. Detzner*, 172 So.3d 363, 388 (Fla. 2015) ("the actions and statements of legislators and staff, especially those directly involved in the map drawing process," are "relevant on the issue of intent" (citation omitted)); *Common Cause v. Rucho*, 284 F. Supp. 3d 780, 788 (M.D.N.C. 2018) ("Plaintiffs adduced direct evidence of the General Assembly's invidious partisan intent—including statements by the legislators and consultant responsible for drawing the 2016 Plan[.]"); *Texas v. United States*, 887 F. Supp. 2d 133, 165 (D.D.C. 2012) (explaining that the court's "skepticism about the legislative process that created [the challenged district] [was] further fueled by an email sent

between staff members on the eve of the Senate Redistricting Committee's markup of the proposed map"), *vacated on other grounds*, 133 S. Ct. 2885 (2013); *see also Easley v. Cromartie*, 532 U.S. 234, 254 (2001) (email from "legislative staff member responsible for drafting districting plans" to state senators relevant in racial-gerrymandering challenge). Indeed, under Legislative Defendants' view, a court could not rely even on racist statements from legislative leadership during the redistricting process when deciding racial-gerrymandering claims. *Contra Easley*, 532 U.S. at 254. This powerful line of on-point authority refuting Legislative Defendants' view explains why the State of New Mexico endorsed the use of statements from key state officials as evidence of partisan intent for partisan-gerrymandering claims in the amicus brief in Rucho before the U.S. Supreme Court. Pls.Ex.29, at 11–12.

51. Legislative Defendants' citation of non-redistricting cases for the primacy of the literal text of a law to establish legislative intent is completely irrelevant. *See* Leg.AFFCL.34–35 (citing *Albuquerque Bernalillo Cnty. Water Util. Auth. v. N.M. Pub. Regul. Comm'n*, 2010-NMSC-013, ¶¶ 16, 52, 148 N.M. 21, 229 P.3d 494 (interpreting the Public Utility Act); *U.S. Brewers Ass'n*, 1983-NMSC-059, ¶¶ 1, 10 (analyzing constitutionality of the 1979 amendment to the Discrimination in Selling Act); *Whitely v. N.M. State Pers. Bd.*, 1993-NMSC-019, ¶¶ 1, 16–17, 115 N.M. 308, 850 P.2d 1011 (interpreting the Youth Authority Act); and *Fann v. Kemp,* 515 P.3d 1275, 1285 (Ariz. 2022) (addressing legislative privilege in the context of ballot

audit)).[10] A claim that the Legislature has engaged in impermissible gerrymandering is "entirely different than a traditional lawsuit that seeks to determine legislative intent through statutory construction." *Detzner*, 172 So.3d at 388 (citation omitted). Further, the New Mexico Supreme Court ordered this Court to follow the test that Justice Kagan applied in her *Rucho* dissent, and that test considers statements from legislators to establish partisan intent. Am. Order 3, *Grisham v. Van Soelen*, No.S-1-SC-39481 (N.M. Aug. 25, 2023).

52. *Second*, Democrats controlled the entire map-drawing process for SB1, affording Republicans with no meaningful input or role. For example, Democrat legislative leadership alone took charge of drafting SB1 and, while accepting *pro forma* meetings with Republican legislators, did not incorporate *any* Republican input. Tr. Day 1 at 74–82, 98–106, 133; Pls.Ex.8 ¶¶ 3–4, 7–11; Pls.Ex.32 ¶¶ 3–4; *see, e.g.*, *Rucho*, 139 S. Ct. at 2510–11, 2520–21 (Kagan, J., dissenting); *Harkenrider*, 197 N.E.3d at 453 ("largely one-party process" (citation omitted)). Further, when the Legislature presented SB1 to the floor, only Democrats voted in support, with all present and voting Republicans (joined by a single Democrat holdout and an independent holdout) voting against it. *Supra* pp.7–8; Tr. Day 1 at 74–77; Pls.Ex.8 ¶¶ 6, 9; Pls.Ex.32 ¶¶ 6, 9. Then, the Democrat Governor signed SB1. *Supra* pp.7–8. In all, SB1 was a single-party-drafted map, crafted to further that single party's ends,

[10] Legislative Defendants also cite, Leg.AFFCL.36, *In re 2022 Legislative Districting of State*, 282 A.3d at 197, but the partisan-gerrymandering test that the Maryland Court of Appeals applied to Maryland's state-legislative map as a matter of Maryland state law is incompatible with the controlling test from Justice Kagan's dissenting opinion in *Rucho*, *compare id.* at 196–97, *with Rucho*, 139 S. Ct. at 2516 (Kagan, J., dissenting)—which test Justice Kagan applied *as to Maryland* in *Rucho* itself, *Rucho*, 139 S. Ct. at 2509 (Kagan, J., dissenting).

supported only by that single party. *See, e.g.*, *Rucho*, 139 S. Ct. at 2511 (Kagan, J., dissenting) ("party-line vote"); *Harkenrider v. Hochul*, 167 N.Y.S.3d 659, 664 (N.Y. App. Div.), *aff'd as modified,* 197 N.E.3d 437 (N.Y. 2022); *Householder,* 373 F. Supp. 3d at 1093–96; *Common Cause,* 318 F. Supp. 3d at 861–64; *Whitford,* 218 F. Supp. 3d at 887–95; *LVW of Pa.,* 178 A.3d at 817–18; *Detzner,* 172 So. 3d at 390–93.

53. Legislative Defendants *do not* argue that the process to draft SB1 meaningfully included Republicans, *see generally* Leg.AFFCL.16–18, as might weigh against a finding of impermissible partisan intent under the first element of Justice Kagan's controlling test, *see Rucho,* 139 S. Ct. at 2510–11, 2520–21 (Kagan, J., dissenting); *Harkenrider*, 197 N.E.3d at 452 ("[I]nvidious intent could be demonstrated directly or circumstantially through proof of a partisan process excluding participation by the minority party[.]"). Indeed, Legislative Defendants' recitation of the SB1 map-drawing process—especially juxtaposed with the process used by the Committee to adopt its proposed maps—underscores the SB1 map-drawing process's entirely partisan nature. *Compare* Leg.AFFCL.16–18, *with id.* at 11–16. The Committee held a combined 16 public hearings and accepted extensive public comment beginning in early August 2021 before it adopted its proposed maps in mid-October 2021—for a consideration period of approximately two-and-a-half months. *See* Leg.AFFCL.11–16; Pls.Ex.11, at 8–9, 10–11. The Democrat-controlled Legislature, in marked contrast: (1) drew SB1 out of the public eye, *see* Pls.Ex.8, ¶ 4 ("This process was a closed-door, and I believe exclusively Democratic-run, one."); Pls.Ex.32, ¶ 4 (same); (2) rejected any meaningful Republican input into the map-

drawing process, Pls.Ex.8, ¶¶ 3–4, 7–11; Pls.Ex.32 ¶¶ 3–4; and (3) approved the map just four days after its public introduction without securing *any* Republican votes, *see* Leg.AFFCL.16–18; Pls.Ex.13; Pls.Ex.14.

54. *Third*, the Legislature's decision to produce SB1 by turning the Citizen Redistricting Committee's Concept H Map, *see* Pls.Tr.Ex.1 at 4—which already favored Democrats—into a near-perfect Democrat gerrymander, provides additional evidence of partisan intent, *see Householder,* 373 F. Supp. 3d at 1096. As explained above, to create SB1, legislative leadership began with the Concept H Map and then either "retained" or "swapped" certain precincts among the three districts that the Concept H Map had created. Trende Rep.67–69; Tr. Day 1 at 264–67; *supra* pp.7–8. The choices to retain or swap these precincts follow a partisan pattern: retaining a sufficient number of Democrat precincts from the Concept H Map districts in each SB1 district; swapping Democrat-leaning precincts from the Concept H Map's District 1 for Republican-leaning precincts in District 2, thus making the latter more Democrat; and swapping Democrat-leaning precincts from the Concept H Map's District 3 for Republican-leaning precincts in District 2, again making the latter more Democrat. Trende Rep.67–69; Tr. Day 1 at 264–67, 270–71.

55. *Fourth*, SB1's objective features further demonstrate that the Legislature acted with egregious partisan intent when enacting SB1. *E.g.*, *Rucho*, 139 S. Ct. at 2517–18 (Kagan, J., dissenting). Again, the Legislature applied a consistent policy during the map-drawing process of no district falling below 53% DPI. Pls.Supp.Ex.1 at 59–60; *see also* Pls.Supp.Ex.2 at 143. And the calculations from all four experts

who did partisan-composition calculations in this case—experts from Plaintiffs and Legislative Defendants—show that the Legislature achieved its goal with SB1, drawing a near-perfect partisan gerrymander, given the partisan composition of each of the three districts that SB1 creates. *See supra* pp.10–11; *see also infra* Part I.B. As a result, these calculations show, it is difficult for Republicans to win *any* of New Mexico's three districts under SB1—including District 2. *See supra* pp.16–18; *see also infra* Part I.B.

56. Mr. Trende also looked at voter-registration data before and after SB1, concluding that SB1 ultimately provided the Democrats with "a 13% registration advantage in the district," although District 2 had roughly even registration between Republicans and Democrats immediately prior to SB1, Trende Rep.38; Tr. Day 1 at 241; *infra* Part I.B.

57. Further, Mr. Trende conducted a statistical analysis of SB1 as compared to one million maps randomly generated by a computer without taking partisanship into account, and that analysis showed SB1 was more favorable for Democrats than 99.89% of the one-million ensemble maps (or 998,897 maps), meaning that "it is implausible, if not impossible, that [SB1] was drawn without a heavy reliance upon political data and was likely drawn to favor or disfavor a political party." Trende Rep.43–47; Tr. Day 1 at 216, 256–59, 261; *supra* pp.18–19 (confirming results with multiple other sets of simulated maps, totaling 2,040,000 simulated maps); *infra* Part I.B.

58. Legislative Defendants argue that SB1 "is the product of population changes in New Mexico," rather than the Legislature's partisan intent to entrench Democrats, Leg.AFFCL.22, but that is wrong. SB1 made substantial shifts of residents between districts not justified by the need to reach population equality. Trende Rep.34–41. After the 2020 census, New Mexico's districts were less than two percentage points away from the ideal population—District 1 only needed to gain 11,264 residents, District 2 only needed to lose 8,181, and District 3 only needed to lose 3,082. Trende Rep.32; Tr. Day 1 at 234. Yet, SB1 shifted *505,952 residents* between districts, *more than 20 times what was needed to meet equal-population requirements*. Trende Rep.33.

59. *Finally*, the Legislature also subordinated traditional redistricting criteria for partisan reasons, providing still more evidence of its impermissible partisan intent. *E.g.*, *Rucho*, 139 S. Ct. at 2521 (Kagan, J., dissenting). Under SB1, "for the first time in the state's history," the Southeast region falls within *all three* of the State's congressional districts, Trende Rep.35; Tr. Day 1 at 236–37, 280–82, despite both this region's historical centering in District 2, *see* Trende Rep.27–31, and New Mexico's "typical[ ]" reliance on "a regional basis for the state's districts," *id.* at 31; *accord* Pls.Ex.18 at 2–3 (explaining that SB1 cracked the agricultural industry and the oil and gas industry—longstanding communities of interest in District 2—across all three districts); Pls.Ex.7. Further, in the course of shattering the Southeast region in this way, SB1 "splits nine" counties—"the most in New Mexico's history"—while also creating districts that are "some of the least compact districts in New Mexico

history." Trende Rep.75–77. The Democrat-controlled Legislature trisected the Southeast region, notwithstanding traditional redistricting criteria, for an obviously partisan reason. "The Southeast region is consistently the most heavily Republican region of the state," *id.* at 25, thus the Legislature had to crack this region significantly across all three districts to dilute Republican voting strength sufficiently to flip District 2, *id.* at 42.

60. In all, the Court concludes that the Democrat-controlled Legislature's goal with SB1 was to "entrench" the Democrats in power, at the expense of Republicans, Opinion at 37–38, *Grisham*, No.S-1-SC-39481 (N.M. Sept. 22, 2023) (quoting *Rucho*, 139 S. Ct. at 2516 (Kagan, J., dissenting)), by making it "difficult" for Republicans to win in any district, including District 2, *see* Sanderoff Rep.6 (quoting Oxford English Dictionary). And here, the Court adopts as the proper test of "entrenchment" that put forward by Legislative Defendant's own expert Mt. Sanderoff, as "establishing something firmly, especially so that change is *difficult or impossible*." *Id.* (emphasis added). Accordingly, the Court rejects Legislative Defendants claim in their Annotated Findings Of Fact And Conclusions Of Law that "entrenchment" occurs only where "the election outcome for a congressional candidate of a given party is certain or foregone." Leg.AFFCL.39. Justice Kagan's controlling test in *Rucho* does not require Plaintiffs to show that "the election outcome for a [Republican] congressional candidate . . . is *certain or foregone*" to show entrenchment, Leg.AFFCL.39 (emphasis added)—although Plaintiffs have, in fact, shown that, *see* Pls.AFFCL.17, 34, 39–40. Rather, Plaintiffs need only show that SB1 makes it

"difficult" to win in a district, such as District 2, Sanderoff Rep.6 (quoting Oxford English Dictionary), as may occur where the challenged map takes "what was once a party stronghold [for Republicans]" and leaves Republican voters with "little or no chance to elect their preferred candidate," *Rucho,* 139 S. Ct. at 2519 (Kagan, J., dissenting). Again, Plaintiffs have met that standard here, given that the Legislature crafted SB1 to transform District 2 from a reliably Republican district into a district where Republicans lose even in a good Republican year, like 2022. *See supra* pp.7–22.

61. Legislative Defendants claim that the Democrat-controlled Legislature's intent with SB1 was to create competitive districts, *e.g.*, Leg.AFFCL.17–18, 24, 36–37, but that is wrong. The Legislature did not draft SB1 to provide an equal opportunity for Republicans and Democrats to win election in any of the districts. Rather, the Legislature intended to create a near-perfect Democrat gerrymander, applying a consistent policy of no district falling below 53% DPI. Pls.Supp.Ex.1 at 59–60. The Legislature created SB1 by starting with the Concept H Map—the most pro-Democrat map adopted by the Committee—and "improv[ing]" it to more securely flip District 2 to a Democratic-party majority with a 53% DPI *without* jeopardizing the Democrats' hold on District 1 and District 3 by keeping them both above a 53% DPI, because the Concept H Map's allocation of District 2 at 51.8% DPI was "not enough for a mid term election." Pls.Tr.Ex.1 at 4. So, because "[t]here's only so much dpi to go around"—as a representative for the Center for Civic Policy stated to Senator Stewart, Pls.Tr.Ex.1 at 4—the Legislature's plan to sweep the State's

districts required it to shift some of the "very large [Democrat] advantages" in Districts 1 and 3 into District 2 (making District 1 and 3 more Republican and District 2 more Democrat) to flip that district for the Democrats, but not so many Democrat voters as would provide a meaningful opportunity for Republicans to win in District 1 or District 3, Pls.Ex.16, at 1–2; Trende Rep.14, 41–42. The end result is a "max-[Democrat]" map, Tr. of Oral Arg., *Gill v. Whitford*, 138 S. Ct. 1916 (2018) (No.16-1161) (hereinafter "*Gill* Tr.")), with a 54% Democratic-party composition for District 1, a 53% Democratic-party composition for District 2, and a 55.4% Democratic-party composition for District 3, Pls.Tr.Ex.1 at 4—three districts that are all solidly Democrat. So, while SB1 does "increas[e] Republican performance in CD-1 and CD-3" and "Democratic performance in CD-2" as compared to the prior map, Leg.AFFCL.24, the Legislature made those adjustments to create the "best-case scenario for a [Democrat] gerrymander[ ]" in the State, Trende Rep.14; Tr. Day 1 at 216, 256–59, 261, while ensuring that it remains difficult for Republicans to win in any district—including District 2, *supra* pp.16–17. Indeed, like Legislative Defendants here, Maryland also attempted to defend its obviously gerrymandered District 6 in *Benisek* on a supposed desire "to create a competitive district," Pls.Ex.35, at 27–28, yet Justice Kagan concluded that Maryland's map was an obvious partisan gerrymander, *Rucho*, 139 S. Ct. at 2516–19, 2521–22 (Kagan, J., dissenting).

62. Legislative Defendants list a grab bag of policy considerations that SB1 purportedly pursues, but this does not support their conclusion. Leg.AFFCL.20–22, 24. Legislative Defendants' conflicting policy justifications are self-defeating. Under

their view, a policy of respecting communities of interest allows the Legislature to either unite a community in SB1 (such as by combining certain communities "due to affinities in lifestyle, culture, immigration status and concerns, and other similar interests," *id.* at 21), or divide a community in SB1 (such as by dividing the oil industry across multiple districts, *id.* at 40–41), with the Legislature's community-of-interest-unitive and community-of-interest-divisive purposes always constituting bona fide defenses against a finding of impermissible partisan intent.

63. This is an incorrect understanding of the law. It is very easy to comply with redistricting criteria—especially when defined as broadly as Legislative Defendants have articulated them here—to reach the political outcome that a Legislature intending to gerrymander may desire, thus such compliance has little relevance to rebutting an otherwise powerful showing of partisan intent. The district court in *Whitford v. Gill*—which authority Legislative Defendants invoke frequently in their filing, *see* Leg.AFFCL.35–37—made this precise point, explaining that advances in modern map-drawing technology empower partisan mapdrawers to draw redistricting maps that "atten[d] to traditional districting criteria," while still achieving a strong partisan gerrymander in favor of the mapdrawer's preferred party. 218 F. Supp. 3d 837, 849, 889 (W.D. Wis. 2016), *vacated and remanded*, 138 S. Ct. 1916 (2018); *see also Vieth v. Jubelirer*, 541 U.S. 267, 308 (2004) (Kennedy, J., concurring) (although compliance with traditional redistricting criteria "might seem [like a] promising" indicator of partisan fairness, they are not "sound as independent judicial standards for measuring a burden on representational rights"); *League of*

Women Voters of Pa. v. Pennsylvania, 178 A.3d 737, 817 (Pa. 2018); *Common Cause v. Rucho*, 318 F. Supp. 3d 777, 891 (M.D.N.C. 2018), *vacated and remanded*, 139 S. Ct. 2484 (2019); *see also Romo v. Detzner*, No. 2012-CA-000412, 2014 WL 3797315, at *8 (Leon Cnty. Fla. Cir. Ct. July 10, 2014). This is also why, in her dissenting opinion in *Rucho*, Justice Kagan recognized that mapdrawers may "manipulat[e] [ ] district lines for partisan gain" even as they otherwise comply with "a State's own (non-partisan) districting criteria." *See* 139 S. Ct. at 2521, 2523 (Kagan, J., dissenting). And the State of New Mexico joined an amicus brief in the U.S. Supreme Court in *Gill*, 138 S. Ct. 1916, making this exact point as well, *see* Pls.Ex.34, at 12–13. So, even if SB1 did pursue the allegedly neutral policy considerations that Legislative Defendants have put forward, that cannot negate a finding that the Legislature drew SB1 with the egregious partisan intent to entrench Democrats, as Plaintiffs' evidence shows. *See supra* pp.7–22.

64. Relatedly, many of the redistricting policies that Legislative Defendants invoke are not traditional redistricting criteria, but rather pretextual vehicles crafted to achieve the partisan ends articulated by Senator Stewart in her text messages. *See* Pls.Tr.Ex.1 at 4.

65. Starting with Legislative Defendants' claim that SB1 "[i]ncreas[es] the number of congressional representatives with a direct constituent interest and concerns relating to the extractive industries [e.g., oil] located in southeast New Mexico," Leg.AFFCL.21–22; *see also id.* at 40, the Court has already found that, as a factual matter, this consideration is a pretextual partisan consideration, not a

traditional redistricting criterion or a partisan-neutral consideration, for the multiple factual reasons discussed above. *Supra* pp.20–22.

66. The Legislature's criterion of "meld[ing] urban and rural constituencies," Leg.AFFCL.20–22, is of similar character. As with the oil industry, cracking urban and rural communities of interest between districts does not create more "represent[ation]" for these communities, *id.* at 20, but rather undermines their respective "shared interests" by spreading the community between three different Representatives, thereby diluting the community's influence, *see Miller*, 515 U.S. at 916, 919–20. Nor do courts recognize the desire to combine urban and rural voters into a single district as a traditional redistricting principle. Rather, this criterion often disregards "political subdivision or natural or historical boundary lines" and so is "little more than an open invitation to partisan gerrymandering." *Reynolds v. Sims*, 377 U.S. 533, 578–79 (1964); *Hellar v. Cenarrusa*, 682 P.2d 539, 544 (Idaho 1984) (citing *Reynolds*, 377 U.S. at 578). Here, SB1 combines into the redrawn District 2 portions of the Central region—a region that contains Albuquerque, is the most populous region, and is exceedingly Democrat, Trende Rep.25, 34–35; *see* Tr. Day 1 at 237—with the "rural" and "agricultural" Southeast region, Pls.Ex.7; Tr. Day 1 at 82–83, which is "the most heavily Republican region," Trende Rep.25; Tr. Day 1 at 237. That strained combination of these disparate regions needlessly disregards "political subdivision" and "historical boundary lines," which exposes the Legislature's real motivator here: "partisan gerrymandering." *Reynolds*, 377 U.S. at 578–79; *Hellar*, 682 P.2d at 544.

67. In sum, the Legislature drew SB1 with the egregious partisan intent to entrench Democrats in District 2 at the expense of Republicans, just like mapdrawers in *Benisek* who drew Maryland's Sixth District with the impermissible partisan intent to flip that district. *Rucho,* 139 S. Ct. at 2510–11, 2516 (Kagan, J., dissenting). Again, the Legislature's impermissible partisan intent in clearer than the Maryland mapdrawers in *Benisek*, as the Legislature here intended to craft a near-perfect Democrat gerrymander of the State's congressional map. *See id.*

B. SB1 Has An Egregious Partisan Effect

68. The second prong of Justice Kagan's test considers the "effects" of the redistricting map alleged to be a partisan gerrymander, asking whether "the lines drawn in fact have the intended [partisan] effect by substantially diluting [the plaintiffs'] votes." *Rucho*, 139 S. Ct. at 2516 (Kagan, J., dissenting) (citation omitted). As the New Mexico Supreme Court explained in its prior opinion in this case, "many forms of evidence may be relevant to prove" the "substantial effect" element, including, for example, the various forms of evidence at issue in *Rucho* and *Benisek* and a comparison of voter-registration data. Opinion at 48, *Grisham*, No.S-1-SC-39481 (N.M. Sept. 22, 2023). Five categories of evidence of impermissible partisan effects are particularly relevant in this case.

69. First, plaintiffs can show that a map has impermissible partisan effects by "comparing voter registration percentages or data for the political party affiliation of the individual plaintiffs under the prior districting map against parallel percentages or data under the challenged districting map." *Id.* at 46–47.

70. Second, plaintiffs can demonstrate a map's impermissible partisan effects by showing, with aggregated election data, that the map balances the partisan composition of the districts to create a near-perfect gerrymander. *See id.* at 46 ("all evidence relevant to whether the challenged legislation seeks to effect political entrenchment").

71. Third, plaintiffs can establish a map's impermissible partisan effects by demonstrating that mapdrawers made "substantial" shifts in a district's "partisan composition" through cracking and packing that are unnecessary to reach population equality. *Rucho*, 139 S. Ct. at 2519, 2522 (Kagan, J., dissenting); Opinion at 48, *Grisham*, No.S-1-SC-39481 (N.M. Sept. 22, 2023).

72. Fourth, plaintiffs can establish a map's impermissible partisan effects with a sophisticated social-science analysis, the "extreme outlier approach." *Rucho*, 139 S. Ct. at 2517–18 (Kagan, J., dissenting); Opinion at 48, *Grisham*, No.S-1-SC-39481 (N.M. Sept. 22, 2023). That approach, in particular, uses "advanced computing technology to randomly generate a large collection of districting plans that incorporate the State's physical and political geography and meet its declared districting criteria, *except for* partisan gain." *Rucho*, 139 S. Ct. at 2518 (Kagan, J., dissenting) (considering this evidence as to the challenged North Carolina map). These simulated maps, "each with a partisan outcome attached to it," can then be "line[d] up . . . on a continuum—the most favorable to Republicans on one end, the most favorable to Democrats on the other," allowing the analyst to identify "the median outcome—that is, the outcome smack dab in the center—in a world with no

partisan manipulation." *Id.* Next, the map is measured against this continuum, revealing "where the State's actual plan falls on the spectrum"—whether it is "at or near the median or way out on one of the tails." *Id.* This comparison establishes the partisan effects of a gerrymandered map, as "[t]he further out on the tail" that a map falls, "the more extreme the partisan distortion and the more significant the vote dilution." *Id.*; *see also Harkenrider*, 167 N.Y.S.3d at 664–67; *Adams v. DeWine*, 195 N.E.3d 74, 86–91 (Ohio 2022); *LVW of Pa.*, 178 A.3d at 770–75, 818–21.

73. Finally, plaintiffs may help show that a map has impermissible partisan effects with the map's disregard of traditional redistricting principles, *see* Opinion at 46, *Grisham*, No.S-1-SC-39481 (N.M. Sept. 22, 2023) ("all evidence relevant to whether the challenged legislation seeks to effect political entrenchment"), although Justice Kagan in *Rucho* did not consider this evidence probative, and this consideration is less weighty as a result, *see Rucho*, 139 S. Ct. at 2513, 2521, 2523 (Kagan, J., dissenting).

74. Here, SB1 has an egregious partisan effect since it substantially dilutes Republican votes in District 2—cracking Republicans out of District 2 and into the State's two other districts, with a 53% DPI or higher—as seen with the five categories of evidence of partisan effect described above.

75. *1. Voter-Registration Changes*. To begin, Plaintiffs have established SB1's impermissible partisan effect through SB1's change in the voter registration in each of the three districts, Opinion at 46–47, *Grisham*, No.S-1-SC-39481 (N.M. Sept. 22, 2023), supporting the conclusion that it is "difficult" for Republicans to win in any

district under SB1, *supra* pp.16–18—including District 2. As found above, Mr. Trende calculated that, under SB1, District 1 "gained 10,078 registered Democrats, 47,789 registered Republicans and 13,708 registered Independents," dropping the Democrat advantage here from 18.7% to 9.1%. Trende Rep.38; Tr. Day 1 at 240. In District 3, Democrat registration "dropped by 19,810, while the number of registered Republicans increased by 2,261," decreasing the Democratic advantage "from 21.4% to 17.6%." Trende Rep.38; Tr. Day 1 at 241. So, "[w]ith the Democrats' advantage declining in two of the state's congressional districts, these voters could only go into the 2nd District." Trende Rep.38; Tr. Day 1 at 241. Thus, under SB1, District 2 "added 21,615 Democratic registrants, while giving up 31,483 Republican registrants," providing the Democrats with "a 13% registration advantage in the district," Trende Rep.38, even though District 2 had roughly even registration between Republicans and Democrats immediately prior to SB1, *id.* at 37; Tr. Day 1 at 241.

76. Legislative Defendants state that SB1's "distribution of registered voters by party more closely reflects the state's overall party registrations," Leg.AFFCL.23, but this is an admission that SB1 is a near-perfect gerrymander. As Plaintiffs persuasively explained, "the best-case scenario for a gerrymanderer" in New Mexico who wants Democrats to sweep the State's three districts "would be drawing three districts" with a Democratic-party composition of "54.29%," which matches the Democratic Party's statewide composition. Pls.AFFCL.31–32 (using 2020 presidential election vote data) (quoting Trende Rep.14 and also citing Pls.Tr.Ex.1 at

4, Brace Rep.74 (pdf page number), Sanderoff Rep.6, and Sanderoff Dep.43). Drawing districts with a Democratic-party composition that matches the Democratic Party's statewide composition ensures that there are "enough" Democrat voters in each district to secure a Democrat victory in all three districts in all but the most extremely pro-Republican conditions, without making any one Democrat candidate "take[ ] the hit"—given the reality that "[t]here's only so much dpi to go around." Pls.Tr.Ex.1 at 4. So, when the Legislature "improved" the Concept H Map to make District 1 "54%" Democrat, District 2 "53%" Democrat, and District 3 "55.4%" Democrat, *id.*, it created a "max-[Democrat]" gerrymander, *Gill* Tr.7.

77. *2. Election-Data Aggregation/Partisan Balancing*. Plaintiffs have also established SB1's impermissible partisan effect by using election-data aggregation to show that the Democrat-controlled Legislature balanced the Democrat composition of each of SB1's three districts to make it "difficult," *supra* p.39, for Republicans to win any of those districts by making each district at least 53% DPI, *see* Opinion at 46–47, *Grisham*, No.S-1-SC-39481 (N.M. Sept. 22, 2023).

78. Calculations prepared by all four experts in this case each provide the same evidence of partisan balancing, *supra* pp.10–11, as also discussed immediately below, in turn.

79. Beginning with Legislative Defendants' expert Mr. Sanderoff, he admitted that the statewide DPI was 54.2%, Sanderoff Dep.45—which means that a perfect Democrat gerrymander here would have a 54% Democratic-party composition in each of the three districts. Yet, SB1 nearly obtains that exact result, as Mr. Sanderoff's

own calculations show. Specifically, in his expert report, Mr. Sanderoff calculated District 2 under SB1 to be 53% Democrat and 47% Republican. Sanderoff Rep.6. Then, as the above communications disclosed during discovery show, Mr. Sanderoff calculated District 1 to be 54% Democrat (thus 46% Republican) and District 3 to be 55.4% Democrat (thus 44.6% Republican), which calculations he provided to the Democrat legislative leadership. *See* Pls.Tr.Ex.1 at 4.

80. Mr. Sanderoff's report claims that District 2 is a competitive district based on "[t]he partisan performance measure" for this district, which, again, he calculated to be 53% Democrat and 47% Republican. Sanderoff Rep.6–7. But Mr. Sanderoff does not cite any supporting literature or any study in his expert report showing that this metric is a valid measure of competitiveness, including as to New Mexico's political landscape. In any event, given New Mexico's political composition, a district with a Democratic-party composition of approximately 54% is a *perfect* gerrymander. *Supra* pp.10–11. So, the Legislature drawing District 2 in SB1 to have a partisan performance score of 53% is nearly a perfect gerrymander.

81. Indeed, Mr. Sanderoff could only provide four examples in New Mexico's history of a Republican winning any type of race with a 53%-type DPI, whether state or federal. Tr. Day 2 at 220–21 (discussing results of the 2014, 2020, and 2022 races for "house District 39" and the results of one race for "State Senate District 30"). And, as explained above, three of those raises occurred in a single House district, *id.*, making these examples particularly unhelpful as an indicator of Republicans' prospects in District 2, a congressional district.

82. Mr. Sanderoff also asserts that the close nature of the 2022 congressional race for District 2 demonstrates that the district could be won by either party, Sanderoff Rep.9–11—and, therefore, is not gerrymandered. But one of the elections for Maryland's Sixth District was a close race, despite the extreme partisan gerrymander of that district, yet that did not prevent Justice Kagan from concluding that the Sixth District was an easy case of unconstitutional partisan gerrymandering. *Compare* Pls.Ex.30 (49.7% to 48.2%, in the Democrat *incumbent* candidate's favor), *with Rucho*, 139 S. Ct. at 2517–19 (Kagan, J., dissenting). In any event, Mr. Sanderoff ignores the crucial context provided by Mr. Trende in his report. Specifically—as discussed above, *supra* p.17, and more fully below, *infra* pp.54–55—the 2022 election cycle favored Republicans across the country, and Representative Herrell was the District 2 incumbent. Trende Rep.43; Tr. Day 1 at 248. Further, while New Mexico has a significant contingent of Republican voters, given that Republicans received 44.9% of the statewide vote for Congress in the 2022 election, Republicans won *none* of the State's three congressional seats. Trende Rep.43; Tr. Day 1 at 248. Indeed, prior to SB1, Democrats had only won all three districts in New Mexico in 2008 and 2018, when the "environment" was "exceptionally good" for them. Trende Rep.43; Tr. Day 1 at 247–48. Now, as a result of SB1, Democrats can win District 2 even under very difficult circumstances. Trende Rep.43; Tr. Day 1 at 248–49.

83. Mr. Trende's calculations, using two sets of data, align. With 2020 presidential election vote data, Mr. Trende calculated that, under New Mexico's prior

map, District 1 was 61.7% Democrat; District 2 was 44.0% Democrat; and District 3 was 59.0% Democrat. Trende Rep.42; Tr. Day 1 at 244–45. Then, under SB1, District 1 was 57.4% Democrat; District 2 was 53.0% Democrat; and District 3 was 55.5% Democrat. Trende Rep.42; Tr. Day 1 at 244–45. Similar results obtained under Mr. Trende's Democratic Index: Under the *prior* map, District 1 was 60.4% Democrat; District 2 was 46.1% Democrat; and District 3 was 59.9% Democrat. Trende Rep.42; Tr. Day 1 at 245. Under *SB1*, District 1 was 56.1% Democrat; District 2 was 54.6% Democrat; and District 3 was 57.3% Democrat. Trende Rep.42; Tr. Day 1 at 245.

84. Further, Mr. Trende also demonstrated, in undisputed testimony, that the Legislature's meticulous allocation of Democratic-party voters in each of SB1's three districts makes SB1 a near-perfect gerrymander—which is an additional egregiousness factor here that was not present in *Benisek*, where the Maryland mapdrawers targeted a single district only. *See Rucho,* 139 S. Ct. at 2510–11, 2516–17 (Kagan, J., dissenting). New Mexico is "a small, competitive state," and this "limits what a would-be gerrymanderer may accomplish" here. Trende Rep.13–16, 41–42; Tr. Day 1 at 222–26. Because "[t]here's only so much dpi to go around," Pls.Tr.Ex.1 at 4, a gerrymandering Legislature bent on winning all three seats must be careful not to "make District 2 even more Democratic" than SB1 does, as that would automatically make District 3 or District 1 more Republican, threatening the Democrats' control there, Trende Rep.41–42; Tr. Day 1 at 222–26. Rather, "the best-case scenario for a gerrymanderer" in New Mexico who wants to sweep the

congressional races "would be drawing three districts" with a Democratic-party composition of "54.29%." Trende Rep.14 (using 2020 presidential election vote data). Yet, SB1 obtains nearly that result, meaning that it is a near perfect gerrymander that entrenches Democrats in power. In other words, when New Mexico achieves an "extreme gerrymander" like SB1, its districts' partisan-composition margins "appear much closer" than those of a more populous State with many districts, Trende Rep.13–16, 42; Tr. Day 1 at 223–24, even as those margins "remain[ ] an outlier with respect to [New Mexico's] partisanship," Trende Rep.16; Tr. Day 1 at 225–27.

85. Moving to Legislative Defendants' expert Mr. Brace, he calculated a "State Composite Score" for each district under the prior map, the three maps proposed by the Citizen Redistricting Committee, and SB1, using data from statewide nonjudicial races. Brace Rep.6–9. Mr. Brace's statewide composite score for District 2 under the *prior* map is 44.75% Democrat versus 55.25% Republican. *Id.* at 51 (pdf page number). Then, his statewide composite score for District 2 under *SB1* is 52.73% Democrat versus 47.27% Republican. *Id.* at 73 (pdf page number). Although Mr. Brace concludes from this data that SB1's shift of composite scores in the Democrats' favor is "not overwhelming[ ]," such that SB1 is "not . . . an egregious gerrymander," *id.* at 6, he fails to grapple with just how different the shift from 44.75% Democrat (District 2 under the prior map) to 52.73% Democrat (District 2 under SB1) is in a State like New Mexico. The perfect gerrymander for Democrats in New Mexico is a composite score of 54.13% Democrat in each district—as Mr. Brace's own data shows, *see id.* at 16 (pdf page number 73) (calculating statewide composite score as 54.13%

under SB1). Thus SB1's composite score of 53.57% Democrat for District 1; 52.73% Democrat for District 2; and 55.97% Democrat for District 3 is a near perfect gerrymander.

86. Finally, as for Legislative Defendants' expert Dr. Chen, he too provided similar figures of partisan balancing, demonstrating SB1's impermissible partisan effect. Dr. Chen used the Republican Performance Index and concluded that, under SB1, District 1 was 46.5% Republican (53.5% Democrat); District 2 was 47.0% Republican (53% Democrat); and District 3 was 44.0% Republican (56% Democrat). Chen Rep.14.

87. The Legislature's partisan balancing of the State's three districts in SB1, as shown by the above-described evidence, proves that SB1 has the impermissible partisan effect of "entrench[ing]" Democrats in power at the expense of Republicans. Opinion at 37–38, *Grisham*, No.S-1-SC-39481 (N.M. Sept. 22, 2023). That is because, as explained in the above findings of fact, SB1 makes it "difficult" for Republicans to win in District 2 and in Districts 1 and 3, which is the standard for "entrenchment" that applies here, *supra* pp.16–18, 39.

88. SB1's egregious partisan effects were seen in the very first election under the new map, *see Rucho*, 139 S. Ct. at 2519 (Kagan, J., dissenting), which election showed just how "difficult" it is for Republicans to win under SB1, *supra* p.16. In District 2, Democrat challenger Gabe Vasquez prevailed over Republican incumbent Congresswoman Yvette Herrell, in a year that favored Republicans nationally. *See* Trende Rep.43; Tr. Day 1 at 248. New Mexico's partisan gerrymandered

congressional map gave Democrats full control of the state's delegation for only the third time since New Mexico began electing members of Congress through district-wide elections. Trende Rep.43; Tr. Day 1 at 247–48. Before Congresswoman Herrell's loss in 2022, New Mexico Democrats had only won control of all three districts in election years that were exceptionally favorable for Democrats. Trende Rep.43 (2008 and 2018 elections); Tr. Day 1 at 247–48. Yet, 2022 was not such a year: Republicans won 44.9% of the statewide votes for Congress in 2022, but they nevertheless failed to elect a single representative. Trende Rep.43; Tr. Day 1 at 248; *see* Pls.Ex.21.

89. Legislative Defendants claim that "election results provide the best direct and reliable evidence of vote dilution" and that the 2022 election under SB1 demonstrates that "candidates from either of the major parties can effectively compete" in District 2, since the Democrat candidate from District 2 won by "a mere 1,350 votes" over Republican Representative Herrell. Leg.AFFCL.38. But this ignores essential context surrounding the 2022 election, which context was just provided immediately above. The 2022 election cycle favored Republicans across the country, and Republican congressional candidates in New Mexico garnered 44.9% of the vote statewide. Trende Rep.43. Further, Representative Herrell was the *incumbent* from District 2, and, as Mr. Sanderoff agreed in his deposition, incumbents are "[o]ftentimes" "hard to beat" given that they "enjoy an advantage at the polls." Sanderoff Dep.54–55; Tr. Day 2 at 245–46. Nevertheless, the Democrat challenger to Representative Herrell still prevailed in SB1's redrawn District 2, demonstrating that—after SB1—Democrats will win District 2 even in very difficult circumstances.

Trende Rep.42–43. The qualitative evidence of SB1's impermissible partisan effect is notably similar to the qualitative evidence presented against Maryland's 2011 map in *Benisek*, including as to actual election results, which evidence Justice Kagan found overwhelming. There, the Maryland mapdrawers entirely "reconfigured" Maryland's Sixth District to flip it from a Republican-party majority to a Democratic-party majority, while preserving existing Democratic-party majorities throughout the State—just like the Legislature's redrawing of District 2 here. *Rucho*, 139 S. Ct. at 2519 (Kagan, J., dissenting). Further, in a favorable year for Republicans nationwide, the Democrat *incumbent* in Maryland's Sixth District narrowly defeated a Republican, after the Democrat gerrymander of this district. *Supra* pp.26–27.

90. *3. Substantial And Unnecessary Shifts In Population*. Plaintiffs have shown SB1's impermissible partisan effects because mapdrawers made substantial and unnecessary shifts in the population—that is, cracking and packing unnecessary to achieve population equality—for the partisan gain of flipping District 2 for the Democrats while keeping District 1 and 3 reliably Democrat districts, including as to individual Plaintiffs. *Rucho*, 139 S. Ct. at 2519, 2522 (Kagan, J., dissenting); Opinion at 48, *Grisham*, No.S-1-SC-39481 (N.M. Sept. 22, 2023).

91. The Legislature made substantial shifts to alter the political composition of District 2 in the new map through cracking and packing. Trende Rep.31–35; Tr. Day 1 at 235–38. After the 2020 census, each of New Mexico's districts was less than two percentage points away from the ideal population and thus required only minimal changes to remedy malapportionment—with District 1 only needing to gain 11,264

residents, District 2 only needing to lose 8,181 residents, and District 3 only needing to lose 3,082. Trende Rep.32. But instead of making minimal changes to achieve population equality, the SB1 mapdrawers "substantially altered the map for the first time in decades." *Id.*; *see Rucho*, 139 S. Ct. at 2519, 2522 (Kagan, J., dissenting). Overall, they shifted 505,952 residents between districts—more than 20 times what was needed to meet equal-population requirements—moving 166,485 residents into District 2 from District 1, 21,292 residents to District 2 and 122,222 residents to District 1 from the only slightly overpopulated District 3, and 55,518 residents to District 1 and 140,435 to District 3 from District 2. Trende Rep.33; Tr. Day 1 at 235–38.

92. "[T]hese shifts were not politically neutral." *Id.* at 35–41. Rather, the Legislature focused its cracking and packing to dilute Republican votes in just two parts of the State—the Southeastern region in District 2, which is the most heavily Republican region of the State, and Central region in District 1 and District 2, which is significantly Democrat—specifically to flip the partisan composition of District 2. *Id.* at 34–35. Thus, from the Central region, "16,216 votes for President Biden were transferred out of the First District" and packed into the Second District, "while 805 were shifted from the Third District" and packed into the Second District, "for a gain of 17,021 Biden votes." *Id.* at 35. Then, "a net of 6,640 Trump votes" were cracked from the Southeast region in "the Second District to the First [District], while 23,976 Trump votes" in the Southeast region were cracked "from the Second District to the Third [District]." *Id.* at 35–36. "[T]he Second District netted approximately 40,000

Democratic votes" from SB1's population shifts—enough to flip that District's party composition. *Id.* at 36. And while these shifts made Districts 1 and 3 less Democrat, the change was not enough to "seriously threaten the[ ] incumbent Democrats" there. *Id.* at 42–43.

93. The comparison between this evidence of partisan effect and the evidence that Justice Kagan found overwhelming as to Maryland's 2011 map in *Benisek* is telling. *See Rucho*, 139 S. Ct. at 2518–19 (Kagan, J., dissenting). Like New Mexico, Maryland is a smaller State with relatively few congressional districts. *Id.* at 2519, 2521–22. Similar to New Mexico's districts after the 2020 census, which districts required only minor adjustments to reach population equality, Maryland's Sixth District required only small changes—the removal of 10,000 people—to comply with the one person, one vote principle. *Id.* at 2519. Nevertheless, like New Mexico's Legislature—who moved "more than twenty times the number of residents" necessary in SB1 than the law required, Trende Rep.31–43; Tr. Day 1 at 235–36—the Democrat mapdrawers of Maryland's Sixth District "reconfigured the entire district" by "mov[ing] 360,000 residents out and another 350,000 in, while splitting some counties for the first time in almost two centuries," *Rucho*, 139 S. Ct. at 2519 (Kagan, J., dissenting). For both New Mexico and Maryland, the end result was the same: the flipping of a Republican district—District 2 for the former, and the Sixth District for the latter—to a Democrat district, without substantially jeopardizing incumbent Democrats in the State. *Id.*; Trende Rep.34–36, 42–43; Tr. Day 1 at 246–49. Indeed, the gerrymander here is even *worse* than Maryland's 2011 gerrymander

in *Benisek*: here, the Legislature attempted a near-perfect gerrymander with SB1, while even the 2011 Maryland mapmakers did not attempt to achieve such total results. *See Rucho*, 139 S. Ct. at 2511 (Kagan, J., dissenting) (citing testimony from Maryland Governor that "flipping" the only other Republican-majority district in Maryland "was geographically next-to-impossible"); *Benisek*, 348 F. Supp. 3d at 502. And while the 2021 Maryland mapmakers did make such an attempt with their 2021 congressional map, a Maryland court struck down that map as an impermissible partisan gerrymander under the Maryland Constitution. *Szeliga v. Lamone*, No. C-02-CV-21-001816, 2022 WL 2132194, at *1, *46 (Anne Arundel Cnty. Md. Cir. Ct. Mar. 25, 2022).

94. Notably, Legislative Defendants do not even attempt to respond to Mr. Trende's powerful discussion of the qualitative evidence of SB1's partisan effect that he provided in his report and his trial testimony, either in their pre-trial submissions or during trial. *See generally* Leg.AFFCL.37–39. As Plaintiffs explained, Mr. Trende's report reveals the specific and substantial shifts that SB1 made to the prior map to crack Republican voters across the three districts while packing Democrat voters into District 2, independently establishing SB1's egregious partisan effects. Pls.AFFCL.24–27, 52–57 (citing Trende Rep.31–43).

95. Through these unnecessary population shifts, SB1 packed and cracked individual Plaintiffs for partisan gain, thus diluting these Plaintiffs' votes, in particular. Opinion at 46–47, *Grisham*, No.S-1-SC-39481 (N.M. Sept. 22, 2023); *see*

Order Denying Motion To Dismiss Plaintiffs Jennings, Vargas And Garcia For Lack Of Standing (Sept. 25, 2023).

96. By the Legislature's specific design, SB1 "cracked" Plaintiffs Gallegos, Gonzales, and the Kimbros into a district with a 53% DPI or higher—specifically, District 2—based on their affiliation with the Republican Party, thereby devaluing their votes as compared to Democrat voters in the State. *Grisham*, No.S-1-SC-39481 (N.M. Sept. 22, 2023); *Rucho,* 139 S. Ct. at 2513–14 (Kagan, J., dissenting); *see also Gill,* 138 S. Ct. at 1935–37 (Kagan, J., concurring). Specifically, as Plaintiff Gallegos—a Republican and New Mexico State Senator residing in Lea County—testified at trial, SB1 splits Lea County and makes it "impossible" to "elect the congressperson of [his] choice" from District 2 and "less" likely to elect any Republican "post-redistricting" from this district. Tr. Day 1 at 128–34; Verified Compl. ¶ 2; *id.* at 36; Gallegos Decl. ¶¶ 1, 3–4, 6–10. Similarly, Plaintiff Gonzales, a registered Republican voter residing in Otero County, stated that SB1's "cracking" Republican voters in southeastern New Mexico, including in Otero County and Plaintiff Gonzales' district of District 2, substantially diluted his vote. Verified Compl. ¶ 5; *id.* at 32; Gonzales Decl. ¶¶ 1, 3–4, 6–10. And for Plaintiffs the Kimbros, who are registered Republican voters living in Lea County, SB1's "cracking" of Republican voters in southeastern New Mexico, which moved the Kimbros from District 2 into District 3, substantially dilutes their votes. Verified Compl. ¶ 6; *id.* at 29–30; B. Kimbro Decl. ¶¶ 1, 3–9; D. Kimbro Decl. ¶¶ 1, 3–9.

97. Further, by the Legislature's express design, SB1 also "cracked" Plaintiffs Jennings, Vargas, and Garcia into districts with a 53% DPI or higher, thus diluting their votes as well. Opinion at 46–47, *Grisham*, No.S-1-SC-39481 (N.M. Sept. 22, 2023); *see* Order Denying Motion To Dismiss Plaintiffs Jennings, Vargas And Garcia For Lack Of Standing (Sept. 25, 2023). SB1 moved Plaintiffs Vargas' and Garcia's residences into District 2, as part of the Democrat-controlled Legislature's plan to crack the State's most densely populated region of registered Republicans historically located in that district across the three redrawn districts, thereby diluting the votes of these Republican voters vis-à-vis Democrat voters. Verified Compl. ¶¶ 78, 86–95(b). So, Plaintiffs Vargas and Garcia have themselves suffered the vote-dilution injury recognized in Justice Kagan's *Rucho* dissent. *Rucho,* 139 S. Ct. at 2513–14 (Kagan, J., dissenting); Vargas Decl. ¶¶ 5–10. As for Plaintiff Jennings, SB1 separates "his community in Chaves County and the greater Roswell area" across the State's three redrawn districts, including by moving his own residence from District 2 to District 3, Verified Compl. ¶ 3; *id.* at 35; Jennings Decl. ¶¶ 6–13, thus he too has been cracked away from this like-minded community, diluting the strength of his own vote.

98. *4. Sophisticated Social-Science Analysis (Extreme Outlier Approach).* The sophisticated social-science analysis presented by Plaintiffs confirms that SB1 is an extreme partisan gerrymander, independently establishing SB1's impermissible partisan effect. *See* Trende Rep.43–75; Tr. Day 1 at 258–67.

99. In his expert report, Mr. Trende used sophisticated social-science analyses to evaluate SB1. *Id.* at 17–22. This approach applies a state-of-the-art simulation methodology, which is both more current and more sophisticated than the earlier methodology that Justice Kagan had endorsed in her *Rucho* dissent. *See id.*; *Rucho*, 139 S. Ct. at 2517–18 (Kagan, J., dissenting). Mr. Trende randomly generated one million maps that "incorporate the State's physical and political geography and meet its declared districting criteria, except for partisan gain." *Rucho*, 139 S. Ct. at 2518 (Kagan, J., dissenting) (emphasis omitted); *see* Trende Rep.43–44; Tr. Day 1 at 249–50. Mr. Trende then used the simulations to calculate the "gerrymandering index," showing the expected percentage of Democrat vote shares across the maps from the most heavily Democrat district to the least. Trende Rep.44; Tr. Day 1 at 257–59. The ensemble of one million simulated maps has an average gerrymandering index of around 1.3%. Trende Rep.46; Tr. Day 1 at 258–61. When Mr. Trende placed SB1 on this continuum, it fell on the far end of the distribution's tail, with a gerrymandering index of 6.4%—over four standard deviations from the mean. Trende Rep.46; Tr. Day 1 at 260–62. Thus, it "was an out-out-out-outlier." *Rucho*, 139 S. Ct. at 2518 (Kagan, J., dissenting). SB1 is thus more favorable for Democrats than 99.89% of the one-million ensemble maps (or 998,897 maps). Trende Rep.46; Tr. Day 1 at 260–62.

100. Further, because "New Mexico has a history of relatively small changes to its districts," Mr. Trende then performed "a second set of analyses," generating an additional million simulated maps that only moved the precincts that the SB1 mapmakers also swapped between districts, while keeping the remaining precincts

locked in place. *Id.* at 54–60. This, in essence, concedes "90% of the map . . . to the mapmaker." *Id.* at 54. This additional ensemble of simulations has an average Gerrymandering Index of 0.62%, while SB1 "is not on the tails, it is beyond them," with a Gerrymandering Index of at 2.95%—over seven standard deviations from the mean. *Id.* Mr. Trende's additional simulations only confirm that SB1 is "an extreme partisan gerrymander." *Id.* at 61–75.

101. The competing simulation analysis from Dr. Chen does not credibly contradict Mr. Trende's simulation analysis. As explained above in the Court's findings of fact, Dr. Chen drew his simulated maps to incorporate "Oil Industry Considerations," which this Court found as a factual matter is a partisan criterion. *Supra* pp.20–22. So, because Dr. Chen admitted that a simulation analysis cannot provide any evidence of whether a challenged map has partisan effects if the simulations incorporate partisan criteria, *see* Tr. Day 2 at 134–35; *accord Rucho*, 139 S. Ct. at 2518 (Kagan, J., dissenting); Trende Rep.17–22; Tr. Day 1 at 275–82, the Court's factual finding that "Oil Industry Considerations" are such a partisan criterion, *supra* pp.20–22, means that Dr. Chen's simulation analysis cannot refute the showing of partisan effect in Mr. Trende's simulation analysis. Thus, Dr. Chen's expert report provides no support to Legislative Defendants here. Indeed, had Dr. Chen *not* incorporated the "Oil Well Consideration" into his simulated maps, the results of his simulation analysis may well have been identical to Mr. Trende's simulation analysis.

102. *5. Disregard Of Traditional Redistricting Principles*. Although Justice Kagan did not consider compliance with traditional redistricting principles probative of a map's impermissible partisan effects, *see Rucho*, 139 S. Ct. at 2513, 2521, 2523 (Kagan, J., dissenting), Plaintiffs have nevertheless shown SB1's impermissible partisan effects through its disregard of traditional redistricting principles.

103. As Mr. Trende explained, SB1 splits a record number of counties and is not compact, given New Mexico's geography. Thus, SB1 "splits nine" counties, which is "the most in New Mexico's history." Trende Rep.75–76. Further, by "any metric" of compactness, "the districts produced [by SB1] are some of the least compact districts in New Mexico history." *Id.* at 76–77 (considering the Reock, Polsby-Popper, and Convex Hull metrics); *see also* Pls.Ex.18, at 2–3 (explaining how SB1 cracked the agricultural industry and the oil and gas Industry, which industries are longstanding communities of interest); Pls.Ex.7.

104. Legislative Defendants' reliance on the expert report and deposition of Mr. Brace does not support a contrary conclusion with respect to SB1's compliance with traditional redistricting criteria. Leg.AFFCL.38. Legislative Defendants observe that, based on Mr. Brace's report, SB1 "compares favorably to past congressional districting" in terms of compactness and the number of counties that are split. Leg.AFFCL.38 (citing Brace Rep.10–11 and Brace Dep.13:2–15:7). However, Mr. Brace himself does not actually draw that conclusion from his data, *see generally* Brace Rep.5–7, (providing summary of conclusions, without mentioning compactness and county splits); *id.* 11–15 (discussing county-split and compactness

reports, without drawing conclusions), which is understandable, given that SB1's splitting of nine counties was "the most in New Mexico's history" and that SB1 produced "some of the least compact districts in New Mexico history" under "any metric" of compactness, Trende Rep.76–77. In any event, as noted, compliance with traditional redistricting criteria like compactness and county splits has little, if any, relevance to whether that plan has impermissible partisan effects, given that modern map-drawing technology allows partisan mapdrawers to draw easily redistricting maps that comply with such criteria while still achieving a partisan gerrymander. *Supra* pp.42–43 (collecting authorities).

C. Defendants Could Not Possibly Justify SB1

105. The third element of Justice Kagan's controlling test considers whether the state defenders of a prima facie partisan-gerrymandered map can "come up with a legitimate, non-partisan justification to save [the] map." *Rucho*, 139 S. Ct. at 2516 (Kagan, J., dissenting); *see also, e.g.*, *Common Cause*, 318 F. Supp. 3d at 896–99; *Householder,* 373 F. Supp. 3d at 1135–50. That is, under this third element, the State must show that the "districts' discriminatory partisan effects are justified by a legitimate state districting interest or neutral explanation." *Common Cause*, 318 F. Supp. 3d at 867; *accord Davis v. Bandemer*, 478 U.S. 109, 141 (1986), *abrogated by Rucho*, 139 S. Ct. 2484 ("If there were a discriminatory effect and a discriminatory intent, then the legislation would be examined for valid underpinnings."). Further, per the Supreme Court's Amended Superintending Order here, Defendants may only satisfy their burden to establish this third element if they clear "[i]ntermediate scrutiny," Amended Superintending Order 4 (citing *Breen*, 2005-NMSC-028, ¶¶ 11–

15, 30–32)—meaning both that their proffered justification for SB1 is "an important government interest" and that SB1 is "substantially related to" that interest, *Breen*, 2005-NMSC-028, ¶ 13 (citation omitted).

106. This Court will be able to "pass quickly over this part of the test," *Rucho*, 139 S. Ct. at 2516 & n.2 (Kagan, J., dissenting), since there could be no possible justification for what the Legislature did with SB1 here: take the Concept H Map and turn it into a near-perfect Democrat gerrymander, *e.g. supra* pp.7–8, based upon the criteria that each district must be at least DPI 53%, Pls.Supp.Ex.1 at 59–60; *see also* Pls.Supp.Ex.2 at 143.

107. Legislative Defendants concede that it is their burden to demonstrate a "legitimate, non-partisan justification to save [the] map," *Rucho*, 139 S. Ct. at 2516 (Kagan, J., dissenting); Leg.AFFCL.42, yet the record nonetheless shows that there is no possible justification for the Legislature's impermissibly partisan gerrymandering. The Legislature's adjustments to the Concept H map—which was already favorable to Democrats—evidence a "max-[Democrat]" gerrymander. *Gill* Tr.7; Pls.Tr.Ex.1 at 4. The Legislature's contemporaneous statements, including the text messages of Senator Stewart, confirm that the Legislature's intent was to create such a gerrymander, Pls.Tr.Ex.1 at 4, with each district being at least 53% DPI, Pls.Supp.Ex.1 at 59–60; *see also* Pls.Supp.Ex.2 at 143. And Mr. Trende's simulation analysis confirms that the Legislature configured SB1 to ensure a solid Democrat majority in each of the State's three districts, despite the fact that the Legislature

could have easily drawn "compact districts . . . without respect to anything besides traditional redistricting criteria." *Id.* (citation omitted).

108. B. Legislative Defendants have not carried their burden of justification here, let alone under the applicable intermediate-scrutiny standard. Indeed, and as a preliminary matter, none of the Legislature's "purported justifications" is sufficient because there are almost a million other ways to draw "compact districts" that do not have the partisan effect of SB1 but still comply with "traditional redistricting criteria." Trende Rep.9; *see* Tr. Day 1 at 250–52, 256–59.

109. To begin, Legislative Defendants admit that it is their burden to show that SB1 is "substantially related to an *important* government interest," Leg.AFFCL.40 (emphasis added) (citation omitted), but then argue only that there are "*appropriate* policy reasons" for SB1,*id.* at 40 (emphasis added). While any appropriate state interest may suffice to justify challenged government action under a "deferential" rational-basis review, *see Griego v. Oliver*, 2014-NMSC-003, ¶ 39, 316 P.3d 865, the intermediate scrutiny "analysis is more probing" and requires the Legislative Defendants to meet the "higher evidentiary burden[ ]" of demonstrating an "*important* government interest," *Trujillo v. City of Albuquerque*, 1998-NMSC-031, ¶ 15, 125 N.M. 721, 965 P.2d 305 (emphasis added). Legislative Defendants do not claim that any of the interests they assert are "important," *see Trujillo*, 1998-NMSC-031, ¶ 15, and that concession by silence is well-taken. Further, Legislative Defendants also have no evidence suggesting that many of these interests—including their purported interests in splitting the oil industry and combining rural and urban

areas—were important to New Mexico's actual voters. *See supra* pp.20–22. But even if Legislative Defendants were correct that SB1 advances "appropriate" interests, Leg.AFFCL.40, such interests are insufficient to survive intermediate scrutiny review, *Trujillo*, 1998-NMSC-031, ¶ 15.

110. In any event, the individual policies that Legislative Defendants put forward fail on their own terms, Leg.AFFCL.40, including for the reasons already discussed with respect to the first element of Justice Kagan's controlling test, *supra* Part I. Despite bearing the burden on this prong, Legislative Defendants do not even try to explain how, exactly, SB1 "address[es] and reflect[s]" the Legislature' purported policy decisions. Leg.AFFCL.40. That is, Legislative Defendants do not show how their challenged conduct "substantially relate[s]" to their purported interests. *Trujillo*, 1998-NMSC-031, ¶ 15. Although Legislative Defendants cite generally various "policy considerations," they make no showing at all as to why SB1's revisions to the Concept H Map were necessary to better achieve these purported policy goals. Leg.AFFCL.40–42. Legislative Defendants' abbreviated and superficial justifications for SB1 do not demonstrate that SB1's particular redistricting plan "substantially relate[s]" to any important government interest, so Legislative Defendants cannot satisfy the intermediate scrutiny standard. *See Trujillo*, 1998-NMSC-031, ¶ 15

111. Even had Legislative Defendants tried to meet their burden of showing how SB1's redistricting scheme is substantially related to Legislative Defendants' purported policy considerations, several of those considerations are themselves partisan justifications, rather than "legitimate, non-partisan justification[s]," for

SB1. *Rucho*, 139 S. Ct. at 2516 (Kagan, J., dissenting). As explained above, the claim that SB1 advances representation of the oil industries is mere partisan pretext. *Supra* pp.20–22. Legislative Defendants' reference to "unique issues" concerning the "proximity of the U.S./Mexico border," Leg.AFFCL.40, is perplexing given that only District 2 borders Mexico, even under SB1. And the supposed policy interest of incorporating urban and rural constituencies in all of the State's congressional districts has been held to be pretext for partisan gerrymandering. *See supra* p.44 (citing *Hellar*, 682 P.2d at 544).

112. Next, the *Maestas* decision that Legislative Defendants rely upon, Leg.AFFCL.40, is inapt. In *Maestas*, the Supreme Court rejected a judicially adopted congressional redistricting map and, in doing so, provided specific guidance for courts to consider when adopting a final map. *Maestas v. Hall*, 2012-NMSC-006, ¶ 45, 274 P.3d 66. Its primary mandate was for the district court to avoid adopting a map with "very low population deviations . . . at the expense of other traditional state redistricting policies." *Id.* Additionally, the Court counseled the district court to adopt a "plan that is partisan-neutral and fair to both sides." *Id.* Among other things, the Court criticized the district court's adopted map for causing the Central region to become a "strongly partisan district favoring one party, in effect tilting the balance for that party without any valid justification." *Id.* ¶ 41. "The resulting district [was] oddly shaped in an area where compactness is apparently relatively easy to achieve, suggesting, at least in part, that the district was created to give political advantage to one party." *Id.* As the Court explained, "a more competitive district should have

been created if at all practicable to avoid this political advantage to one political party and disadvantage to the other," as "competitive districts allow for the ability of voters to express changed political opinions and preferences." *Id.*

113. Legislative Defendants appear to suggest that the Supreme Court's emphasis in *Maestas* on "competitive districts" supports their position here, where the court-drawn map that was eventually adopted to govern the State's congressional districts resulted in disproportionate performance levels, while SB1 "creates more competitive races in each district." Leg.AFFCL.5, 23–24. SB1 does not, however, render the State's districts "more competitive," but rather makes it a near-perfect Democrat gerrymander. *See Maestas*, 2012-NMSC-006, ¶ 41. That is, it constructs the three districts to create a sufficient Democrat majority in each to all-but-guarantee Democrat victory, as Senator Stewart herself effectively acknowledged. Pls.Tr.Ex.1 at 4 ("Sanderoff's dpi for your map H is 51.8% [for District 2]. That's not enough for a mid term election so we adjusted some edges, scooped up more of abq [Albuquerque] and are now at 53%. CD 1 is 54%, CD 3 is 55.4%."); *see Benisek*, 348 F. Supp. 3d at 503 ("[I]n the 2016 congressional election, U.S. House Democratic candidates almost never won districts with a DPI below 50%, but won 92.5% of districts where the DPI was above 50%."). Legislative Defendants' own expert, Mr. Sanderoff, admitted that he could not think of a single election in the State's history where a Republic had won in a "54 percent Democratic district." Sanderoff Dep.47. Accordingly, while the margins across the districts may appear more competitive in SB1, they in fact represent the "best-case scenario" for ensuring that no Democrat

candidate faces real competition in any of New Mexico's districts. *See* Trende Rep.14, 41–43; Tr. Day 1 at 223, 246.[11]

114. Legislative Defendants' claim that SB1 is "very similar" to the Concept H Map, such that the Committee's conclusion that the Concept H Map was fair should apply equally to SB1, Leg.AFFCL.40–41, is self-defeating. While the Legislature started with Concept H Map (which was, unsurprisingly, already the most favorable map for Democrats of those the Committee submitted to the Legislature), the Legislature then made targeted edits to that map to render it a "max-[Democrat]" gerrymander. *Gill* Tr.7; *see* Trende Rep.68; Pls.Tr.Ex.1 at 4. Specifically, the Legislature started with a map that created three districts that voted for President Biden with at least 52.5% of the vote, and then made SB1's District 2 even more Democrat by adding to it several precincts from the Concept H Map's District 1 that voted 55.1% for President Biden. Trende Rep.68. The Legislature then offset that exchange by moving several precincts that gave President Trump almost 60% of the vote from District 2 to District 1. *Id.* It did not stop there: to ensure strong Democrat margins in each district, the Legislature moved several precincts that gave President Biden only 34.1% of the vote in the Concept H Map's District 2 into SB1's District 3 in exchange for a block of voters that gave President Biden 50.7% of the vote.

[11] In any event, even if SB1 did result in more "competitive" districts, *Maestas* indicates that competitiveness—like the equal-population principle—does not control "at the expense of other traditional state redistricting policies." 2012-NMSC-006, ¶ 41. As Plaintiffs' explained, SB1 subordinates traditional redistricting criteria for partisan goals, shattering the Southeast region and creating "some of the least compact districts in New Mexico history." Pls.AFFCL.28 (quoting Trende Rep.78–77).

115. Finally, the expert testimony that Legislative Defendants rely upon does not help them. They briefly argue that Dr. Chen's simulations support their position that SB1 is not an extreme partisan gerrymander, Leg.AFFCL.41, but as explained above, those maps are not politically neutral and thus are entirely unhelpful for assessing whether SB1 is a partisan gerrymander, *supra* pp.20–22; *see Rucho*, 139 S. Ct. at 2518 (Kagan, J., dissenting). In any event, Dr. Chen did not opine on whether the purportedly non-partisan policy considerations underlying SB1 are "important," or whether SB1's redistricting plan is in fact "substantially related" to those policy considerations. *See Trujillo*, 1998-NMSC-031, ¶ 15. Further, Mr. Brace's testimony similarly does not support Legislative Defendants' argument that SB1 is supported by non-partisan justifications. Although Legislative Defendants state that Mr. Brace "noted the importance of the oil and gas industry to the state of New Mexico and its concentration in southeast New Mexico," Leg.AFFCL.41, they offer no citation for that proposition, which appears completely unsupported by Mr. Brace's expert materials. So, like Dr. Chen, Mr. Brace does not speak to whether SB1's calculated, partisan redistricting is substantially related to any non-partisan justification. *See supra* pp.64–65 (further criticizing Legislative Defendants' reliance on Mr. Brace).

CONCLUSION

116. This Court declares that SB1 is an egregious partisan gerrymander in violation of Article II, Section 18 of the New Mexico Constitution and, accordingly, enjoins Defendants from enforcing SB1. In particular, the Court declares that:

(a.) The Legislature drafted and enacted SB1 with egregious partisan intent, as its predominant purpose in drafting and enacting SB1 was to entrench the

Democratic Party in power by diluting the votes of Republicans in New Mexico, including by cracking the specific Plaintiffs named above;

(b.) SB1 does, in fact, have this intended effect, as it substantially dilutes the votes of Republicans in New Mexico, including by cracking the specific Plaintiffs named above; and,

(c.) Legislative Defendants have not carried their burden to provide a legitimate, non-partisan justification that satisfies intermediate scrutiny to save SB1 from a determination of its unconstitutionality.

117. This Court will promptly schedule remedial proceedings that will lead to the adoption of a remedial map.

Dated: October ____, 2023

By_____
Fred T. Van Soelen
District Judge, Division III

Dated: October 3, 2023

Respectfully Submitted,

HARRISON & HART, LLC

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**Admitted Pro Hac Vice*

CERTIFICATE OF SERVICE

I hereby certify that a true and complete copy of the foregoing will be served on all counsel via the e-filing system.

Dated: October 3, 2023

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PLAINTIFFS' TRIAL EXHIBIT 1

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August 30, 2023

VIA ELECTRONIC MAIL ONLY

Carter Harrison
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924 Park Ave SW, Suite E
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carter@harrisonhartlaw.com

Re: Subpoena to Center for Civic Policy in *Republican Party of New Mexico, et. al., v. Maggie Tolouse Oliver, et. al.*, D-506-CV-2022-00041

Carter,

I appreciate you agreeing to narrow the scope of the subpoena served on Center for Civic Policy ("CCP"). As discussed last week, we are producing herein the requested communications between CCP and New Mexico legislators. In turn you have agreed that there will be no depositions of CCP officers, directors, or employees regarding CCP business, and no other documents will be sought from CCP or its officers, directors, or employees. CCP has not withheld any responsive communications between CCP and New Mexico legislators, thus no privilege log is included.

Sincerely,

Lynn Mostoller

Encl: CenterforCivicPolicy_000001-3

Cc w/o encl via Odyssey Service: All counsel of record

Lynn E. Mostoller
LEM@sutinfirm.com
(505) 883-3315

To: Linda Lopez

Oct 6, 2021 at 2:15 PM

Hi Senator! Tried calling you today. This is Melanie with Center for Civic Policy. If you have a minute would like to see about trying to schedule a call to discuss redistricting. Thanks!

Oct 6, 2021 at 6:44 PM

Hi Melanie. I was ' n committee mtg when you called. When are you avail?

Hi! Let me get you some times. Are you available tomorrow?

Can you do 7pm tomorrow?

Sorry, I am in mtgs tomorrow and Friday. Monday?

Oct 7, 2021 at 8:19 AM

Hi! Looks like 10-2 or 3-5 would work.

On Monday

Oriana Sandoval <oriana@civicpolicy.com>

People's Power People's Map coalition & Congressional Map H

4 messages

Oriana Sandoval <oriana@civicpolicy.com> Wed, Dec 1, 2021 at 2:24 PM
To: lorraine.montoya@nmlegis.gov, peter.wirth@nmlegis.gov
Cc: "Melanie Arranda (melanie@civicpolicy.com)" <melanie@civicpolicy.com>, "Eli Cuna (eli@semillastrategies.org)" <eli@semillastrategies.org>

Good afternoon Senator Wirth,

The Center for Civic Policy team wanted to share information with you about our redistricting work and priorities prior to the Special Session starting on December 6.

As the convener of the NM Civic Engagement Table, CCP is leading the People's Power People's Map (PPPM) redistricting coalition. The PPPM coalition is made up of advocacy organizations from across the state that are engaging communities in developing maps and participating in the redistricting process.

The PPPM coalition will be participating in the Special Session to advocate for the passage of **Congressional Concept H - People's Map** (CRC District Plans and Evaluation Report). We are asking for your support in passing the People's Map at the upcoming Special Session.

Congressional Concept H- People's Map was designed and drawn by communities of interest across New Mexico that want better and fair representation and opportunity to elect their candidate of choice.

The Citizen Redistricting Committee certified the Congressional Concept H - People's Map as being competitive and fair. Over 283 community members from across the state testified in favor of this map. Additionally, the NM federal delegation is in support of this map.

Our Peoples Map Facts/Toplines

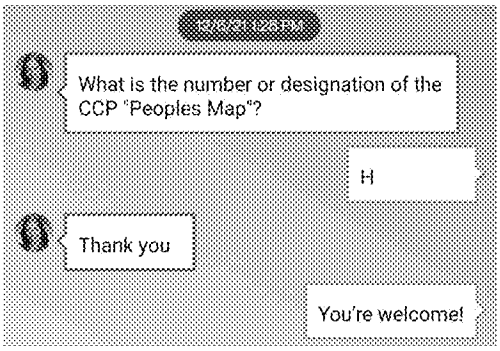
Congressional District(s)	HVAP %	DPI %	BIDEN 2020	MLG 2018
CD1	39.8%	58.5%	57.1%	60.0%
CD2	55.9%	53.4%	51.1%	53.7%
CD3	37.7%	57.1%	57.3%	57.2%

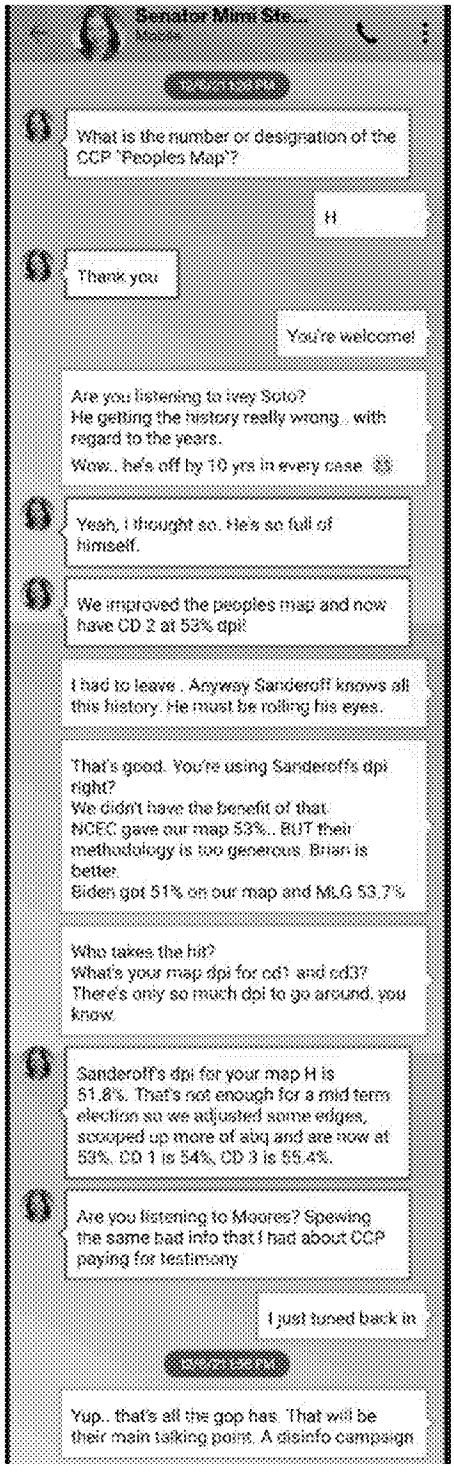
If you have any questions, we're available to connect via email or phone at your convenience. Here's contact information for the CCP point people:

Eli Cuna
PPMP Coalition Coordinator
eli@semillastrategies.org
(505) 235-8550

Oriana Sandoval
CEO, CCP
oriana@civicpolicy.com
(505) 815-7058

Melanie Aranda


What is the number or designation of the CCP "Peoples Map"?
H
Thank you
You're welcome!


What is the number or designation of the CCP "Peoples Map"?
H
Thank you
You're welcome!
Are you listening to Ivey Soto?
He getting the history really wrong.. with regard to the years.
Wow.. he's off by 10 yrs in every case
Yeah, I thought so. He's so full of himself.
We improved the peoples map and now have CD 2 at 53% dpi!
I had to leave . Anyway Sanderoff knows all this history. He must be rolling his eyes.
That's good. You're using Sanderoff's dpi right?
We didn't have the benefit of that.
NCEC gave our map 53%.. BUT their methodology is too generous. Brian is better.
Biden got 51% on our map and MLG 53.7%
Who takes the hit?
What's your map dpi for cd1 and cd3?
There's only so much dpi to go around, you know.
Sanderoff's dpi for your map H is 51.8%. That's not enough for a mid term election so we adjusted some edges, scooped up more of abq and are now at 53%. CD 1 is 54%, CD 3 is 55.4%.
Are you listening to Moores? Spewing the same bad info that I had about CCP paying for testimony
I just tuned back in
Yup.. that's all the gop has. That will be their main talking point. A disinfo campaign

PLAINTIFFS' TRIAL EXHIBIT 2

STATE OF NEW MEXICO
COUNTY OF LEA
FIFTH JUDICIAL DISTRICT

REPUBLICAN PARTY OF NEW MEXICO, DAVID GALLEGOS, TIMOTHY JENNINGS, DINAH VARGAS, MANUEL GONZALES, JR., BOBBY AND DEE ANN KIMBRO, and PEARL GARCIA,

Plaintiffs,

v.

Cause No. D-506-CV-2022-00041

MAGGIE TOLOUSE OLIVER, in her official capacity as New Mexico Secretary of State, MICHELLE LUJAN GRISHAM, in her official capacity as Governor of New Mexico, HOWIE MORALES, in his official capacity as New Mexico Lieutenant Governor and President of the New Mexico Senate, MIMI STEWART, in her official capacity as President Pro Tempore of the New Mexico Senate, and JAVIER MARTINEZ, in his official capacity as Speaker of the New Mexico House of Representatives,

Defendants.

EXPERT REPORT OF SEAN P. TRENDE

Expert Report of Sean P. Trende

in *Republican Party of New Mexico et al., v. Oliver, et al.*

August 11, 2023

Table of Contents

1 Expert Qualifications

1.1 Career

I serve as Senior Elections Analyst for Real Clear Politics. I joined Real Clear Politics in January of 2009 after practicing law for eight years. I assumed a full-time position with Real Clear Politics in March of 2010. Real Clear Politics is a company of approximately 50 employees, with its main offices in Washington D.C. It produces one of the most heavily trafficked political websites in the world, which serves as a one-stop shop for political analysis from all sides of the political spectrum and is recognized as a pioneer in the field of poll aggregation. Real Clear Politics produces original content, including both data analysis and traditional reporting. It is routinely cited by the most influential voices in politics, including David Brooks of *The New York Times*, Brit Hume of Fox News, Michael Barone of *The Almanac of American Politics*, Paul Gigot of *The Wall Street Journal*, and Peter Beinart of *The Atlantic*.

My main responsibilities with Real Clear Politics consist of tracking, analyzing, and writing about elections. I collaborate in rating the competitiveness of Presidential, Senate, House, and gubernatorial races. As a part of carrying out these responsibilities, I have studied and written extensively about demographic trends in the country, exit poll data at the state and federal level, public opinion polling, and voter turnout and voting behavior. In particular, understanding the way that districts are drawn and how geography and demographics interact is crucial to predicting United States House of Representatives races, so much of my time is dedicated to that task.

I am currently a Visiting Scholar at the American Enterprise Institute, where my publications focus on the demographic and coalitional aspects of American Politics.

1.2 Publications and Speaking Engagements

I am the author of the 2012 book *The Lost Majority: Why the Future of Government is up For Grabs and Who Will Take It*. In this book, I explore realignment theory.

It argues that realignments are a poor concept that should be abandoned. As part of this analysis, I conducted a thorough analysis of demographic and political trends beginning in the 1920s and continuing through modern times, noting the fluidity and fragility of the coalitions built by the major political parties and their candidates.

I also co-authored the 2014 *Almanac of American Politics*. Justice Kagan cites to the subsequent edition of this work, which largely repeats the district descriptions I authored in the 2014 edition, in her opinion in *Rucho v. Common Cause*. 139 S. Ct. 2484, 2510, 2521 (2019) (Kagan, J., dissenting). The *Almanac* is considered the foundational text for understanding congressional districts and the representatives of those districts, as well as the dynamics in play behind the elections. PBS's Judy Woodruff described the book as "the oxygen of the political world," while NBC's Chuck Todd noted that "Real political junkies get two Almanacs: one for the home and one for the office." My focus was researching the history of and writing descriptions for many of the newly-drawn districts, including tracing the history of how and why they were drawn the way that they were drawn. Because the 2014 Almanac covers the 2012 elections, analyzing how redistricting was done was crucial to my work.

I have also authored a chapter in Larry Sabato's post-election compendium after every election dating back to 2012. Additional publications of mine may be found in my curriculum vitae, attached as Exhibit 1.

I have spoken on the above subjects before audiences from across the political spectrum, including at the Heritage Foundation, the American Enterprise Institute, the CATO Institute, the Bipartisan Policy Center, and the Brookings Institution. In 2012, I was invited to Brussels to speak about American elections to the European External Action Service, which is the European Union's diplomatic corps. I was selected by the United States Embassy in Sweden to discuss the 2016 elections to a series of audiences there and was selected by the United States Embassy in Spain to fulfill a similar mission in 2018. I was also invited by the United States Embassy in Italy, but was unable to do so because of my teaching schedule.

1.3 Education

I graduated from Yale University with a double major in history and political science. I earned a master's degree in political science from Duke University, along with my J.D. I am currently enrolled as a doctoral candidate in political science at The Ohio State University. I have completed all my coursework and have passed comprehensive examinations in both methods and American Politics. As of this writing, my dissertation has been approved for defense by my committee and awaits formatting review. Chapter 3 of the dissertation involves the use of communities of interest in redistricting simulations. In pursuit of this degree, I have also earned a master's degree in applied statistics. My coursework for my Ph.D. and M.A.S. included, among other things, classes on G.I.S. systems, spatial statistics, issues in contemporary redistricting, machine learning, non-parametric hypothesis tests and probability theory.

In the winter of 2018, I taught American Politics and the Mass Media at Ohio Wesleyan University. I taught Introduction to American Politics at The Ohio State University for three semesters from Fall of 2018 to Fall of 2019, and again in Fall of 2021. In the Spring semesters of 2020, 2021, 2022 and 2023, I taught Political Participation and Voting Behavior at The Ohio State University. This course spent several weeks covering all facets of redistricting: how maps are drawn, debates over what constitutes a fair map, measures of redistricting quality, and similar topics.

1.4 Prior Engagements as an Expert

A full copy of all cases in which I have testified or been deposed is included on my c.v, attached as Exhibit 1. In 2021, I served as one of two special masters appointed by the Supreme Court of Virginia to redraw the districts that will elect the Commonwealth's representatives to the House of Delegates, state Senate, and U.S. Congress in the following decade. The Supreme Court of Virginia accepted those maps, which were praised by observers from across the political spectrum. *E.g.*, "New Voting Maps, and a New Day, for

Virginia," *The Washington Post* (Jan. 2, 2022), *available at* https://www.washingtonpost.com/opinions/2022/01/02/virginia-redistricting-voting-mapsgerrymandee; Henry Olsen, "Maryland Shows How to do Redistricting Wrong. Virginia Shows How to Do it Right," *The Washington Post* (Dec. 9, 2021), *available at* https://www.washingtonpost.com/opinions/2021/12/09/maryland-virginia-redistricting/; Richard Pildes, "Has VA Created a New Model for a Reasonably Non-Partisan Redistricting Process," *Election Law Blog* (Dec. 9, 2021), available at https://electionlawblog.org/?p=126216.

In 2019, I was appointed as the court's expert by the Supreme Court of Belize. In that case I was asked to identify international standards of democracy as they relate to malapportionment claims, to determine whether Belize's electoral divisions (similar to our congressional districts) conformed with those standards, and to draw alternative maps that would remedy any existing malapportionment.

I served as a Voting Rights Act expert to counsel for the Arizona Independent Redistricting Commission in 2021 and 2022.

2 Scope of Engagement

I have been retained by the Plaintiffs in the above-captioned matter to evaluate the recently enacted Congressional plan passed by the New Mexico legislature and signed by the Governor ("2021 Plan," "2021 Map," "2021 Districts", or "Enacted Map") to determine whether they are partisan gerrymanders in accordance with the order of the Supreme Court of New Mexico dated 5 July 2023. I have been retained and am being compensated at a rate of $450.00 per hour to provide my expert analysis.

3 Data Relied Upon and Construction of Datasets

For purposes of this report, I reviewed and/or relied upon the following materials:

- Justice Kagan's dissenting opinion in *Rucho v. Common Cause*;
- Block assignment files for the various plans;
- Congressional District shapefiles maintained by the University of California at Los Angeles. Lewis, Jeffrey B. , DeVine Brandon, Pitcher, Lincoln and Martis, Kenneth C. (2013) Digital Boundary Definitions of United States Congressional Districts, 1789-2012. [Data file and code book]. Retrieved from `https://cdmaps.polisci.ucla.eduonJuly11,2022`;
- Voter registration data made available by the New Mexico Secretary of State at `https://www.sos.nm.gov/voting-and-elections/data-and-maps/voter-registration-statistics/2008-voter-registration-data/`;
- Order, *Grisham v. Van Soelen*, No.S-1SC-39481 (N.M. July 5, 2023).
- Documents and data referenced in the accompanying R Code and in this Report.

Because election data are made available at the precinct level, most of the district-wide election data is accurate. When precincts are split, however, it is necessary to estimate how many votes a candidate earned from each portion of the precinct. This is accomplished by taking the precinct-wide votes for each candidate and assigning them to census blocks. Rather than dividing by the number of blocks, analysts usually weight each precinct by some number. Here, votes are assigned proportionally to the voting age population in each block. Separate sums for each portion of the precinct are then calculated by adding up the blocks in each precinct segment. Different approaches and weighting mechanisms can produce marginally different results.

All shapefiles are projected using the WGS 84 projection.

4 Summary of Opinions

Based on the work performed and addressed in the following sections of the report, I hold to the following opinions to a reasonable degree of professional certainty:

- The Enacted Map was clearly drawn to discourage competition and for the purpose of favoring the Democratic Party and disfavoring the Republican Party.
- The Enacted Map clearly had the effect of favoring the Democratic Party and disfavoring the Republican Party.

5 Methods/Guiding Principles

Before beginning the analysis, it is important to establish some guiding principles to guide the rest of the report. There are five areas covered here:

- The standard for gerrymandering, as spelled out in Justice Kagan's dissenting opinion in *Rucho v. Common Cause*;
- The standard for measuring district partisanship;
- The unique challenges of gerrymandering a competitive state with few districts;
- The regions of New Mexico discussed;
- The simulation technique employed.

5.1 Justice Kagan's Opinion

The Supreme Court of New Mexico endorsed the test laid out in Justice Kagan's dissenting opinion in *Rucho v. Common Cause*, 139 S. Ct. 2482 (2019). It did not, however, provide a detailed interpretation of that opinion. What follows is my interpretation of the most important parts of Justice Kagan's opinion. Of course, ultimate authority for the interpretation of the opinion rests with this Court and the Supreme Court of New

Mexico; this does not purport to be legal argumentation. Rather, it spells out how I proceeded in my analysis. In other words, it explains why I have done many of the things I have done in this report.

The first principle on which this report relies is one that all nine justices agreed upon in *Rucho*: "[J]udges should not be striking down maps left, right and center, on the view that every smidgen of politics is a smidgen too much." *Id.* at 2515 (Kagan, J., dissenting). Of course, Kagan's rationale for this is perhaps inapposite here, as it reflects federal courts' desire to respect state legislative processes, *id.* at 2515-16., but since the map here clearly fails this more restrictive test, the map would be unlikely to pass a test that granted New Mexico courts broader discretion to invalidate plans. Regardless, in keeping with Justice Kagan's test, the analysis here is focused on identifying only egregious gerrymanders. *See* Order 3-4, *Grisham v. Van Soelen*, No.S-1SC-39481 (N.M. July 5, 2023). ("However, as with partisan gerrymandering under the Fourteenth Amendment, some degree of partisan gerrymandering is permissible under Article II, Section 18 of the New Mexico Constitution").

Second, Justice Kagan identifies a three-part test for measuring a gerrymander: (1) intent; (2) effects; and (3) causation. *Rucho*, 139 S.Ct. at 2516-17 (Kagan, J., dissenting). Under the first prong, a court inquires whether partisanship was the predominant purpose of the maps, with a goal of "entrench[ing]" their party. *Id.* In the second prong, a court inquires whether the enacted plan substantially dilutes the plaintiffs' votes. *Id.* Finally, it allows the plaintiffs to respond to these criticisms by offering "legitimate, non-partisan justification[s]" for the partisan bias of the plan. *Id.*

The first prong of Justice Kagan's test is likely to be dependent in some degree on fact discovery, or upon facts about the redistricting process already disclosed to the public, upon which this report does not rely (indeed the author is completely unaware of the discovery sought or what fruits such discovery has borne). However, the Supreme Court of the United States has also suggested that simulation analysis may shed light on the intent of legislators. *Allen v. Milligan*, 143 S. Ct. 1487, 1518 (2023) (Kavanaugh,

J., concurring) ("It is true that computer simulations might help detect the presence or absence of intentional discrimination. For example, if all of the computer simulations generated only one majority-minority district, it might be difficult to say that a State had intentionally discriminated on the basis of race by failing to draw a second majority-minority district."); *see Cooper v. Harris*, 581 U.S. 285, 317 (2017) (discussing use of an "alternative districting plan" to determine legislative intent).

Other states in which I have served as an expert witness for plaintiffs have concurred. For example, New York's Court of Appeals relied on simulations when determining the maps were drawn with "a particular impermissible intent or motive." *Harkenrider v. Hochul*, 197 N.E.3d 437, 452 (N.Y. 2022). Likewise, Maryland's Anne Arundel Circuit Court concluded, citing directly to my testimony, that the Maryland map was "drawn with 'partisanship as a predominant intent, to the exclusion of traditional redistricting criteria,' accomplished by the party in power, to suppress the voice of Republican voters." Memorandum Opinion And Order, *Szeliga v. Lamone*, No.C-02-CV-21-001773, (Md. Anne Arundel Cnty. Cir. Ct. 20212) (citations omitted) available at `https://redistricting.lls.edu/wp-content/uploads/MD-Szeliga-20220325-order-granting-relief.pdf`.

For prong 2, Justice Kagan offers a number of ways that a plaintiff may prove that a map has the effect of substantially diluting a plaintiff's vote. In particular, she noted that plaintiffs could use "advanced computing technology to randomly generate a large collection of districting plans that incorporate the State's physical and political geography and meet its declared districting criteria, except for partisan gain." *Rucho*, 139 S. Ct. at 2518 (Kagan, J., dissenting). Justice Kagan continues:

> For each of those maps, the method then uses actual precinct-level votes from past elections to determine a partisan outcome (i.e., the number of Democratic and Republican seats that map produces). Suppose we now have 1,000 maps, each with a partisan outcome attached to it. We can line up those maps on a continuum—the most favorable to Republicans on one end, the most favorable to Democrats on the other.3 We can then find the median

> outcome—that is, the outcome smack dab in the center—in a world with no partisan manipulation. And we can see where the State's actual plan falls on the spectrum—at or near the median or way out on one of the tails? The further out on the tail, the more extreme the partisan distortion and the more significant the vote dilution.

Id. (footnote omitted).

As discussed in more detail below, this analysis is primarily occupied with such simulation analysis. However, while the plaintiffs in *Rucho* offered 24,518 total maps, this report offers several million maps for analysis, using more sophisticated techniques.

Justice Kagan also endorsed a more qualitative analysis, noting that in the *Lamone v. Benisek* case arising out of Maryland – which was consolidated with the *Rucho* case for purposes of appeal – the plaintiffs lacked the North Carolina plaintiffs' "fancy evidence." *Id.* at 2521. She nevertheless observed that in Maryland, rather than engaging in a minimal changes map, the legislature "moved 360,000 residents out and another 350,000 in, while splitting some counties for the first time in almost two centuries. The upshot was a district with 66,000 fewer Republican voters and 24,000 more Democratic ones." *Id.* at 2519. While Justice Kagan noted the extreme nature of these shifts, she also noted that courts might also, as the district court below had done, find a gerrymander on the basis of "substantial" shifts. *Id.* at 2522. In keeping with this, this report pays particular attention to "evidence comparing the relevant congressional district's voter registration percentage/data, regarding the individual plaintiffs' party affiliation under the challenged congressional maps, as well as the same source of data under the prior maps." *Order*, *Grisham v. Van Soelen*, No.S-1SC-39481 (N.M. July 5, 2023).

As to the third prong, this report cannot yet respond since the state has not attempted to offer up a neutral justification for the map. However, by offering up examples of compact districts drawn without respect to anything besides traditional redistricting criteria, many of these purported justifications would fall short. Overall the simulations described below tell us "[w]hat would have happened, given the State's natural political geography and chosen districting criteria, had officials not indulged in partisan manipu-

lation?" *Rucho*, 139 S. Ct. at 2521 (Kagan J., dissenting).

5.2 Measures of Partisanship

5.2.1 Two-Party Vote

I employ what is known as "two-party vote" throughout this report. Two-party vote shares are calculated by removing third party candidates; it is routinely employed by political scientists when analyzing elections. *See, e.g.*, Robert S. Erikson, et al., *Electoral College Bias and the 2020 Presidential Election*, 117 *Proceedings of the National Academy of Sciences* 27940 (2020).

To understand the motivation for this, consider the 1992 presidential election, where Bill Clinton won 43% of the popular vote, while George H.W. Bush won 37.5% of the popular vote. If we told most people that Michael Dukakis had received 45.65% of the popular vote in 1988, while Bill Clinton had received 43% of the popular vote in 1992, people would tend to conclude that Clinton had performed worse than Dukakis. But to accurately compare the two, we would need to remove H. Ross Perot's 19% vote share entirely from the 1992 election by taking Clinton's 43% and dividing by the total percentage received by the two major parties, i.e., 80.5% (43% + 37.5% = 80.5%). Thus, the more accurate comparison would be that Clinton won with 53.4% (43% ÷ 80.5% = 53.4%) of the two-party popular vote, compared to Dukakis' 46.1% of the two-party vote.

5.2.2 Presidential Vote Share.

Measuring the partisanship of a district can sometimes be difficult, with multiple acceptable interpretations available. This report employs two common techniques for evaluating partisanship. First, it looks at presidential vote share. This is important because, in my experience as an elections analyst, presidential vote share most strongly correlates with congressional election outcomes. While analysts sometimes average two presidential elections together, the presence of former New Mexico Governor Gary John-

son, a Republican, on the Libertarian ticket in 2016 makes that election difficult to use in New Mexico. Assuming that he drew disproportionately from Republicans, his performance may make a district seem more Democratic than it actually was, biasing the evidence against the state. This report does, however, include the 2016 election in the partisan index score, described below.

5.2.3 Partisan Index

While I mostly rely upon presidential vote share in this report, other analysts will create partisan indices by averaging across multiple races. For this analysis, I have created an average of Republican and Democratic performance across the following ten races:

- 2020 Presidential results;
- 2020 U.S. Senate results;
- 2018 U.S. Senate results;
- 2018 Gubernatorial results;
- 2018 Attorney General results;
- 2018 Secretary of State results;
- 2018 Treasurer results;
- 2018 Auditor results;
- 2018 Land Commissioner results;
- 2016 Presidential results.

I include 2016 results here in the interests of completeness, and because any distorting effect Johnson's candidacy might have would be muted by the other results.

5.2.4 Partisan Voting Index (PVI)

When referring to presidential elections, it is common to center the two-party vote on presidential vote share. The reason for this is straightforward: National environments vary; by centering on the national presidential vote share, analysts create a common baseline of a neutral environment against which to analyze the partisanship of districts.

To illustrate the motivation for this approach: In 1984, Ronald Reagan carried Massachusetts by four points. Yet it would have been a mistake to consider Massachusetts a swing state; Democrats had a 10-1 advantage in their congressional delegation, and they held overwhelming majorities in their state senate and house. The obvious problem with taking Ronald Reagan's vote share in this scenario literally is that the national environment was overwhelmingly in his favor. In a normal year with more neutral candidates, Massachusetts was still a Democratic state, as other election results demonstrated. By centering on his 59% national vote share, the partisanship of Massachusetts is shown to actually be seven points more Democratic than the country as a whole (in shorthand, we would call the state "D+7;" a Republican-leaning state or district would be referred to as "R+__").

That this allows us to make more sensible claims about a state or district is obvious as well if we look at New Mexico's performance. In 1984, Reagan won the state 59.7% to 39.23%. In 1988, George H.W. Bush won the state 51.86% to 46.9%. In 1992, however, Bill Clinton won the state 45.9% to 37.34%, while in 1996 the margin was 49.18% to 41.86%. Then, in 2000, George W. Bush narrowly lost the state, 47.85% to 47.91%. A naive observer might look at these numbers and conclude that New Mexico had radically shifted to the left and then back over these years. A more astute analyst, however, would note that Ronald Reagan was a charismatic president seeking re-election among explosive economic grown. In 1996, the shoe was on the other foot, with a charismatic Democrat running for re-election in a strong economy.

If we look at the centered numbers instead, we see that in 1984 the state was R+1, in 1988 it was D+1, in 1992 it was D+2, in 1996 it was R+1, and in 2000 it was

"even." From this viewpoint, the state's politics were basically stable, with slight shifts attributable to candidate personality and other quirks.

Centered presidential election results, sometimes referred to as "Cook PVI," or just "PVI," are widely employed by elections analysts to analyze the fundamental partisanship of congressional districts, including in peer-reviewed literature and political science textbooks. *See, e.g.*, Jan Box-Steffensmeier, *et al.*, *I Get By with a Little Help from My Friends: Leveraging Campaign Resources to Maximize Congressional Power*, 64 *American Political Science Review* 1017 (2020); Benjamin Toll, *A Paradox in Polarization?: Crosspressured Representatives and the Missing Incentive to Moderate*, 182 *World Affairs* 61 (2019); Bernard L. Fraga, *Candidates or Districts? Reevaluating the Role of Race in Voter Turnout*, 60 *American Journal of Political Science* 97 (2016); Samuel Kernell, *et al.*, *The Logic of American Politics* 424 (9th ed. 2020). Given that Joe Biden won nationally by a bit over four points in 2020, it is therefore important to understand that a district he won by just a point would probably tend to favor Republicans over the long haul, since the district would be 1.5 points to the right of the country as a whole.

5.3 Extreme Gerrymandering in a Competitive State with Few Districts

Although there is not a large scholarly literature on the nature of gerrymandering in states with few districts, there are reasons to treat the gerrymandering in smaller states differently than in larger states. *E.g.*, Nicholas Stephanopoulos & Eric McGhee, *Partisan Gerrymandering and the Efficiency Gap*, 82 *U. Chi. L. Rev.* 831, 868 (2015) ("We considered congressional plans only for states that had at least eight districts at some point during this period, because redistricting in smaller states has only a minor influence on the national balance of power."); Simon Jackman, *Assessing the Current North Carolina Congressional Districting Plan*, Expert Report, *League of Women Voters v. Rucho*, (Mar. 1, 2016), available at `roseinstitute.org/wp-content/uploads`

/2016/05/Expert-Report-of-Simon-Jackman.pdf ("I restrict my analysis to states with seven or more Congressional districts in a given election because the efficiency gap becomes less reliable as the number of districts gets small."). This is also part of why this report does not rely upon various "partisan fairness" metrics. Aside from the fact that Justice Kagan does not reference them in her *Rucho* opinion, they are simply unreliable metrics in a state where there are only three districts.

Not only does New Mexico have relatively few congressional districts, but unlike a state like New York, it is a relatively competitive state. To be sure, it regularly elects Democrats, but the margins are often in the single digits, and it has shown a willingness to vote for Republicans.

This creates problems for a would-be gerrymanderer. Donald Trump lost the state to Joe Biden by a margin of 43.5% to 54.29%. This occurred in a year that he lost the national popular vote 46.8% to 51.3%. To walk through our PVI analysis above, Trump's two-party vote share nationally was 47.7% (46.8 ÷ (46.8% + 51.3%)). His two-party vote share in the state was 44.5% (43.5% ÷ (43.5% + 54.29%)). Thus, New Mexico had a PVI that year of D+3 (44.5% - 47.7%).

Thus, the best-case scenario for a gerrymanderer would be drawing three districts that President Biden won by around 11 points. As noted above, we would call these "D+3" districts. Democrats would be favored in such districts; Republicans currently occupy only five districts with a PVI of D+3 or more.

But powerful incumbents may not wish to risk even this degree of competitiveness, and may ask for safer districts. The problem is that redistricting is a zero-sum game: To shift the partisan composition of a district, a mapmaker must inevitably rob Peter to pay Paul. That is to say, every Republican moved out of a Democratic district has to be moved into a neighboring one. Then, to comply with equal population requirements, to create a net change in partisanship a Democrat must be moved out of the Republican district and into the Democratic one. Thus, making one district more Democratic inevitably entails making some other district more Republican.

Consider the hypothetical scenario provided below, in a state where the 2020 presidential performance is very similar to that of New Mexico's in 2020: The Democrat wins statewide with 1,650 votes to 1,350 votes, which works out to a 10-point victory. To make the math simple, assume something akin to the national result in 2020, where the Democrat wins by four points. The best gerrymander a mapmaker could draw in theory would be three districts that voted for the Democrat by ten points.

Sample Redistricting in a Three-District State

Party	District 1	District 2	District 3	Total
Scenario 1				
R	450	450	450	1,350
D	550	550	550	1,650
Scenario 2				
R	460	445	445	1,350
D	540	555	555	1,650
Scenario 3				
R	470	440	440	1,350
D	530	560	560	1,650

These districts would be D+3: The Republican received 48% of the two-party vote nationally, while receiving 45% of the two-party vote in the districts. These districts would all tend to vote for the Democrats, but it might be tight in the best Republican years. For whatever reason then, assume that the mapmaker decided to make districts two and three a point more Democratic by moving five Democrats into each, and five Republicans out. Because redistricting requires you to rob Peter in order to pay Paul, those voters must come from somewhere, and go somewhere respectively. The only option is District 1, which then becomes one the presidential candidate won by 8 points. Thus, because the Democratic presidential candidate won districts two and three with 55.5% of the vote, they are D+4 (55.5% - 52% = 3.5%). District 1, however, is now D+2 (54%

- 52% = 2%).

Continuing with this example, suppose that an additional 0.5% of the Republican voters were moved out of two districts and into a third district, while at the same time two sets of 0.5% of the Democratic voters were moved out of the third district and into the other two districts. We then have two districts the Democratic presidential candidate won by 12 points, and one that he won by six. In this scenario, the first district would be competitive, but we would still be close to the platonic ideal of a gerrymander in the state as described in the first example .

In a more Democratic state like New York, with many Congressional districts, this is not an issue. First, there are more districts to spread voters across, so ten Republicans being moved out of two districts wouldn't necessarily mean that you would give an adjacent district twenty Republicans; those Republicans can be diluted across several districts.

Second, there are more Democrats in New York. A district doesn't have to go 90% for Biden to be safe for the Democrats; if 20% of the Democrats are moved out of two 90% Biden districts into an adjacent 80% Trump district, and are offset by Republicans going the other way, we are left with two 70% Biden districts and one 60% Biden district.

In short, an extreme gerrymander in New Mexico won't look exactly like an extreme gerrymander in a state like New York. The margins will appear much closer, even as the map remains an outlier with respect to the state's partisanship.

5.4 Regions of New Mexico Utilized

It is at times useful to refer to changes in a state's map by region. This is particularly true in New Mexico, where the changes in the map are limited to discrete areas of the state. In this type of analysis, one must often choose among different interpretations of the state's geography. For this report, I have opted to use the state's own definition of regions as described by the state's Tourism and Travel board. New Mexico Tourism Department, Regions & Cities `https://www.newmexico.org/`;

https://www.newmexico.org/places-to-visit/regions/. Under this approach, the regions are defined as follows:

- **Northwest**: San Juan, McKinley, and Cibola counties;
- **North Central**: Rio Arriba, Taos, Los Alamos, and Santa Fe counties;
- **Central**: Sandoval, Bernalillo, Valencia, and Torrance counties;
- **Northeast**: Colfax, Union, Harding, Mora, San Miguel, Guadalupe, and Quay counties;
- **Southwest**: Socorro, Catron, Grant, Sierra, Doña Ana, Luna and Hidalgo counties;
- **Southeast**: Curry, Roosevelt, Lee, Eddy, Chaves, De Baca, Lincoln and Otero counties.

5.5 Simulation Analysis

Political scientists and mathematicians have been designing simulation analyses for electoral districts for over 60 years. See, e.g., William Vickery, *On the Prevention of Gerrymandering*, 76 *Political Science Quarterly* 105 (1961). The techniques have developed over time and have become more complex as computational power has increased; even since the *Rucho* case was tried, the number of maps that could feasibly be produced by simulations have moved from the thousands into the trillions. For this report, I have employed a broadly accepted "package" in R called "redist," which generates a representative sample of districts. *See, e.g.*, Benjamin Fifeld, et al., *Automated Redistricting Simulation using Markov Chain Monte Carlo*, 29 *Computational & Graphical Statistics* 715 (2020); Cory McCartan & Kosuke Imai, *Sequential Monte Carlo for Sampling Balanced and Compact Redistricting Plans*, *Annals of Applied Statistics*, Forthcoming.

There are a variety of proposed simulation techniques, but they all proceed from the same basic principle: precincts are aggregated together in a random fashion, potentially subject to a variety of parameters, to form districts in hundreds or thousands of

maps. This creates an "ensemble" of maps that reflect what we would expect in a state if maps were drawn without respect to partisan criteria. In other words, the simulations "randomly generate[] a large collection of districting plans that incorporate the State's physical and political geography and meet its declared districting criteria, except for partisan gain," as discussed by Justice Kagan in *Rucho*. Rucho, 139 S. Ct. at 2518 (Kagan, J., dissenting). If the map is drawn without partisan intent, its partisan features should match those that appear in the ensemble. The more the map deviates from what we observed in the ensemble, the more likely it becomes that partisan considerations played a heavy role.

To better understand how this works, imagine the following cluster of seven hexagons as a cluster of precincts, with each hexagon representing an individual precinct. The precincts are connected when they share adjacent sides. Those adjacencies are reflected in the image below by the lines that connect the hexagons (called, somewhat counterintuitively, "edges"). The top precinct therefore shares a border with the center, top right, and top left precincts; the top left hexagon shares a border with the top, center, and bottom left precincts; and so forth.

It is possible, however, to "break" adjacencies, using the computer, by removing one of these lines. One can continue to do so until there is only one path from any precinct to any other precinct. This is called a "spanning tree," *e.g.*, J.B. Kruskal, *On the Shortest Spanning Tree of a Graph and the Traveling Salesman Problem*, 7 *Proc. Amer. Math Soc.* 48 (1956), and it lies at the heart of the Sequential Monte Carlo (SMC) redistricting algorithm.

For sets of more than two precincts, there will almost always be multiple spanning trees, but the number of such trees is finite. I have illustrated two such trees for our cluster of seven hexagons.

Figure 1: Cluster of precincts with example spanning trees superimposed.

Once you have reduced the number of connections between precincts to a minimum, removing one additional connection will create two distinct clusters of precincts. This is exactly what a district is: a collection of contiguous (adjacent) precincts that are separated from other precincts on the map. In the following illustration I have removed the connection between the center hexagon and the lower right hexagon, and then illustrated the two districts this creates in the right panel.

Figure 2: Cluster of precincts with edge removed from spanning tree, creating two districts.

This, then, is a microcosm of the approach that the SMC algorithm takes. To simplify greatly, by sampling spanning trees of New Mexico's precincts and then removing two connections, the software produces three randomly drawn districts. While the math is quite complicated, this approach produces a random sample of maps that mirrors the overall distribution of possible maps, similar to the way a high-quality poll will produce a random sample of respondents that reflects the overall population. While the process is complicated, it can be run on a laptop computer. Indeed, these simulations were run at home on a Dell Alienware desktop computer with an i9 processor and128M of RAM, using a free, widely employed, computer programming language (R version 4.1.2).

Importantly, these maps are drawn without providing the software with any political information. In other words, these maps help inform an analyst what maps would tend to look like in New Mexico if they were drawn without respect to politics.

Of course, other features, such as respect for county lines, compactness, or respect for geographic features could play a role in the drawing of district lines as well; these tra-

ditional redistricting criteria are almost always viewed as valid considerations by courts. To account for this, when removing the connections that create districts, the algorithm can be instructed to favor the removal of connections that will result in districts that remain within specified parameters when deciding which connections to remove. It can be instructed to remove connections in such a way that equally populated districts will be created, or to prefer breaks that will create compact districts, or will respect county boundaries, or any number of other factors.

Here, the simulation was instructed to follow federal and state law by drawing districts that will be largely equipopulous. The simulation allows a population tolerance of +/- 1%. This is because the simulations cannot split precincts, and because Bernalillo County in particular has heavily populated precincts (the mean population of a precinct in Bernalillo County is 984 residents). Curry County has two precincts with populations exceeding 2,000 residents. This is a reasonable allowance not because we assume a court would accept this deviation, but rather because reducing the population deviations in these districts by splitting precincts at the block level can almost always be achieved, but cannot alter the political orientation of these districts substantially. In fact, in my experience drawing redistricting maps, this is exactly how mapmakers proceed: the general layout of the maps is agreed upon first, while the time-consuming process of 'zeroing-out' districts is saved until later. *See* Bernard Grofman & Sean Trende, Memorandum to the Chief Justice and Justices of the Supreme Court of Virginia Re: Redistricting Maps, at 8, Dec. 27, 2021, *available at* `https://www.vacourts.gov/courts/scv/districting/2021_virginia_redistricting_memo.pdf`. Political scientists have generally accepted this concept to the simulated approach as well. See Jowei Chen & Jonathan Rodden, Unintentional Gerrymandering: Political Geography & Electoral Bias in Legislatures, 8 *Quar. J. Pol. Sci. 239*, 250 (2013) (accepting 5% deviations).

Finally, federal and state courts have accepted this limitation in the simulations. *See* Expert Report of Kosuke Imai, Dec. 9, 2021, *League of Women Voters of Ohio v. Ohio Redistricting Commission*, No. 2021-1449 (Ohio 2021) ("For all simulations, I ensure

districts fall within a 0.5% deviation from population parity. Although this deviation is greater than the population deviation used in the enacted plan, it only accounts for less than 4,000 people and hence has no impact on the conclusions of my analysis."); Wesley Pegden, "Pennsylvania's Congressional Districting is an Outlier: Expert Report," Nov. 27, 2017, *League of Women Voters of Pennsylvania v. Wolf*, at 3-4 (Pa. 2018) (employing a 2% threshold and explaining that a 1% would be sufficient to replicate what we might expect from a 0% threshold).

6 Analysis of Districts

With this background in place, we can finally move on to the analysis of the 2021 congressional districts. These are examined below.

6.1 Politics of New Mexico

The following maps trace the political development of New Mexico over the past 40 years. Each map shades the counties in New Mexico by their PVI, with an overlay of the relevant regions in place. Note that these maps do not employ the traditional red/blue color scheme. This is not meant to confuse, instead it reflects two realities: (1) that color-blind people (such as myself) do not read shades of red well and (2) red/blue maps do not print out well on a black-and-white printer. The "Viridis" color package I employ addresses both issues well.

Figure 3: Presidential Vote Share, Centered, By County and Region, 1984 (left), 1988 (right).

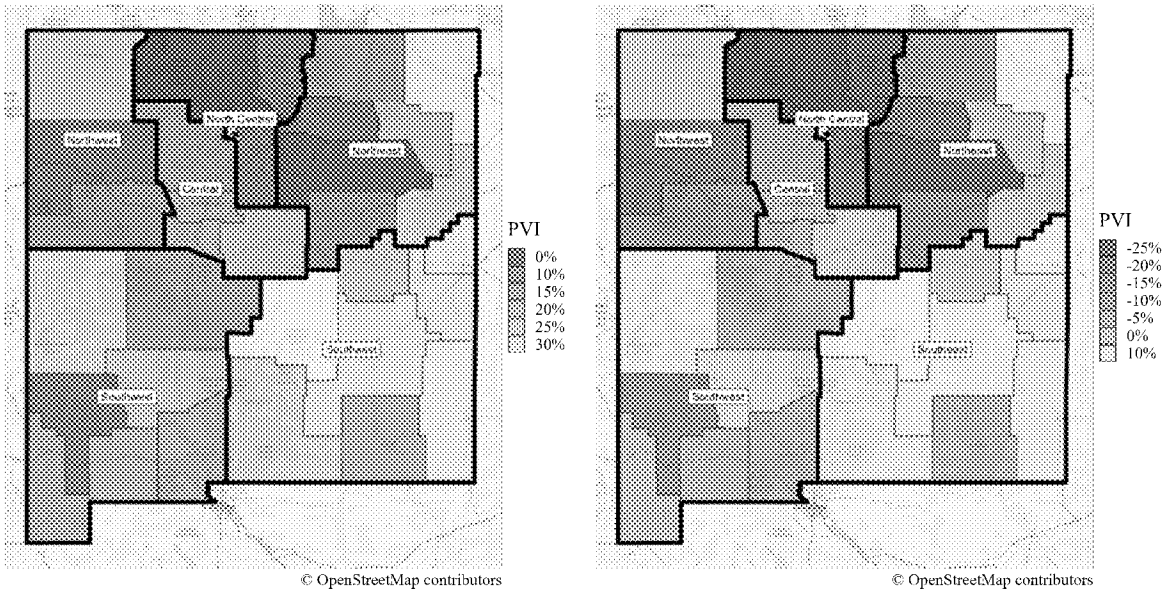


Figure 4: Presidential Vote Share, Centered, By County and Region, 1992 (left), 1996 (right).

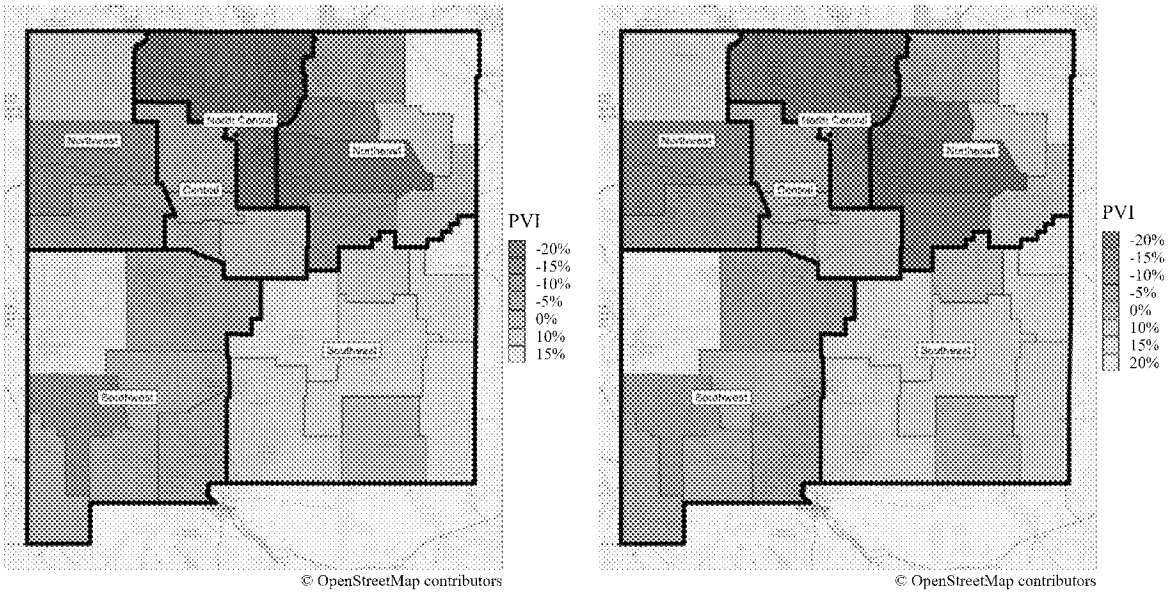


Figure 5: Presidential Vote Share, Centered, By County and Region, 2000 (left), 2004 (right).

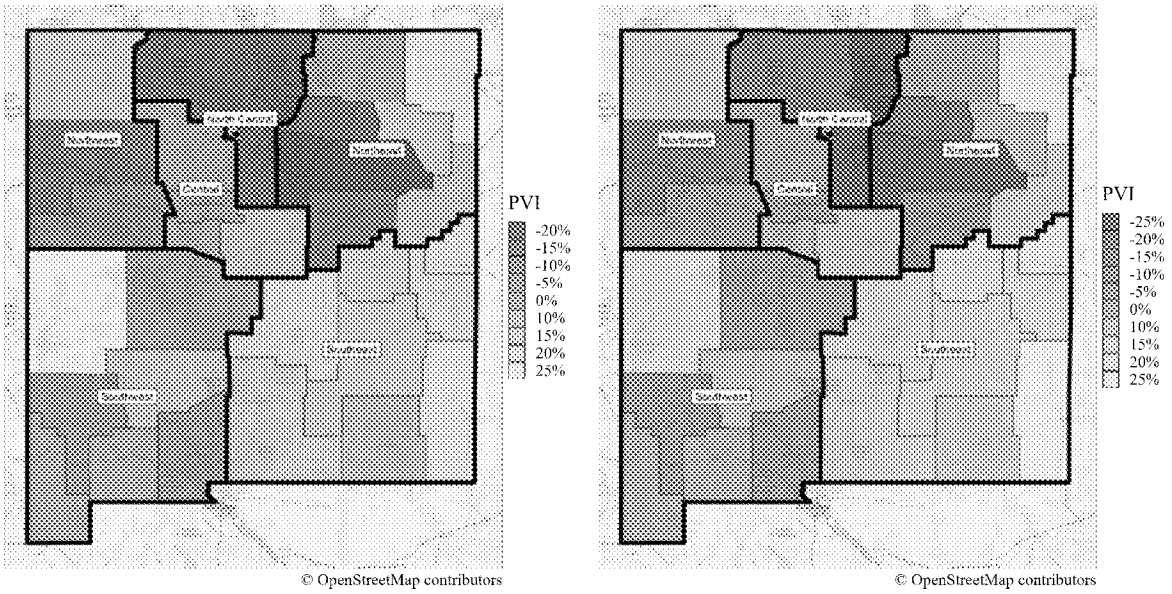


Figure 6: Presidential Vote Share, Centered, By County and Region, 2008 (left), 2012 (right).

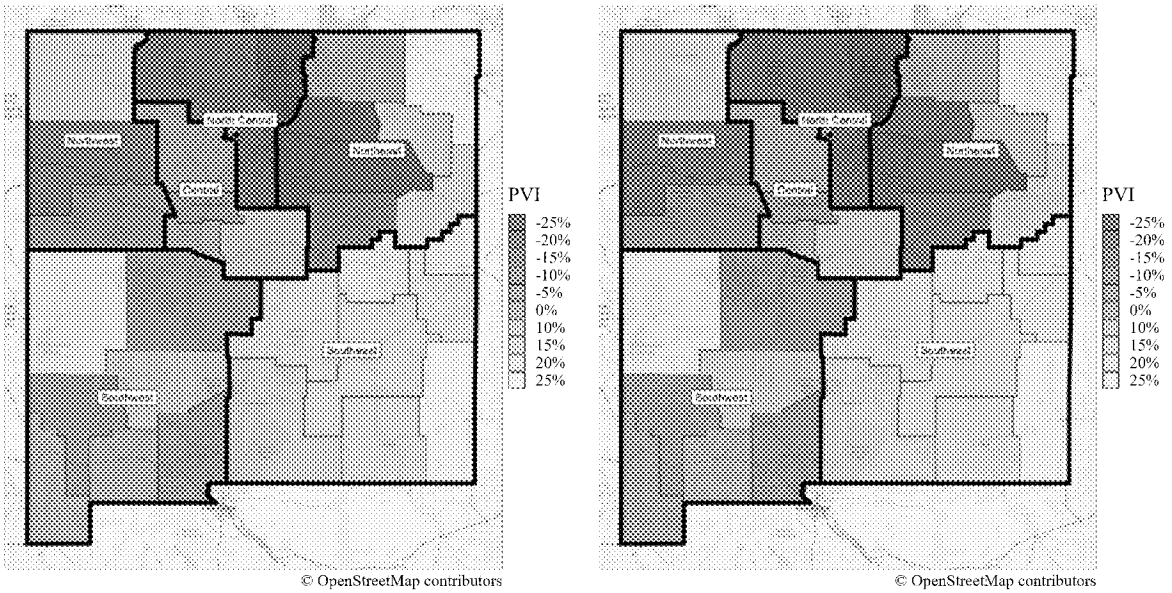
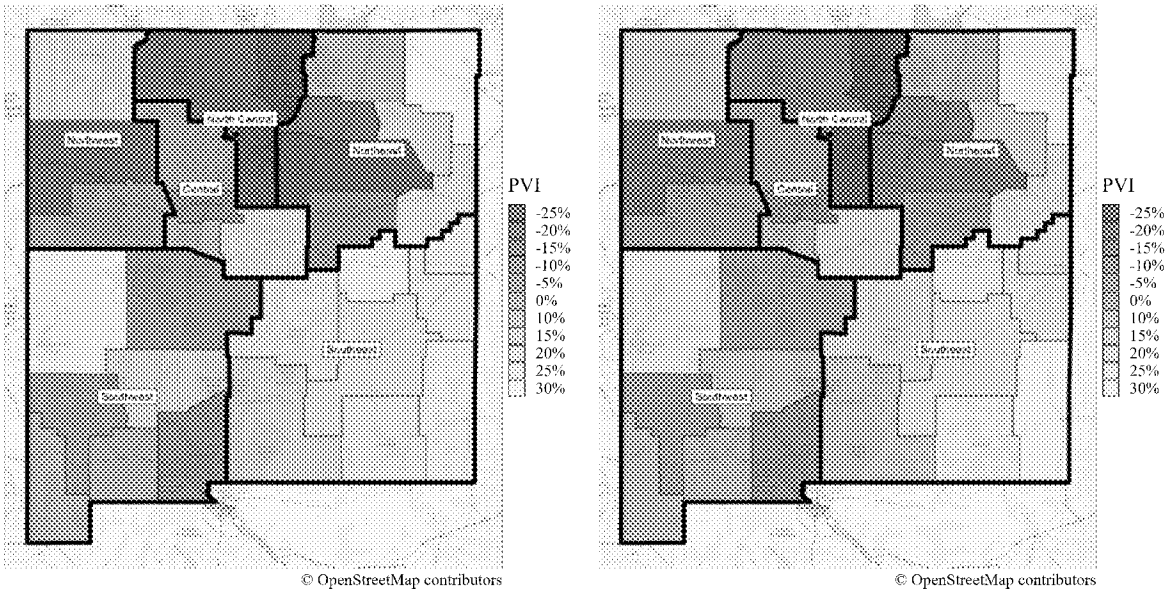
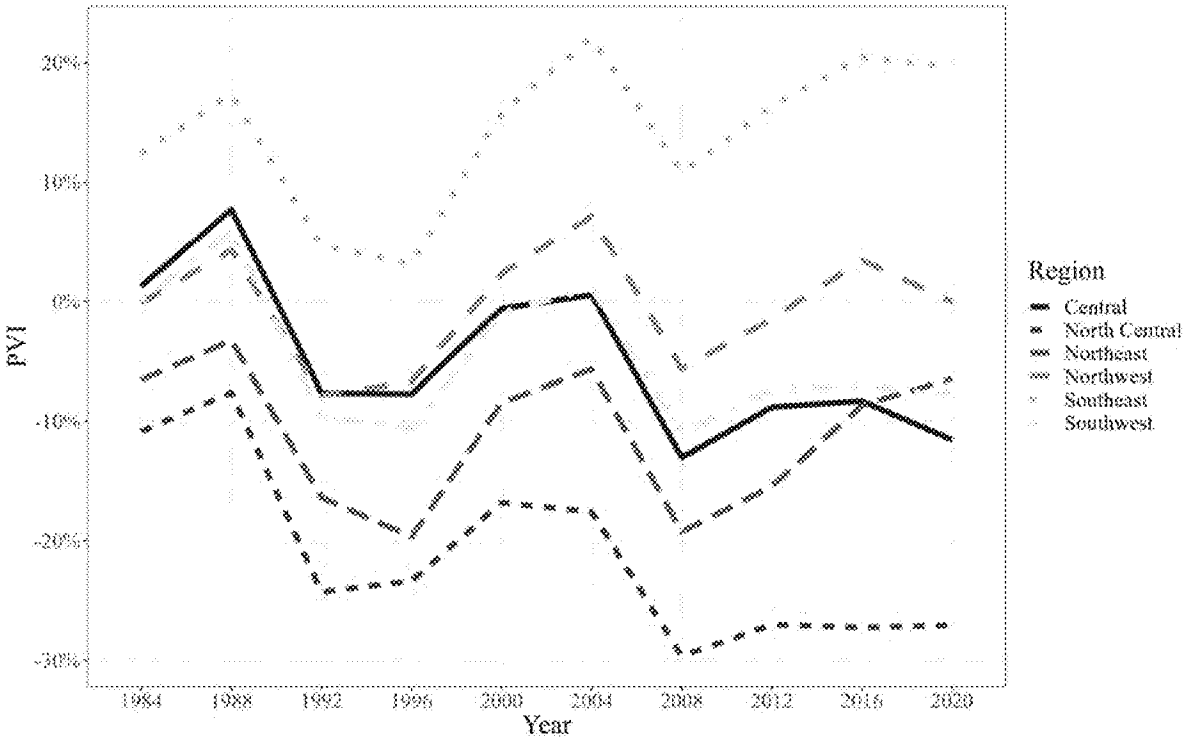


Figure 7: Presidential Vote Share, Centered, By County and Region, 2016 (left), 2020 (right).



The most striking thing about these maps is the overall stability of the regions. The Southeast region is consistently the most heavily Republican region of the state, while the North Central is the most heavily Democratic region. The Central region has moved significantly toward the Democrats over this time period, and is the most populous region.

Figure 8: PVI of New Mexico Regions, 1984-2020.

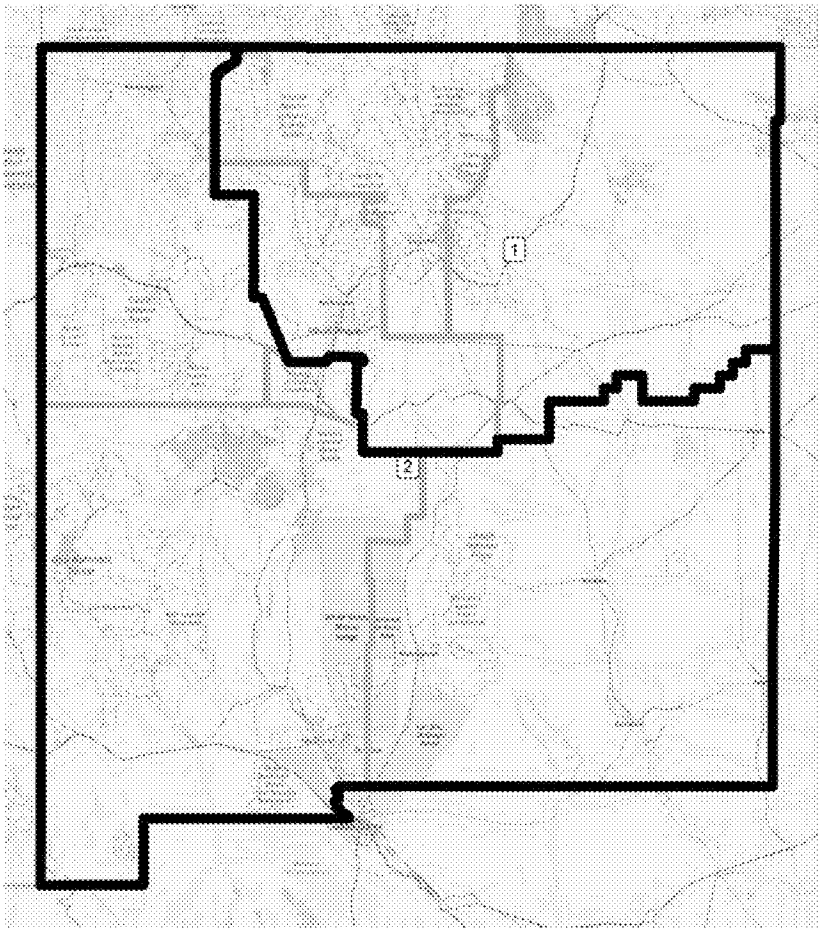


A would-be gerrymanderer wishing to maximize Democratic strength would therefore likely have two goals: To split up the North Central and Central regions in such a way as to spread Democratic voters to other districts, while cracking the southeast to dilute the Republican concentration of voters there. Because the regions are, overall, close to politically neutral, they are not as important when changing the partisan composition of districts.

6.2 New Mexico's Congressional Districts, 1972 to 2020

New Mexico was awarded a second congressional district in the wake of the 1940 census, however it elected its representatives at large until the 1960s. Its first set of congressional districts actually followed the contours of the state's regions nicely, with the first district taking in the Northeast, North Central, and Central regions and the 2nd District taking in the rest.

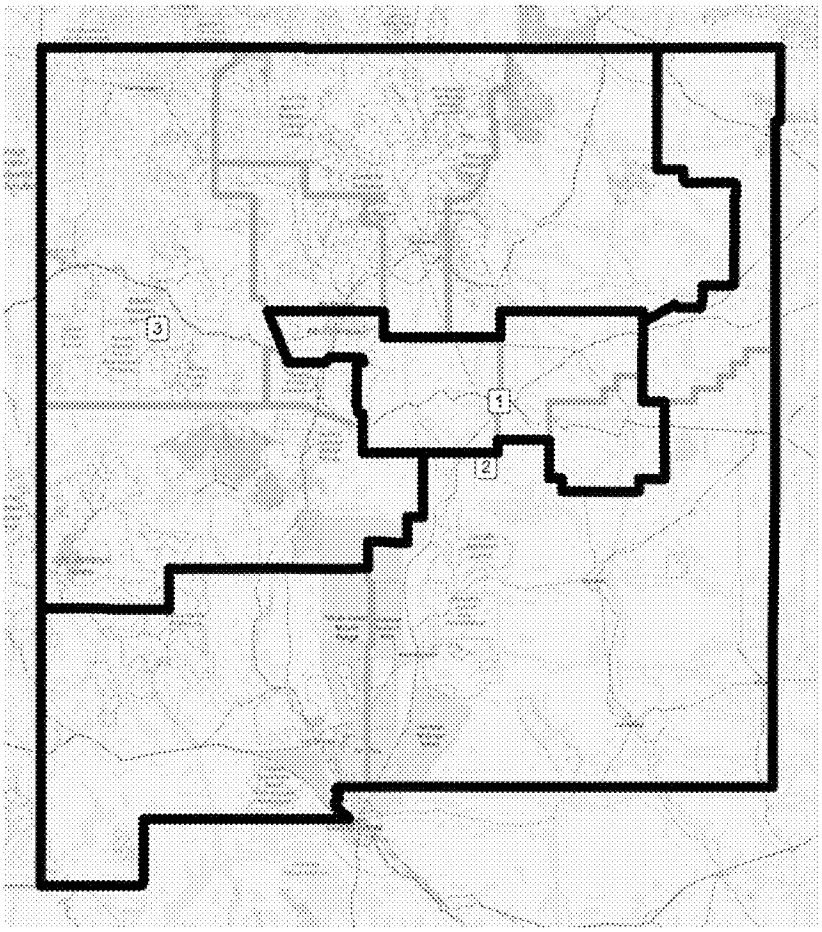
Figure 9: New Mexico Congressional Districts, 1972. Grey Lines = Regions



In 1982, New Mexico gained a congressional district. The resulting map showed less respect for New Mexico's regions, dividing the Central and Northeastern regions up three ways. The Southeastern and Southwestern regions were split as well, although only

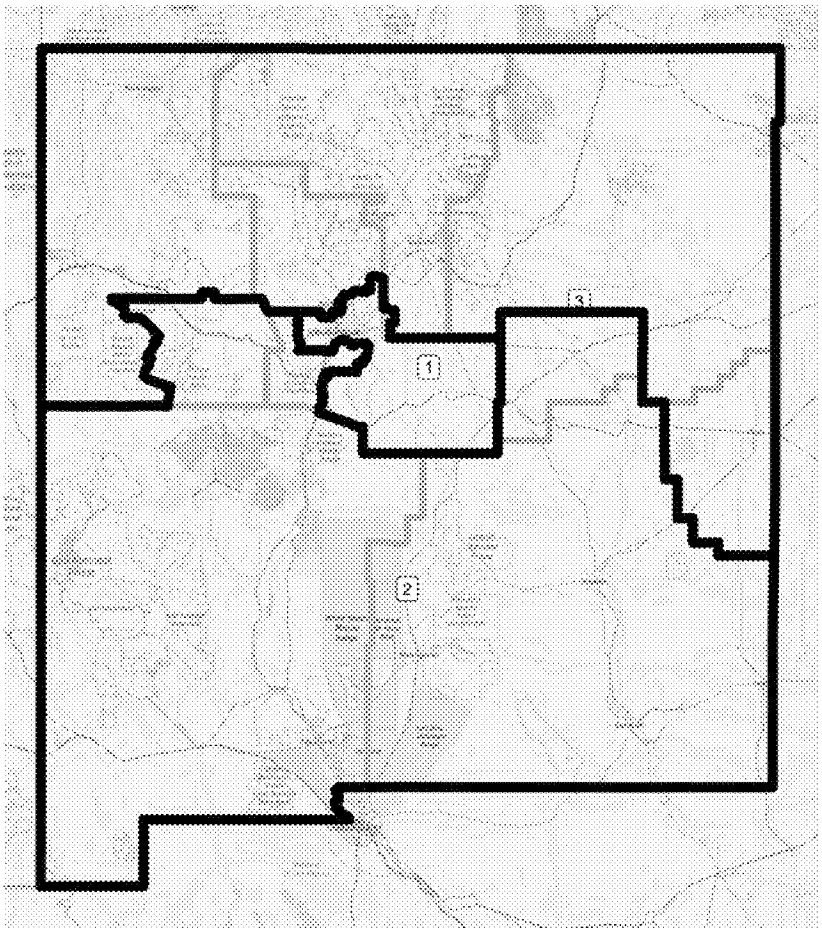
a single county was taken out of the Southeastern region.

Figure 10: New Mexico Congressional Districts, 1982. Grey Lines = Regions



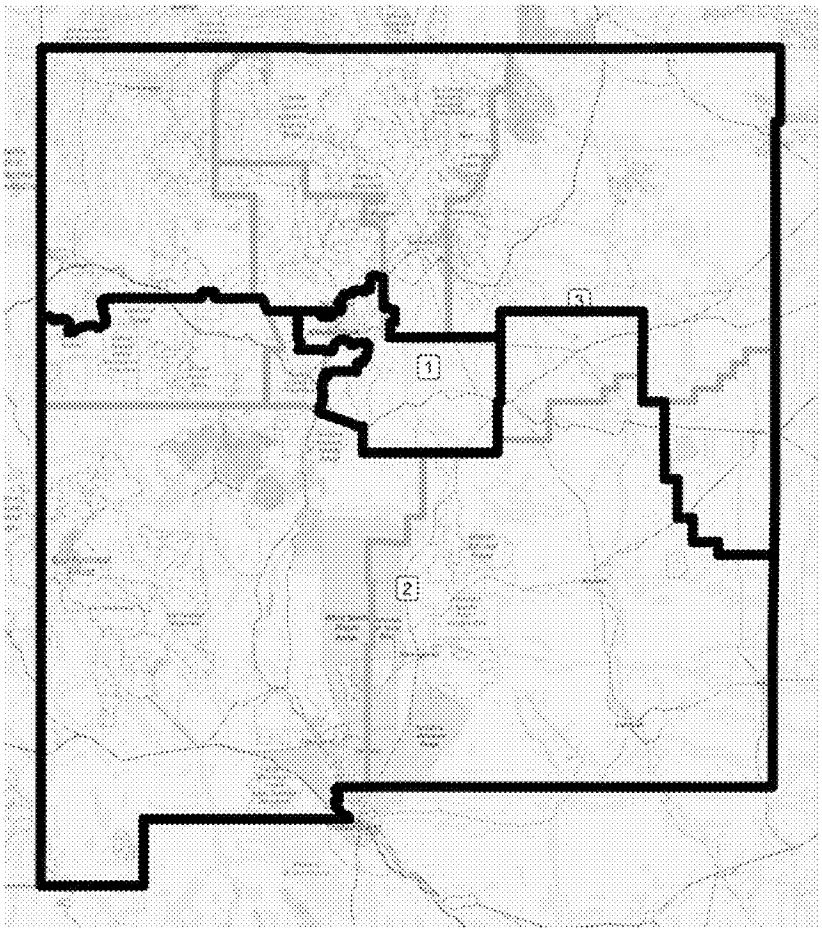
Subsequent redistrictings, however, involved more respect for the state's regions outside of the central region (which has always been shared among the state's three districts, though the Albuquerque metro area has not been). In 1992, single counties were taken out of the Northeastern, Southeastern and Northwestern regions.

Figure 11: New Mexico Congressional Districts, 1992. Grey Lines = Regions



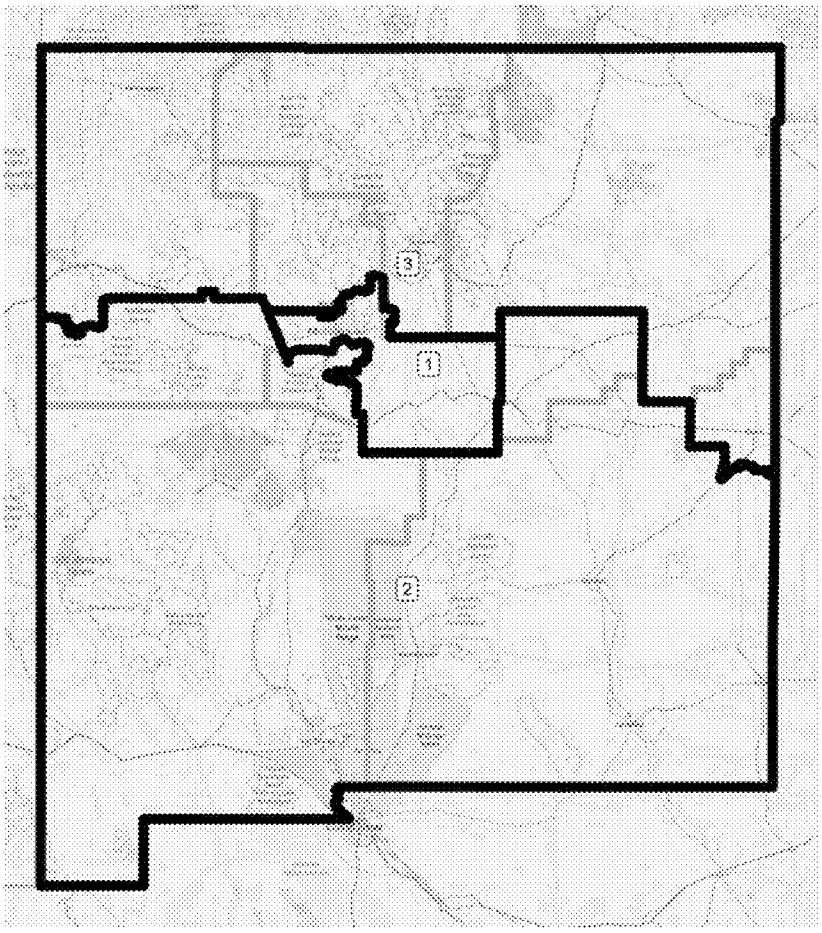
The 2002 lines largely paralleled the 1992 lines, with an additional county moved from the 3rd district into the 2nd in the Northeastern region.

Figure 12: New Mexico Congressional Districts, 2002. Grey Lines = Regions



The 2012 lines once again involved only modest changes from the 2002 lines.

Figure 13: New Mexico Congressional Districts, 2012. Grey Lines = Regions



In other words, New Mexico's lines have been more-or-less stable over the course of the past three redistricting cycles. Moreover, the state has typically provided a regional basis for the state's districts. We next turn to the 2021 redistricting, which took a very different turn.

6.3 Qualitative Analysis of the 2021 Redistricting

By the end of the 2010s, New Mexico's congressional district lines were malapportioned and had to be redrawn to meet the Constitution's one-person-one-vote require-

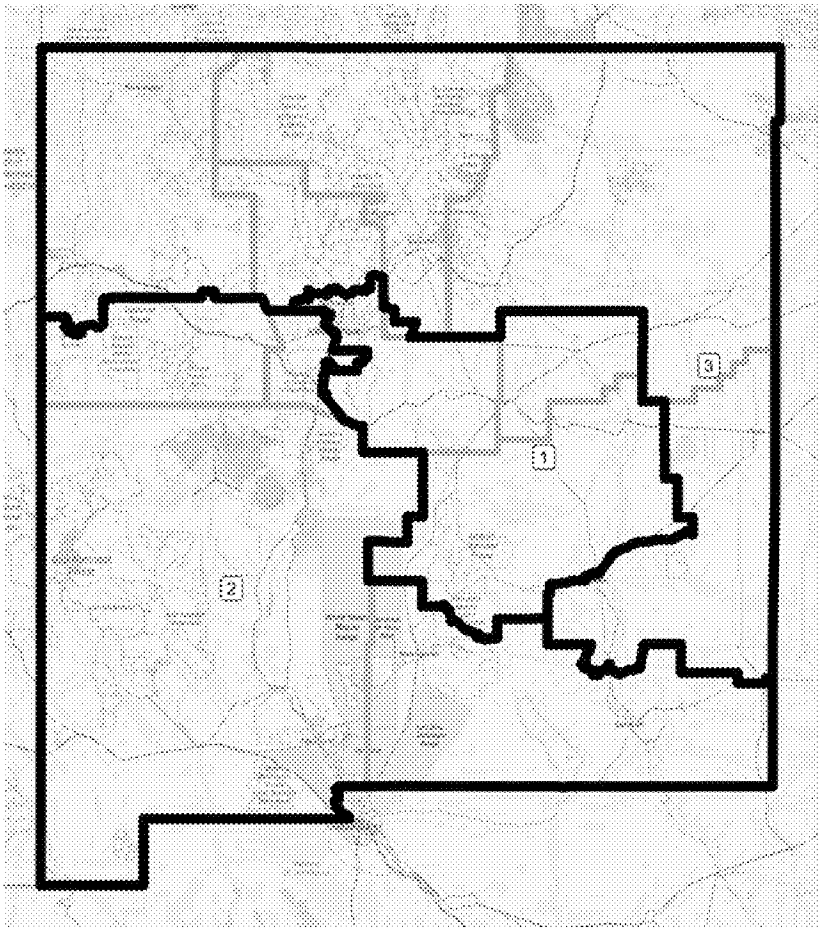
ment. However, only minimal changes were required.

Population Deviation of 2012-2020 Lines				
District	Population	Ideal	Difference	Percent
1	694,577	705,841	−11,264	−1.6%
2	714,022	705,841	8,181	1.2%
3	708,923	705,841	3,082	0.4%

The First District was underpopulated, but only had to gain 11,264 residents. The Second district was the most heavily overpopulated, but only had to lose 8,181 residents. The Third district was slightly overpopulated, and had to give up 3,082 residents. Overall, no district was even two percentage points off from the ideal population.

Instead, mapmakers substantially altered the map for the first time in decades. In particular, the 1st and 3rd districts were pushed into Southeastern New Mexico, while the 2nd was shifted substantially into Bernalillo County:

Figure 14: New Mexico Congressional Districts, 2022. Grey Lines = Regions



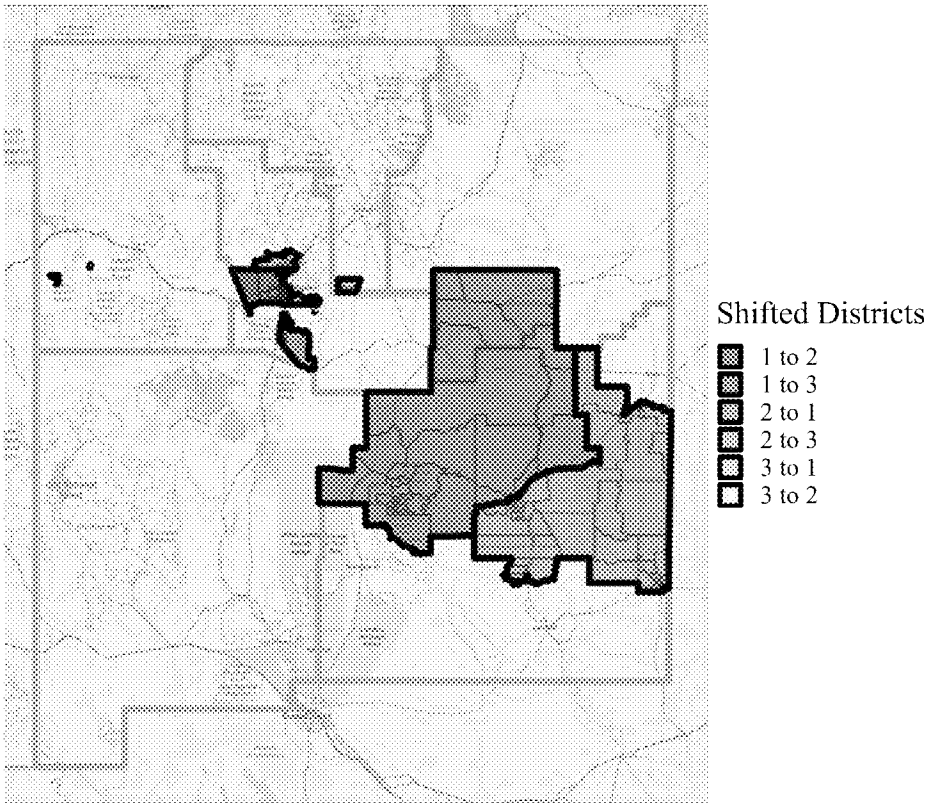
Overall, 505,952 residents were shifted between districts, more than twenty times the number of residents that had to be shifted to meet equal population requirements. Although the 1st District had to gain population, it shifted 166,485 residents to District 2. It did not, however, shift any residents to District 3. The 3rd District had to give up just 3,082 residents, but it gave 21,292 residents to District 2 and 122, 222 residents to District 1.

Most importantly, while the 2nd District only had to give up 8,181 residents, it gave up 55,518 residents to the 1st District and 140,435 residents to the 3rd District (which, recall, had to lose population).

Allocation of 2020 Population to 2020 Districts		
2020 District	2022 District	Population
1	1	528,092
1	2	166,485
1	3	0
2	1	55,518
2	2	518,069
2	3	140,435
3	1	122,222
3	2	21,292
3	3	565,409

These shifts, moreover, were not randomly distributed. They were concentrated in two regions of the state: The Southeastern and Central regions:

Figure 15: Location of Shifted Precincts, 2020-2022. Grey Lines = Regions



In the heavily Republican Southeastern Region, the population was shifted out of the 2nd District and into the 1st and 3rd Districts, splitting the region between three districts for the first time in the state's history. This is balanced out in the central region, where a large population is shifted into the 2nd from the 3rd. A few blocks are shifted from the 3rd to the 2nd in Northwestern New Mexico.

Perhaps most importantly, these shifts were not politically neutral. On balance, 16,216 votes for President Biden were transferred out of the First District and into the Second, while 805 were shifted from the Third District into the Second, for a gain of 17,021 Biden votes. At the same time, a net of 6,640 Trump votes were shifted from the Second District to the First, while 23,976 Trump votes were shifted from the Second

District to the Third. On balance, the Second District netted approximately 40,000 Democratic votes.

Recall that only 23,000 residents needed to be transferred. However, many of these residents did not even vote, either because they were not yet 18, were not yet citizens, or simply chose not to vote. In other words, the number of *votes* that had to be shifted between districts would be much smaller than 23,000.

Shift of 2020 Presidential Votes, 2020 - 2022

2020 District	2022 District	Trump Votes Shifted	Biden Votes Shifted	Net D Shift
1	2	19,862	36,078	16,216
1	3	0	0	0
2	1	16,397	9,757	−6,640
2	3	34,871	10,895	−23,976
3	1	29,997	30,181	184
3	2	4,685	5,490	805

The same is true if we look at our index of elections. Note that since this reflects a collection of ten elections, the total number of votes is much larger than using the presidential election alone. If, however, we divide the net D shift by ten, the numbers reflect what we see at the presidential level:

Shift of 2016-2020 Statewide Votes, 2020 - 2022				
2020 District	2022 District	R Votes Shifted	D Votes Shifted	Net D Shift
1	2	138,386	273,263	134,878
1	3	0	0	0
2	1	127,282	80,349	-46,934
2	3	254,682	91,511	-163,172
3	1	229,408	221,246	-8,162
3	2	34,837	37,214	2,378

We can also examine this by looking at party registration data, made public by the New Mexico Secretary of State's office. As the following table demonstrates, the percentage of registered voters who are registered as Republicans and Democrats in a given district tends to shift only gradually over time, and rarely shifts in a redistricting year. Between 2000 and 2002, the Democratic registration advantage dropped 0.3% in District 1, 0.2% in District 2, and increased by 1.4% in District 3.

Between 2010 and 2012, the Democratic registration advantage declined by 0.2% in District 1, 3.1% in District 2, and 1.6% in District 3. All told, there is a gradual decline in the Democrats' advantage in District 2 and, to a lesser extent, in District 3 between 1998 and December of 2021. This is offset by a gradual trend toward the Democrats in District 1.

By December of 2021, Republicans had gained a slight registration advantage in District 2, something not achieved in this state in any district in the 23 years prior. This changes in January 2022, when the new districts are put into place. Here we see the most radical registration shifts of any in interval in our time series.

Registration Numbers, New Mexico, By Congressional District, 1998-2022[1]

Year	Dem. Dist 1	Rep. Dist 1	Other Dist 1	Dem. Dist 2	Rep. Dist 2	Other Dist 2	Dem. Dist 3	Rep. Dist 3	Other Dist 3	Dem Adv., Dist 1	Dem Adv., Dist 2	Dem Adv., Dist 3
1998	131,947	114,448	46,601	154,506	98,325	33,338	184,854	87,571	40,509	12.0%	19.6%	31.1%
2000	156,935	118,544	56,380	158,032	104,529	40,025	193,447	95,209	50,432	11.6%	17.3%	29.0%
2002	142,746	112,262	53,512	153,281	101,786	39,220	182,559	89,140	47,073	11.3%	17.5%	30.4%
2004	174,849	131,945	75,628	164,646	118,830	54,467	231,630	108,788	65,195	11.2%	13.4%	26.7%
2006	170,883	130,935	73,160	159,731	119,117	55,246	207,857	108,773	63,273	10.7%	12.2%	26.1%
2008	200,011	136,130	82,584	169,797	126,155	64,301	223,498	113,033	68,435	15.3%	12.1%	27.3%
2010	198,444	135,709	84,791	156,257	119,326	61,351	215,385	112,539	68,407	15.0%	11.0%	25.9%
2012	205,908	139,885	100,513	165,580	135,687	78,754	224,719	120,409	83,708	14.8%	7.9%	24.3%
2014	207,152	140,089	108,123	166,045	139,248	87,856	227,408	122,602	91,497	14.7%	6.8%	23.7%
2016	216,202	138,902	110,994	158,447	138,783	87,076	225,031	122,164	90,988	16.6%	5.1%	23.5%
2018	201,125	123,889	110,089	154,583	138,821	92,977	225,399	120,758	98,139	17.8%	4.1%	23.5%
2020	216,776	132,689	113,513	159,868	137,876	99,816	234,158	132,552	103,826	18.3%	6.4%	21.6%
2021[2]	214,071	128,151	116,507	155,432	155,608	103,432	230,014	130,036	107,964	18.7%	-0.0%	21.4%
2022[3]	224,149	175,940	130,215	177,047	124,125	105,789	210,204	132,297	100,784	9.1%	13.6%	17.6%
2022[4]	213,816	160,193	124,813	177,038	138,006	106,423	210,977	135,712	102,845	10.5%	12.0%	16.7%

[1] Data taken from NM Sec. of State Website for primo immediately prior to election, except where noted.
[2] Data are from December of 2021.
[3] Data are from January of 2022.
[4] Data are from November of 2022.

The 1st District gained 10,078 registered Democrats, 47,789 registered Republicans and 13,708 registered Independents. The Democratic advantages here dropped from 18.7% to 9.1%. At the same time, Democratic registration in the 3rd District dropped by 19,810, while the number of registered Republicans increased by 2,261. The Democratic advantage dropped from 21.4% to 17.6%

With the Democrats' advantage declining in two of the state's congressional districts, these voters could only go into the 2nd District. And indeed, the Republicans' nascent registration advantage here was obliterated. This district added 21,615 Democratic registrants, while giving up 31,483 Republican registrants. When the redistricting dust had cleared, the Democrats enjoyed a 13% registration advantage in the district – the largest advantage here since the mid-2000s. This is easier to see in chart form:

Figure 16: Dem. Registration Advantage, New Mexico 1st Congressional District, 1998-2022

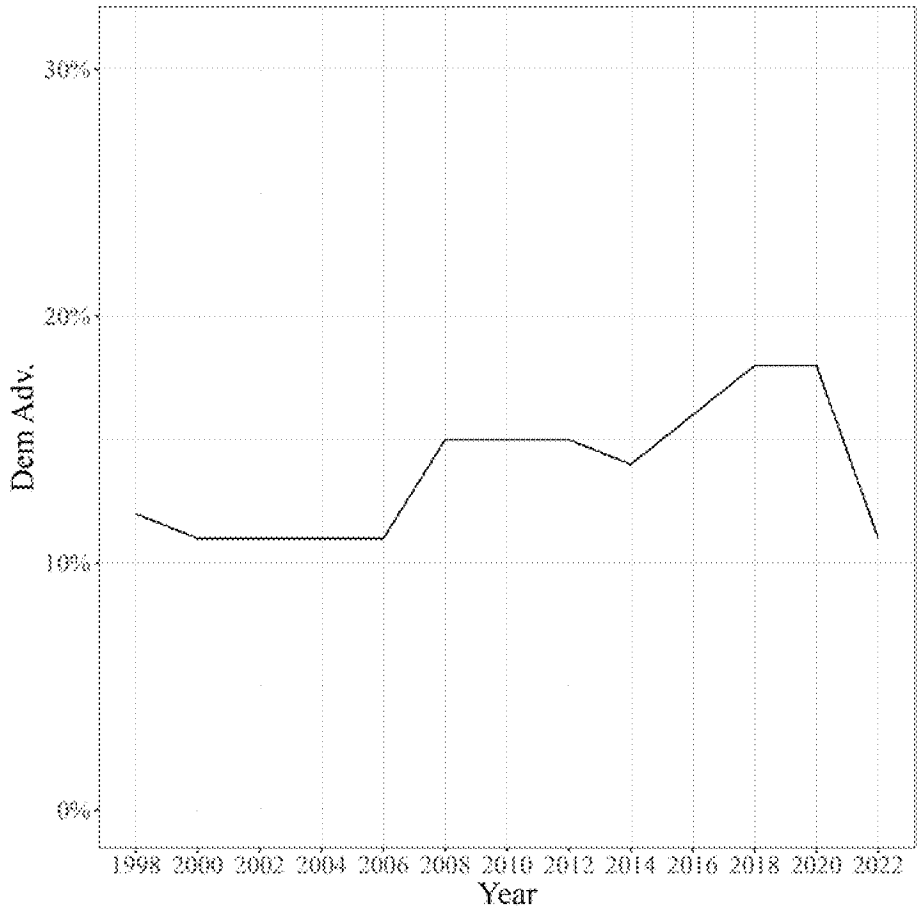


Figure 17: Dem. Registration Advantage, New Mexico 2nd Congressional District, 1998-2022

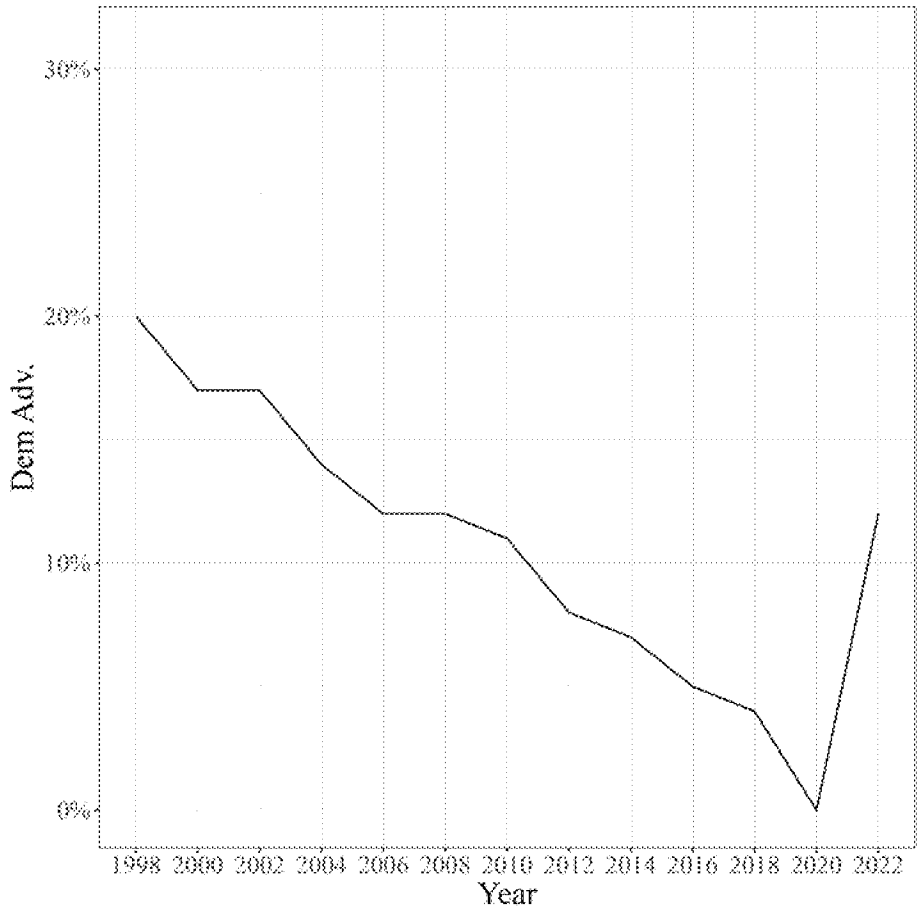
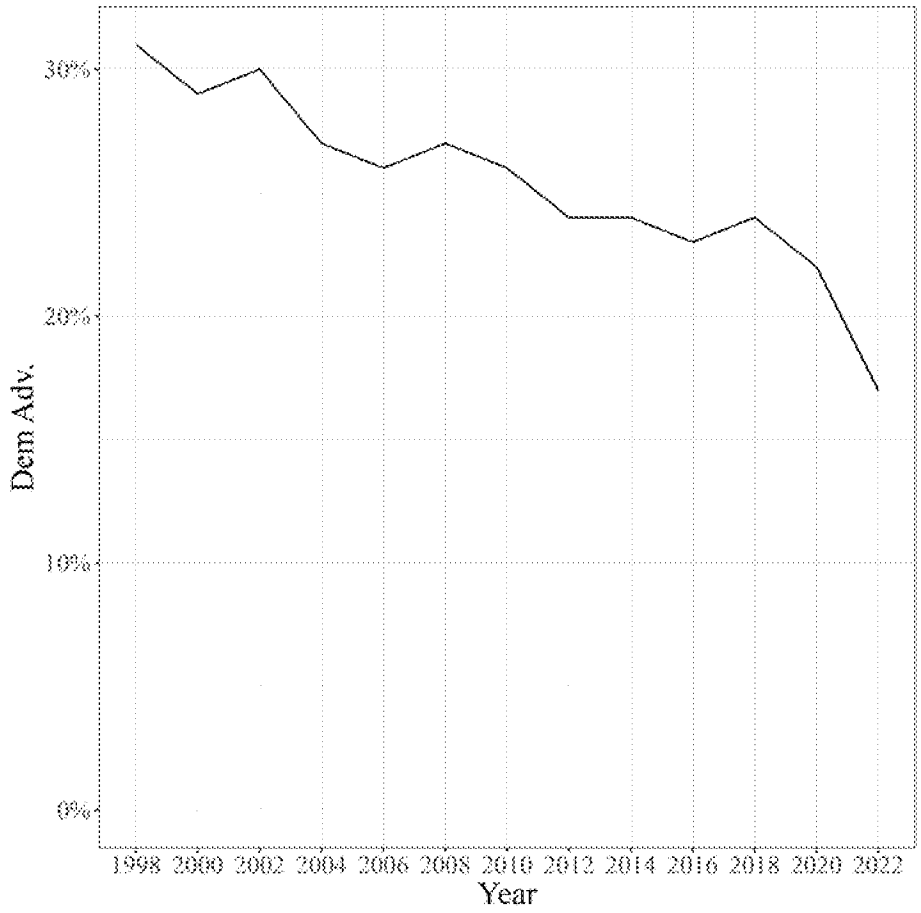


Figure 18: Dem. Registration Advantage, New Mexico 3rd Congressional District, 1998-2022



Note how nicely this dovetails with the observation above that one must necessarily rob Peter to pay Paul, and that this limits what a would-be gerrymanderer may accomplish. The party registration in the districts is largely equalized, but pushing it further in any direction would make one district or another more competitive. If a map-maker wished to make District 2 even more Democratic, she would have to either make District 3 more Republican or make District 1 more Republican. Given the long-term trend toward Republicans in District 3, this might be dangerous by the end of the decade, while District 1 is already relying on the Democratic trend among suburban Independents and Republicans to vote Democratic.

While party registration is a useful indicator, it is not the *only* indicator. After

all, even though Democrats had a registration advantage in District 2 until late 2021, the district elected Republicans to Congress, with two brief interludes. Likewise, District 1 stopped electing Republicans in 2008, in part because suburban Republicans and independents have shown increasing willingness to vote for Democrats.

Looking at actual vote results in these districts reveals that the 2021 redistricting moved the state much closer to the platonic ideal of a gerrymandered map in a small, competitive state described above, whether we use presidential vote share or our index.

Democratic Vote Shares, 2020 and 2022 Lines

District	2020 Lines, Biden %	2022 Lines, Biden %	2020 Lines, D Index %	2022 Lines, D Index %
1	61.7%	57.4%	60.4%	56.1%
2	44.0%	53.0%	46.1%	54.6%
3	59.0%	55.5%	59.9%	57.3%

The 1st and 3rd Districts are made less Democratic, but not so much less Democratic that they might seriously threaten their incumbent Democrats. At the same time, the 2nd District is transformed from one where Republicans would generally be favored into one where Democrats tend to win. It is now Democratic enough where a Republican incumbent in a generally favorable Republican environment could be toppled; one of only two such incumbents to lose in 2022.

As a final illustration of this, we can look at the ten statewide races included in our index individually, and see how many of these ten races the statewide Democratic candidate won under the earlier lines and the 2022 lines:

Democratic Statewide Wins in District, 2020 and 2022 Lines		
District	# D Wins, 20 lines	# D Wins, 22 lines
1	10	10
2	1	10
3	10	10

The Second District changes from one where Democrats won only 1 of the ten statewide races into one where it won ten of ten. At the same time, Democratic performances in the other 10 races are not appreciably weakened; Democrats won all 10 statewide races under both the previous and current lines.

The upshot of this was that the only Republican in the state's congressional delegation, Congresswoman Yvette Herrell, was defeated. She was one of only two Republican incumbents who lost in what was, generally speaking, a favorable environment for the Republicans. This gave Democrats complete control of the state's delegation for only the third time since it began electing members of Congress through congressional districts, and was just the first time this happened in a year that was not an exceptionally good environment for Democrats (the other two elections where this occurred were 2008 and 2018). And it occurred even as Republicans were winning 44.9% of the statewide vote for Congress. *See* "New Mexico Election Results," *New York Times*, *available at* `https://www.nytimes.com/interactive/2022/11/08/us/elections/results-new-mexico.html?action=click&pgtype=Article&state=default&module=election-results&context=election_recirc&region=StateNavMenu`

6.4 Simulations

6.4.1 Baseline Simulations

To conduct the simulations, I gathered and joined publicly available data with political and demographic data at the census block and precinct levels. After unifying

the data at the precinct level, I instructed the simulation to create 1,000,000 sets of three reasonably compact districts, which respect county subdivisions. I was then able to compare the partisanship of the enacted districts to the ensemble of maps.

We can think of this approach as answering the questions, "What would happen if we selected 1,000,000 individuals, gave them basic instructions to keep districts modestly compact and to keep populations equal, withheld political information from them, and then sent them out to draw maps? What sorts of maps would they produce?"

Once the simulation creates our 1,000,000 maps, it calculates the partisan lean of the districts. We can then compare the simulated districts to the enacted map to ensure that they perform comparably well on traditional redistricting criteria. That is to say, we ensure that the Legislature would not have to sacrifice traditional redistricting criteria in order to achieve more balanced maps.

To best illustrate the degree to which the 2022 Map reflects outliers when compared to maps drawn without partisan information, I employed the "gerrymandering index," proposed by Bangia *et al.* (2017) and endorsed by McCartan and Imai in their paper setting forth the algorithm used to generate the districts in this report. *See* Cory McCartan & Kosuke Imai, *Sequential Monte Carlo for Sampling Balanced and Compact Redistricting Plans*, *Annals of Applied Stat* (forthcoming) (manuscript at 24-25), *available at* `https://arxiv.org/pdf/2008.06131.pdf`.

It is conceptually similar to the idea of root mean squared error (used throughout statistics). To calculate the index, we take each of the 1,000,000 simulated maps and rank the districts from most heavily Democratic to least heavily Democratic. We then average Democratic vote shares across ranks. This tells us, generally speaking, what percentage Democratic vote share we would expect the most heavily Democratic district to have in a map drawn without respect to politics, what we would expect the second-most heavily District to have, and so forth.

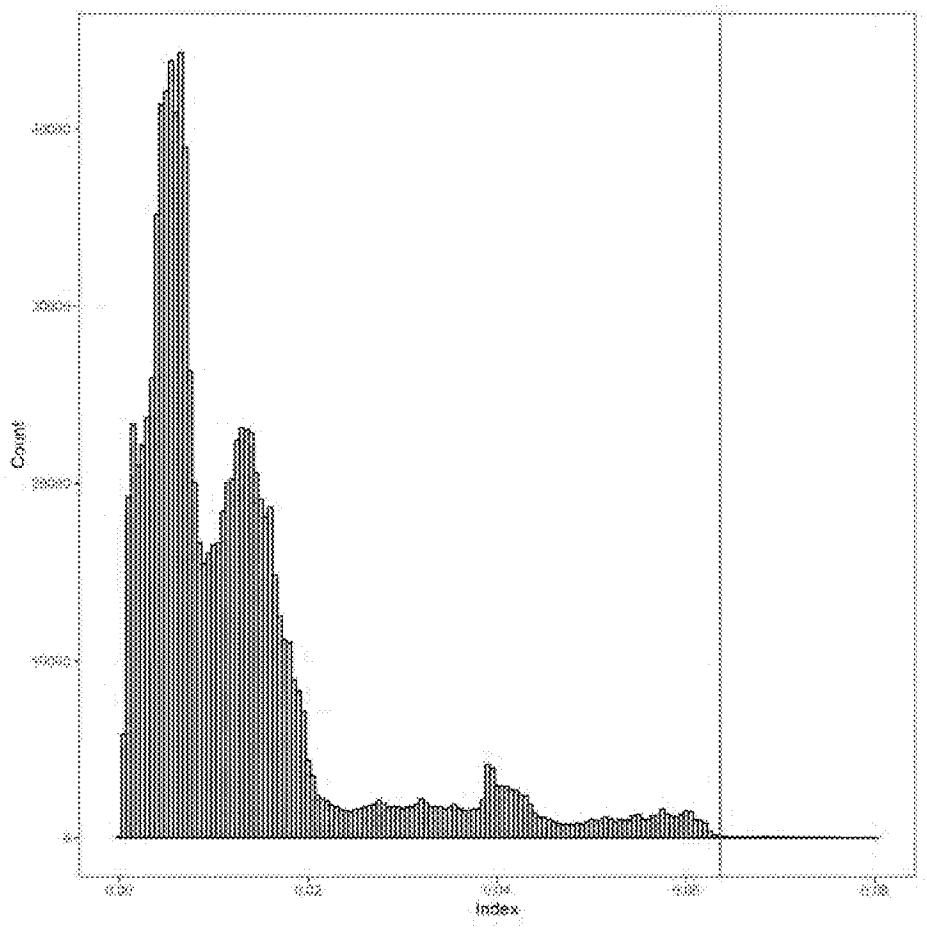
Of course, some areas might be conducive to a wide range of partisan outcomes depending how the map is drawn. To help account for this, we then calculate the de-

viations in each plan in the ensemble from the mean for each "bin." To make this less abstract: say that the most heavily Democratic district in the ensemble, on average, gives the Democrats 93.9% of the vote. A district in the ensemble whose most heavily Democratic district was 92% Democratic would have a deviation of 1.9% for that rank, while one whose most heavily Democratic district was 97% Democratic would have a deviation of 3.1%. Next, say that the second most heavily Democratic district in maps in the ensemble is, on average, 92.2% Democratic. A map whose second most heavily Democratic district has a Democratic vote share of 87% would have a deviation of 5.2%, and so forth. To emphasize large deviations (and to make them all positively signed) these values are then squared and added together to give us a sense of how far maps drawn without respect to political data will tend to naturally vary from expectations.

In simplified terms, this gives us the total deviation from the ensemble for all the districts in the plan, while giving more weight to particularly large misses; dividing by three gives us the average deviation. The square root is then taken, which effectively puts everything back on a percentage scale. We then engage in the same exercise for the 2022 Map and compare those scores to those in the ensemble.

The utility of this exercise is that it looks at maps as a whole, rather than in isolation. The results are displayed below:

Figure 19: Values of Gerrymandering Index, Simulated Maps (Red Line = 2022 Map), Using 2020 POTUS as the Metric for Partisanship



The ensemble maps have, on average, a Gerrymandering Index of around 1.3%. The 2022 Map, on the other hand, is far on the tail of the distribution. It has a Gerrymandering Index of 6.4%, over four standard deviations from the mean. Of the maps in the ensemble, only 1,103 maps, or 0.11%, had larger gerrymandering indices. The probability that the 2022 Map would be drawn by map drawers who were avoiding political information is vanishingly small. In fact, there is a roughly a one-in-1,000 chance that this map would be produced by someone drawing under the same parameters as the computer. To put this in context, the typical standard in the political science discipline for rejecting the possibility that an outcome was merely a result of chance is 1-in-20, or 5%.

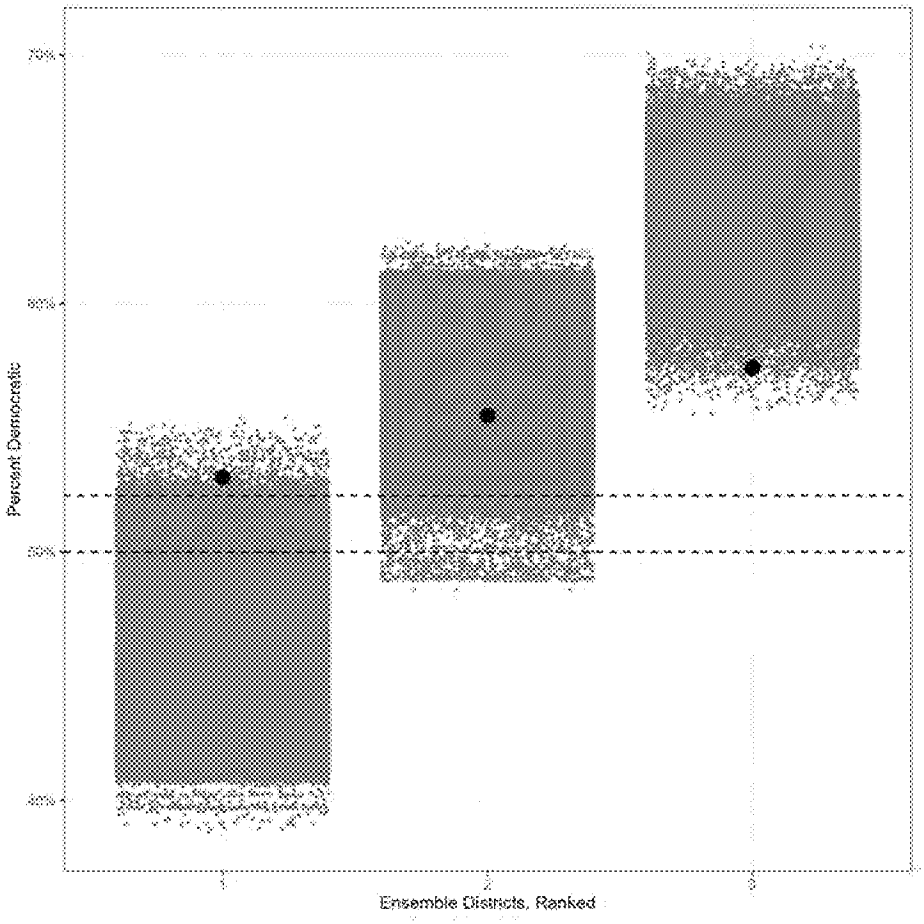
Put simply, it is implausible, if not impossible, that this map was drawn without a heavy reliance upon political data and was likely drawn to favor or disfavor a political party.

Interrogating the maps from a different angle makes clear that the party that the Legislature intended to favor was the Democratic Party, and the one that it intended to disfavor was the Republican Party. To see this, consider the following dotplot. In this plot, all the districts in each of the 1,000,000 simulated maps were sorted from most Democratic to least Democratic. Each of these districts then received a dot in the plot. At the far right, above the number 3, you will notice a large cluster of blue dots spread between 56% and 69%. That means in every plan, the most heavily Democratic district fell somewhere between 56% and 69% Democratic.

The next cluster to the left, hovering above the number 25, consists of blue dots ranging between 49% and 61%. This means that in all of the 50,000 simulated maps, the second-most Democratic district typically fell between 49% and 61% Democratic.

I have also added a dashed horizontal line at 52.27% Democratic. This represents Biden's two-party vote share from 2020. In other words, this marks the point where a PVI flips from favoring Republicans to favoring Democrats.

Figure 20: Democratic Vote Shares, Ranked by Partisanship, in Simulated Maps, Using 2020 POTUS as the Metric for Partisanship. Black Dot = 2022 Map

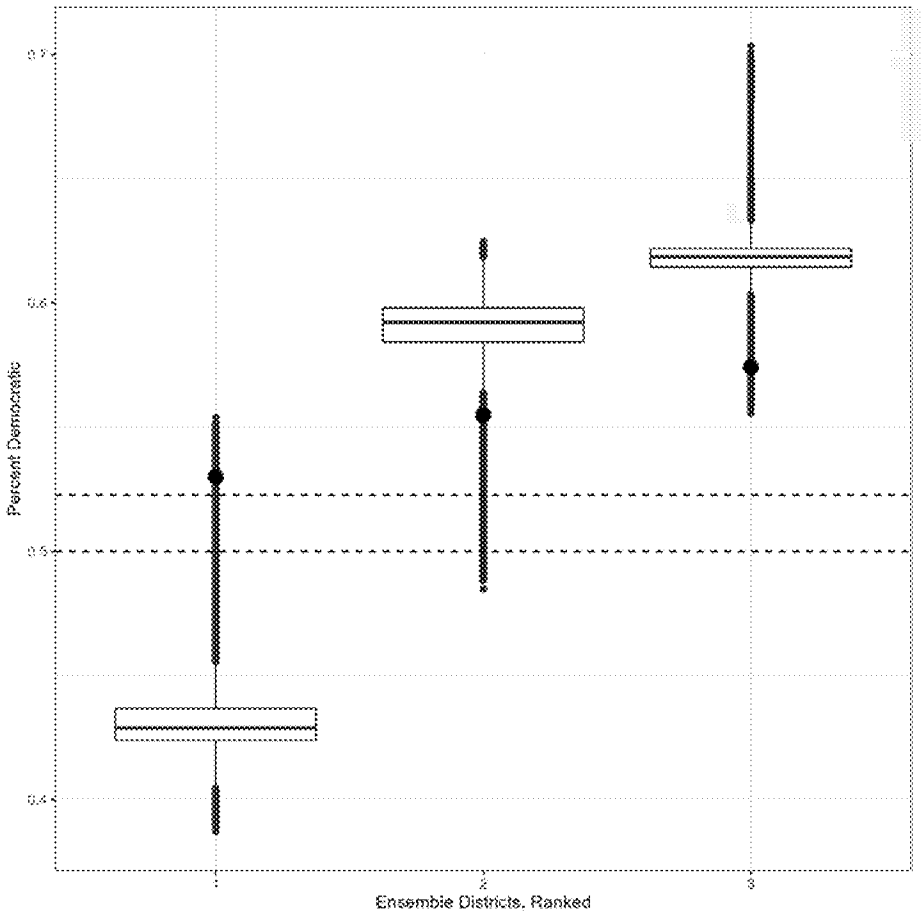


Here, we can see that the most Republican district is at the extreme of the dotplot. Only a handful of the randomly generated maps returned three districts at least as Democratic as the 2022 Map. We can also see how this was brought about: The most heavily Democratic district is made much more Republican than we would expect, but not so Republican that the incumbent would be seriously endangered.

One shortcoming of these dotplots with a large number of districts is that much of the detail is lost. In short, you cannot plot 3 million dots on a 8.5" x 11" page without a significant amount of overplotting. To address this, in the past I have utilized boxplots (as have other scholars, including McCartan and Imai). While these are less intuitive than the dotplots, they don't suffer from the "overplotting" issue.

The way to read a boxplot is as follows: The black horizontal lines represent the median of the distributions. The boxes enclose the middle half of the map values (this statistic is known as the "interquartile range" or "IQR"). The vertical lines coming off of the boxes, known as "whiskers" represent values that are within 1.5 times the values of the "box" in either direction. So, for example, here the boxes for the most Republican district range from 44.6% Democratic to 45.9% Democratic, a range of 1.37 percentage points. The top whisker then ranges from 45.9% to 48%, while the bottom whisker ranges from 44.6% Democratic to 42.5% Democratic. Beyond that, the black dots reflect outliers.

Figure 21: Democratic Vote Shares, Ranked by Partisanship, in Simulated Maps, Using 2020 POTUS as the Metric for Partisanship. Black Dot = 2022 Map



As we can see, all of the districts in the Enacted Map would be classified as outliers. Moreover, they are outliers in a very particular manner. The districts that we would expect to be heavily Democratic are still Democratic, but much less so than we'd expect. On the other hand, the district we would expect to be a Republican district is made much more Republican than we would expect. Indeed, its base partisanship is flipped. This pattern reflects the cracking of Democrats in heavily Democratic districts, and their packing into areas where we would expect to see Republican districts, thereby diluting the Republican vote. We see this pattern repeatedly in states where courts have struck down maps; it is the very DNA of a gerrymander. *See also* Gregory Herschlag, *et al.*, *Quantifying Gerrymandering in North Carolina*, 7 *Stat. & Pub. Pol.* 30, 33, 34 (2020) (referring to this pattern as the "signature of gerrymandering").

If we conduct our analysis using the political index described above to measure district partisanship, the results are substantively the same.

Figure 22: Values of Gerrymandering Index, Simulated Maps (Red Line = 2022 Map), Using Political Index as the Metric for Partisanship

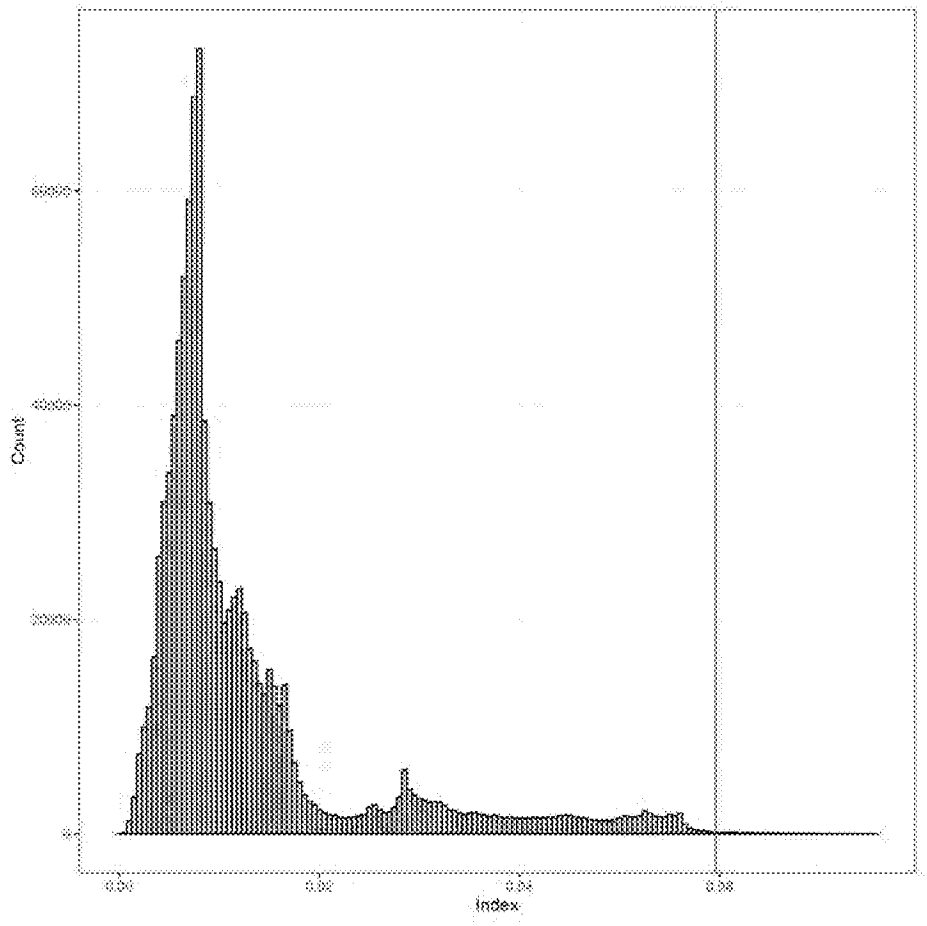


Figure 23: Democratic Vote Shares, Ranked by Partisanship, in Simulated Maps, Using Political Index as the Metric for Partisanship. Black Dot = 2022 Map

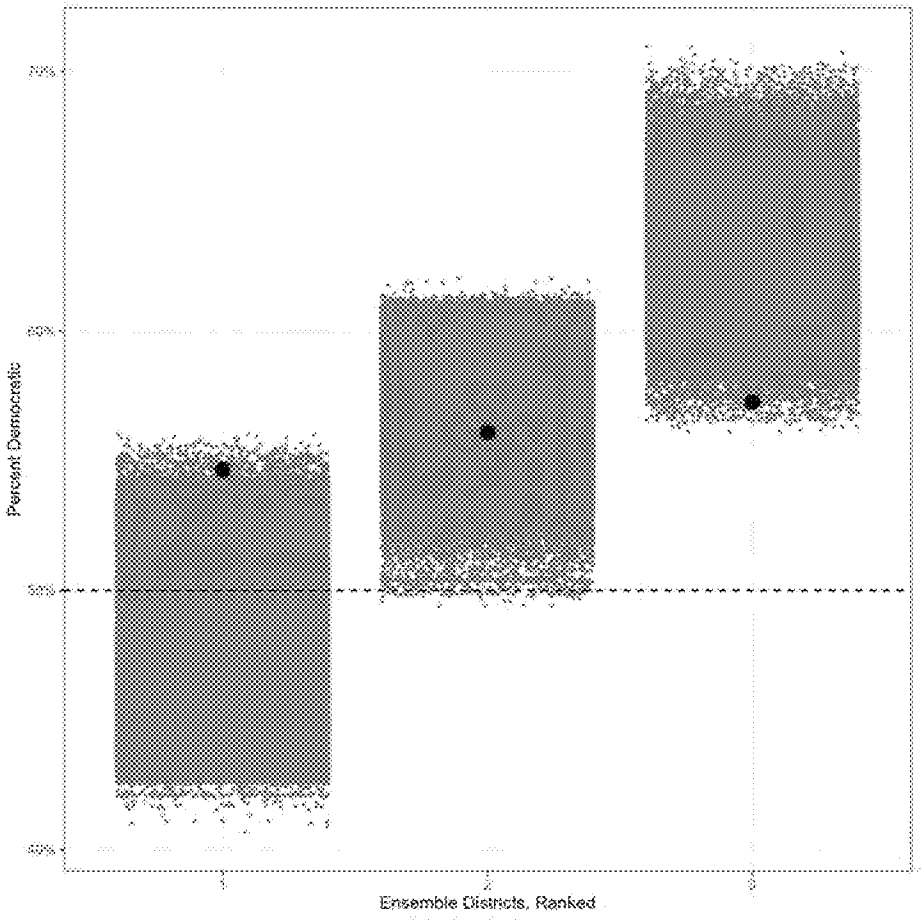
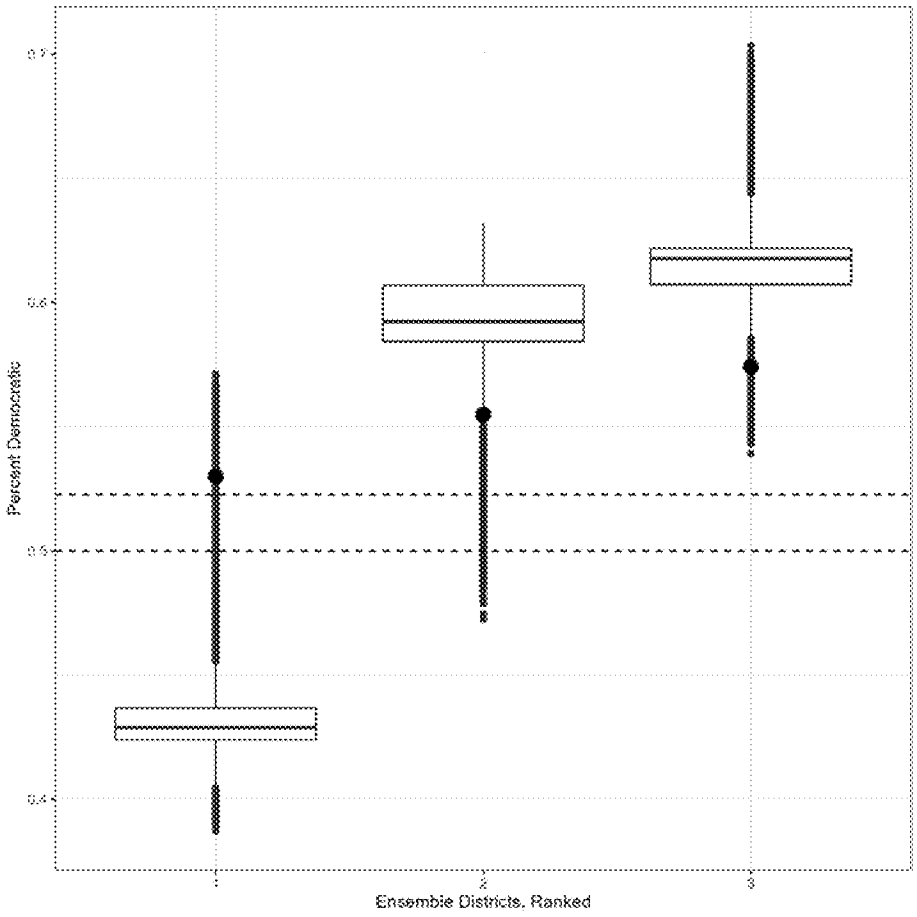


Figure 24: Democratic Vote Shares, Ranked by Partisanship, in Simulated Maps, Using Political Index as the Metric for Partisanship. Black Dot = 2022 Map



But these simulations assume that the entire map is redrawn. We know from the above, however, that the mapmakers didn't completely redraw the map. Instead, they drew from just two areas of the map. See also NMSA 1978, § 1-3A-7(A)(10) (empowering the citizen's redistricting committee to "to the extent feasible . . . preserve the core of existing districts.").

In situations like this, political scientists will often "freeze" precincts together. This is described in more detail in McCartan and Imai's 'vignette' explaining more complex redistricting environments. See https://alarm-redist.org/redist/articles/map-preproc.html. The most frequent reason for doing this is where the Voting Rights Act is involved. So, for example, in Maryland, I froze the two districts where African-Americans

comprised more than 50% of the voting age population (this also necessitated the freezing of a third district, due to geographic constraints). To be sure, there are multiple ways to draw VRA-compliant districts in Maryland, but because VRA analyses are so sensitive and fact-specific, I simply conceded, for sake of argument, that the legislature had drawn those districts in a considerate, fair manner. In New York, I engaged in a similar analysis, freezing the districts where Whites did not comprise a majority of the voting age population and running the simulations on the remaining precincts.

To account for the fact that New Mexico has a history of relatively small changes to its districts and anticipating that the state may offer a desire to at least somewhat continue that trend today, I performed a second set of analyses, which only allowed the precincts the mapmakers swapped between districts to move. That is to say, the precincts from District 1 under the previous lines that were still in District 1 under the new lines were locked together. Likewise, the precincts from District 2 under the previous lines that were still in District 2 under the new lines were locked together, as were the precincts that stayed in District 3.

In effect, this process concedes to the mapmaker that it was proper to keep the precincts in the same district that the mapmaker opted to keep in place; in effect 90% of the map is conceded to the mapmaker. We can therefore ask ourselves: Given the precincts that the mapmakers thought could be swapped between districts, how likely is it that they would have ended up with maps containing the partisan breakdown that the 2022 Maps produced?

Even under such extensive concessions the answer is: It would be astonishingly unlikely. *None* of the 1,000,000 additional maps in this ensemble has the gerrymandering index of the 2022 maps. The average index score is 0.62% for the ensembles. For the Enacted Plan? It is 2.95%, or over seven standard deviations from the mean. It is not on the tails, it is beyond them. It is virtually impossible to arrange the precincts that the mapmakers swapped between districts and come up with anything resembling what the legislature came up with, at least without heavy reliance on partisan data.

Figure 25: Values of Gerrymandering Index, Simulated Maps (Red Line = 2022 Map), Using 2020 Presidential Election as the Metric for Partisanship, Only Precincts that were Moved in 2021 Redistricting.

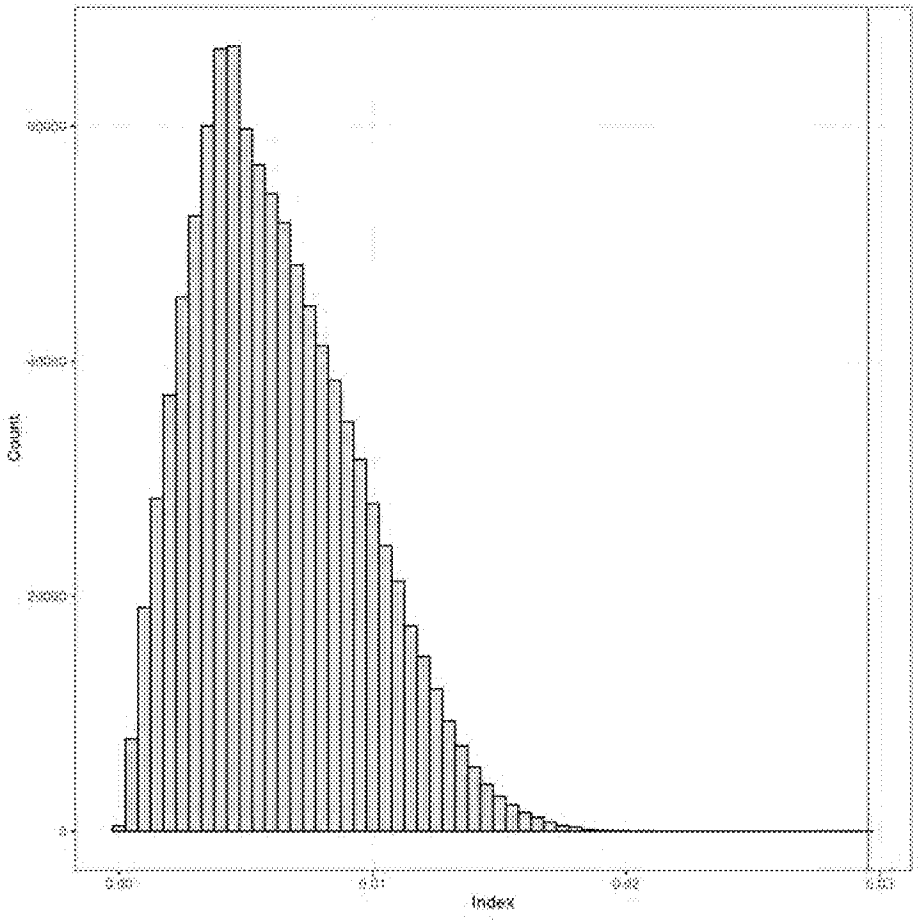


Figure 26: Democratic Vote Shares, Ranked by Partisanship, in Simulated Maps, Using 2020 Presidential Election as the Metric for Partisanship, Only Precincts that were Moved in 2021 Redistricting. Black Dot = 2022 Map

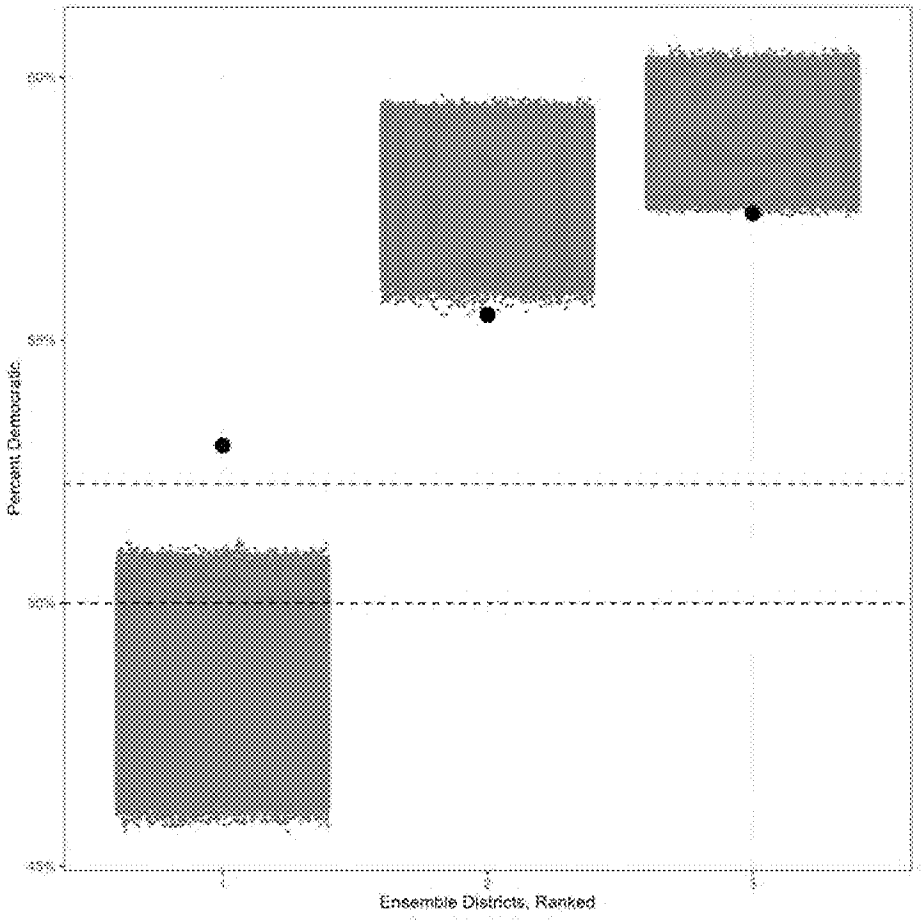
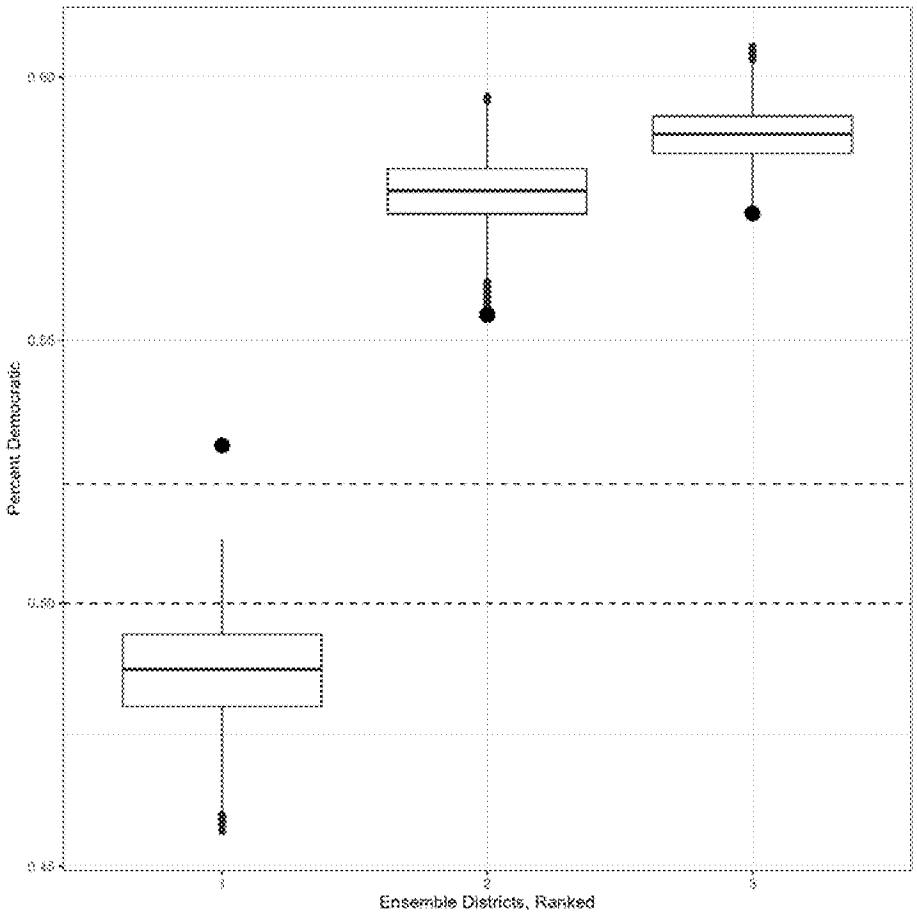


Figure 27: Democratic Vote Shares, Ranked by Partisanship, in Simulated Maps, Using 2020 Presidential Election as the Metric for Partisanship, Only Precincts that were Moved in 2021 Redistricting. Black Dot = 2022 Map



None of the simulated maps rearrange the precincts that the mapmakers rearranged and came up with a map where three districts leaned Democratic. Yet that is exactly what the mapmakers produced here. Again, it is virtually impossible to rearrange these precincts without heavily reliance on partisan data and produce the partisan configuration that the mapmakers produced.

Looking at the index produces the same results:

Figure 28: Values of Gerrymandering Index, Simulated Maps (Red Line = 2022 Map), Using Political Index as the Metric for Partisanship, Only Precincts that were Moved in 2021 Redistricting.

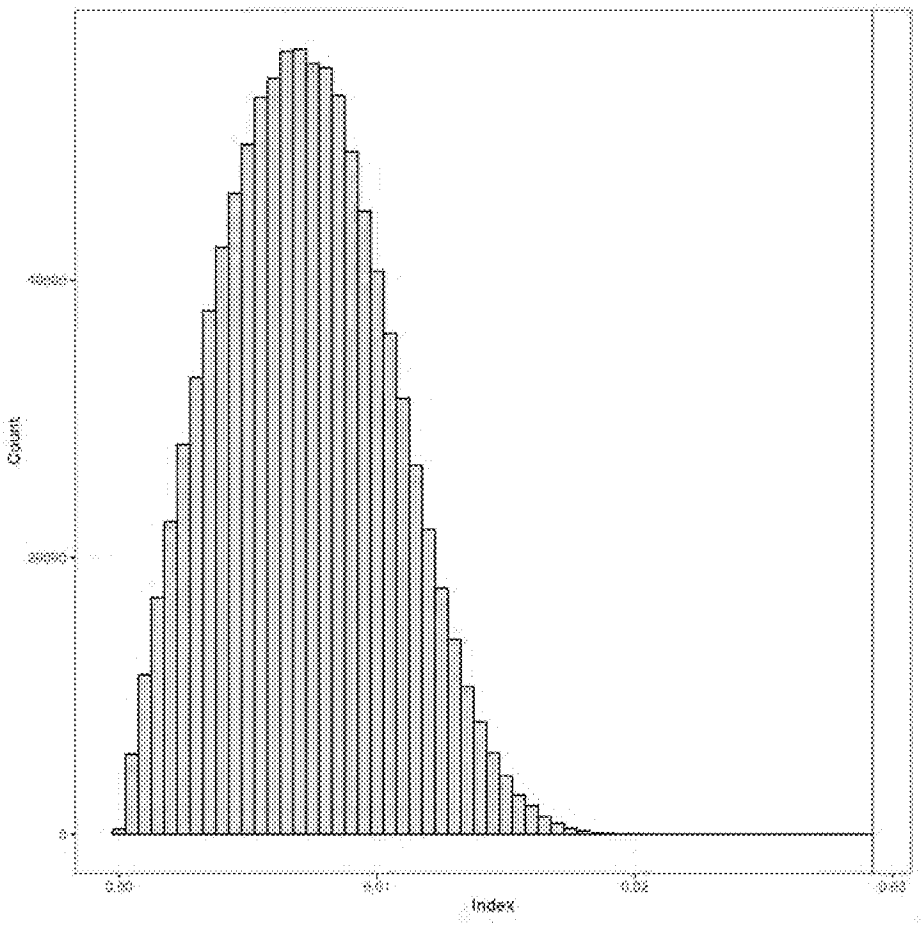


Figure 29: Democratic Vote Shares, Ranked by Partisanship, in Simulated Maps, Using Political Index as the Metric for Partisanship, Only Precincts that were Moved in 2021 Redistricting. Black Dot = 2022 Map

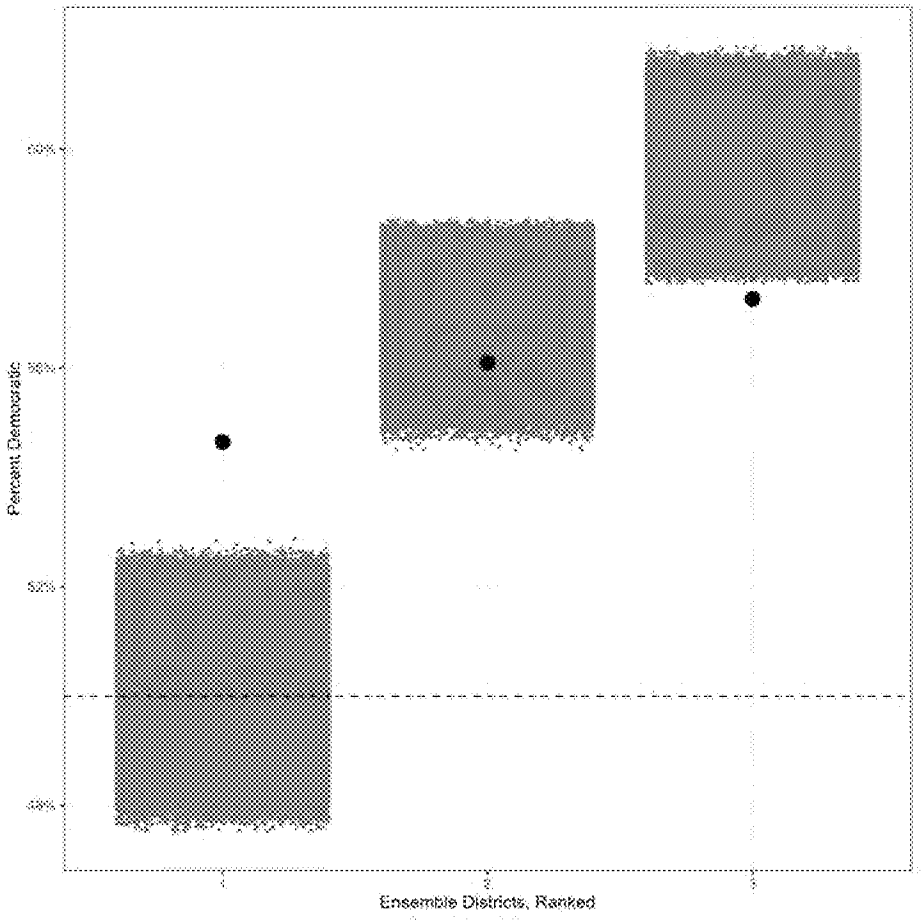
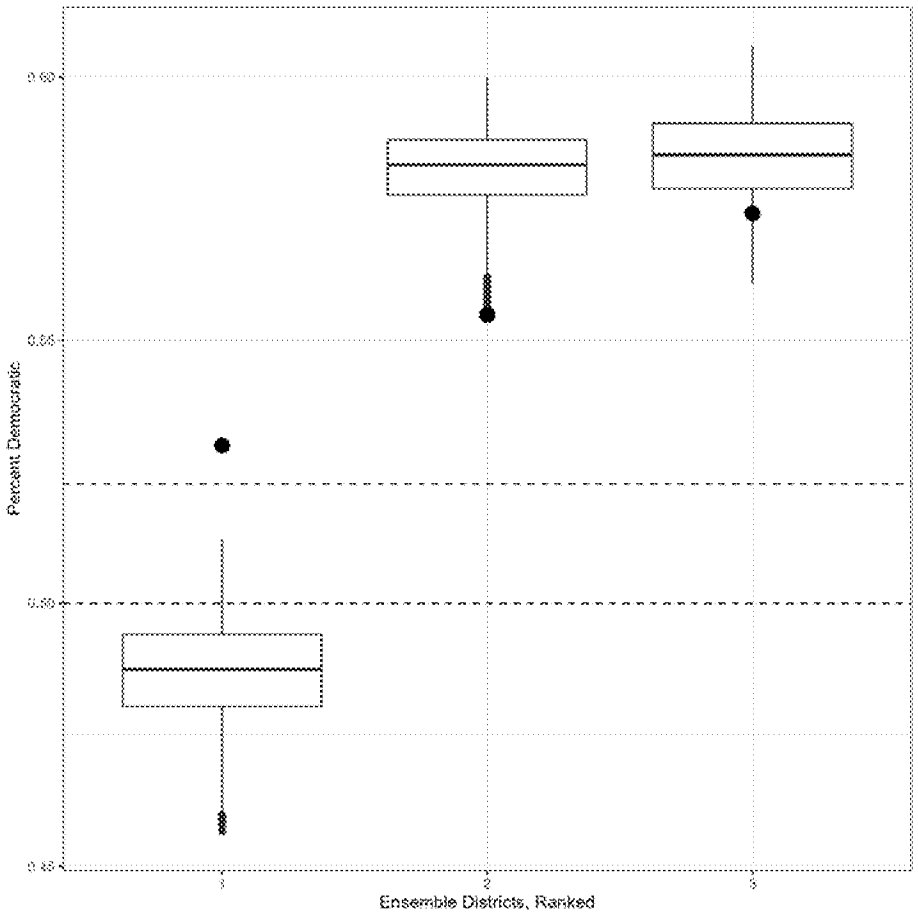


Figure 30: Democratic Vote Shares, Ranked by Partisanship, in Simulated Maps, Using Political Index as the Metric for Partisanship, Only Precincts that were Moved in 2021 Redistricting. Black Dot = 2022 Map



None of this should be surprising, given what the qualitative analysis revealed. In simple terms, the core of District 1 that was retained gave Joe Biden 61.1% of the vote; the core of District 2 that was retained gave Joe Biden 49.6% of the vote, and the core of District 3 that was retained gave the winner of the 2020 election 61.3% of the vote. The precincts that were moved gave Biden 46.6% of the two-party vote on average. To allocate those precincts in such as to raise Biden's vote share in a district takes work. That is precisely what the mapmakers plainly did here.

6.4.2 Additional Simulations

While the above should be sufficient to demonstrate conclusively that the Enacted Plan is an extreme partisan gerrymander, we may look at other scenarios. Since this is intended as a secondary analysis, I have limited the simulations run to 10,000 in each scenario, which is more than enough in an SMC simulation to pull a representative sample of maps.

The first set of simulations mimics the first inquiry above, except instead of using vote outcomes, it uses registration. This is a secondary analysis because (1) as explained above, registration does not necessarily correspond to voting in New Mexico (a registered Democrat in southwest New Mexico can be very different than a registered Democrat in Santa Fe; the same is true for Republicans); (2) the political science literature with which I am familiar has almost entirely utilized vote outcomes; the simulations provided in *Rucho* focused on election outcomes, not registration. Third, the available data don't match neatly with the shapefiles. The November 2020 data do match up mostly with the VEST precinct shapefile, but it does require merging a precinct in Taos County. This analysis is included only for the sake of completeness.

Regardless, using the Democratic share of two-party registration statistics brings about marginally better results for the state. But the map is still an extreme gerrymander. Just 1.92% of the ensemble's maps have larger gerrymandering indices, and the map is over 3 standard deviations from the mean (3.4 sd's).

Figure 31: Values of Gerrymandering Index, Simulated Maps (Red Line = 2022 Map), Using Registration as the Metric for Partisanship.

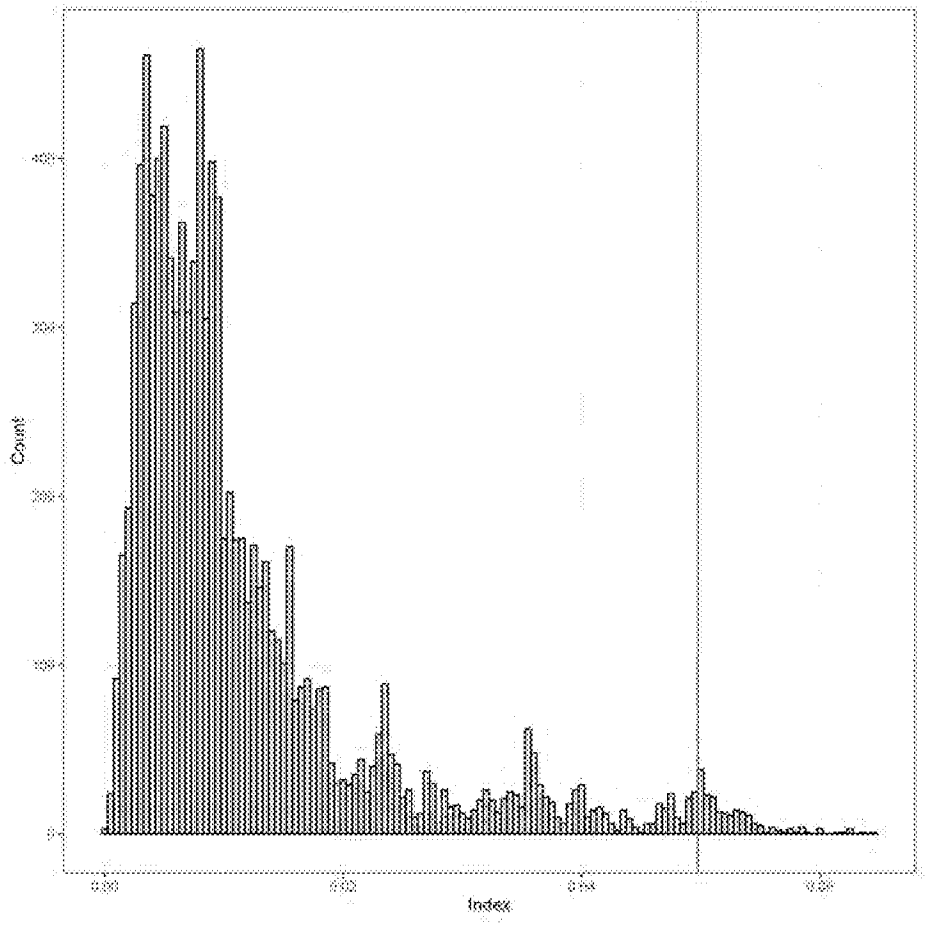


Figure 32: Democratic Registration %, Ranked by Registration Advantage, in Simulated Maps. Black Dot = 2022 Map

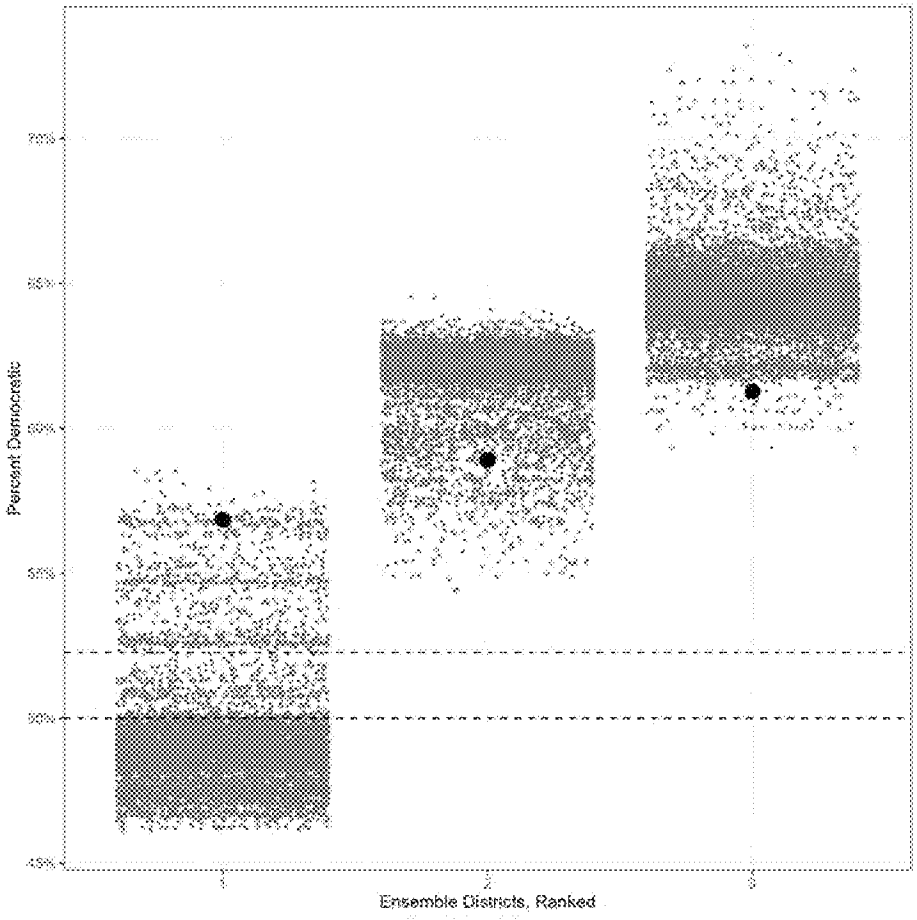
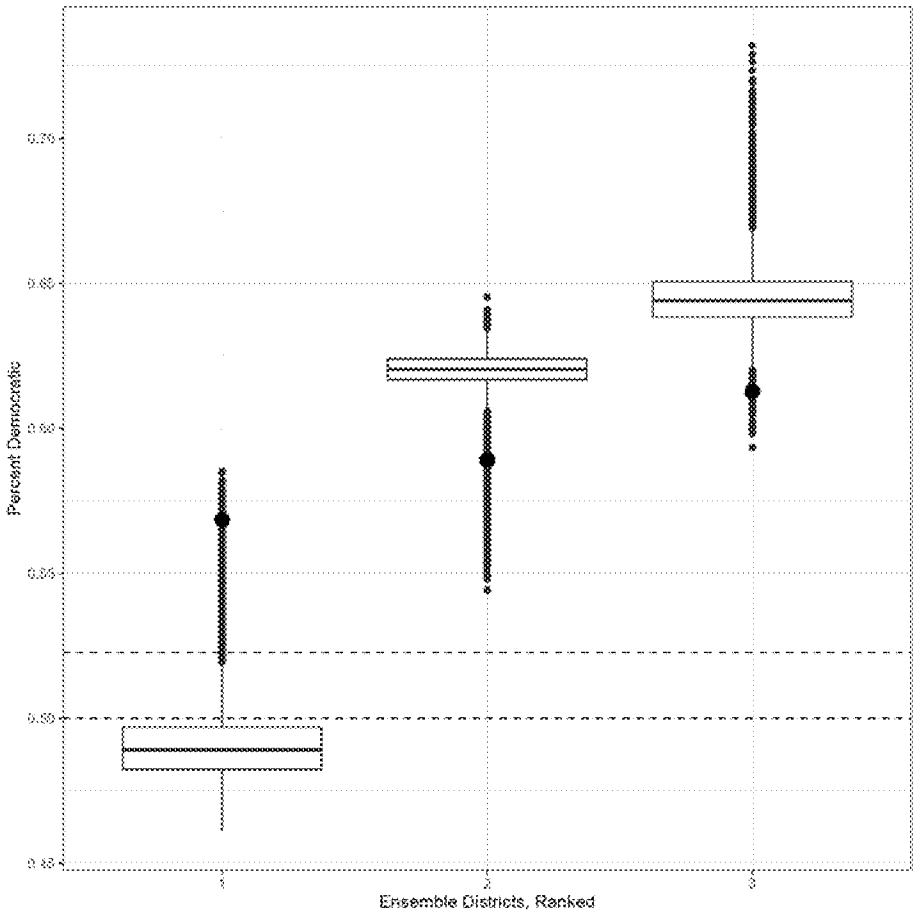


Figure 33: Democratic Registration %, Ranked by Registration Advantage, in Simulated Maps. Black Dot = 2022 Map



Likewise, running the simulations on the precincts that were swapped reveals similar outcomes, with only 1.2% of maps in the ensemble reporting more extreme registration advantages for Democrats, and an outcome over two standard deviations from the mean:

Figure 34: Values of Gerrymandering Index, Simulated Maps (Red Line = 2022 Map), Using Registration as the Metric for Partisanship, Swapped Precincts Only.

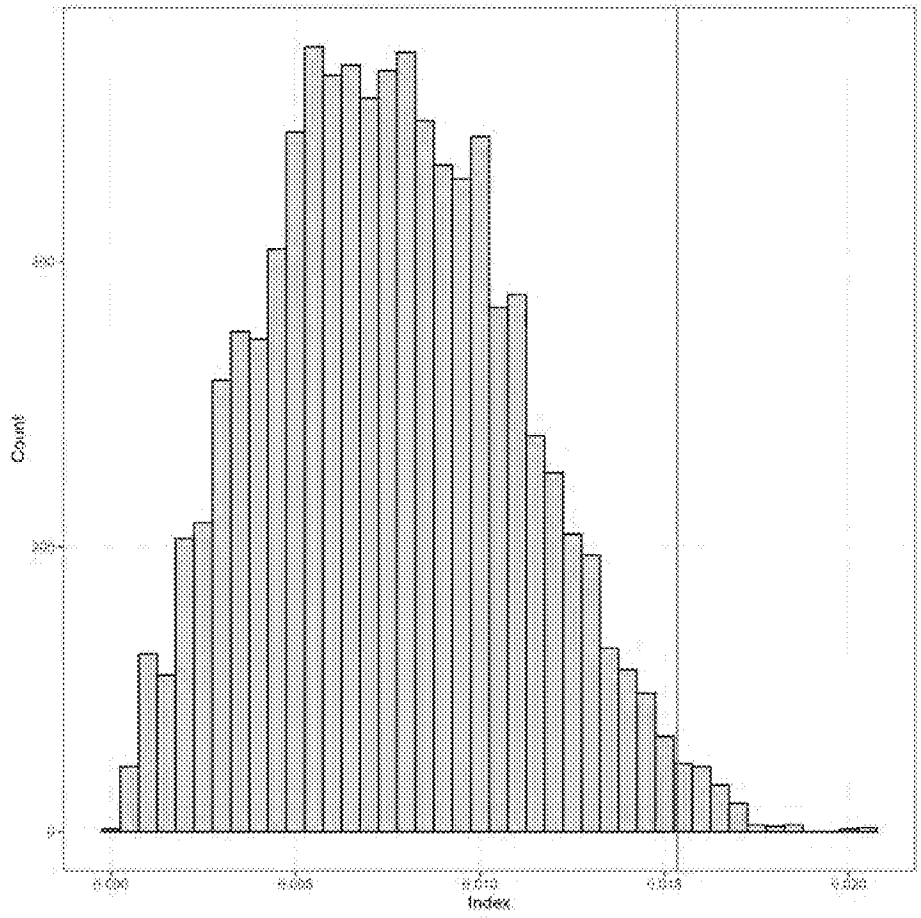


Figure 35: Democratic Registration %, Ranked by Registration Advantage, in Simulated Maps, Swapped Precincts Only. Black Dot = 2022 Map

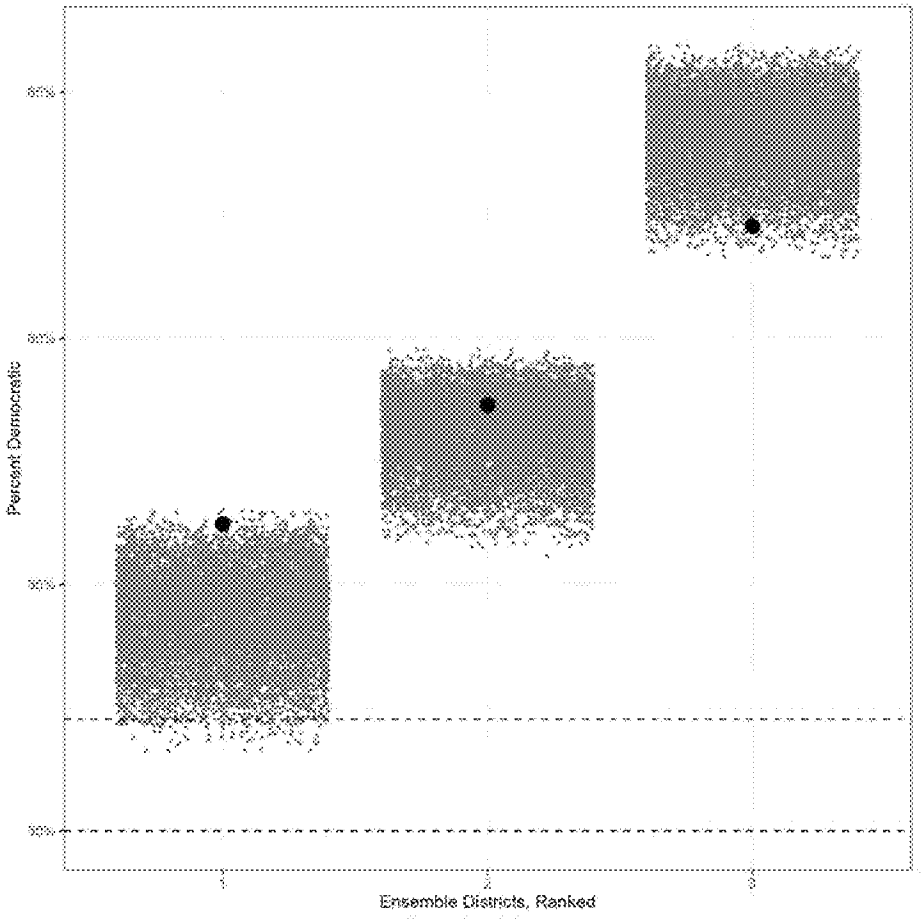
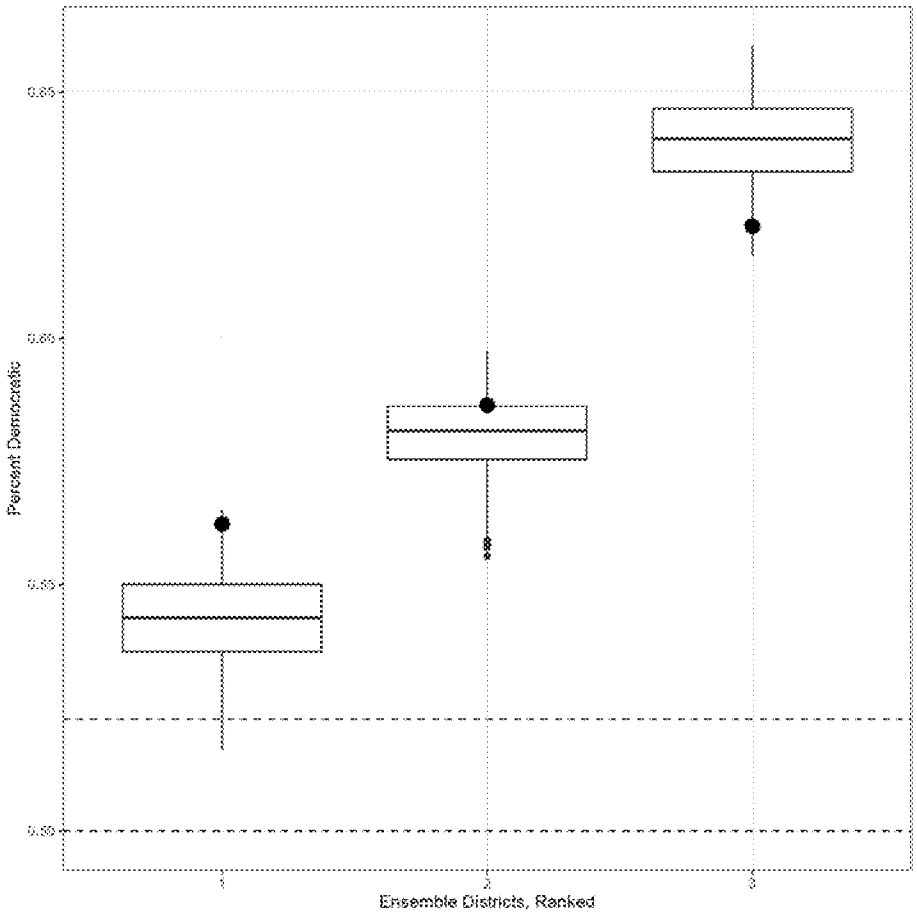


Figure 36: Democratic Registration %, Ranked by Registration Advantage, in Simulated Maps, Swapped Precincts Only. Black Dot = 2022 Map



Second, we can compare the plan the legislature enacted to the Citizen Commission's Plan H, which is in many ways similar to the Enacted Plan. First, we should note that our expectation should likely be that this would present unfavorably for Defendants. An examination of the partisanship of the precincts that were retained from Plan H, and the precincts that were swapped from Plan H shows that the mapmakers took a map that was already favorably aligned toward Democrats, and made it even more so:

Partisanship of Precincts Moved From Plan H to Enacted Plans, By District

Citizens Commission H	Enacted Map	Biden votes	Trump votes	Biden Share
1	1	176,902	122,343	59.1%
1	2	15,415	12,550	55.1%
2	1	756	1,092	40.9%
2	2	121,335	109,951	52.5%
2	3	14,917	28,815	34.1%
3	1	10,796	11,418	48.6%
3	2	6,446	6,259	50.7%
3	3	155,047	109,466	58.6%

In particular, the commission retained precincts from Plan H that created three districts that voted for President Biden with at least 52.5% of the vote, roughly his national vote share. It then transferred a collection of precincts from Plan H's District 1 to District 2 that voted 55.1% for Biden. This was offset in part by moving a collection of precincts from District 2 to District 1 that gave President Trump almost 60% of the vote.

Likewise, the mapmaker shifted a net of over 14,000 Trump votes from District 2 in Plan H to District 3 in the Enacted Map. This group gave Biden just 34.1% of the vote. In exchange, it shifted a group of voters that gave Biden 50.7% of the vote from District 3 into District 2.

Party registration tells the same story:

Registration of Precincts Moved From Plan H to Enacted Plans, By District				
Citizens Commission H	Enacted Map	Registered Democrats	Registered Republicans	Democratic Share
1	1	188,030	134,807	58.2%
1	2	19,997	12,863	60.9%
2	1	1,008	1,048	49.0%
2	2	161,601	113,726	58.7%
2	3	20,167	31,669	38.9%
3	1	11,563	12,435	48.2%
3	2	6,486	6,799	48.8%
3	3	202,606	112,274	64.3%

Thus, it should be completely unsurprising that the resulting map represents an extreme gerrymander, with an ultimate gerrymandering index 6.67 standard deviations from the mean. Again, it is beyond the tails.

Figure 37: Values of Gerrymandering Index, Simulated Maps (Red Line = 2022 Map), Swapped Precincts from Plan H Only.

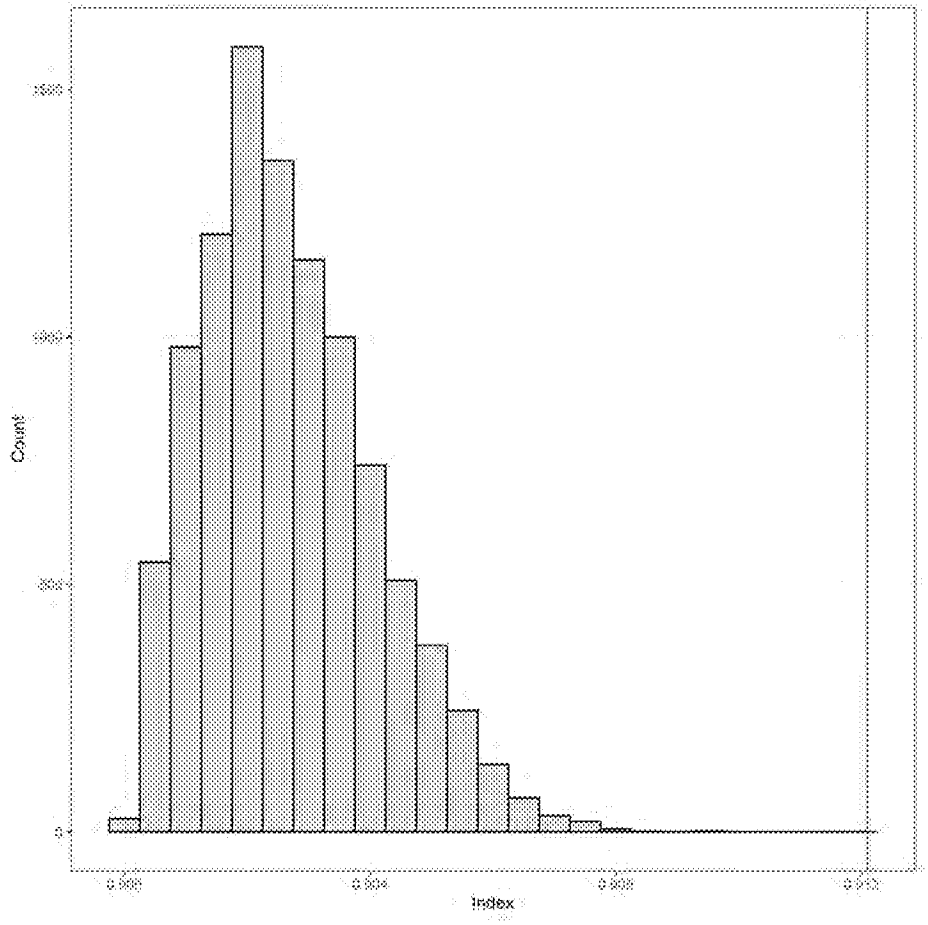


Figure 38: Democratic Registration %, Ranked by Registration Advantage, in Simulated Maps, Swapped Precincts from Plan H Only.

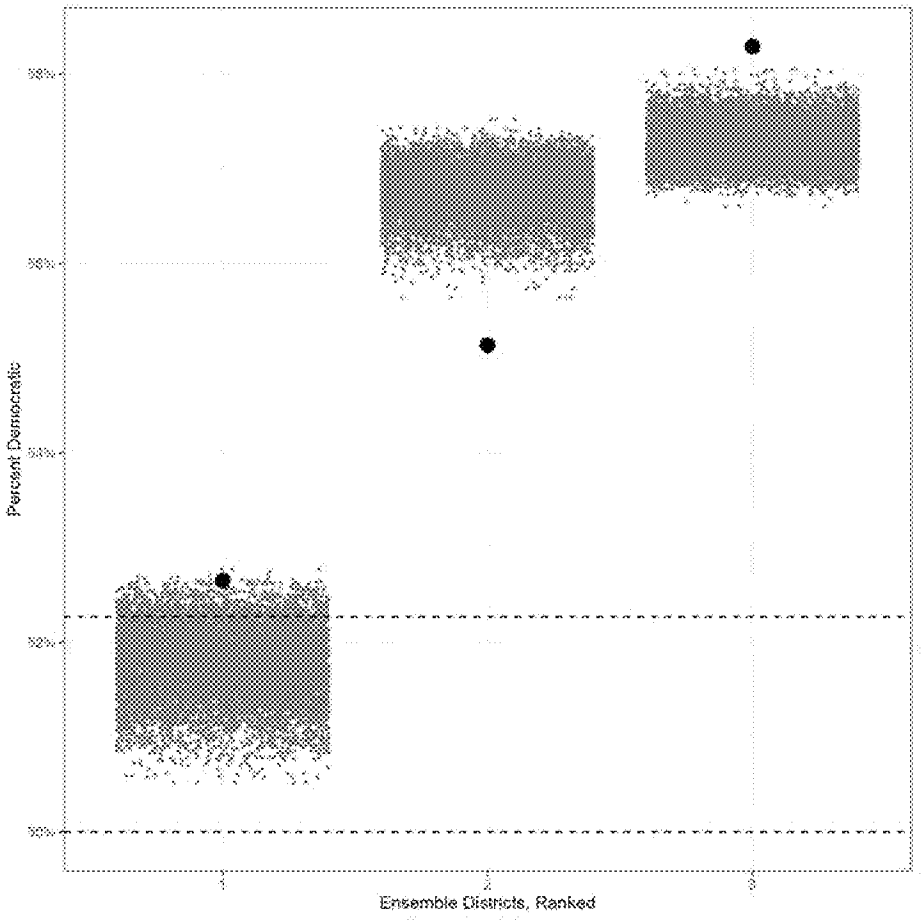
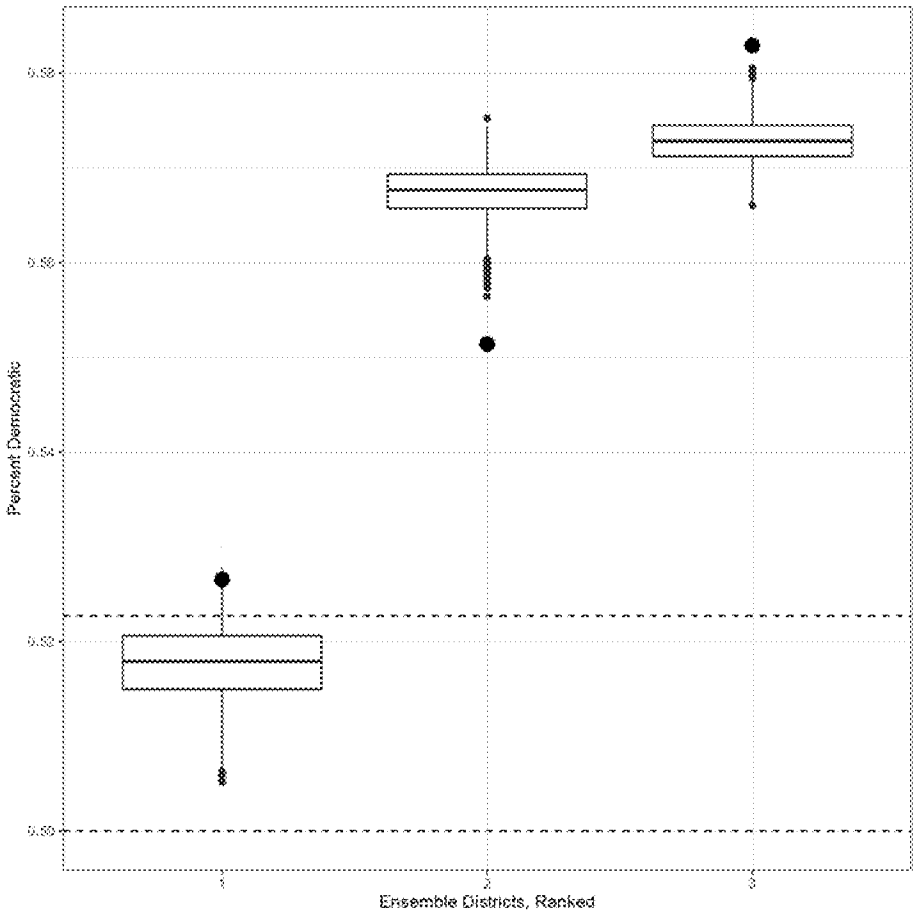


Figure 39: Democratic Registration %, Ranked by Registration Advantage, in Simulated Maps, Swapped Precincts from Plan H Only.



A final consideration may be a desire to keep Indian Reservations and other Indigenous homelands intact. To check this, I obtained a shapefile of Reservations from the Redistricting Data Hub. I matched census blocks to the Reservations, and then merged together precincts that overlapped those entities. Thus, every precinct that includes a Reservation is merged together, ensuring that the Reservations are not split.

The answer does not change. Even with these precincts frozen together, the Enacted Plan is an extreme outlier.

Figure 40: Values of Gerrymandering Index, Simulated Maps (Red Line = 2022 Map), Keeping Reservations Intact

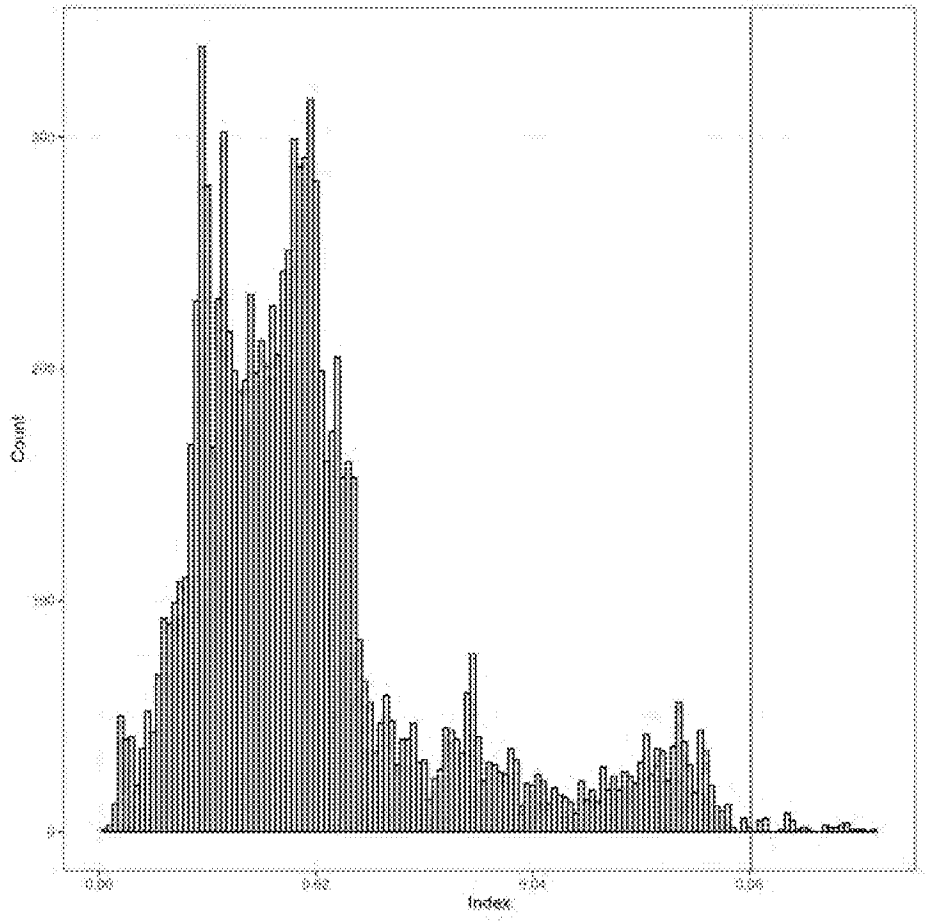


Figure 41: Democratic Vote Shares, Ranked by Partisanship, in Simulated Maps, Using Presidential Vote Share in 2020 as the Metric for Partisanship. Black Dot = 2022 Map. Reservations are frozen together.

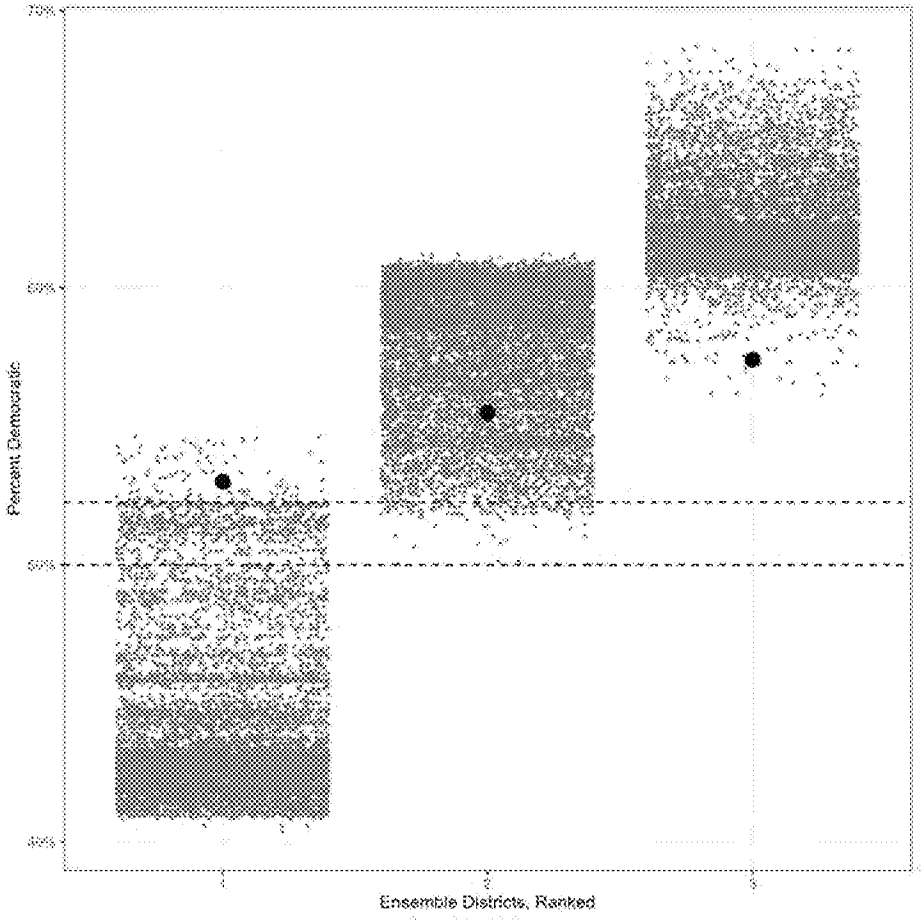
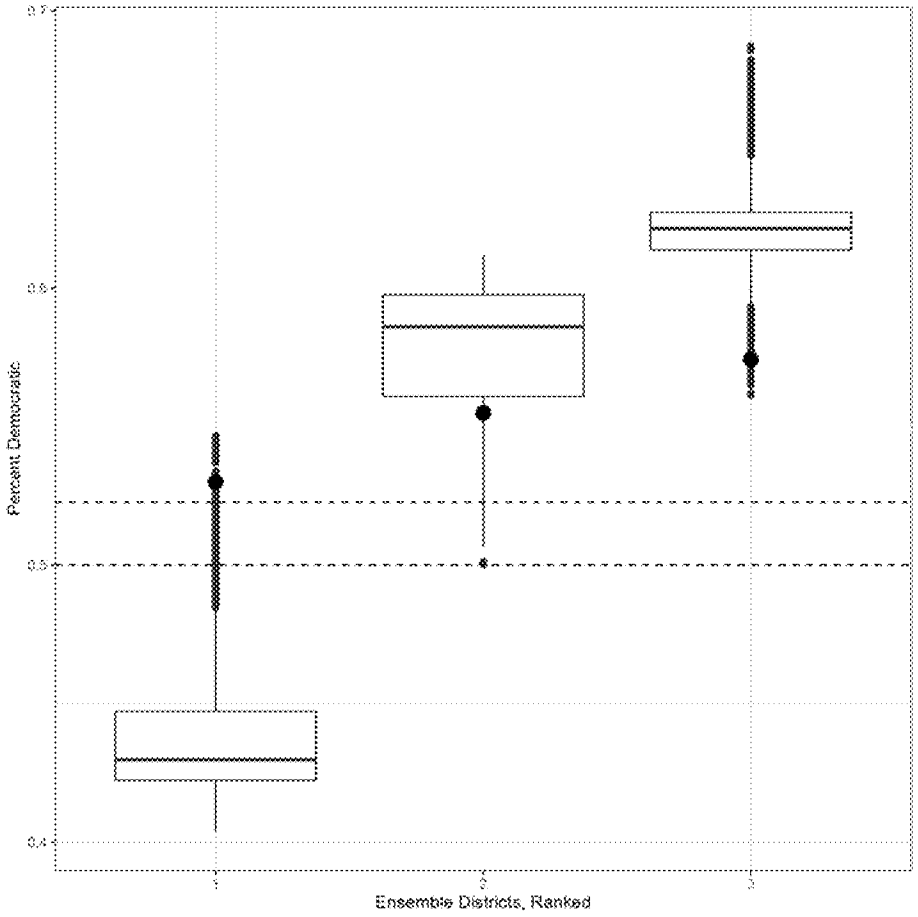


Figure 42: Democratic Vote Shares, Ranked by Partisanship, in Simulated Maps, Using Presidential Vote Share in 2020 as the Metric for Partisanship. Black Dot = 2022 Map. Reservations are frozen together.



7 Additional Considerations

Finally, there may be other legitimate considerations that motivate a legislature. Many of these are controlled for in the simulations above. However, it is worth comparing the performance of the Enacted Map against previous New Mexico maps. To begin with, we can examine the number of county splits.

Total Splits, New Mexico Congressional Maps	
Year	# Splits
1972	1
1982	3
1992	5
2002	5
2012	6
2022	9

While previous maps haven't had the minimum number of county splits possible, they have never had more than six splits. The Enacted Map, however, splits nine, the most in New Mexico's history.

We can also look to see how the compactness of the Enacted Map's districts compares to previous maps in New Mexico. To do this, I employ three commonly utilized metrics. The first two metrics are based on comparing the drawn district to a circle, which is the most compact shape. The Reock score looks at the ratio of the area of the district to the area of the smallest circle that would enclose the district (also known as a "minimum bounding circle"). Ernest Reock, *A Note: Measuring Compactness as a Requirement of Legislative Apportionment*, 1 *Midwest J. Pol. Sci.* 70, 71 (1961). This ratio will fall as districts become distorted lengthwise; it therefore punishes long, bacon-like districts. A "perfect" Reock score is 1, while a zero is a theoretical perfectly non-compact district.

The second measure is the Polsby-Popper score, which looks at the ratio of the area of a district to the area of a circle that has the same perimeter as the district. Daniel D. Polsby & Robert D. Popper, *The Third Criterion: Compactness as a Procedural Safeguard Against Partisan Gerrymandering*, 9 *Yale L. & Pol'y Rev.* 301 (1991). To understand the motivation behind Polsby-Popper, sketch out a circle. Then erase some of the edge of the circle, and have a narrow tendril snake into the district toward the center. The Reock score would not change much, since the size of the minimum bounding circle remains the

same and the area of the district does not change much, but the Polsby-Popper score would fall significantly, since the perimeter of the district would be greatly increased. A "perfect" Polsby-Popper score is 1, while a theoretical perfectly non-compact district would score a zero.

The final measure that I examine is the Convex Hull score. It is similar to the Reock score except that it uses the minimum bounding polygon instead of the minimum bounding circle. To understand this, consider that a perfect square – something that most people would consider a compact district – has a Reock score of 0.64. By allowing for shapes other than a circle to be the benchmark, the Convex Hull score recognizes that compactness can come in many forms. Like the other scores, a 1 is the most compact district and a zero is a theoretical non-compact district.

The following table provides the average scores for New Mexico's maps:

Average Compactness, New Mexico Congressional Maps

Year	Reock	Polsby-Popper	Convex Hull
1972	0.487	0.490	0.838
1982	0.324	0.345	0.746
1992	0.420	0.340	0.765
2002	0.408	0.361	0.784
2012	0.388	0.350	0.785
2022	0.368	0.289	0.730

By any metric, the districts produced in 2021 are some of the least compact districts in New Mexico history. Using Convex Hull and Polsby-Popper, they are the least compact Congressional Districts ever drawn. Using Reock scores, they are the second-least compact Congressional Districts. Under any of the three metrics, the 2021 lines are less compact than the preceding lines.

8 Conclusion

A careful qualitative analysis reveals that the 2021 redistricting shifted large numbers of Democrats from the 1st and 3rd Districts into the 2nd, while shifting large numbers of Republicans out of that district. The resulting map is one of the least compact maps in New Mexico's history, with a record number of split counties. It cracks the most Republican region of the state, splitting it among three districts, while carefully ensuring that the two Democratic districts – the 1st and the 3rd – don't become dangerously Republican.

A simulation analysis confirms these suspicions. Across millions of maps, under multiple assumptions and scenarios, the Enacted Map presents as an extreme outlier. Note that the ensembles still present a wide array of district configurations for a would-be mapmaker to choose from; the legislature's discretion is not entirely cabined in. What it cannot do is select *this* combination of precincts, which would almost certainly only arise in a scenario where political considerations predominate.

In short, no matter how one looks at it, this map is an extreme gerrymander under the test outlined by Justice Kagan and endorsed by the Supreme Court of New Mexico.

I declare under penalty of perjury under the laws of the State of New Mexico that the foregoing is true and correct. See N.M. R. Civ. P. Dist. Ct.1-011(B).

Dated: August 11, 2023

Sean P. Trende

SEAN P. TRENDE

Exhibit 1

SEAN P. TRENDE
1146 Elderberry Loop
Delaware, OH 43015
strende@realclearpolitics.com

EDUCATION

Ph.D., The Ohio State University, Political Science, expected 2023.

M.A.S. (Master of Applied Statistics), The Ohio State University, 2019.

J.D., Duke University School of Law, *cum laude*, 2001; Duke Law Journal, Research Editor.

M.A., Duke University, *cum laude*, Political Science, 2001. Thesis titled *The Making of an Ideological Court: Application of Non-parametric Scaling Techniques to Explain Supreme Court Voting Patterns from 1900-1941*, June 2001.

B.A., Yale University, with distinction, History and Political Science, 1995.

PROFESSIONAL EXPERIENCE

Law Clerk, Hon. Deanell R. Tacha, U.S. Court of Appeals for the Tenth Circuit, 2001-02.

Associate, Kirkland & Ellis, LLP, Washington, DC, 2002-05.

Associate, Hunton & Williams, LLP, Richmond, Virginia, 2005-09.

Associate, David, Kamp & Frank, P.C., Newport News, Virginia, 2009-10.

Senior Elections Analyst, RealClearPolitics, 2009-present.

Columnist, Center for Politics Crystal Ball, 2014-17.

Visiting Scholar, American Enterprise Institute, 2018-present.

BOOKS AND BOOK CHAPTERS

Larry J. Sabato, ed., *The Red Ripple*, Ch. 15 (2023).

Larry J. Sabato, ed., *A Return to Normalcy?: The 2020 Election that (Almost) Broke America* Ch. 13 (2021).

Larry J. Sabato, ed., *The Blue Wave*, Ch. 14 (2019).

Larry J. Sabato, ed., *Trumped: The 2016 Election that Broke all the Rules* (2017).

Larry J. Sabato, ed., *The Surge:2014's Big GOP Win and What It Means for the Next Presidential Election*, Ch. 12 (2015).

Larry J. Sabato, ed., *Barack Obama and the New America*, Ch. 12 (2013).

Barone, Kraushaar, McCutcheon & Trende, *The Almanac of American Politics* 2014 (2013).

The Lost Majority: Why the Future of Government is up for Grabs – And Who Will Take It (2012).

PREVIOUS EXPERT TESTIMONY AND DEPOSITIONS

Dickson v. Rucho, No. 11-CVS-16896 (N.C. Super. Ct., Wake County) (racial gerrymandering).

Covington v. North Carolina, No. 1:15-CV-00399 (M.D.N.C.) (racial gerrymandering).

NAACP v. McCrory, No. 1:13CV658 (M.D.N.C.) (early voting).

NAACP v. Husted, No. 2:14-cv-404 (S.D. Ohio) (early voting).

Ohio Democratic Party v. Husted, Case 15-cv-01802 (S.D. Ohio) (early voting).

Lee v. Virginia Bd. of Elections, No. 3:15-cv-357 (E.D. Va.) (early voting).

Feldman v. Arizona, No. CV-16-1065-PHX-DLR (D. Ariz.) (absentee voting).

A. Philip Randolph Institute v. Smith, No. 1:18-cv-00357-TSB (S.D. Ohio) (political gerrymandering).

Whitford v. Nichol, No. 15-cv-421-bbc (W.D. Wisc.) (political gerrymandering).

Common Cause v. Rucho, No. 1:16-CV-1026-WO-JEP (M.D.N.C.) (political gerrymandering).

Mecinas v. Hobbs, No. CV-19-05547-PHX-DJH (D. Ariz.) (ballot order effect).

Fair Fight Action v. Raffensperger, No. 1:18-cv-05391-SCJ (N.D. Ga.) (statistical analysis).

Pascua Yaqui Tribe v. Rodriguez, No. 4:20-CV-00432-TUC-JAS (D. Ariz.) (early voting).

Ohio Organizing Collaborative, et al v. Ohio Redistricting Commission, et al, No. 2021-1210 (Ohio) (political gerrymandering).

NCLCV v. Hall, No. 21-CVS-15426 (N.C. Sup. Ct.) (political gerrymandering).

Szeliga v. Lamone, Case No. C-02-CV-21-001816 (Md. Cir. Ct.) (political gerrymandering).

Montana Democratic Party v. Jacobsen, DV-56-2021-451 (Mont. Dist. Ct.) (early voting; ballot collection).

Carter v. Chapman, No. 464 M.D. 2021 (Pa.) (map drawing; amicus).

NAACP v. McMaster, No. 3:21-cv-03302 (D.S.C.) (racial gerrymandering).

Graham v. Adams, No. 22-CI-00047 (Ky. Cir. Ct.) (political gerrymandering).

Harkenrider v. Hochul, No. E2022-0116CV (N.Y. Sup. Ct.) (political gerrymandering).

LULAC v. Abbott, Case No. 3:21-cv-00259 W.D. Tex. (racial/political gerrymandering/VRA).

Moore et al., v. Lee, et al., Tenn. 20th Dist. 2022 (state constitutional compliance).

Agee et al. v. Benson, et al., W.D. Mich. 2023 (racial gerrymandering/VRA).

Faatz, et al. v. Ashcroft, et al., (Cir. Ct. Mo. 2023) (state constitutional compliance).

Coca, et al. v. City of Dodge City, et al., Case No. 6:22-cv-01274-EFM-RES (D. Kan.) (VRA).

Milligan v. Allen, Case No. 2:21-cv-01530-AMM (N.D. Ala.) (VRA).

Nairne v. Ardoin, NO. 22-178-SDD-SDJ (M.D. La.) (VRA).

COURT APPOINTMENTS

Appointed as Voting Rights Act expert by Arizona Independent Redistricting Commission (2020)

Appointed special Master by the Supreme Court of Virginia to redraw maps for the Virginia House of Delegates, the Senate of Virginia, and for Virginia's delegation to the United States Congress for the 2022 election cycle.

Appointed redistricting expert by the Supreme Court of Belize in Smith v. Perrera, No. 55 of 2019 (one-person-one-vote).

INTERNATIONAL PRESENTATIONS AND EXPERIENCE

Panel Discussion, European External Action Service, Brussels, Belgium, Likely Outcomes of 2012 American Elections.

Selected by U.S. Embassies in Sweden, Spain, and Italy to discuss 2016 and 2018 elections to think tanks and universities in area (declined Italy due to teaching responsibilities).

Selected by EEAS to discuss 2018 elections in private session with European Ambassadors.

TEACHING

American Democracy and Mass Media, Ohio Wesleyan University, Spring 2018.

Introduction to American Politics, The Ohio State University, Autumns 2018, 2019, 2020, Spring 2018.

Political Participation and Voting Behavior, Spring 2020-2023.

PUBLICATIONS

James G. Gimpel, Andrew Reeves, & Sean Trende, "Reconsidering Bellwether Locations in U.S. Presidential Elections," Pres. Stud. Q. (2022) (forthcoming, available online at http://doi.org/10.1111/psq.12793).

REAL CLEAR POLITICS COLUMNS

Full archives available at `http://www.realclearpolitics.com/authors/sean_trende/`

CERTIFICATE OF SERVICE

I hereby certify that a true and complete copy of the foregoing will be served on all counsel via the e-filing system and, separately, via direct email.

Dated: August 11, 2023

/s/Carter B. Harrison, IV
CARTER B. HARRISON, IV
924 Park Avenue SW, Suite E
Albuquerque, New Mexico 87102
(505) 312-4245
(505) 341-9340 (fax)
carter@harrisonhartlaw.com

PLAINTIFFS' SUPPLEMENTAL EXHIBIT 1

making some swaps

[redacted] messages

Leanne Leith <lealeith@gmail.com> Thu, Dec 9, 2021 at 1:19 PM
To: Michelle Mayorga <michellemayorga@gmail.com>, Dominic Gabello <dominic@dominicgabello.com>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Corrina Feldman <feldman.corrina@gmail.com>, Juan Sanchez <jsanchez@martinheinrich.com>
Cc: Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>

The map I prepped for the Speaker was very roughly done, and I didn't strike the right balance between CD1 and CD3, so Kyle has an idea... we're going to work on it for the next 30 mins, and we will get you a map before 2pm. thanks!

Dominic Gabello <dominic@dominicgabello.com> Thu, Dec 9, 2021 at 1:21 PM
To: Leanne Leith <lealeith@gmail.com>
Cc: Corrina Feldman <feldman.corrina@gmail.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Michelle Mayorga <michellemayorga@gmail.com>, david contarino <dave@davecontarino.com>

Ok thanks. I've looped in dave contarino as well since I'm flying and could be out of service

[redacted]

Leanne Leith <lealeith@gmail.com> Thu, Dec 9, 2021 at 1:23 PM
To: Dominic Gabello <dominic@dominicgabello.com>
Cc: Corrina Feldman <feldman.corrina@gmail.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Michelle Mayorga <michellemayorga@gmail.com>, david contarino <dave@davecontarino.com>

got it. thanks, Dom!

[redacted]

Dave <dave@davecontarino.com> Thu, Dec 9, 2021 at 1:31 PM
To: Leanne Leith <lealeith@gmail.com>
Cc: Dominic Gabello <dominic@dominicgabello.com>, Corrina Feldman <feldman.corrina@gmail.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Michelle Mayorga <michellemayorga@gmail.com>

Thanks. Looking forward to seeing tweaks

Sent from my iPhone

> On Dec 9, 2021, at 3:23 PM, Leanne Leith <lealeith@gmail.com> wrote:

Juan Sanchez <jsanchez@martinheinrich.com> Thu, Dec 9, 2021 at 1:33 PM
To: Leanne Leith <lealeith@gmail.com>
Cc: Michelle Mayorga <michellemayorga@gmail.com>, Dominic Gabello <dominic@dominicgabello.com>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Corrina Feldman <feldman.corrina@gmail.com>, Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>

Great, thanks Leanne!

On Thu, Dec 9, 2021 at 1:20 PM Leanne Leith <lealeith@gmail.com> wrote:

Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> Thu, Dec 9, 2021 at 1:48 PM
To: Juan Sanchez <jsanchez@martinheinrich.com>
Cc: Leanne Leith <lealeith@gmail.com>, Michelle Mayorga <michellemayorga@gmail.com>, Dominic Gabello <dominic@dominicgabello.com>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Corrina Feldman <feldman.corrina@gmail.com>

Hey all, we will have 5 options ready in 30 min.

Kyle Quinn-Quesada
Pronouns: (he/his/him)
New Mexico Senate Democrats
Director
C: (860)-230-7189
kyle@nmsenatedemocrats.org

Corrina Feldman <feldman.corrina@gmail.com> Thu, Dec 9, 2021 at 1:49 PM
To: Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>
Cc: Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Leanne Leith <lealeith@gmail.com>, Michelle Mayorga <michellemayorga@gmail.com>

Thanks so much!

--
Stay safe and be well,

Corrina C. Feldman
Political Consultant and Strategist
(505) 366-7267

Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> Thu, Dec 9, 2021 at 2:47 PM
To: Corrina Feldman <feldman.corrina@gmail.com>
Cc: Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Leanne Leith <lealeith@gmail.com>, Michelle Mayorga <michellemayorga@gmail.com>

Hi all,

Below are descriptions and DPIs of 4 potential options. Leanne has a 5th that she will pass along. The block equivalency data is attached as well. Happy to talk through any of this.

Thanks,
Kyle

B1
CD1/3 boundary in Sandoval remains the same; CD1 gets Guadalupe and DeBaca; CD3 gets all Santa Fe and CD1 takes enough Chaves/Roswell to make up the pop

Sanderoff
1 53.4
2 53.0
3 56.1

Biden
1 57.3
2 53
3 55.6

NCEC
1 53.8
2 52.8
3 55.7

B2
* CD1/3 boundary in Sandoval remains the same; CD1 gets Guadalupe and DeBaca; CD3 gets back some of Santa Fe co and CD1 takes enough Chaves/Roswell to make up the pop

Sanderoff
1 53.5
2 53.0
3 56.0

Biden
1 57.5
2 53.0
3 55.4

NCEC
1 53.9
2 52.8
3 55.5

B3

* CD1/3 boundary in Sandoval remains the same; CD1 gets Guadalupe and DeBaca; CD1/3 boundary in Santa Fe closer to plan H and CD1 gets all Chaves and the Artesia split from CD1

Sanderoff
1 52.8
2 53.0
3 56.8

Biden
1 56.2
2 53.0
3 56.8

NCEC
1 53.2
2 52.8
3 56.3

B4
* CD3 gets Placitas from CD1 in Sandoval and gets back some of Santa Fe co; CD1 gets Guadalupe and DeBaca; CD1 takes enough Chaves/Roswell to make up the pop

Sanderoff
1 53.4
2 53.0
3 56.1

Biden
1 57.2
2 53.0
3 55.7

NCEC
1 53.7
2 52.8
3 55.7

CD Options V1.zip
1279K

Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> Thu, Dec 9, 2021 at 2:50 PM
To: Corrina Feldman <feldman.corrina@gmail.com>
Cc: Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Leanne Leith <lealeith@gmail.com>, Michelle Mayorga <michellemayorga@gmail.com>

We are generating maps of these, they take a bit longer than the data.

Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> Thu, Dec 9, 2021 at 3:28 PM
To: Corrina Feldman <feldman.corrina@gmail.com>

compiling the original email with districtr links

B1
CD1/3 boundary in Sandoval remains the same; CD1 gets Guadalupe and DeBaca; CD3 gets all Santa Fe and CD1 takes enough Chaves/Roswell to make up the pop

https://districtr.org/plan/91957

Sanderoff
1 53.4
2 53.0
3 56.1

Biden
1 57.3
2 53
3 55.6

NCEC
1 53.8
2 52.8
3 55.7

B2
* CD1/3 boundary in Sandoval remains the same; CD1 gets Guadalupe and DeBaca; CD3 gets back some of Santa Fe co and CD1 takes enough Chaves/Roswell to make up the pop

https://districtr.org/plan/91959

Sanderoff
1 53.5
2 53.0
3 56.0

Biden
1 57.5
2 53.0
3 55.4

NCEC
1 53.9
2 52.8
3 55.5

B3
* CD1/3 boundary in Sandoval remains the same; CD1 gets Guadalupe and DeBaca; CD1/3 boundary in Santa Fe closer to plan H and CD1 gets all Chaves and the Artesia split from CD3

https://districtr.org/plan/91960

Sanderoff
1 52.8
2 53.0
3 56.8

Biden
1 56.2
2 53.0
3 56.8

NCEC
1 53.2
2 52.8
3 56.3

B4
* CD3 gets Placitas from CD1 in Sandoval and gets back some of Santa Fe co; CD1 gets Guadalupe and DeBaca; CD1 takes enough Chaves/Roswell to make up the pop

https://districtr.org/plan/91962

Sanderoff
1 53.4
2 53.0
3 56.1

Biden
1 57.2
2 53.0
3 55.7

NCEC
1 53.7
2 52.8
3 55.7

Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> Thu, Dec 9, 2021 at 5:51 PM
To: Corrina Feldman <feldman.corrina@gmail.com>
Cc: Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Leanne Leith <lealeith@gmail.com>, Michelle Mayorga <michellemayorga@gmail.com>

These are the 4 plans using the %demperf22idx NCEC Data. It was a dem mean indx used in the prior email.

B1

1 57
2 55
3 57.3

B2

1 57.2
2 55
3 57.1

B3

1 56.3
2 55
3 58.2

B4

1 57
2 55
3 57.4

Juan Sanchez <jsanchez@martinheinrich.com> Thu, Dec 9, 2021 at 5:54 PM
To: Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>
Cc: Corrina Feldman <feldman.corrina@gmail.com>, Dominic Gabello <dominic@dominicgabello.com>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Leanne Leith <lealeith@gmail.com>, Michelle Mayorga <michellemayorga@gmail.com>

Thanks for sharing and for the clarification Kyle.

Michelle Mayorga <michellemayorga@gmail.com> Thu, Dec 9, 2021 at 9:08 PM
To: Juan Sanchez <jsanchez@martinheinrich.com>
Cc: Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>, Corrina Feldman <feldman.corrina@gmail.com>, Dominic Gabello <dominic@dominicgabello.com>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Leanne Leith <lealeith@gmail.com>

Thanks Kyle
We are looking at map B3 and have one edit so far. Can we move Artesia out of CD1 and have CD1 take on another piece of CD2 (maybe into Otero county?)? Please leave CD3 as is in B3. Thanks and let us know if you have any questions. - michelle

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Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> Thu, Dec 9, 2021 at 9:32 PM
To: Michelle Mayorga <michellemayorga@gmail.com>
Cc: Juan Sanchez <jsanchez@martinheinrich.com>, Corrina Feldman <feldman.corrina@gmail.com>, Dominic Gabello <dominic@dominicgabello.com>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Leanne Leith <lealeith@gmail.com>

Hey Michelle, confirming this is received

We are taking a look with the goal of getting back to you tonight. I'll update you if that timeline changes.

Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> Thu, Dec 9, 2021 at 9:33 PM
To: Michelle Mayorga <michellemayorga@gmail.com>
Cc: Juan Sanchez <jsanchez@martinheinrich.com>, Corrina Feldman <feldman.corrina@gmail.com>, Dominic Gabello <dominic@dominicgabello.com>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Leanne Leith <lealeith@gmail.com>, dave@davecontarino.com

+Dave

Leanne Leith <lealeith@gmail.com> Thu, Dec 9, 2021 at 9:40 PM
To: Michelle Mayorga <michellemayorga@gmail.com>
Cc: Juan Sanchez <jsanchez@martinheinrich.com>, Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>, Corrina Feldman <feldman.corrina@gmail.com>, Dominic Gabello <dominic@dominicgabello.com>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Dave Contarino <dave@davecontarino.com>

Adding Contarino... he's been left off a bunch of the email exchanges.
thanks!

Corrina Feldman <feldman.corrina@gmail.com> Thu, Dec 9, 2021 at 9:41 PM
To: Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>
Cc: Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Leanne Leith <lealeith@gmail.com>, Michelle Mayorga <michellemayorga@gmail.com>

Thank you!

Michelle Mayorga <michellemayorga@gmail.com> Thu, Dec 9, 2021 at 10:47 PM
To: Corrina Feldman <feldman.corrina@gmail.com>
Cc: Dave Contarino <dave@davecontarino.com>, Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Leanne Leith <lealeith@gmail.com>

Thanks Kyle. Getting late in DC so we will take this up Again in the am ~ michelle

---

Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> Thu, Dec 9, 2021 at 11:11 PM
To: Michelle Mayorga <michellemayorga@gmail.com>
Cc: Corrina Feldman <feldman.corrina@gmail.com>, Dave Contarino <dave@davecontarino.com>, Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Leanne Leith <lealeith@gmail.com>

Totally, thanks for your patience.

We looked at multiple ways to make the suggested edit work (4 separate potential options) but they each dropped the CD2 Sanderoff DPI below 53%, which is not doable for our caucus.

After further discussion with the caucus we are uncomfortable with the original B3 as it lowers CD1's Sanderoff DPI below 53%.

We are open to concepts B1, B2, B4 or any other that keep both CD1 and CD2 at 53% Sanderoff DPI or above and will review suggested edits if they are sent before 10AM EST tomorrow.

Thanks,
Kyle

Michelle Mayorga <michellemayorga@gmail.com> Fri, Dec 10, 2021 at 12:09 AM
To: Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>
Cc: Corrina Feldman <feldman.corrina@gmail.com>, Dave Contarino <dave@davecontarino.com>, Dominic Gabello

<dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Leanne Leith <lealeith@gmail.com>

Thanks Kyle. It is not immediately obvious to me why in B3 the Sanderoff numbers mimic Biden performance for CD2 and CD3 and drop for CD1 when it has the most area trending blue. Can you help me understand the criteria that goes into the Sanderoff numbers? Would help us understand how edits might affect this number that you are watching closely. Thanks again for your help - michelle

---

Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> Fri, Dec 10, 2021 at 1:20 AM
To: Michelle Mayorga <michellemayorga@gmail.com>
Cc: Corrina Feldman <feldman.corrina@gmail.com>, Dave Contarino <dave@davecontarino.com>, Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Leanne Leith <lealeith@gmail.com>

We were curious about that too.

The sanderoff dpi is the sum of all 2012-2020 dem votes divided by the sum of all 2012-2020 dem+rep votes, excluding contests where the statewide 2way margin was >20 pts.

Bernalillo and Sandoval are the two places where Biden overperforms sanderoff dpi the most.

Its a hypothesis but CD1 has the two areas in Bernalillo and Sandoval (Rio Rancho and east abq/county) where moderate suburban rep voters would swing towards Biden in Biden vs Trump, but not necessarily for a generic non-trump GOP candidate.

Hope that helps.

Michelle Mayorga <michellemayorga@gmail.com> Fri, Dec 10, 2021 at 3:06 AM
To: Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>
Cc: Corrina Feldman <feldman.corrina@gmail.com>, Dave Contarino <dave@davecontarino.com>, Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Leanne Leith <lealeith@gmail.com>

This is helpful. Thank you. Just a couple of questions:

1. Do you require that all 3 districts be above 53 using Sanderoff numbers?

2. Are there any other requirements we should be aware of before offering thoughts and edits?

Thanks again- michelle

Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> Fri, Dec 10, 2021 at 5:17 AM
To: Michelle Mayorga <michellemayorga@gmail.com>
Cc: Corrina Feldman <feldman.corrina@gmail.com>, Dave Contarino <dave@davecontarino.com>, Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Leanne Leith <lealeith@gmail.com>

Good morning,

Yes all three should be above 53% Sanderoff DPI.

We ask that the maps respect the Native American Tribal Redistricting Committee's request of splitting Mescalaro into two districts.

That there be a max of two ABQ districts.

Michelle Mayorga <michellemayorga@gmail.com> Fri, Dec 10, 2021 at 7:15 AM
To: Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>
Cc: Corrina Feldman <feldman.corrina@gmail.com>, Dave Contarino <dave@davecontarino.com>, Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Leanne Leith <lealeith@gmail.com>

Thank you. Since the parameters were changed late last night, we are regrouping this morning. Unlikely to have something to you before 8am. - michelle

---

Corrina Feldman <feldman.corrina@gmail.com> Fri, Dec 10, 2021 at 7:20 AM
To: Michelle Mayorga <michellemayorga@gmail.com>
Cc: Dave Contarino <dave@davecontarino.com>, Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Leanne Leith <lealeith@gmail.com>

Good morning all,

Kyle, we're looking at map B2 as the potential next step, but want to see if CD1 can take on Roswell and potentially a bit more of the surrounding area. We are good with Artesia remaining outside of CD1, but would like to see if CD1 can get a bit more of the southeast. Can you tweak this and let me know your thoughts? Thanks.

Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> Fri, Dec 10, 2021 at 7:22 AM
To: Corrina Feldman <feldman.corrina@gmail.com>
Cc: Michelle Mayorga <michellemayorga@gmail.com>, Dave Contarino <dave@davecontarino.com>, Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Leanne Leith <lealeith@gmail.com>

We will take a look at that now and get back ASAP.

Kyra Ellis-Moore <kellismoore@teresaforall.com> Fri, Dec 10, 2021 at 7:36 AM
To: Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>
Cc: Corrina Feldman <feldman.corrina@gmail.com>, Michelle Mayorga <michellemayorga@gmail.com>, Dave Contarino <dave@davecontarino.com>, Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Leanne Leith <lealeith@gmail.com>

Kyle -

On the TLF side of things, we are only prepared to take on as much of the Southeast as was expressed in the boundaries of version B3, so appreciate Corrina's above tweak to B2, which can hopefully get CD3 where we need to be on our end.

Alternatively, are there minor edits to B3 that could get the CD1 DPI the additional .2 it needs on the Sanderoff scale?

Thanks,
Kyra

--
Kyra Ellis-Moore
Campaign Manager
Teresa Leger Fernandez for Congress
PO Box 2675
Santa Fe, NM 87504
(505) 604-6751
kellismoore@teresaforall.com
www.teresalegerfernandez.com

Corrina Feldman <feldman.corrina@gmail.com> Fri, Dec 10, 2021 at 7:38 AM
To: Kyra Ellis-Moore <kellismoore@teresaforall.com>
Cc: Dave Contarino <dave@davecontarino.com>, Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>, Leanne Leith <lealeith@gmail.com>, Michelle Mayorga <michellemayorga@gmail.com>

We are good with tweaking B3 to accommodate the Sanderoff CD1 DPI as well. This is a great option on our end.

Corrina Feldman <feldman.corrina@gmail.com> Fri, Dec 10, 2021 at 7:54 AM
To: Kyra Ellis-Moore <kellismoore@teresaforall.com>
Cc: Dave Contarino <dave@davecontarino.com>, Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>, Leanne Leith <lealeith@gmail.com>, Michelle Mayorga <michellemayorga@gmail.com>

Also, we are happy to play around with the Rio Rancho area in order to keep Santa Fe in CD3. I believe Team Teresa is as well but Kyra what do you think?

Kyra Ellis-Moore <kellismoore@teresaforall.com> Fri, Dec 10, 2021 at 7:58 AM
To: Corrina Feldman <feldman.corrina@gmail.com>
Cc: Dave Contarino <dave@davecontarino.com>, Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>, Leanne Leith <lealeith@gmail.com>, Michelle Mayorga <michellemayorga@gmail.com>

Yep, agreed - that's where we would rather play with the boundaries.

Corrina Feldman <feldman.corrina@gmail.com> Fri, Dec 10, 2021 at 8:41 AM
To: Kyra Ellis-Moore <kellismoore@teresaforall.com>
Cc: Dave Contarino <dave@davecontarino.com>, Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>, Leanne Leith

<lealeith@gmail.com>, Michelle Mayorga <michellemayorga@gmail.com>

Hi again,

Update on our end: Melanie wants parity with Teresa. If Teresa is at 55 Melanie wants to be at 55. If Teresa is at 56. Melanie wants to be at 56, etc. That's her end goal and hard ask here. Thank you!

Corrina Feldman <feldman.corrina@gmail.com> Fri, Dec 10, 2021 at 8:50 AM
To: Kyra Ellis-Moore <kellismoore@teresaforall.com>
Cc: Dave Contarino <dave@davecontarino.com>, Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>, Leanne Leith <lealeith@gmail.com>, Michelle Mayorga <michellemayorga@gmail.com>, Scott Forrester <scforrester@gmail.com>

+Scott

Corrina Feldman <feldman.corrina@gmail.com> Fri, Dec 10, 2021 at 9:34 AM
To: Kyra Ellis-Moore <kellismoore@teresaforall.com>
Cc: Dave Contarino <dave@davecontarino.com>, Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>, Leanne Leith <lealeith@gmail.com>, Michelle Mayorga <michellemayorga@gmail.com>, Scott Forrester <scforrester@gmail.com>

FYI - Scott texted Leanne echoing that Melanie wants parity with Teresa. Leanne had mentioned to Scott, Melanie, and myself the following:

22 NCEC DPI (in current draft):
1 - 57.1%
3 - 57.2%

And Sanderoff 53.5% in CD1, same as in Map H

Just wanted to get this info on the chain. Please let me know if you have questions!

Michelle Mayorga <michellemayorga@gmail.com> Fri, Dec 10, 2021 at 9:37 AM
To: Corrina Feldman <feldman.corrina@gmail.com>
Cc: Dave Contarino <dave@davecontarino.com>, Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Leanne Leith <lealeith@gmail.com>, Scott Forrester <scforrester@gmail.com>

Thank you!

Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> Fri, Dec 10, 2021 at 9:39 AM
To: Michelle Mayorga <michellemayorga@gmail.com>
Cc: Corrina Feldman <feldman.corrina@gmail.com>, Dave Contarino <dave@davecontarino.com>, Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyra Ellis-Moore

<kellismoore@teresaforall.com>, Leanne Leith <lealeith@gmail.com>, Scott Forrester <scforrester@gmail.com>

Thanks Corrina, we will have a full breakdown shortly.

Michelle Mayorga <michellemayorga@gmail.com> Fri, Dec 10, 2021 at 10:47 AM
To: Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>
Cc: Corrina Feldman <feldman.corrina@gmail.com>, Dave Contarino <dave@davecontarino.com>, Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Leanne Leith <lealeith@gmail.com>, Scott Forrester <scforrester@gmail.com>

NM Fair Districts is reporting that a new Congressional map is being introduced in committee today at 11am. Is this correct? Will we see maps before they are introduced? Thanks for your help - michelle

---

Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> Fri, Dec 10, 2021 at 11:04 AM
To: Michelle Mayorga <michellemayorga@gmail.com>
Cc: Corrina Feldman <feldman.corrina@gmail.com>, Dave Contarino <dave@davecontarino.com>, Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Kyra Ellis-Moore <kellismoore@teresaforall.com>, Leanne Leith <lealeith@gmail.com>, Scott Forrester <scforrester@gmail.com>

Hi all, we're delaying SJC for a short while to get this to you first.

Thank you all for your work on this.

We tried to take as many of the suggestions made into account as possible -- including the most recent request for parity between CD1 and CD3. The Senate and the House feel that a modified version of B2 best accomplishes this and will be moving forward with a substituted SB1 reflecting these changes.

I'm attaching atlas data of B2 Modified as well as 2012 Adopted, CRC H, SB1, and B3 for comparison.

You can see the boundaries here: https://districtr.org/plan/92182

Happy to answer any further questions.

Thanks,
Kyle

---

nm_cd_20211210_cd_atlas_info.xlsx
117K

Kyra Ellis-Moore <kellismoore@teresaforall.com> Fri, Dec 10, 2021 at 11:21 AM
To: Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>
Cc: Michelle Mayorga <michellemayorga@gmail.com>, Corrina Feldman <feldman.corrina@gmail.com>, Dave Contarino <dave@davecontarino.com>, Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Leanne Leith <lealeith@gmail.com>, Scott Forrester <scforrester@gmail.com>

Hey Kyle -

This doesn't take into account my earlier email which was our primary piece of feedback:

On the TLF side of things, we are only prepared to take on as much of the Southeast as was expressed in the

boundaries of version B3.

Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> Fri, Dec 10, 2021 at 11:29 AM
To: Kyra Ellis-Moore <kellismoore@teresaforall.com>
Cc: Michelle Mayorga <michellemayorga@gmail.com>, Corrina Feldman <feldman.corrina@gmail.com>, Dave Contarino <dave@davecontarino.com>, Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Leanne Leith <lealeith@gmail.com>, Scott Forrester <scforrester@gmail.com>

Hi Kyra,

Leanne and I will pass that feedback back to our leadership.

Thanks,
Kyle

Kyra Ellis-Moore <kellismoore@teresaforall.com> Sat, Dec 11, 2021 at 12:54 AM
To: Michelle Mayorga <michellemayorga@gmail.com>

nm_cd_20211210_cd_atlas_info.xlsx
117K

PLAINTIFFS' SUPPLEMENTAL EXHIBIT 2

Gmail Leanne Leith <lealeith@gmail.com>

making some swaps

lealeith@gmail.com <lealeith@gmail.com> Fri, Dec 10, 2021 at 11:58 AM
To: Rebecca Avitia <rlavitia@gmail.com>

Sent from my iPhone

Begin forwarded message:

> **From:** Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org>
> **Date:** December 10, 2021 at 11:30:06 AM MST
> **To:** Kyra Ellis-Moore <kellismoore@teresaforall.com>
> **Cc:** Michelle Mayorga <michellemayorga@gmail.com>, Corrina Feldman <feldman.corrina@gmail.com>, Dave Contarino <dave@davecontarino.com>, Dominic Gabello <dominic@dominicgabello.com>, Juan Sanchez <jsanchez@martinheinrich.com>, Leanne Leith <lealeith@gmail.com>, Scott Forrester <scforrester@gmail.com>
> **Subject: Re: making some swaps**
>
> Hi Kyra,
>
> Leanne and I will pass that feedback back to our leadership.
>
> Thanks,
> Kyle
>
> On Fri, Dec 10, 2021, 11:21 AM Kyra Ellis-Moore <kellismoore@teresaforall.com> wrote:
> > Hey Kyle -
> >
> > This doesn't take into account my earlier email which was our primary piece of feedback:
> >
> > On the TLF side of things, we are only prepared to take on as much of the Southeast as was expressed in the boundaries of version B3.
> >
> > On Fri, Dec 10, 2021 at 11:04 AM Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> wrote:
> > > Hi all, we're delaying SJC for a short while to get this to you first.
> > >
> > > Thank you all for your work on this.
> > >
> > > We tried to take as many of the suggestions made into account as possible -- including the most recent request for parity between CD1 and CD3. The Senate and the House feel that a modified version of B2 best accomplishes this and will be moving forward with a substituted SB1 reflecting these changes.
> > >
> > > I'm attaching atlas data of B2 Modified as well as 2012 Adopted, CRC H, SB1, and B3 for comparison.
> > >
> > > You can see the boundaries here: https://districtr.org/plan/92182
> > >
> > > Happy to answer any further questions.
> > >
> > > Thanks,

Kyle

On Fri, Dec 10, 2021 at 10:47 AM Michelle Mayorga <michellemayorga@gmail.com> wrote:
NM Fair Districts is reporting that a new Congressional map is being introduced in committee today at 11am. Is this correct? Will we see maps before they are introduced? Thanks for your help - michelle

On Fri, Dec 10, 2021 at 9:39 AM Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> wrote:
Thanks Corrina, we will have a full breakdown shortly.

On Fri, Dec 10, 2021, 9:37 AM Michelle Mayorga <michellemayorga@gmail.com> wrote:
Thank you!

On Fri, Dec 10, 2021 at 9:34 AM Corrina Feldman <feldman.corrina@gmail.com> wrote:
FYI - Scott texted Leanne echoing that Melanie wants parity with Teresa. Leanne had mentioned to Scott, Melanie, and myself the following:

22 NCEC DPI (in current draft):
1 - 57.1%
3 - 57.2%

And Sanderoff 53.5% in CD1, same as in Map H

Just wanted to get this info on the chain. Please let me know if you have questions!

Corrina

On Fri, Dec 10, 2021 at 8:50 AM Corrina Feldman <feldman.corrina@gmail.com> wrote:
+Scott

On Fri, Dec 10, 2021 at 8:41 AM Corrina Feldman <feldman.corrina@gmail.com> wrote:
Hi again,

Update on our end: Melanie wants parity with Teresa. If Teresa is at 55 Melanie wants to be at 55. If Teresa is at 56. Melanie wants to be at 56, etc. That's her end goal and hard ask here. Thank you!

Corrina

On Fri, Dec 10, 2021 at 7:54 AM Corrina Feldman <feldman.corrina@gmail.com> wrote:
Also, we are happy to play around with the Rio Rancho area in order to keep Santa Fe in CD3. I believe Team Teresa is as well but Kyra what do you think?

On Fri, Dec 10, 2021 at 7:38 AM Corrina Feldman <feldman.corrina@gmail.com> wrote:
We are good with tweaking B3 to accommodate the Sanderoff CD1 DPI as well. This is a great option on our end.

On Fri, Dec 10, 2021 at 7:36 AM Kyra Ellis-Moore <kellismoore@teresaforall.com> wrote:
Kyle -

On the TLF side of things, we are only prepared to take on as much of the Southeast as was expressed in the boundaries of version B3, so appreciate Corrina's above tweak to B2, which can hopefully get CD3 where we need to be on our end.

Alternatively, are there minor edits to B3 that could get the CD1 DPI the additional .2 it needs on the Sanderoff scale?

Thanks,
Kyra

On Fri, Dec 10, 2021 at 7:23 AM Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> wrote:

> We will take a look at that now and get back ASAP.
>
> On Fri, Dec 10, 2021, 7:20 AM Corrina Feldman <feldman.corrina@gmail.com> wrote:
>
> > Good morning all,
> >
> > Kyle, we're looking at map B2 as the potential next step, but want to see if CD1 can take on Roswell and potentially a bit more of the surrounding area. We are good with Artesia remaining outside of CD1, but would like to see if CD1 can get a bit more of the southeast. Can you tweak this and let me know your thoughts? Thanks.
> >
> > Corrina
> >
> > On Fri, Dec 10, 2021 at 7:15 AM Michelle Mayorga <michellemayorga@gmail.com> wrote:
> >
> > > Thank you. Since the parameters were changed late last night, we are regrouping this morning. Unlikely to have something to you before 8am. - michelle
> > >
> > > On Fri, Dec 10, 2021 at 5:18 AM Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> wrote:
> > >
> > > > Good morning,
> > > >
> > > > Yes all three should be above 53% Sanderoff DPI.
> > > >
> > > > We ask that the maps respect the Native American Tribal Redistricting Committee's request of splitting Mescalaro into two districts.
> > > >
> > > > That there be a max of two ABQ districts.
> > > >
> > > > On Fri, Dec 10, 2021, 3:06 AM Michelle Mayorga <michellemayorga@gmail.com> wrote:
> > > >
> > > > > This is helpful. Thank you. Just a couple of questions:
> > > > >
> > > > > 1. Do you require that all 3 districts be above 53 using Sanderoff numbers?
> > > > >
> > > > > 2. Are there any other requirements we should be aware of before offering thoughts and edits?
> > > > >
> > > > > Thanks again- michelle
> > > > >
> > > > > On Fri, Dec 10, 2021 at 1:20 AM Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> wrote:
> > > > >
> > > > > > We were curious about that too.
> > > > > >
> > > > > > The sanderoff dpi is the sum of all 2012-2020 dem votes divided by the sum of all 2012-2020 dem+rep votes, excluding contests where the statewide 2way margin was >20 pts.
> > > > > >
> > > > > > Bernalillo and Sandoval are the two places where Biden overperforms sanderoff dpi the most.
> > > > > >
> > > > > > Its a hypothesis but CD1 has the two areas in Bernalillo and Sandoval (Rio Rancho and east abq/county) where moderate suburban rep voters would swing towards Biden in Biden vs Trump, but not necessarily for a generic non-trump GOP candidate.
> > > > > >
> > > > > > Hope that helps.

Kyle

On Fri, Dec 10, 2021, 12:09 AM Michelle Mayorga <michellemayorga@gmail.com> wrote:

> Thanks Kyle. It is not immediately obvious to me why in B3 the Sanderoff numbers mimic Biden performance for CD2 and CD3 and drop for CD1 when it has the most area trending blue. Can you help me understand the criteria that goes into the Sanderoff numbers? Would help us understand how edits might affect this number that you are watching closely. Thanks again for your help - michelle
>
> On Thu, Dec 9, 2021 at 11:11 PM Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> wrote:
>
> > Totally, thanks for your patience.
> >
> > We looked at multiple ways to make the suggested edit work (4 separate potential options) but they each dropped the CD2 Sanderoff DPI below 53%, which is not doable for our caucus.
> >
> > After further discussion with the caucus we are uncomfortable with the original B3 as it lowers CD1's Sanderoff DPI below 53%.
> >
> > We are open to concepts B1, B2, B4 or any other that keep both CD1 and CD2 at 53% Sanderoff DPI or above and will review suggested edits if they are sent before 10AM EST tomorrow.
> >
> > Thanks,
> > Kyle
> >
> > On Thu, Dec 9, 2021 at 10:48 PM Michelle Mayorga <michellemayorga@gmail.com> wrote:
> >
> > > Thanks Kyle. Getting late in DC so we will take this up Again in the am - michelle
> > >
> > > On Thu, Dec 9, 2021 at 9:41 PM Corrina Feldman <feldman.corrina@gmail.com> wrote:
> > >
> > > > Thank you!
> > > >
> > > > Corrina
> > > >
> > > > On Thu, Dec 9, 2021 at 9:32 PM Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> wrote:
> > > >
> > > > > Hey Michelle, confirming this is received
> > > > >
> > > > > We are taking a look with the goal of getting back to you tonight. I'll update you if that timeline changes.
> > > > >
> > > > > On Thu, Dec 9, 2021, 9:08 PM Michelle Mayorga <michellemayorga@gmail.com> wrote:
> > > > >
> > > > > > Thanks Kyle
> > > > > > We are looking at map B3 and have one edit so far. Can we move Artesia out of CD1 and have CD1 take on another piece of CD2 (maybe into Otero county?)? Please leave CD3 as is in B3. Thanks and let us know if you have any questions. - michelle
> > > > > >
> > > > > > On Thu, Dec 9, 2021 at 5:54 PM Juan Sanchez <jsanchez@martinheinrich.com> wrote:
> > > > > >
> > > > > > > Thanks for sharing and for the clarification Kyle.

On Thu, Dec 9, 2021, 5:52 PM Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> wrote:

> These are the 4 plans using the %demperf22idx NCEC Data. It was a dem mean indx used in the prior email.
>
> B1
>
> 1 57
> 2 55
> 3 57.3
>
> B2
>
> 1 57.2
> 2 55
> 3 57.1
>
> B3
>
> 1 56.3
> 2 55
> 3 58.2
>
> B4
>
> 1 57
> 2 55
> 3 57.4
>
> On Thu, Dec 9, 2021, 3:28 PM Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> wrote:
>
> > compiling the original email with districtr links
> >
> > **B1**
> > CD1/3 boundary in Sandoval remains the same; CD1 gets Guadalupe and
> > DeBaca; CD3 gets all Santa Fe and CD1 takes enough Chaves/Roswell to
> > make up the pop
> >
> > https://districtr.org/plan/91957
> >
> > Sanderoff
> > 1 53.4
> > 2 53.0
> > 3 56.1
> >
> > Biden
> > 1 57.3
> > 2 53
> > 3 55.6
> >
> > NCEC
> > 1 53.8
> > 2 52.8
> > 3 55.7
> >
> > **B2**
> > * CD1/3 boundary in Sandoval remains the same; CD1 gets Guadalupe and
> > DeBaca; CD3 gets back some of Santa Fe co and CD1 takes enough

Chaves/Roswell to make up the pop

https://districtr.org/plan/91959

Sanderoff
1 53.5
2 53.0
3 56.0

Biden
1 57.5
2 53.0
3 55.4

NCEC
1 53.9
2 52.8
3 55.5

B3
* CD1/3 boundary in Sandoval remains the same; CD1 gets Guadalupe and DeBaca; CD1/3 boundary in Santa Fe closer to plan H and CD1 gets all Chaves and the Artesia split from CD3

https://districtr.org/plan/91960

Sanderoff
1 52.8
2 53.0
3 56.8

Biden
1 56.2
2 53.0
3 56.8

NCEC
1 53.2
2 52.8
3 56.3

B4
* CD3 gets Placitas from CD1 in Sandoval and gets back some of Santa Fe co; CD1 gets Guadalupe and DeBaca; CD1 takes enough Chaves/Roswell to make up the pop

https://districtr.org/plan/91962

Sanderoff
1 53.4
2 53.0
3 56.1

Biden
1 57.2
2 53.0
3 55.7

NCEC
1 53.7

2 52.8
3 55.7

On Thu, Dec 9, 2021 at 2:50 PM Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> wrote:

> We are generating maps of these, they take a bit longer than the data.
>
> On Thu, Dec 9, 2021 at 2:47 PM Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> wrote:
>
> > Hi all,
> >
> > Below are descriptions and DPIs of 4 potential options. Leanne has a 5th that she will pass along. The block equivalency data is attached as well. Happy to talk through any of this.
> >
> > Thanks,
> > Kyle
> >
> > **B1**
> > CD1/3 boundary in Sandoval remains the same; CD1 gets Guadalupe and DeBaca; CD3 gets all Santa Fe and CD1 takes enough Chaves/Roswell to make up the pop
> >
> > Sanderoff
> > 1 53.4
> > 2 53.0
> > 3 56.1
> >
> > Biden
> > 1 57.3
> > 2 53
> > 3 55.6
> >
> > NCEC
> > 1 53.8
> > 2 52.8
> > 3 55.7
> >
> > **B2**
> > * CD1/3 boundary in Sandoval remains the same; CD1 gets Guadalupe and DeBaca; CD3 gets back some of Santa Fe co and CD1 takes enough Chaves/Roswell to make up the pop
> >
> > Sanderoff
> > 1 53.5
> > 2 53.0
> > 3 56.0
> >
> > Biden
> > 1 57.5
> > 2 53.0
> > 3 55.4
> >
> > NCEC
> > 1 53.9
> > 2 52.8

3 55.5

B3
* CD1/3 boundary in Sandoval remains the same; CD1 gets Guadalupe and DeBaca; CD1/3 boundary in Santa Fe closer to plan H and CD1 gets all Chaves and the Artesia split from CD1

Sanderoff
1 52.8
2 53.0
3 56.8

Biden
1 56.2
2 53.0
3 56.8

NCEC
1 53.2
2 52.8
3 56.3

B4
* CD3 gets Placitas from CD1 in Sandoval and gets back some of Santa Fe co; CD1 gets Guadalupe and DeBaca; CD1 takes enough Chaves/Roswell to make up the pop

Sanderoff
1 53.4
2 53.0
3 56.1

Biden
1 57.2
2 53.0
3 55.7

NCEC
1 53.7
2 52.8
3 55.7

--
Kyle Quinn-Quesada
Pronouns: (he/his/him)
New Mexico Senate Democrats
Director
C: (860)-230-7189
kyle@nmsenatedemocrats.org

On Thu, Dec 9, 2021 at 1:49 PM Corrina Feldman <feldman.corrina@gmail.com> wrote:

> Thanks so much!

On Thu, Dec 9, 2021 at 1:49 PM Kyle Quinn-Quesada <kyle@nmsenatedemocrats.org> wrote:

Hey all, we will have 5 options ready in 30 min.

On Thu, Dec 9, 2021 at 1:33 PM Juan Sanchez <jsanchez@martinheinrich.com> wrote:

Great, thanks Leanne!

On Thu, Dec 9, 2021 at 1:20 PM Leanne Leith <lealeith@gmail.com> wrote:

The map I prepped for the Speaker was very roughly done, and i didn't strike the right balance between CD1 and CD3, so Kyle has an idea... we're going to work on it for the next 30 mins, and we will get you a map before 2pm. thanks!

--
Thanks,
Juan DeJesus Sanchez
NM Political Director
(505) 559-0516

--
Kyle Quinn-Quesada
Pronouns: (he/his/him)
New Mexico Senate Democrats
Director
C: (860)-230-7189
kyle@nmsenatedemocrats.org

--
--
Stay safe and be well,

Corrina C. Feldman
Political Consultant and Strategist
(505) 366-7267

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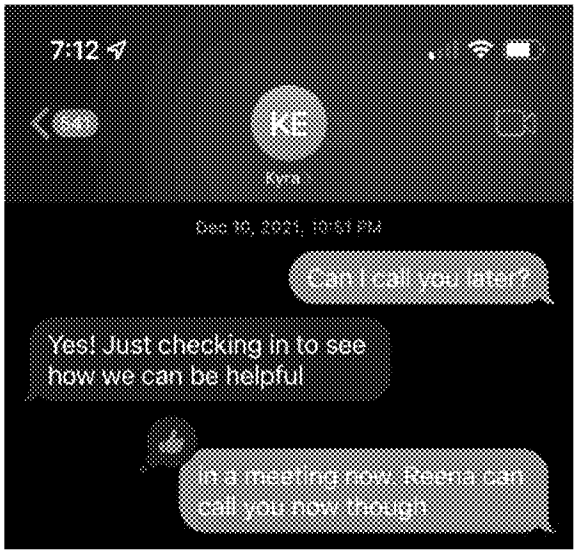
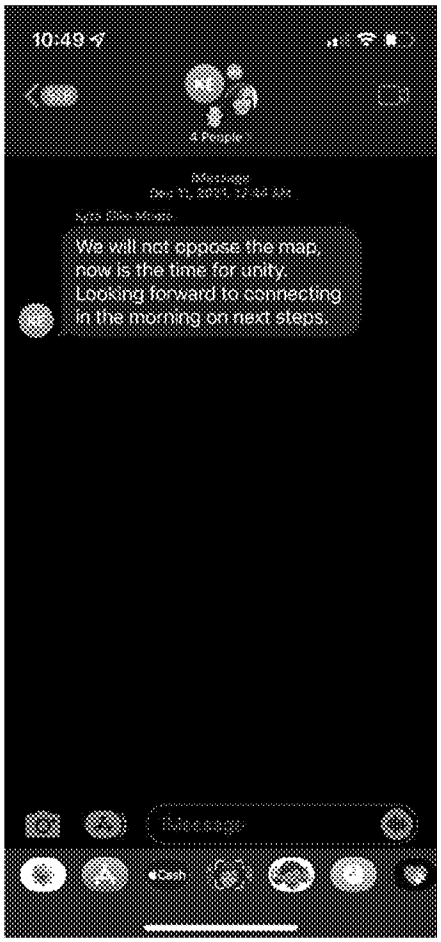
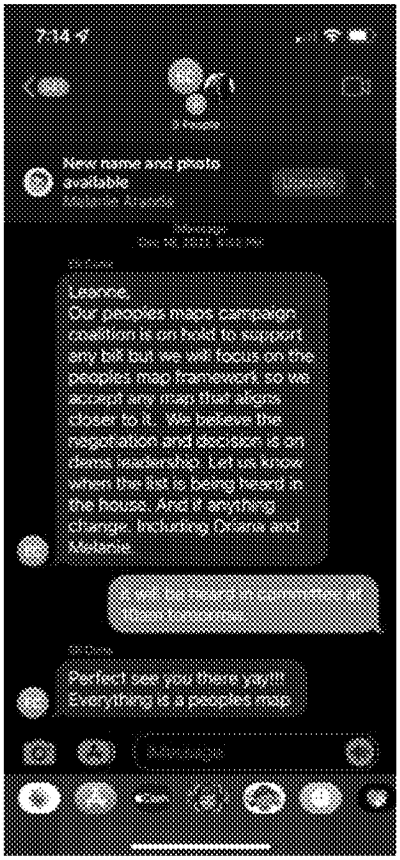
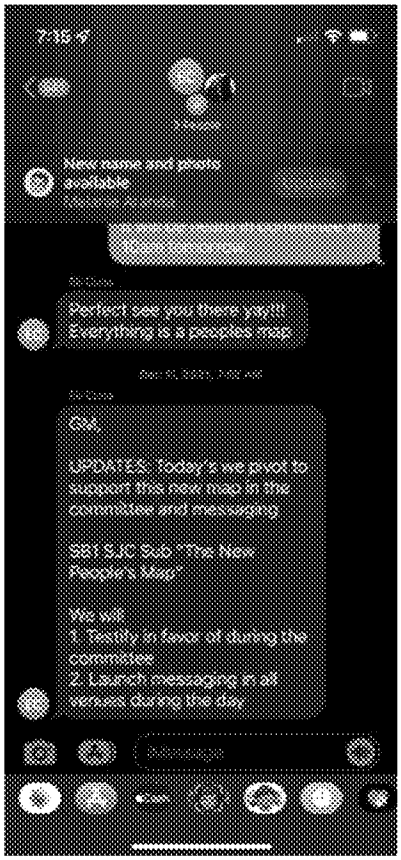
Text Messages Produced by Leanne Leith Pursuant to Subpoena:






7:14
New name and photo available
Leanne,
Our peoples maps campaign coalition is on hold to support any bill but we will focus on the peoples map framework so we accept any map that aligns closer to it. We believe the negotiation and decision is on dems leadership. Let us know when the bill is being heard in the house. And if anything change. Including Oriana and Melanie
Perfect see you there yay!!! Everything is a peoples map
Message


7:15
Perfect see you there yall!! Everything is a peoples map
Q&A
UPDATES: Today's we pivot to support the new map in the committee and messaging
SB1 SJC Sub "The New People's Map"
We will:
1. Testify in favor of during the committee
2. Launch messaging in all senses during the day

3:25

See the map. That's three hom-sinners in NM. There isn't enough money to support all three candidates like that here. No way try DCCC could ever go for this.

It's a really bad map

[illegible]

3:25

[illegible]

I'm on phone with her now

If u want to talk

These are three frontline maps. These are Three competitive maps

The senate map cd3 is lower H

Why didn't we know all this was happening Leanne?

[illegible]

Can we do a call with Teresa, Melanie, House and senate. To talk about these.

3:25

Can we do a call with Teresa, Melanie, House and senate. To talk about these.

We are all out flat footed and really need help understanding this.

People are really upset Leanne

[illegible]

[illegible]

3:26

[illegible]

Thanks

Teresa getting fucked in this map. They are taking a lot red here.

I'm worried they are taking too much of ABQ in cd1

The idea was to spread the pain between 1 and 3

Gabe can't win that cd2.

Purely looking at the map.

[illegible]

3:26

What Redistricting Looks Like In Every State - New Mexico - Democratic proposal

This is what Teresa is talking about
CD3 in this map is now purple according to 538

[illegible]

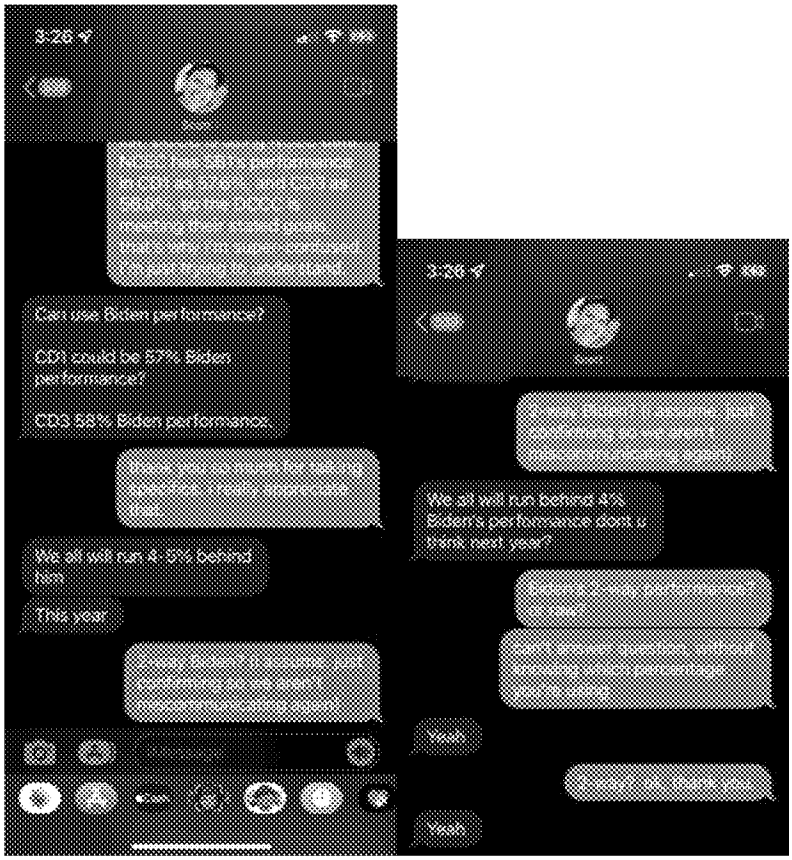
3:26

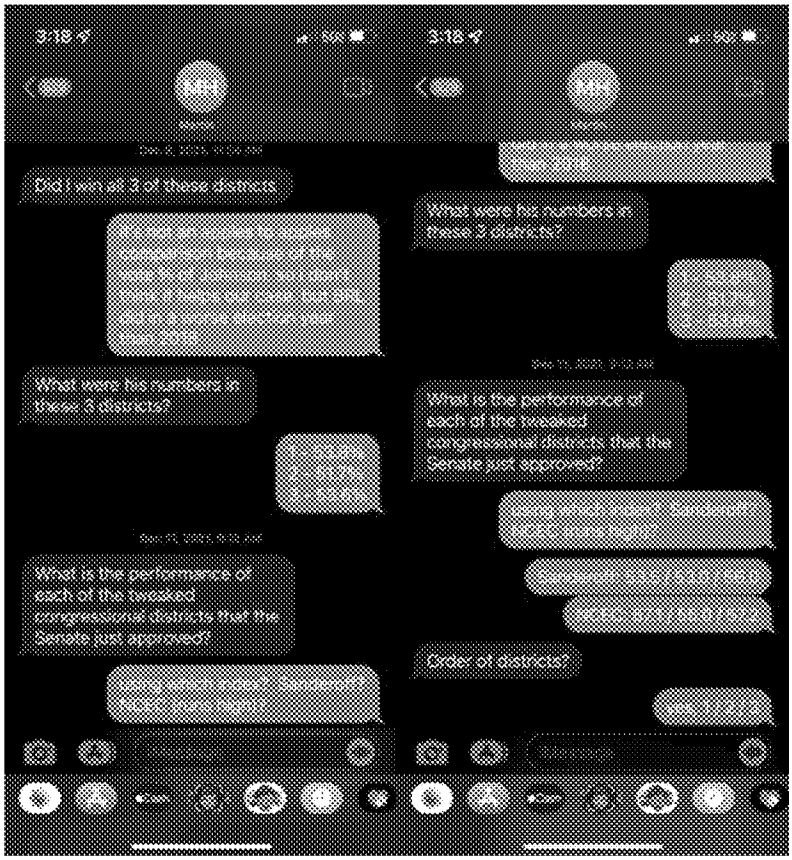
[illegible]

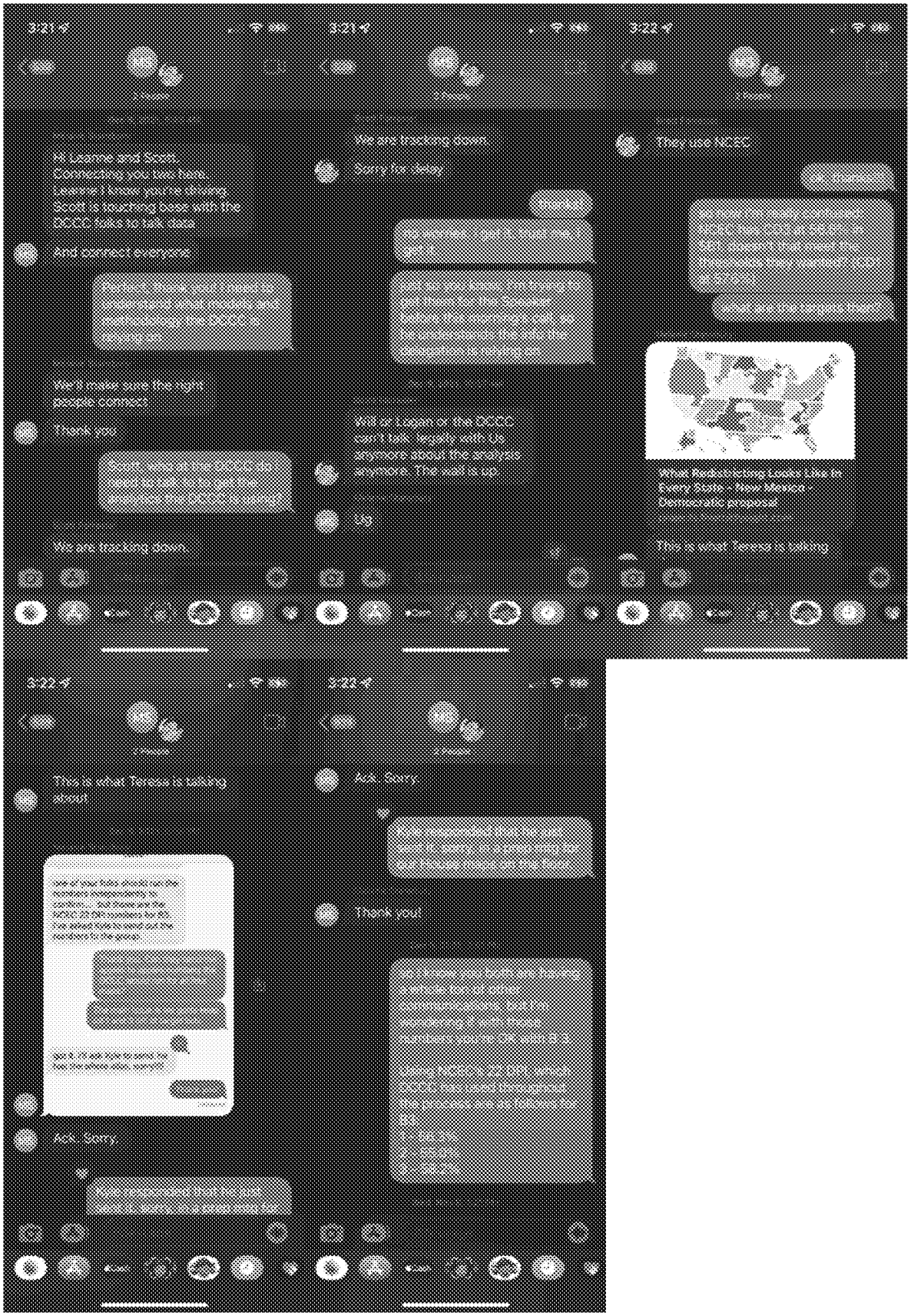
If we can move back closer to H. We are worried about the trends.

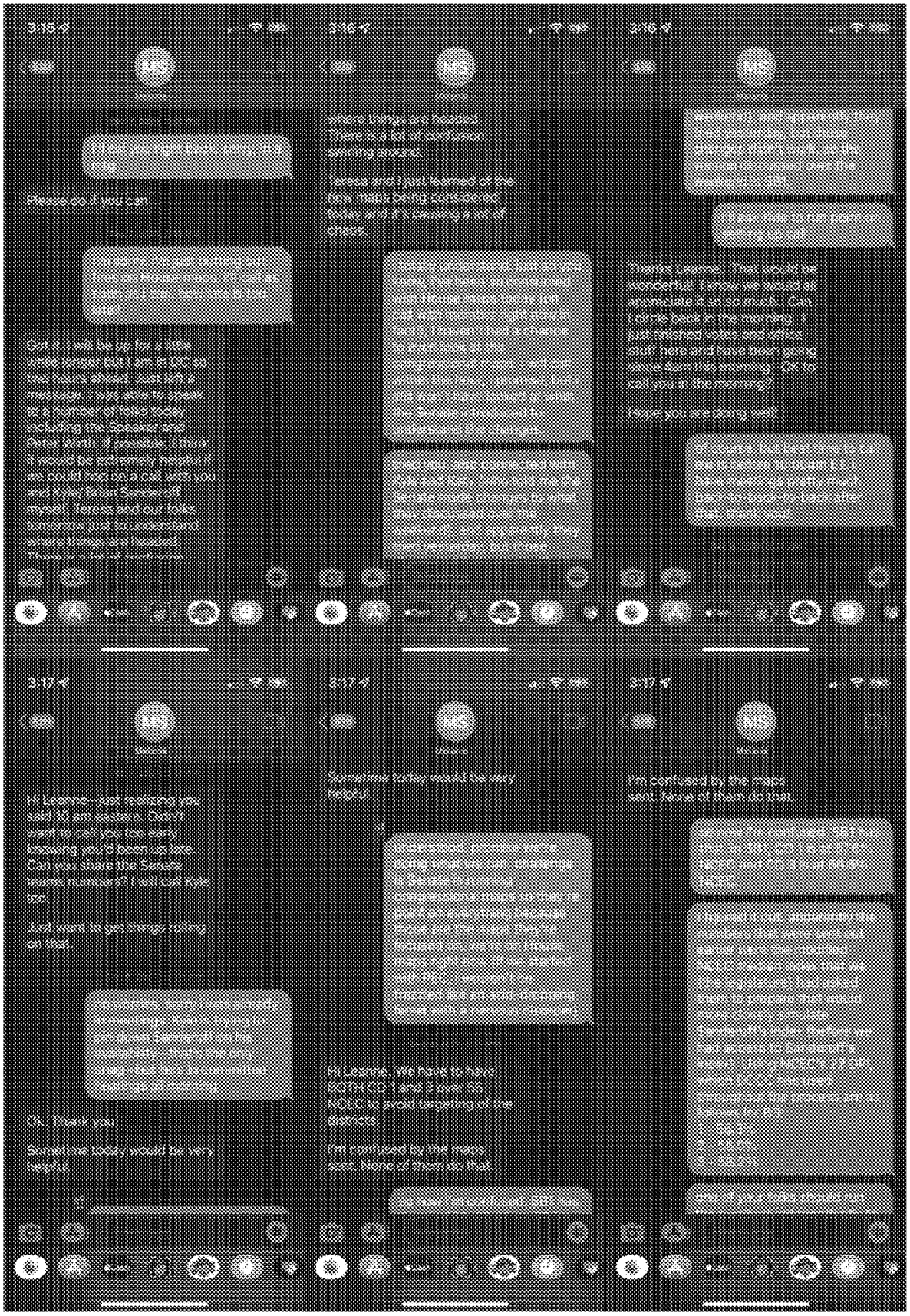
[illegible]

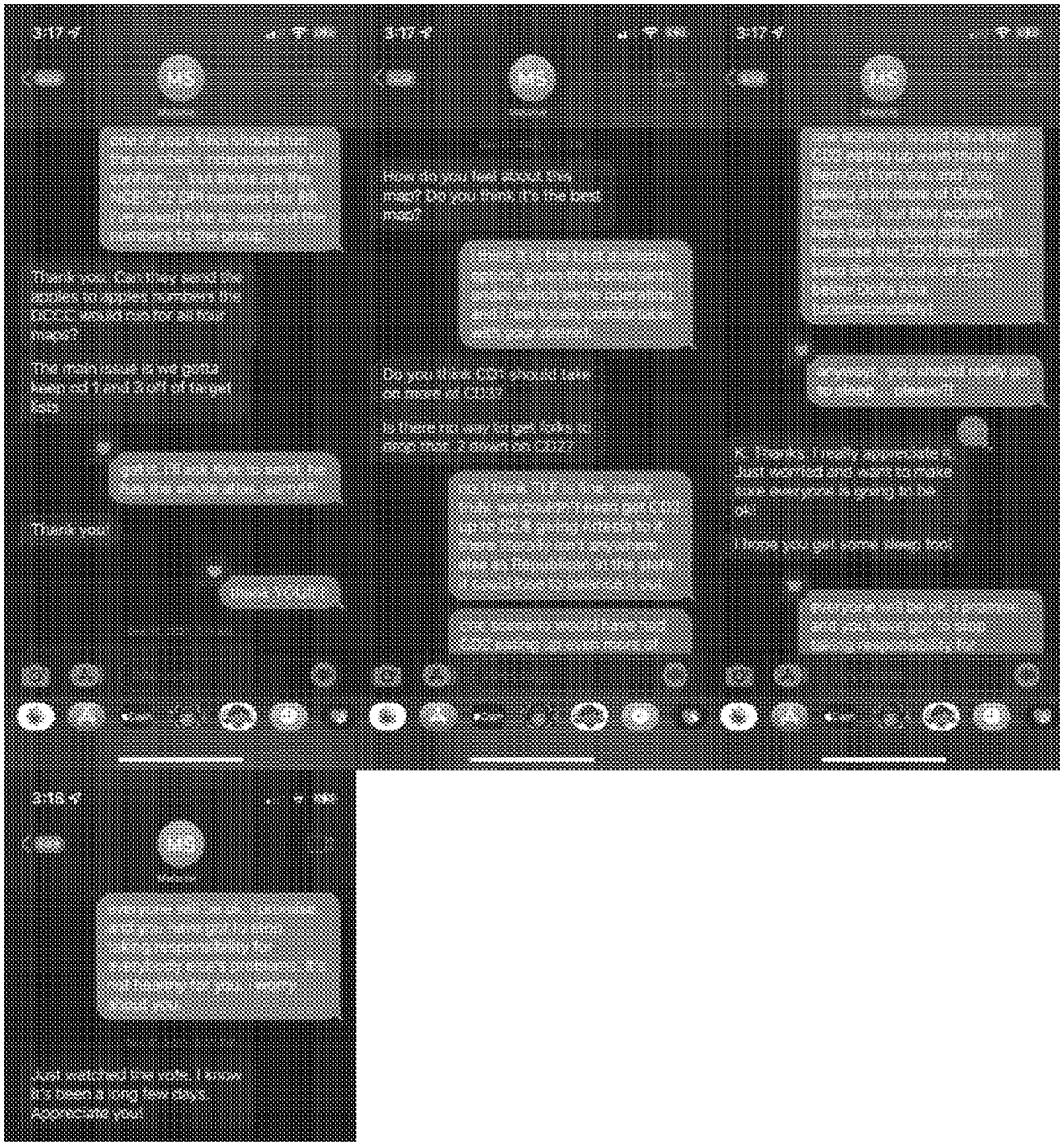
[illegible]


3:28
Can one Biden perform
CD1 could be 57% Biden
performance?
CD3 58% Biden performance
We all will run 4-5% behind
Biden
This year
3:33
We all will run behind 4%
Biden's performance could b
think next year?
Yeah
Yeah


3:18
Did I win all 3 of these districts
What were the numbers in these 3 districts?
What is the performance of each of the tweaked congressional districts that the Senate just approved?
3:18
What were the numbers in these 3 districts?
What is the performance of each of the tweaked congressional districts that the Senate just approved?
Order of districts?







LEGISLATIVE DEFENDANTS' TRIAL EXHIBIT C

STATE OF NEW MEXICO
COUNTY OF LEA
FIFTH JUDICIAL DISTRICT

REPUBLICAN PARTY OF NEW MEXICO, DAVID GALLEGOS, TIMOTHY JENNINGS, DINAH VARGAS, MANUEL GONZALES, JR. BOBBY AND DEE ANN KIMBRO, and PEARL GARCIA,

Plaintiffs,

v. **Cause No. D-506-Cv-2022-00041**

MAGGIE TOLOUSE OLIVER, in her official capacity as New Mexico Secretary of State, MICHELLE LUJAN GRISHAM, in her official capacity as Governor of New Mexico, HOWIE MORALES, in his official capacity as New Mexico Lieutenant Governor and President of the New Mexico Senate, MIMI STEWART, in her official capacity as President Pro Tempore of the New Mexico Senate, and JAVIER MARTINEZ, in his official capacity as Speaker of the New Mexico House of Representatives,

Defendants.

EXPERT REPORT OF JOWEI CHEN, Ph.D.

1. I am an Associate Professor in the Department of Political Science at the University of Michigan, Ann Arbor. I am also a Research Associate Professor at the Center for Political Studies of the Institute for Social Research at the University of Michigan and a Research Associate at the Spatial Social Science Laboratory at Stanford University. In 2004, I received a B.A. in Ethics, Politics, and Economics from Yale University. In 2007, I received a M.S. in Statistics from Stanford University, and in 2009, I received a Ph.D. in Political Science from Stanford University.

2. I have published academic papers on legislative districting and political geography in several academic journals, including *Yale Law Journal*, *Stanford Law Review*, *The American Journal of Political Science*, *The American Political Science Review*, and *Election Law Journal*. My academic areas of expertise include legislative elections, spatial statistics, geographic information systems (GIS) data, redistricting, racial politics, legislatures, and political geography. I have expertise in the use of computer simulations of legislative districting and in analyzing political geography, elections, and redistricting. In 2019, Common Cause honored me as a "Defender of Democracy" for developing the use of random computer-simulated districting maps in partisan gerrymandering court challenges around the country.[1]

3. I have authored expert reports in the following redistricting court cases: *The League of Women Voters of Florida v. Detzner* (Fla. 2d Judicial Cir. Leon Cnty. 2012); *Romo v. Detzner* (Fla. 2d Judicial Cir. Leon Cnty. 2013); *Missouri National Association for the Advancement of Colored People v. Ferguson-Florissant School District & St. Louis County Board of Election Commissioners* (E.D. Mo. 2014); *Raleigh Wake Citizens Association v. Wake County Board of Elections* (E.D.N.C. 2015); *Brown v. Detzner* (N.D. Fla. 2015); *City of Greensboro v. Guilford County Board of Elections* (M.D.N.C. 2015); *Common Cause v. Rucho*

[1] https://www.commoncause.org/press-release/common-cause-honors-four-defenders-of-democracy/

(M.D.N.C 2016); *The League of Women Voters of Pennsylvania v. Commonwealth of Pennsylvania* (No. 261 M.D. 2017); *Georgia State Conference of the NAACP v. The State of Georgia* (N.D. Ga. 2017); *The League of Women Voters of Michigan v. Johnson* (E.D. Mich. 2017); *Whitford v. Gill* (W.D. Wis. 2018); *Common Cause v. Lewis* (N.C. Super. 2018); *Harper v. Lewis* (N.C. Super. 2019); *Baroody v. City of Quincy, Florida* (N.D. Fla. 2020*); McConchie v. Illinois State Board of Elections* (N.D. Ill. 2021); *Adams v. DeWine* (Ohio 2021); *Harper v. Hall* (N.C. Super. 2021); *Rivera v. Schwab and Abbott* (Wyandotte County D. Ct. 2022); *Norelli v. David Scanlan* (Hillsborough County Super. Ct. 2022). I have testified at deposition or at trial in the following cases: *Romo v. Detzner* (Fla. 2d Judicial Cir. Leon Cnty. 2013); *Missouri National Association for the Advancement of Colored People v. Ferguson-Florissant School District & St. Louis County Board of Election Commissioners* (E.D. Mo. 2014); *Raleigh Wake Citizens Association v. Wake County Board of Elections* (E.D.N.C. 2015); *City of Greensboro v. Guilford County Board of Elections* (M.D.N.C. 2015); *Common Cause v. Rucho* (M.D.N.C. 2016); *The League of Women Voters of Pennsylvania v. Commonwealth of Pennsylvania* (No. 261 M.D. 2017); *Georgia State Conference of the NAACP v. The State of Georgia* (N.D. Ga. 2017); *The League of Women Voters of Michigan v. Johnson* (E.D. Mich. 2017); *Whitford v. Gill* (W.D. Wis. 2018); *Common Cause v. Lewis* (N.C. Super. 2018); *Baroody v. City of Quincy, Florida* (N.D. Fla. 2020); *McConchie v. Illinois State Board of Elections* (N.D. Ill. 2021); *Harper v. Hall* (N.C. Super. 2021); *Rivera v. Schwab and Abbott* (Wyandotte County D. Ct. 2022).

4. ***Research Question:*** Defendants' counsel asked me to evaluate the partisanship of New Mexico's Congressional districting plan, as enacted in December 2021 by the State Legislature in Senate Bill 1 (hereinafter: "The SB 1 plan"). Specifically, Defendants' counsel asked me to determine whether the partisan characteristics of the SB 1 plan could have plausibly

emerged from a partisan-neutral map-drawing process adhering to certain non-partisan districting criteria. The non-partisan districting criteria that I was asked to incorporate into my analysis include population equality, district contiguity, precinct preservation, municipal boundary considerations, Indian (Native American) reservation considerations, avoiding county splits, oil industry considerations, and district compactness. These districting criteria are described in detail later in this report in Paragraph 9. Defendants counsel asked me to determine how likely a map-drawing process following these criteria could have produced a map with the partisan characteristics of the SB 1 plan.

5. ***Summary of Findings:*** I programmed a partisan-blind computer algorithm to generate a large number of random districting plans while strictly adhering to the aforementioned districting criteria. The partisan characteristics of the SB 1 plan are well within the normal range of these computer-generated districting plans drawn with the partisan-blind algorithm. Thus, the SB 1 plan is neither extreme nor a statistical outlier in terms of its partisanship. The partisan characteristics of the SB 1 plan could reasonably have emerged from a partisan-neutral map-drawing process adhering to all of the aforementioned districting criteria.

6. ***The Use of Computer-Simulated Districting Plans:*** In conducting my academic research on legislative districting, partisan and racial gerrymandering, and electoral bias, I have developed various computer simulation programming techniques that allow me to produce a large number of partisan-blind districting plans that adhere to any set of specified districting criteria using US Census geographies, such as precincts, as building blocks. This simulation process ignores all partisan and racial considerations when drawing districts. Instead, the computer simulations are programmed to draw districting plans following any set of specified districting considerations, such as population equality, avoiding county splits, protecting

municipal boundaries, and pursuing geographic compactness. By randomly generating a large number of districting plans that adhere to a specified set of districting criteria, I am able to assess an enacted plan drawn by a state legislature and determine whether its partisanship is similar to or different from the sorts of plans that would naturally emerge from the specified set of districting criteria. More specifically, by holding constant the application of these districting criteria through the computer simulations, I am able to determine whether the enacted plan could have naturally emerged from these specified districting criteria, without any intentional partisan manipulation by the map-drawer.

7. Defendants' counsel asked me to use this approach to analyze the partisanship of the SB 1 plan. Defendants' counsel gave me a list of partisan-neutral districting considerations and asked me to determine the partisan distribution of districting maps that naturally emerge from a map-drawing process adhering strictly to these considerations. I programmed a computer algorithm adhering only to these specified districting considerations, and the algorithm produced a set of 1,000 random computer-simulated maps for New Mexico's congressional districts. I analyzed the partisanship of these computer-simulated maps, and I found that the SB 1 plan is well within the normal distribution of the computer-simulated plans in terms of its partisanship. In other words, the partisan characteristics of the SB 1 plan are typical of partisan characteristics exhibited by the random computer-simulated plans. Hence, the SB 1 plan does not exhibit extreme partisan characteristics when accounting for the various non-partisan districting criteria that I incorporated into the computer algorithm.

8. These computer simulation methods are widely used by academic scholars to analyze districting maps. For over a decade, political scientists have used such computer-simulated districting techniques to analyze the racial and partisan characteristics of legislative

and congressional districting maps.[2] Several courts have also relied upon computer simulations to assess claims of partisan bias in enacted districting plans.[3]

9. ***Redistricting Criteria:*** I programmed the computer algorithm to create 1,000 independent simulated plans adhering to the following eight districting criteria:

a) Population Equality: Because New Mexico's 2020 Census population was 2,117,522, districts in every three-member congressional plan have an ideal population of 705,840.7. In the SB 1 plan, the most-populated district (CD-2) and the least-populated district (CD-1) have a difference in population of only 14 people. Defendants' counsel instructed me to follow this same degree of population equality by requiring that all computer-simulated districts deviate from perfect equality by no more than seven people. Therefore, every computer-simulated district that my algorithm produced is required to have a population of between 705,834 and 705,847, resulting in a total difference between the highest-populated district and the lowest-populated district of no more than 14 people.

b) Precinct Boundaries: New Mexico is divided into 2,163 precincts. These precincts are the lowest geographic unit at which elections are administered in New Mexico. Defendants' counsel informed me that precincts serve as the primary building block for congressional districting plans in New Mexico, and the SB 1 plan was intentionally drawn to avoid splitting any of New Mexico's 2,163 precincts. Therefore,

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[2] *E.g.*, Carmen Cirincione, Thomas A. Darling, Timothy G. O'Rourke. "Assessing South Carolina's 1990s Congressional Districting," Political Geography 19 (2000) 189–211; Jowei Chen, "The Impact of Political Geography on Wisconsin Redistricting: An Analysis of Wisconsin's Act 43 Assembly Districting Plan." Election Law Journal.

[3] *See, e.g.*, *League of Women Voters of Pa. v. Commonwealth*, 178 A. 3d 737, 818-21 (Pa. 2018); *Raleigh Wake Citizens Association v. Wake County Board of Elections*, 827 F.3d 333, 344-45 (4th Cir. 2016); *City of Greensboro v. Guilford County Board of Elections*, No. 1:15-CV-599, 2017 WL 1229736 (M.D.N.C. Apr 3, 2017); *Common Cause v. Rucho*, No. 1:16-CV-1164 (M.D.N.C. Jan 11, 2018); *The League of Women Voters of Michigan v. Johnson* (E.D. Mich. 2017); *Common Cause v. David Lewis* (N.C. Super. 2018); *Harper v. Hall* (N.C. Feb 14, 2022).

Defendants' counsel instructed me to similarly avoid splitting any precincts in the construction of the computer-simulated plans. Every computer-simulated district is composed entirely of whole precincts, with no precinct split across two or more districts.

c) Contiguity: The simulation algorithm required all congressional districts to be geographically contiguous.

d) Municipality Considerations: Defendants' counsel instructed me to program the computer algorithm to consider municipal boundaries in the following ways: First, Albuquerque, Las Cruces, and the Santa Fe metro area were each primarily assigned to their own respective districts. Las Cruces and the Santa Fe metro area were always kept intact and not split across two or more districts. Due to the large size of the Albuquerque metro area, Albuquerque could be partially split across districts, but at least 60% or more of Albuquerque's population was required to be assigned to a single district. Finally, the South Valley and the Rio Grande River Valley were required to be kept together in the same district. Collectively, these municipality considerations resulted in computer-simulated plans in which one district contains the entire Santa Fe metro area, a second district contains all of Las Cruces, and a third district contains most of Albuquerque.

e) Indian Reservation Considerations: Defendants' counsel instructed me to program the simulation algorithm to treat Indian (Native American) reservations as follows: First, the Mescalero Apache Reservation was always split apart, such that Precinct 11 was always placed in a different district than Precinct 56 in Otero County. Next, the Zuni Indian Reservation (The Pueblo of Zuni) was always split apart, such that Precincts 27, 29, 30, 64 and 66 in McKinley County were always placed in a different

district than Precinct 28 in McKinley County. Finally, in order to keep the Navajo Nation together, San Juan County and most of McKinley County were always kept together in the same district, with the exception of the aforementioned Zuni Pueblo portion of McKinley County.

f) Oil Industry Considerations: Defendants' counsel informed me that due to the economic importance of the oil production industry in New Mexico, a policy consideration in the state's congressional districting process was to spread out the state's oil wells across multiple districts. Therefore, Defendants' counsel instructed me to require that no single congressional district in any computer-simulated plan contains more than 60% of the state's active oil wells. I was instructed to use geospatial data from New Mexico's Oil Conservation Division to identify the locations of all active oil wells in the state.[4]

g) Minimizing County Splits: Following instructions from Defendants' counsel, I programmed the simulation algorithm to avoid splitting New Mexico's 33 counties, except when doing so was necessary to avoid violating one of the aforementioned criteria. Most commonly, splitting counties was necessary for the purpose of achieving population equality across districts, as well as satisfying the Indian Reservation considerations described earlier.

h) Geographic Compactness: The simulation algorithm favored the drawing of more compact district boundaries whenever doing so does not violate any of the aforementioned criteria.

10. On the following three pages of this report, Map 1, Map 2, and Map 3 display three examples of computer-simulated plans produced by the computer algorithm. The upper

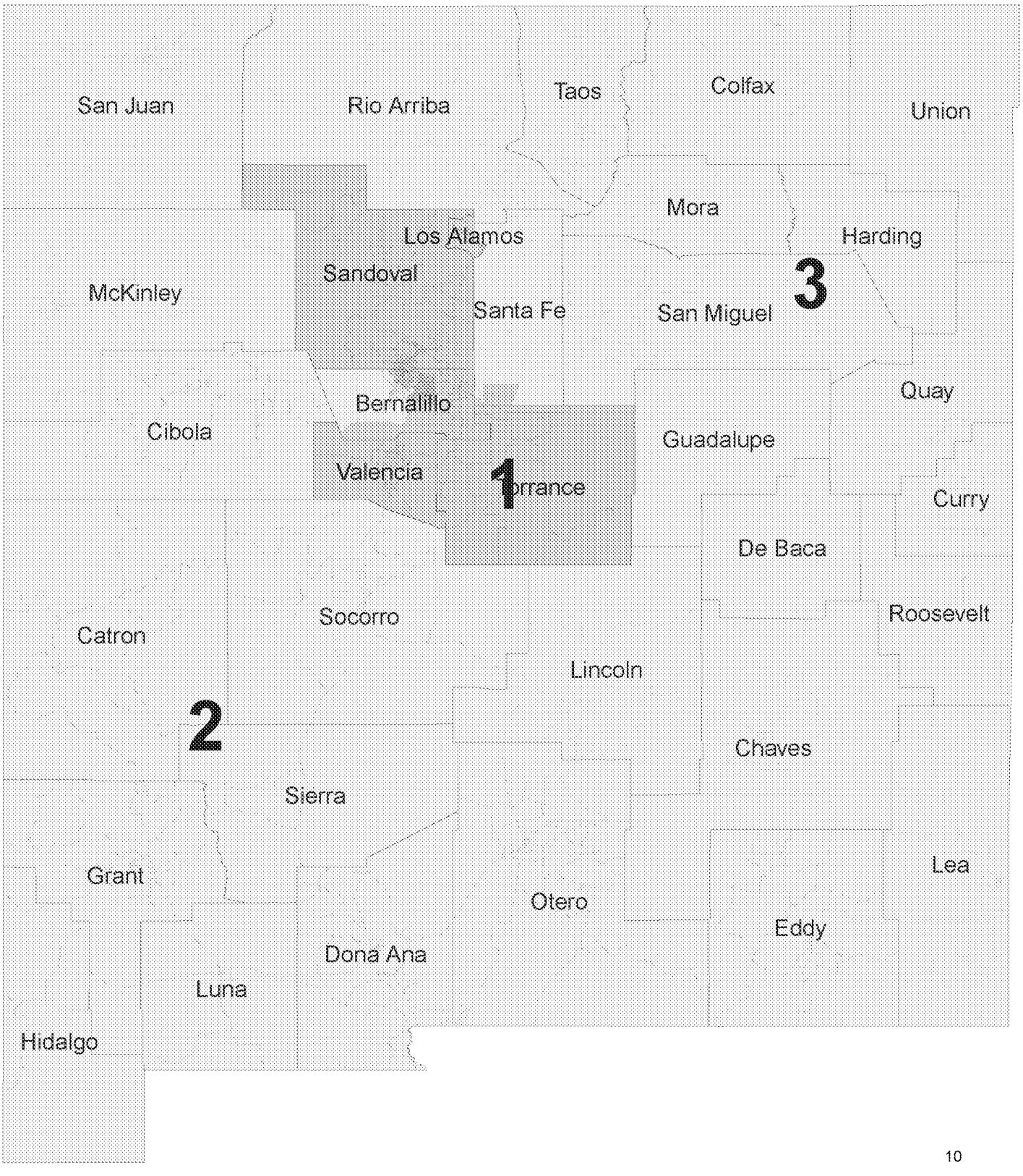
[4] https://ocd-hub-nm-emnrd.hub.arcgis.com/

portion of each Map also reports the total population and the Republican partisanship of each of the three districts in the computer-simulated plan. Specifically, the partisanship of each district is measured using both the district's Republican Performance Index and the district's Republican two-party share of registered voters ("Republican Registered Voters %"). Both of these two measures of district partisanship are explained in more detail in the following section of this report.

Map 1 : Example of a Computer-Simulated Congressional Plan

District:	Population:	Republican Performance Index:	Republican Registered Voters %:
1	705,841	46.7%	42.6%
2	705,836	45%	39.3%
3	705,845	45.4%	40.3%

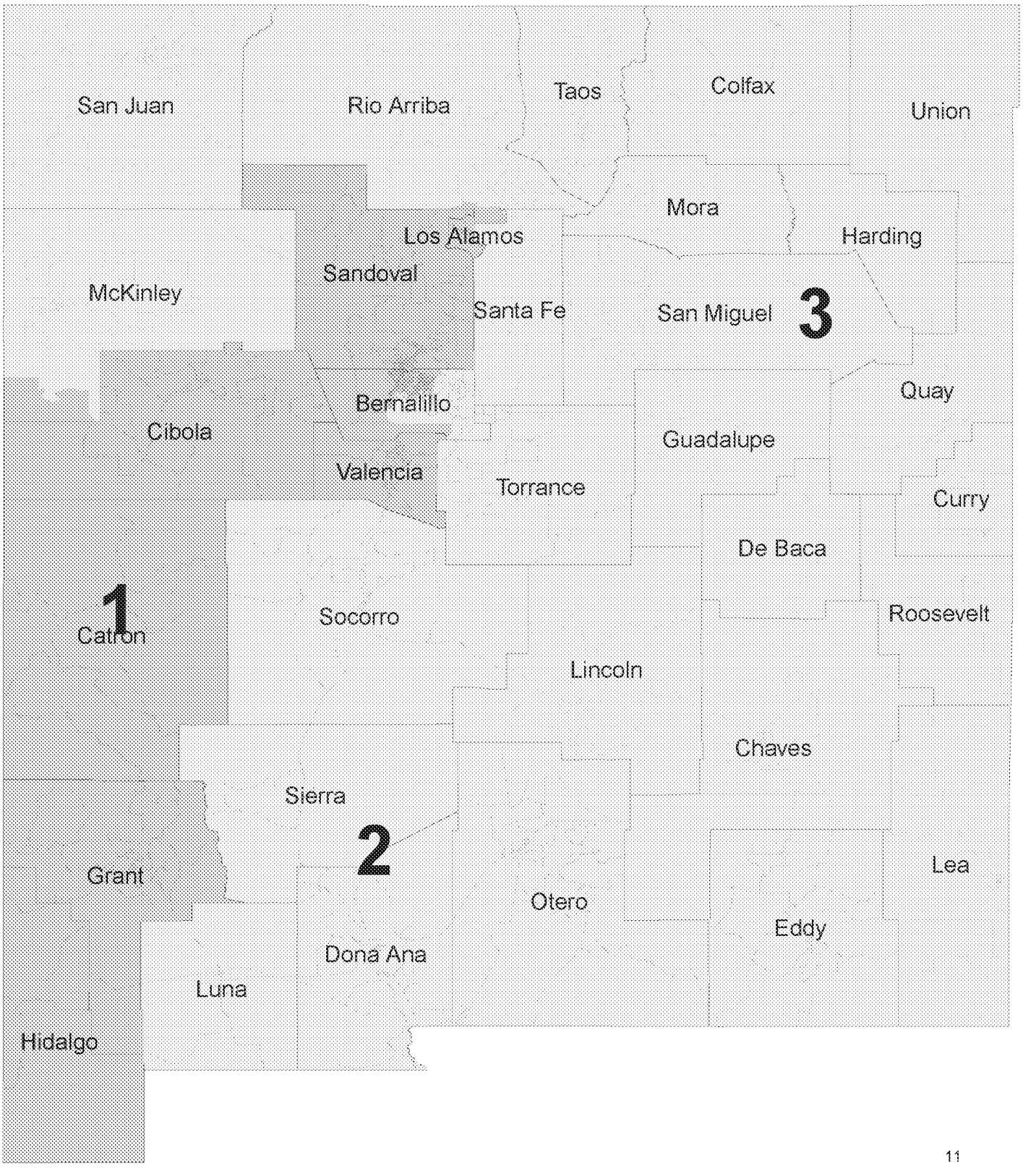
Plan Average: 705,840.7



Map 2 : Example of a Computer-Simulated Congressional Plan

District:	Population:	Republican Performance Index:	Republican Registered Voters %:
1	705,840	45.7%	40.6%
2	705,842	46%	41.3%
3	705,840	45.7%	40.7%

Plan Average: 705,840.7



Map 3 : Example of a Computer-Simulated Congressional Plan

District:	Population:	Republican Performance Index:	Republican Registered Voters %:
1	705,844	45.1%	40.6%
2	705,838	46.8%	41.3%
3	705,840	45.7%	40.7%

Plan Average: 705,840.7

Measuring the Partisanship of Districting Plans

11. In this report, I measure the partisanship of districts in the SB 1 plan and compare them to the partisanship of districts in the computer-simulated congressional plans. By using the same measure of partisanship for both the SB 1 plan and for the computer-simulated plans, I am able to assess whether or not the partisanship of SB 1 plan districts are typical of and within the normal distribution of the computer-simulated plans' districts. As explained below, I use past results from New Mexico's statewide election contests as well as voter registration numbers for each political party to measure and compare the partisanship of districts in the SB 1 plan and the computer-simulated plans.

12. In most states, redistricting map-drawers commonly measure the partisanship of congressional and legislative districting plans by using election results from several recent, statewide election results. It is common practice to aggregate together election results from several recent elections because in general, the most reliable method of comparing the partisanship of different districts within a state is to consider whether these districts have tended to favor Republican or Democratic candidates in recent, competitive statewide elections.

13. ***The Republican Performance Index:*** In New Mexico, the most commonly recognized formula for measuring the partisanship of districts using recent statewide elections is the "Performance Index" developed by Research & Polling, Inc. The Performance Index used during the 2021 redistricting cycle is simply an aggregation of results of all competitive statewide general elections from 2012, 2014, 2016, 2018, and 2020. Non-competitive elections, defined as those contests in which the victor won by more than 20 percentage points, were

[6] The 2018 US Senate, the 2018 Secretary of State, and the 2018 Attorney General elections were excluded because the victor won by more than 20 percentage points.

excluded from the Performance Index.[6] There were a total of 26 competitive statewide election contests held during these years, and the election results for these contests are available at the level of New Mexico's 2,163 precincts.[7] For any given geographic area, such as a congressional district, the Republican Performance Index is calculated as the Republican share of two-party votes (Republican and Democratic candidates' votes) cast across all 26 election contests. In other words, one would first sum the total number of votes cast in favor of the Republican candidates in these 26 contests and the total number of votes cast in favor of the Democratic candidates in these same contests. The Republican candidates' total share of the two-party votes across all 26 contests is referred to as the Republican Performance Index.

14. The election data necessary for calculating the Republican Performance Index were reported in the Legislature's 2021 precinct-level geographic files, which the Legislature made publicly available as part of its 2021 congressional redistricting process.[8] Across the entire state of New Mexico, there were a total of 10,194,444 votes cast in favor of the Republican candidates in these 26 contests and 12,064,492 votes cast in favor of the Democratic candidates. Therefore, the Republican Performance Index for the entire state is 45.8%. For the three individual districts in the SB 1 plan, the Republican Performance Index is as follows:

SB 1 Plan Districts:	Votes for Republican Candidates in the 26 Contests:	Votes for Democratic Candidates in the 26 Contests:	Republican Performance Index:
CD-1	4,038,053	4,643,322	46.5%
CD-2	2,918,452	3,294,911	47.0%
CD-3	3,237,939	4,126,259	44.0%

[7] These 26 competitive statewide election contests were: The 2012 US Presidential, 2012 US Senate, the 2012 Supreme Court, the 2012 Court of Appeals, the 2014 US Senate, the 2014 Governor, the 2014 Secretary of State, the 2014 Attorney General, the 2014 Auditor, the 2014 Treasurer, the 2014 State Land Commissioner, the 2014 Court of Appeals, the 2016 US Presidential, 2016 Secretary of State, the 2016 Supreme Court, the 2016 Court of Appeals, the 2018 Governor, the 2018 Auditor, the 2018 Treasurer, the 2018 State Land Commissioner, the 2018 Court of Appeals, the 2018 Supreme Court, the 2020 US President, the 2020 US Senate, the 2020 Supreme Court, and the 2020 Court of Appeals elections.

[8] https://www.nmlegis.gov/sessions/div_redistricting/2021/

15. ***Partisan Affiliation of Registered Voters:*** In addition to measuring the partisanship of districts according to their Republican Performance Index, Defendants' counsel also instructed me to measure the partisanship of each district using the Republican Party's two-party share of registered voters. In other words, for each district, I count the number of registered Republican voters residing within the district as a share of all registered Republicans and Democrats in the district. These registered voter counts were calculated and reported in the Legislature's 2021 precinct-level geographic files, which the Legislature made publicly available as part of its 2021 congressional redistricting process.[9]

16. Across the entire state, there were a total of 414,327 registered Republicans and 600,720 registered Democrats as of 2021. Therefore, the Republican two-party share of registered voters for the entire state was 40.8%. This percentage does not count anyone who was neither a Republican nor a Democrat. For the three individual districts in the SB 1 plan, the Republican share of registered voters was as follows:

SB 1 Plan Districts:	Registered Republicans:	Registered Democrats:	Republican Share of Registered Voters:
CD-1	157,461	211,916	42.6%
CD-2	123,390	177,183	41.1%
CD-3	133,476	211,621	38.7%

17. In the following section of this report, I use both the Republican Performance Index as well as the Republican share of registered voters to measure the partisanship of districts. I compare the SB 1 plan districts to the districts in the computer-simulated plans in order to assess whether the SB 1 plan exhibits partisan characteristics which could reasonably have arisen from a map-drawing process based on the districting criteria that were programmed into the simulation algorithm.

[9] https://www.nmlegis.gov/sessions/div_redistricting/2021/

District-Level and Plan-Wide Partisan Comparisons of the SB 1 Plan and Simulated Plans:

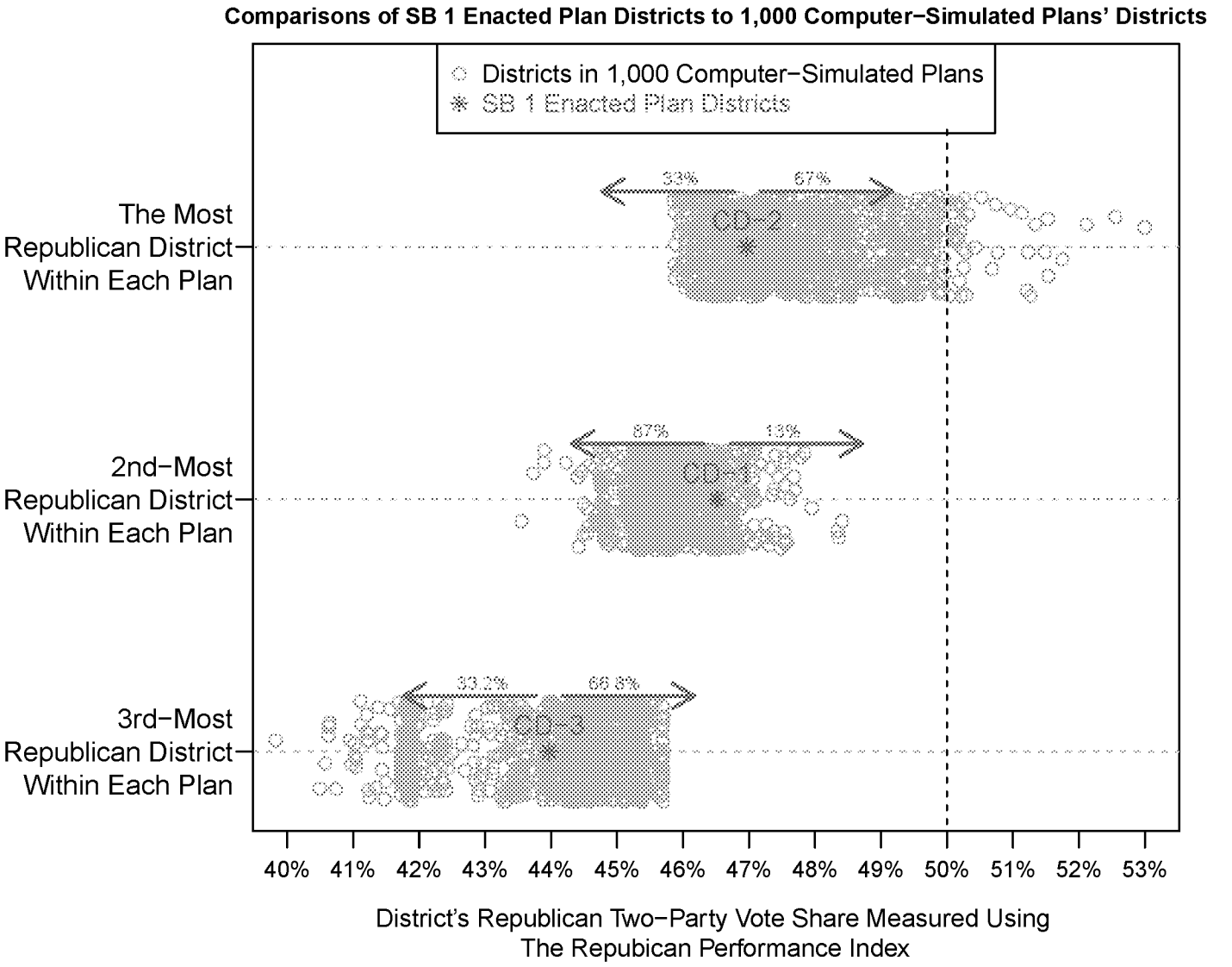
18. In this section, I present partisan comparisons of the SB 1 plan to the computer-simulated plans at both a district-by-district level as well as a plan-wide level, with partisanship measured using both the Republican Partisan Index as well as the Republican share of registered voters. First, I compare the district-level Republican partisanship of the SB 1 plan's districts to the partisanship of the districts in the computer-simulated plans. Additionally, I compare the partisanship of the SB 1 plan containing Las Cruces (CD-2) to the partisanship of the district in each simulated plan containing Las Cruces. Finally, I compare the total number of districts in the SB 1 Plan and in each of the computer-simulated plans with a Republican Performance Index between 46-54%.

19. Overall, I find that all three of the districts in the SB 1 plan exhibit partisan characteristics that are typical of and could have reasonably emerged from the partisan-neutral computer-simulated districting process adhering to non-partisan districting criteria. In particular, the partisan composition of CD-2, which is the most Republican-favorable district in the SB 1 plan, is well within the normal range of the simulated plans' most-Republican districts. None of the three districts in the SB 1 plan are statistical outliers when compared to the computer-simulated plans' districts. Additionally, CD-2 in the SB 1 plan exhibits a partisan composition that is quite typical among the Las Cruces-based districts in the computer-simulated plans. Finally, the total number of districts with a Republican Performance Index between 46-54% is greater in the SB 1 plan than in most of the computer-simulated plans. I describe each of these findings in detail below:

20. ***District-By-District Comparisons Using the Partisan Index***: In Figure 1, I directly compare the partisan distribution of districts in the SB 1 plan to the partisan distribution of districts in the 1,000 computer-simulated plans. I first order the SB 1 plan's districts from most-Republican to least-Republican, as measured by Republican vote share using the Performance Index. The most-Republican district appears on the top row, the second-most-Republican district appears on the second row, and the least-Republican district appears on the bottom row. Next, I analyze each of the 1,000 computer-simulated plans and similarly order each simulated plan's districts from the most- to the least-Republican district

21. I then directly compare the most-Republican SB 1 plan district (CD-2) to the most-Republican simulated district from each of the 1,000 computer-simulated plans. In other words, I compare one district from the SB 1 plan to 1,000 computer-simulated districts, and I compare these districts based on their Republican Performance Index. I then directly compare the second-most-Republican district in the Enacted Plan (CD-1) to the second-most Republican district from each of the 1,000 simulated plans. And finally, the third row compares the least-Republican district in the SB 1 plan (CD-3) to the least-Republican district from each of the 1,000 simulated plans. In each row of this Figure, the SB 1 plan's district is depicted with a red star and labeled in red with its district number; meanwhile, the 1,000 computer-simulated districts are depicted with 1,000 gray circles on each row.

Figure 1:



Note: Percentages in red above arrows indicate the percent of simulated districts in each row with a lower/higher Republican vote share than each Enacted Plan district.

22. In the top row of Figure 1, I directly compare the most-Republican SB 1 plan district (CD-2) to the most-Republican simulated district from each of the 1,000 computer-simulated plans. In other words, I compare one district from the SB 1 plan to 1,000 computer-simulated districts, and I compare these districts based on their Republican Performance Index. In the second row of Figure 1, I then directly compare the second-most-Republican district in the Enacted Plan (CD-1) to the second-most Republican district from each of the 1,000 simulated plans. And finally, the third row compares the least-Republican district in the SB 1 plan (CD-3) to the least-Republican district from each of the 1,000 simulated plans. In each row of this Figure, the SB 1 plan's district is depicted with a red star and labeled in red with its district number; meanwhile, the 1,000 computer-simulated districts are depicted with 1,000 gray circles on each row

23. The top row of Figure 1 illustrates that the most-Republican district in the SB 1 plan (CD-2) has a Republican Performance Index of 47.0%, which is well within the normal partisan distribution of the most-Republican district in the 1,000 simulated plans. The red percentages above the two arrows in the top row of this Figure report that in 33% of the simulated plans, the most-Republican district has a lower Republican Performance Index than CD-2, while in 67% of the simulated plans, the most-Republican district has a higher Republican Performance Index than CD-2.

24. In other words, CD-2 in the SB 1 plan is less favorable to Republicans than 67% of the simulated plans' most-Republican districts, and CD-2 is more favorable to Republicans than 33% of the simulated plans' most-Republican districts. Hence, CD-2 is squarely within the normal partisan distribution when compared to the most-Republican districts created by the 1,000 computer-simulated plans. It is clearly not a statistical outlier in terms of its partisanship.

The partisan composition of CD-2 is quite typical among the most-Republican districts in the computer-simulated plans.

25. The second row of Figure 1 illustrates a similar finding regarding CD-1, the second-most-Republican district in the SB 1 plan. CD-1 has a Republican Performance Index of 46.5%, which is higher than 87% of the simulated districts' second-most-Republican districts. In other words, CD-1 is more favorable to Republicans than most of the simulated plans' second-most-Republican districts, but CD-1 is still within the normal partisan distribution of these simulated districts. Hence, it is clear that CD-1 is not a statistical outlier in terms of its partisanship.

26. Finally, the bottom row of Figure 1 illustrates a similar finding regarding CD-3, the least-Republican district in the SB 1 plan. CD-3 has a Republican Performance Index of 44.0%, which is higher than 33.2% and lower than 66.8% of the simulated districts' least-Republican districts. In other words, CD-3 is more favorable to Republicans than one-third of the simulated plans' second-most-Republican districts and less favorable to Republicans than two-thirds of the simulated districts. Hence, CD-1 is very much within the normal partisan distribution of the simulated plans' second-most Republican districts. It is therefore clear that CD-1 is not a statistical outlier in terms of its partisanship.

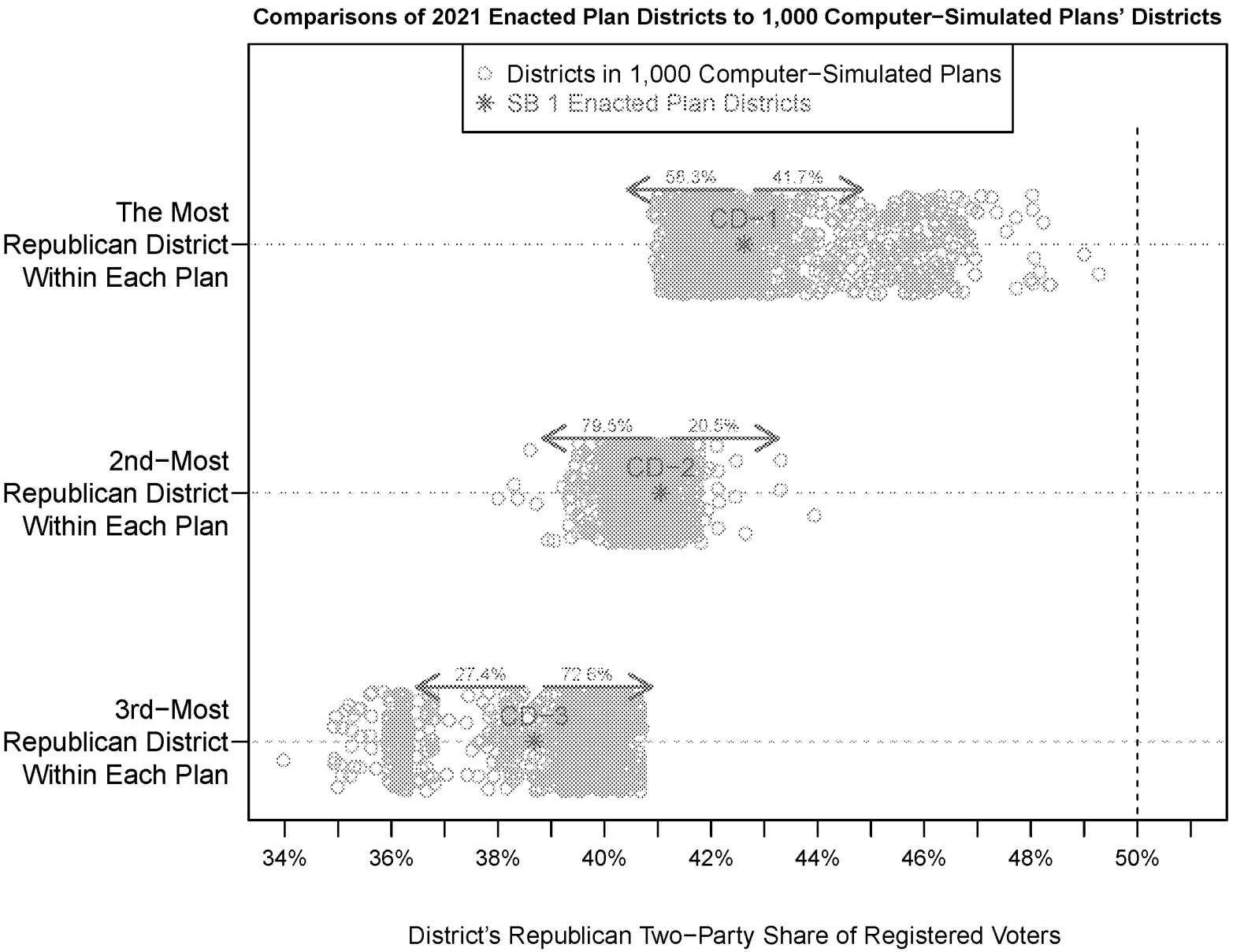
27. Overall, I conclude that a non-partisan map-drawing process adhering to the non-partisan districting criteria outlined in Paragraph 9 could reasonably have resulted in a congressional plan with the SB 1 plan's district-level partisan characteristics. The partisan characteristics of all three districts are clearly quite typical of districts produced by the partisan-blind computer-simulation process. None of the three districts are partisan outliers, nor are they extreme when compared to the partisanship of the simulated plans' districts.

28. ***District-By-District Comparisons Using Voters' Party Registration:*** Figure 2 presents a similar partisan comparison of the SB 1 plan's districts to the districts in the 1,000 computer-simulated plans, but in this Figure, partisanship is measured using each district's Republican share of registered voters. When the partisanship of districts is measured using registered voters, the most-Republican district in the SB 1 plan is CD-1, which has a 42.6% Republican two-party share of registered voters. The second-most-Republican district in the SB 1 plan is CD-2, which has a 41.1% Republican two-party share of registered voters. And finally, the least-Republican district in the SB 1 plan is CD-3, which has a 38.7% Republican two-party share of registered voters.

29. The top row of Figure 2 illustrates that the most-Republican district in the SB 1 plan (CD-1) is well within the normal partisan distribution of the most-Republican district in the 1,000 simulated plans. The red percentages above the two arrows in the top row of this Figure report that in 58.3% of the simulated plans, the most-Republican district has a lower Republican share than CD-1, while in 41.7% of the simulated plans, the most-Republican district has a higher Republican Performance Index than CD-1.

30. In other words, CD-1 in the SB 1 plan is less favorable to Republicans than 41.7% of the simulated plans' most-Republican districts, and CD-1 is more favorable to Republicans than 58.3% of the simulated plans' most-Republican districts. Hence, CD-1 is very close to the median of the distribution when compared to the most-Republican districts created by the 1,000 computer-simulated plans. It is clearly not a statistical outlier in terms of its partisanship. The partisan composition of CD-1 is quite typical among the most-Republican districts in the computer-simulated plans.

Figure 2:



Note: Percentages in red above arrows indicate the percent of simulated districts in each row with a lower/higher Republican share of registered voters than each Enacted Plan district.

31. The second row of Figure 2 illustrates a similar finding regarding CD-2, the second-most-Republican district in the SB 1 plan. The Republican share of registered voters in CD-2 is higher than 79.5% of the simulated districts' second-most-Republican districts. In other words, CD-2 is more favorable to Republicans than most of the simulated plans' second-most-Republican districts, but CD-2 is still within the normal partisan distribution of these simulated districts. Hence, it is clear that CD-2 is not a statistical outlier in terms of its partisanship when measured using party registration.

32. Finally, the bottom row of Figure 2 illustrates a similar finding regarding CD-3, the least-Republican district in the SB 1 plan. The Republican share of registered voters in CD-3 is higher than 27.4% and lower than 72.6% of the simulated districts' least-Republican districts. Hence, CD-3 is very much within the normal partisan distribution of the simulated plans' second-most Republican districts, when partisanship is measured using voters' party registration. It is thus clear that CD-3 is not a statistical outlier in terms of its partisanship.

33. Overall, Figure 2 illustrates that even when partisanship is measured using voters' party registration, my earlier conclusions do not change: A non-partisan map-drawing process adhering to the non-partisan districting criteria outlined in Paragraph 9 could reasonably have resulted in a congressional plan with the SB 1 plan's district-level partisan characteristics. The Republican share of registered voters within each of the SB 1 plan's districts are typical of districts produced by the partisan-blind computer-simulation process. None of the three districts are partisan outliers, nor are they extreme when compared to the partisanship of the simulated plans' districts.

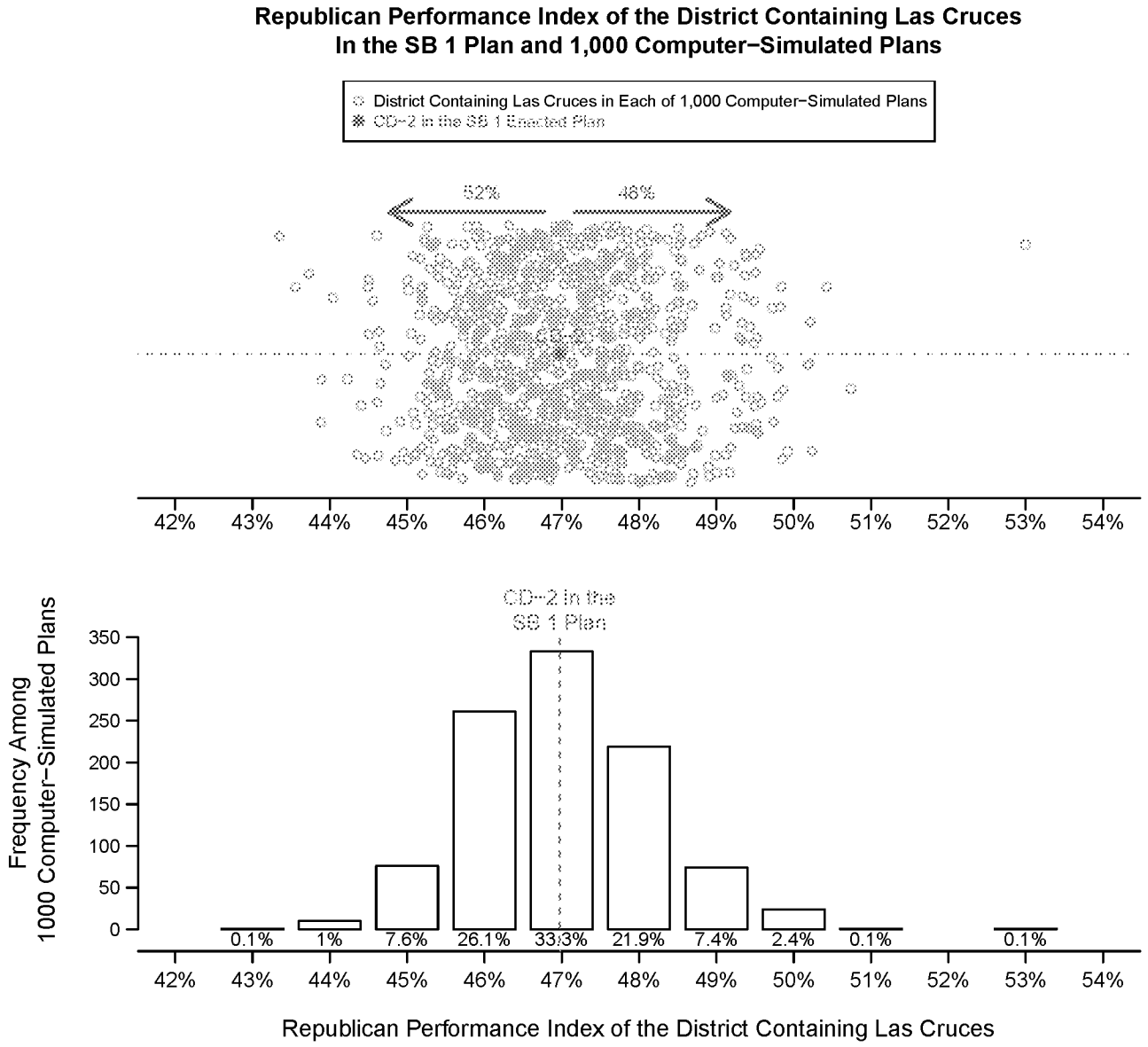
34. ***Partisanship of the District Containing Las Cruces:*** In the SB 1 Plan, Las Cruces is assigned to CD-2, which has a 47.0% Republican Performance Index and a 41.1%

Republican two-party share of registered voters. In Figures 3 and 4, I analyze how the partisanship of CD-2 compares to the district in each computer-simulated plan that similarly contains Las Cruces. These comparisons allow me to determine whether or not the partisanship of the Las Cruces-based district in the SB 1 plan is within the distribution of all of the Las Cruces-based districts in the 1,000 computer-simulated plans.

35. Figure 3 compares CD-2 from the SB 1 plan to the simulated plans' Las Cruces-based districts along each district's Republican Performance Index. The upper half of this Figure is a plot depicting each district's precise Republican Performance Index, while the lower half of the Figure is a histogram showing the statistical distribution of the Performance Index across all computer-simulated plans. In the upper half, the red star depicts CD-2 from the SB 1 plan, while in the lower half, the red dotted line indicates the Performance Index of CD-2.

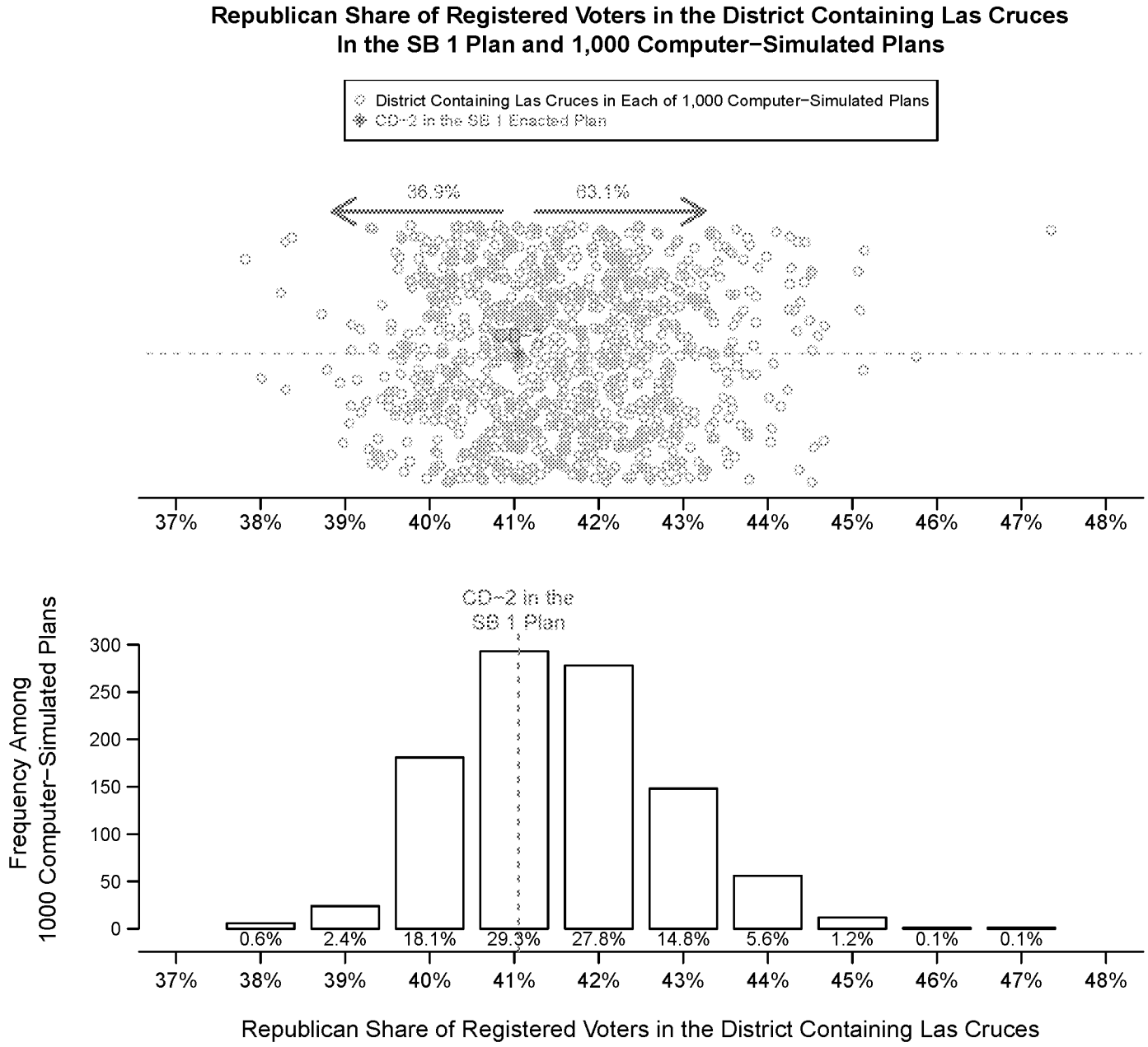
36. Figure 3 illustrates that CD-2 from the SB 1 plan is almost perfectly at the median of the distribution of the computer-simulated districts in terms of their Republican Performance Index. 48% of the simulated plans produce a Las Cruces-based district that is more favorable to Republicans than CD-2, while 52% of the simulated plans produce a Las Cruces-based district that is less Republican favorable. In other words, CD-2 is extremely close to the median of the distribution of the simulated districts. I therefore conclude that the partisanship of the SB 1 Plan's Las Cruces-based district could very reasonably have emerged from a non-partisan districting process adhering to the criteria outlined in Paragraph 9.

Figure 3:


Republican Performance Index of the District Containing Las Cruces
In the SB 1 Plan and 1,000 Computer−Simulated Plans
District Containing Las Cruces in Each of 1,000 Computer−Simulated Plans
CD−2 in the SB 1 Enacted Plan
52%
48%
42%
43%
44%
45%
46%
47%
48%
49%
50%
51%
52%
53%
54%
CD−2 in the SB 1 Plan
Frequency Among 1000 Computer−Simulated Plans
350
300
250
200
150
100
50
0
0.1%
1%
7.6%
26.1%
33.3%
21.9%
7.4%
2.4%
0.1%
0.1%
Republican Performance Index of the District Containing Las Cruces

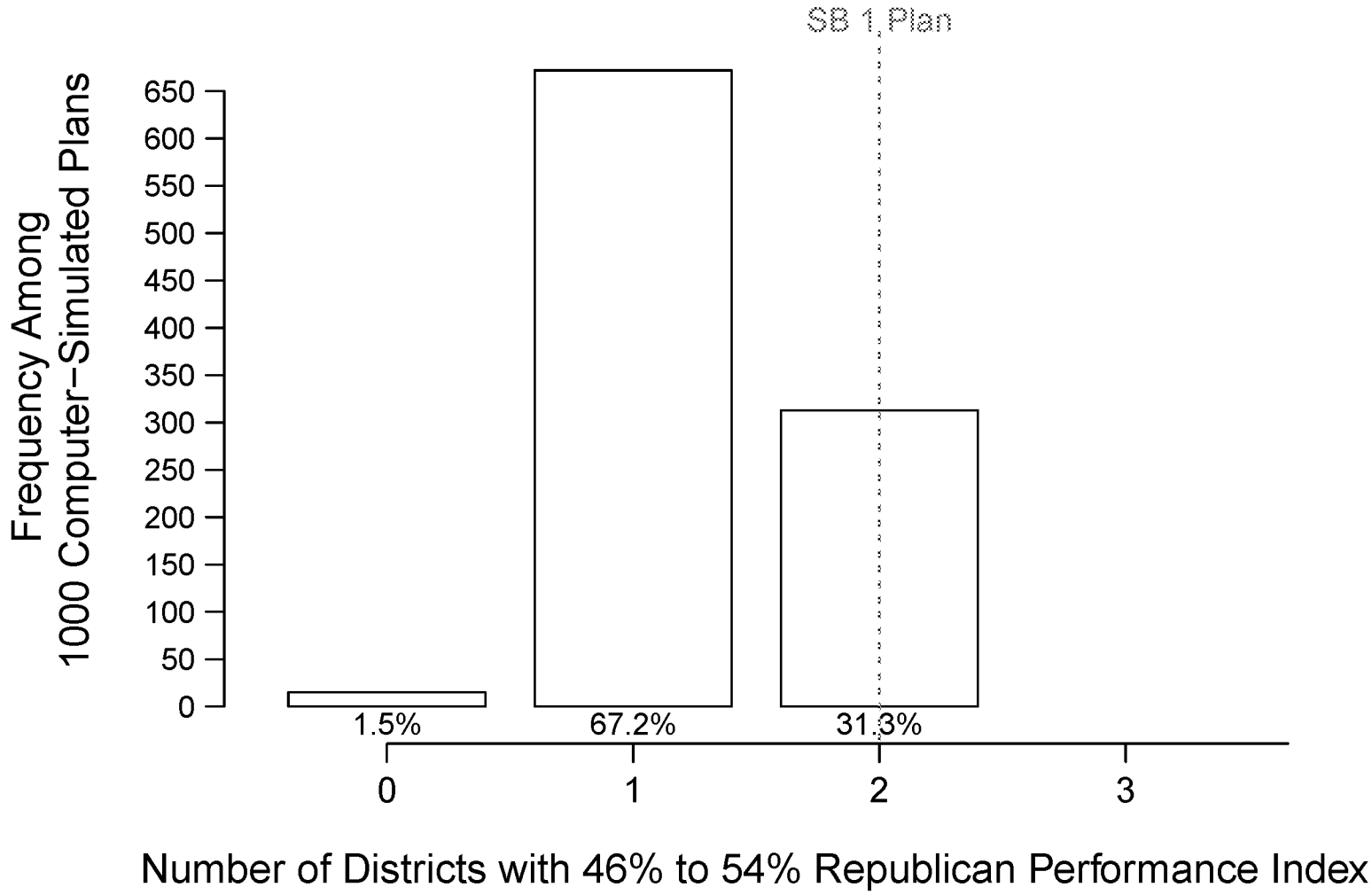
37. Figure 4 illustrates the same comparisons as Figure 3, except that in Figure 4, the partisanship of each district is measured using the district's Republican two-party share of registered voters. Figure 4 illustrates that my conclusions do not change when using voter registration to measure district partisanship. In the upper half of Figure 4, 63.1% of the simulated plans produce a Las Cruces-based district that is more favorable to Republicans than CD-2, while 36.9% of the simulated plans produce a Las Cruces-based district that is less Republican favorable. In other words, CD-2 is very much within the normal distribution of the simulated plans' Las Cruces-based districts when using voter registration to measure partisanship. Therefore, using either measure of partisanship, I conclude that the partisanship of CD-2 in the SB 1 Plan is neither extreme nor a statistical outlier when compared to Las Cruces-based districts created by the non-partisan computer simulation algorithm.

Figure 4:


Republican Share of Registered Voters in the District Containing Las Cruces
In the SB 1 Plan and 1,000 Computer−Simulated Plans
District Containing Las Cruces in Each of 1,000 Computer−Simulated Plans
CD−2 in the SB 1 Enacted Plan
36.9%
63.1%
37%
38%
39%
40%
41%
42%
43%
44%
45%
46%
47%
48%
CD−2 in the SB 1 Plan
Frequency Among 1000 Computer−Simulated Plans
300
250
200
150
100
50
0
0.6%
2.4%
18.1%
29.3%
27.8%
14.8%
5.6%
1.2%
0.1%
0.1%
Republican Share of Registered Voters in the District Containing Las Cruces

38. ***Statewide Comparisons:*** The histogram in Figure 5 reports the number of districts in each computer-simulated plan exhibiting a Republican Performance Index of 46–54%. Within this range of partisanship, a district has relatively close to the same number of Democrat and Republican voters. The vast majority of the computer-simulated plans contain either zero or one such district, while only 31.3% of the simulated plans contain two districts with a Republican Performance Index of 46–54%. No simulated plan contains more than two such districts. Meanwhile, the SB 1 plan, which is depicted in this Figure with a dashed red line, contains two districts with a Republican Performance Index of 46–54%, thus equaling the highest number of such districts ever achieved in the computer-simulated plans. The SB 1 plan contains more such districts than over two-thirds of the computer-simulated plans. Compared to the SB 1 plan, over two-thirds of the computer-simulated plans produced fewer districts with relatively close to the same number of Democrat and Republican voters.

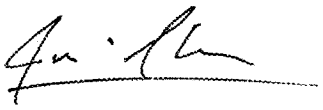
Figure 5:


Comparisons of SB 1 Plan to 1,000 Computer−Simulated Plans
SB 1 Plan
Frequency Among
1000 Computer−Simulated Plans
650
600
550
500
450
400
350
300
250
200
150
100
50
0
1.5%
67.2%
31.3%
0
1
2
3
Number of Districts with 46% to 54% Republican Performance Index

Conclusion:

39. In summary, I programmed a partisan-blind computer algorithm to produce random maps for New Mexico's congressional plan by adhering only to non-partisan districting criteria. I then analyzed the partisan characteristics of these computer-simulated maps as well as the SB 1 plan. I concluded that the partisan characteristics of the SB 1 plan are well within the normal range of these computer-generated districting plans drawn with the partisan-blind algorithm. The SB 1 plan is neither extreme nor a statistical outlier in terms of its partisanship. The partisan characteristics of the SB 1 plan could plausibly have emerged from a partisan-neutral map-drawing process adhering to non-partisan districting criteria.

This 25th day of August, 2023.



Dr. Jowei Chen

Jowei Chen
Curriculum Vitae

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Academic Positions:
Associate Professor (2015-present), Assistant Professor (2009-2015), Department of Political Science, University of Michigan.
Research Associate Professor (2016-present), Faculty Associate (2009-2015), Center for Political Studies, University of Michigan.
W. Glenn Campbell and Rita Ricardo-Campbell National Fellow, Hoover Institution, Stanford University, 2013.
Principal Investigator and Senior Research Fellow, Center for Governance and Public Policy Research, Willamette University, 2013 – Present.

Education:
Ph.D., Political Science, Stanford University (June 2009)
M.S., Statistics, Stanford University (January 2007)
B.A., Ethics, Politics, and Economics, Yale University (May 2004)

Publications:

Chen, Jowei and Neil Malhotra. 2007. "The Law of k/n: The Effect of Chamber Size on Government Spending in Bicameral Legislatures."
American Political Science Review, 101(4): 657-676.

Chen, Jowei, 2010. "The Effect of Electoral Geography on Pork Barreling in Bicameral Legislatures."
American Journal of Political Science, 54(2): 301-322.

Chen, Jowei, 2013. "Voter Partisanship and the Effect of Distributive Spending on Political Participation."
American Journal of Political Science, 57(1): 200-217.

Chen, Jowei and Jonathan Rodden, 2013. "Unintentional Gerrymandering: Political Geography and Electoral Bias in Legislatures"
Quarterly Journal of Political Science, 8(3): 239-269.

Bradley, Katharine and Jowei Chen, 2014. "Participation Without Representation? Senior Opinion, Legislative Behavior, and Federal Health Reform."
Journal of Health Politics, Policy and Law, 39(2), 263-293.

Chen, Jowei and Tim Johnson, 2015. "Federal Employee Unionization and Presidential Control of the Bureaucracy: Estimating and Explaining Ideological Change in Executive Agencies."
Journal of Theoretical Politics, Volume 27, No. 1: 151-174.

Bonica, Adam, Jowei Chen, and Tim Johnson, 2015. "Senate Gate-Keeping, Presidential Staffing of 'Inferior Offices' and the Ideological Composition of Appointments to the Public Bureaucracy."
Quarterly Journal of Political Science, Volume 10, No. 1: 5-40.

Chen, Jowei and Jonathan Rodden, 2015. "Cutting Through the Thicket: Redistricting Simulations and the Detection of Partisan Gerrymanders."
Election Law Journal, Volume 14, Number 4: 331-345.

Chen, Jowei and David Cottrell, 2016. "Evaluating Partisan Gains from Congressional Gerrymandering: Using Computer Simulations to Estimate the Effect of Gerrymandering in the U.S. House."
Electoral Studies, Volume 44 (December 2016): 329-340.

Chen, Jowei, 2017. "Analysis of Computer-Simulated Districting Maps for the Wisconsin State Assembly."
Election Law Journal, Volume 16, Number 4 (December 2017): 417-442.

Chen, Jowei and Nicholas Stephanopoulos, 2021. "The Race-Blind Future of Voting Rights."
Yale Law Journal, Forthcoming, Volume 130, Number 4: 778-1049.

Kim, Yunsieg and Jowei Chen, 2021. "Gerrymandered by Definition: The Distortion of 'Traditional' Districting Principles and a Proposal for an Empirical Redefinition."
Wisconsin Law Review, Forthcoming, Volume 2021, Number 1.

Chen, Jowei and Nicholas Stephanopoulos, 2021. "Democracy's Denominator."
California Law Review, Accepted for Publication, Volume 109.

Non-Peer-Reviewed Publication:

Chen, Jowei and Tim Johnson. 2017. "Political Ideology in the Bureaucracy."
Global Encyclopedia of Public Administration, Public Policy, and Governance.

Research Grants:

"How Citizenship-Based Redistricting Systemically Disadvantages Voters of Color". 2020 ($18,225). Combating and Confronting Racism Grant. University of Michigan Center for Social Solutions and Poverty Solutions.

Principal Investigator. National Science Foundation Grant SES-1459459, September 2015 – August 2018 ($165,008). "The Political Control of U.S. Federal Agencies and Bureaucratic Political Behavior."

"Economic Disparity and Federal Investments in Detroit," (with Brian Min) 2011. Graham Institute, University of Michigan ($30,000).

"The Partisan Effect of OSHA Enforcement on Workplace Injuries," (with Connor Raso) 2009. John M. Olin Law and Economics Research Grant ($4,410).

Invited Talks:

September, 2011. University of Virginia, American Politics Workshop.
October 2011. Massachusetts Institute of Technology, American Politics Conference.
January 2012. University of Chicago, Political Economy/American Politics Seminar.
February 2012. Harvard University, Positive Political Economy Seminar.
September 2012. Emory University, Political Institutions and Methodology Colloquium.
November 2012. University of Wisconsin, Madison, American Politics Workshop.
September 2013. Stanford University, Graduate School of Business, Political Economy Workshop.
February 2014. Princeton University, Center for the Study of Democratic Politics Workshop.
November 2014. Yale University, American Politics and Public Policy Workshop.
December 2014. American Constitution Society for Law & Policy Conference: Building the Evidence to Win Voting Rights Cases.
February 2015. University of Rochester, American Politics Working Group.
March 2015. Harvard University, Voting Rights Act Workshop.
May 2015. Harvard University, Conference on Political Geography.
Octoer 2015. George Washington University School of Law, Conference on Redistricting Reform.
September 2016. Harvard University Center for Governmental and International Studies, Voting Rights Institute Conference.
March 2017. Duke University, Sanford School of Public Policy, Redistricting Reform Conference.
October 2017. Willamette University, Center for Governance and Public Policy Research
October 2017, University of Wisconsin, Madison. Geometry of Redistricting Conference.
February 2018: University of Georgia Law School
September 2018. Willamette University.
November 2018. Yale University, Redistricting Workshop.

November 2018. University of Washington, Severyns Ravenholt Seminar in Comparative Politics.
January 2019. Duke University, Reason, Reform & Redistricting Conference.
February 2019. Ohio State University, Department of Political Science. Departmental speaker series.
March 2019. Wayne State University Law School, Gerrymandering Symposium.
November 2019. Big Data Ignite Conference.
November 2019. Calvin College, Department of Mathematics and Statistics.
September 2020 (Virtual). Yale University, Yale Law Journal Scholarship Workshop
September 2021, Duke University, Redistricting and American Democracy Conference
July 2022, ICPSR Blalock Lecture, University of Michigan

Conference Service:

Section Chair, 2017 APSA (San Francisco, CA), Political Methodology Section
Discussant, 2014 Political Methodology Conference (University of Georgia)
Section Chair, 2012 MPSA (Chicago, IL), Political Geography Section.
Discussant, 2011 MPSA (Chicago, IL) "Presidential-Congressional Interaction."
Discussant, 2008 APSA (Boston, MA) "Congressional Appropriations."
Chair and Discussant, 2008 MPSA (Chicago, IL) "Distributive Politics: Parties and Pork."

Conference Presentations and Working Papers:

"Ideological Representation of Geographic Constituencies in the U.S. Bureaucracy," (with Tim Johnson). 2017 APSA.

"Incentives for Political versus Technical Expertise in the Public Bureaucracy," (with Tim Johnson). 2016 APSA.

"Black Electoral Geography and Congressional Districting: The Effect of Racial Redistricting on Partisan Gerrymandering". 2016 Annual Meeting of the Society for Political Methodology (Rice University)

"Racial Gerrymandering and Electoral Geography." Working Paper, 2016.

"Does Deserved Spending Win More Votes? Evidence from Individual-Level Disaster Assistance," (with Andrew Healy). 2014 APSA.

"The Geographic Link Between Votes and Seats: How the Geographic Distribution of Partisans Determines the Electoral Responsiveness and Bias of Legislative Elections," (with David Cottrell). 2014 APSA.

"Gerrymandering for Money: Drawing districts with respect to donors rather than voters." 2014 MPSA.

"Constituent Age and Legislator Responsiveness: The Effect of Constituent Opinion on the Vote for Federal Health Reform." (with Katharine Bradley) 2012 MPSA.

"Voter Partisanship and the Mobilizing Effect of Presidential Advertising." (with Kyle Dropp) 2012 MPSA.

"Recency Bias in Retrospective Voting: The Effect of Distributive Benefits on Voting Behavior." (with Andrew Feher) 2012 MPSA.

"Estimating the Political Ideologies of Appointed Public Bureaucrats," (with Adam Bonica and Tim Johnson) 2012 Annual Meeting of the Society for Political Methodology (University of North Carolina)

"Tobler's Law, Urbanization, and Electoral Bias in Florida." (with Jonathan Rodden) 2010 Annual Meeting of the Society for Political Methodology (University of Iowa)

"Unionization and Presidential Control of the Bureaucracy" (with Tim Johnson) 2011 MPSA.

"Estimating Bureaucratic Ideal Points with Federal Campaign Contributions" 2010 APSA. (Washington, DC).

"The Effect of Electoral Geography on Pork Spending in Bicameral Legislatures," Vanderbilt University Conference on Bicameralism, 2009.

"When Do Government Benefits Influence Voters' Behavior? The Effect of FEMA Disaster Awards on US Presidential Votes," 2009 APSA (Toronto, Canada).

"Are Poor Voters Easier to Buy Off?" 2009 APSA (Toronto, Canada).

"Credit Sharing Among Legislators: Electoral Geography's Effect on Pork Barreling in Legislatures," 2008 APSA (Boston, MA).

"Buying Votes with Public Funds in the US Presidential Election," Poster Presentation at the 2008 Annual Meeting of the Society for Political Methodology (University of Michigan).

"The Effect of Electoral Geography on Pork Spending in Bicameral Legislatures," 2008 MPSA.

"Legislative Free-Riding and Spending on Pure Public Goods," 2007 MPSA (Chicago, IL).

"Free Riding in Multi-Member Legislatures," (with Neil Malhotra) 2007 MPSA (Chicago, IL).

"The Effect of Legislature Size, Bicameralism, and Geography on Government Spending: Evidence from the American States," (with Neil Malhotra) 2006 APSA (Philadelphia, PA).

LEGISLATIVE DEFENDANTS' TRIAL EXHIBIT D

STATE OF NEW MEXICO
COUNTY OF LEA
FIFTH JUDICIAL DISTRICT

REPUBLICAN PARTY OF NEW MEXICO, DAVID GALLEGOS, TIMOTHY JENNINGS, DINAH VARGAS, MANUEL GONZALES, JR. BOBBY AND DEE ANN KIMBRO, and PEARL GARCIA,

Plaintiffs,

v. **Cause No. D-506-CV-2022-00041**

MAGGIE TOULOUSE OLIVER, in her official capacity as New Mexico Secretary of State, MICHELLE LUJAN GRISHAM, in her official capacity as Governor of New Mexico, HOWIE MORALES, in his official capacity as New Mexico Lieutenant Governor and President of the New Mexico Senate, MIMI STEWART, in her official capacity as President Pro Tempore of the New Mexico Senate, and JAVIER MARTINEZ, in his official capacity as Speaker of the New Mexico House of Representatives,

Defendants.

EXPERT REPORT OF BRIAN SANDEROFF

I. Expert Qualifications

Research & Polling, Inc. (RPI), was founded in 1986, and I have served as the President of RPI since its inception. RPI is the largest market research, demographic analysis, and public opinion polling corporation in New Mexico. We have 8 full-time employees and 30 professional interviewers. RPI specializes in public policy polling for New Mexico's most prominent organizations. I have supervised the administration of over 2,000 survey research studies. Included in many of the survey research studies were topics directly related to upcoming elections, including ballot issues and candidate preferences.

RPI has conducted all of the election polls for the Albuquerque Journal since 1986, including Primary, General, and special elections. Since 2002, I have been the political analyst for KOAT (local broadcast, Channel 7), providing live on-air and taped analysis of election results and topics.

The nationally recognized FiveThirtyEight website currently ranks RPI as only one of four polling organizations in the nation with an A+ accuracy rating for election polling.

Our major clients include New Mexico Administrative Office of the Courts, New Mexico State Legislature, Presbyterian Healthcare Services, PNM, University of New Mexico, Sandia National Laboratories, and Los Alamos National Laboratory.

We have provided redistricting and demographic analysis services on more than 180 occasions for various local and state government entities.

Redistricting experience for the New Mexico Legislature

I have participated in statewide redistricting efforts in New Mexico following every decennial census since 1981. In 1981-82, I played an active role in the redistricting process on behalf of the Governor's office, where I was employed at the time. Beginning in 1991 and for every redistricting cycle since then (2001, 2011 and 2021), RPI has contracted with the New Mexico Legislature to provide technical consulting services for redistricting. In 1991, I worked

on behalf of the Legislature to consult with the United States Department of Justice on obtaining pre-clearance for New Mexico's State Senate redistricting plan under Section 5 of the Voting Rights Act. In 2001 and 2011, I was also qualified as an expert witness in redistricting litigation, which is discussed in more detail below.

For the latest redistricting cycle, RPI was hired by the Legislative Council Service ("LCS") to deliver professional technical consulting services related to designing redistricting plans as requested, finalizing alternative redistricting plans, providing expert technical assistance, and assisting in preparation for committee hearings. RPI's contract with LCS began November 9, 2020 and ran until June 30, 2022. The agreement provides that, "[i]n performing services pursuant to this Agreement, the Contractor shall comply with the laws and policies of the LCS just as if the Contractor were a member of the LCS staff."

RPI also entered a *Memorandum of Understanding between the Citizen Redistricting Committee and Research and Polling, Inc.*, pursuant to which RPI agreed to assist the Citizen Redistricting Committee in performing its redistricting duties. RPI also agreed to refrain from consulting with or taking requests from legislators from July 2, 2021, to October 23, 2021.

As part of its consulting role in support of statewide redistricting, RPI develops and updates a partisan performance index that is used as the official index for all the redistricting plans prepared by the Legislature. The partisan performance index is based on the results of all statewide elections in New Mexico over the previous decade (the partisan performance index that was used for redistricting in 2021 included election results from 2012, 2014, 2016, 2018, and 2020), except any races in which the margin of victory was 20 points or greater. The RPI partisan performance index is widely used and has been relied upon in judicial decisions regarding redistricting.

Previous Expert Work

I have been qualified as an expert witness in state and federal courts for survey research, demographic analysis, and redistricting on over 40 occasions over the past 30 years. A detailed list of those cases is provided on my C.V., a copy of which is attached to this report. With respect to redistricting specifically, my experience serving as an expert is as follows. In 2001, I was qualified as an expert and provided deposition and trial testimony in *Michael Jepsen, et al. v. Rebecca Vigil-Giron*, in her official capacity as New Mexico Secretary of State, et al., First Judicial District Court, County of Santa Fe, D-101-CV-2001-02177. At issue in that case were New Mexico's redistricting plans for United States Congress and for the New Mexico State House of Representatives.

In 2011, I was qualified as an expert witness and provided deposition and trial testimony in *Brian F. Egolf, Jr., et al. v. Diana J. Duran et al.*, First Judicial District Court, County of Santa Fe, D-101-CV-2011-02942. I provided expert testimony on behalf of the New Mexico Legislature in connection with the litigation over redistricting plans for the New Mexico State House of Representatives, the State Senate, and the State Public Regulation Commission. Issues in that litigation ultimately were reviewed by the New Mexico Supreme Court, and upon remand to the trial court, the state Supreme Court suggested that the district court could use my services as a Rule 706 expert to assist the Court. The district court designated me as a 706 expert without any objection by any of the parties to the litigation.

Education and Early Career

I earned a B.A. in Political Science from the University of New Mexico in 1977. I was also a guest lecturer in the Political Science Department at UNM in 1985, where I taught an undergraduate 300 level course called Campaign Management.

Early in my career, I served in various positions in state government, with a focus on public policy development and agency management and administration. Those positions are

outlined in more detail in my C.V., a copy of which is attached to this report. From 1983 to 1986, I ran Sanderoff and Associates, a market research, demographic analysis, and public opinion polling company which was the precursor to RPI.

II. Scope of Expert Engagement

I was retained by counsel for the Legislative Defendants in this case to evaluate the political competitiveness of the congressional redistricting plan for New Mexico that was passed by the New Mexico Legislature in December 2021 and enacted into law. The plan is commonly referred to as "SB-1" and I will refer to it as such throughout this report.

III. Data and Materials Relied Upon

In carrying out this engagement and developing my opinions, I relied upon the following information and materials:

- Maps and data for SB-1, as available on the nmlegis.gov website
- RPI's partisan performance index for New Mexico that was utilized during the New Mexico special redistricting session
- Election results for New Mexico congressional districts, 2002 through 2022
- The New Mexico Supreme Court's Order of July 5, 2023
- Justice Elena Kagan's dissenting opinion in *Rucho v. Common Cause*, 139 S. Ct. 2484 (2019)

I did not have any involvement in designing SB-1, nor did any RPI staffers. Nor did I or any RPI staffers have any communications with any legislators, legislative staff or consultants about the design effects, intent, or policies behind SB-1. My opinions regarding the political competitiveness of SB-1 are solely my own and were developed based only on the information and materials identified above, using my knowledge and expertise.

IV. Expert Opinions

Through my review and analysis of the materials identified above, I have reached the following opinions concerning the political competitiveness of SB-1:

1. SB-1 does not entrench the Democratic party in power.

In her dissent in the Rucho case, Justice Kagan set out a test for determining whether a particular districting plan constitutes an unconstitutional partisan gerrymander. The first of the three parts of Justice Kagan's test looks at whether "state officials' 'predominant purpose' in drawing a district's lines was to 'entrench [their party] in power' by diluting the votes of citizens favoring its rival." As defined in the Oxford English Dictionary, "entrenchment" means "establishing something firmly, especially so that change is difficult or impossible."

Under SB-1, Congressional District 2 ("CD 2") is a competitive district. The partisan performance measure for CD 2 under SB-1 is 53.0% Democrat and 47.0% Republican. Based on my experience, political consultants consider a district to be competitive if the gap between the average Democratic and Republican performance falls within a 54% to 46% range. So, in this case, the partisan average Democratic and Republican performance is narrower, at 53% to 47%, respectively. Other factors are taken into account to determine whether a race is competitive, such as the candidates' name recognition, favorability, the relative strength and quality of the candidates, and their ability to raise campaign funds, etc.

The highly competitive nature of CD 2 was demonstrated in the 2022 congressional election in New Mexico, which was conducted using the SB-1 map. In CD 2, the Republican candidate was Yvette Herrell, and the Democratic candidate was Gabe Vasquez. The race was extremely close. Candidate Vasquez ultimately won the election by just 1,350 votes out of 192,673 votes cast, or a margin of 0.7%. This very close outcome demonstrates that under SB-1, CD 2 can be won by either a Democrat or a Republican. Any time the margin of victory in an election falls within one percentage point, that race is considered a "toss up", in which the

winner is extremely vulnerable to being challenged and possibly defeated in the next general election cycle.

Therefore, while the Democratic performance of CD 2 increased under SB-1, and the Republican performance of CD 2 decreased under SB-1, CD 2 is by no means a "safe" Democratic district. By drawing CD 2 as a competitive, toss-up district that could be won by a candidate of either party, the Legislature did not entrench the Democratic party in power in CD 2.

2. Prior to SB-1, CD 2 was not a safe Republican district, but was a strong leaning Republican district.

Reviewing the actual congressional races that occurred in a given district over time (known as endogenous races) can shed additional light on the partisan strength of that district. Relying only on exogenous races, such as president or governor, to determine the relative partisan strength of a congressional district can risk missing the subtleties that occur at the local level, within the congressional elections. For example, the residential location of the candidates within the congressional district will impact voting behavior, whether a candidate lives in Las Cruces or Hobbs. Or whether the local candidate is well known or not. These types of factors have historically come into play in congressional elections in CD 2.

First, it is worth noting that the congressional district boundaries of CD 2 from 2012 to 2020 are very similar to the boundaries from 2002 and 2010. In the 2011 congressional district litigation, the district judge adopted a "least change congressional plan." Thus, the boundaries of CD 2 were very similar from 2002 to 2020.

Based upon the congressional district election history in the former CD 2 (2002 to 2020), this district was a strong leaning Republican congressional district, not a safe Republican district (see appendix 1 and appendix 2). Republican Steve Pearce was first elected to CD 2 in the 2002 General Election. He later stepped down from his congressional seat to run unsuccessfully in the

2008 US Senate race. He was then reelected to his congressional seat in 2010. He later stepped down again from his congressional district to run unsuccessfully in the 2018 Governor's race.

Despite Steve Pearce's inability to win two statewide election contests, he was extremely successful in winning all his congressional district races in CD 2. He was a hard-working incumbent candidate who was well-known throughout the district due to his long tenure in office, serving stints between 2003 and 2019. Steve Pearce prided himself on working closely with traditional Democratic constituencies such as Hispanic and Native American voters. As a result, he won his elections by large margins. The power of incumbency and the popularity of Steve Pearce contributed to his impressive election outcomes.

However, it is interesting to note, that the two times Steve Pearce stepped down to seek higher office, a Democrat won the election in CD 2. Specifically, in 2008, after Steve Pearce stepped down to run for U.S. Senate, Democrat Harry Teague won the election by a very comfortable margin. Then, in 2018, after Steve Pearce stepped down to run for Governor, Democrat Xochitl Torres Small won the election by 1.8 percentage points. Thus, once the playing field was leveled, and the powerful incumbent was no longer a factor, a Democrat candidate won the election on two occasions. It is worth noting, that once Steve Pearce sought to regain his congressional seat in 2010, he beat Harry Teague by a large margin. It is also worth noting that Democrat Xochitl Torres Small was defeated by Republican Yvette Herrell after serving one term.

To summarize, a review of the congressional election results in CD 2 between 2002 and 2020 illustrates that CD 2 was not a safe Republican district, but was a strong leaning Republican district, before it was changed to a competitive district under SB-1.

3. Under SB-1, all three of New Mexico's Congressional Districts became more politically competitive.

Any analysis to determine whether the political competitiveness of the three congressional districts increased, or not, should also include a review of the actual congressional races in the congressional districts over time. Again, this is because relying solely on exogenous races such as president or governor to determine the change in competitiveness of a congressional district can risk missing the subtleties that occur at the local level, within the congressional elections.

In CD 1, from 2012 to 2020 (see appendix 3), under the old district boundaries, there were five general elections and one special election to fill a vacancy. The Democratic candidate won those general elections by a wide margin, an average of 21.0%. In the 2022 general election, under the new district boundaries, the Democrat won the election by 11.5%, a significantly narrower margin of victory.

In CD 2, from 2012 to 2020 (see appendix 2), under the old district boundaries, there were five general elections in which the Republican candidate won 4 times. The average margin of victory was 16.4%. In the 2022 general election, under the new district boundaries, the Democrat won by less than one percent, thus the gap between the winning and losing candidate narrowed significantly, and the Democratic candidate won the election.

In CD 3 (see appendix 4), from 2012 to 2020, under the old district boundaries, there were five general elections. The Democratic candidate won all those elections by a wide margin, an average of 24.7%. In the 2022 general election, under the new district boundaries, the Democrat won the election by 16.4%, thus narrowing the margin of victory between the Democratic and Republican candidates.

Thus, for all three congressional districts, when one compares the average margin of victory from the old district boundaries (2012 to 2020 elections) to the new district boundaries (2022 election) the margin of victory narrows. (Chart 1)

Chart 1

GENERAL ELECTION FOR CONGRESSIONAL DISTRICT RACES

Average % Margin of Victory

"Old" Congressional District Boundaries vs. "New" Congressional District Boundaries

Congressional District 1			
General Elections	District Boundaries	Margin of Victory (Mean)	Margin of Victory (Median)
2012 through 2020 (5 election cycles)	Old	21.0%	18.3%
2022 (1 election cycle)	New	11.5%	11.5%

Congressional District 2			
General Elections	District Boundaries	Margin of Victory (Mean)	Margin of Victory (Median)
2012 through 2020 (5 election cycles)	Old	16.4%	18.2
2022 (1 election cycle)	New	0.7%	0.7%

Congressional District 3			
General Elections	District Boundaries	Margin of Victory (Mean)	Margin of Victory (Median)
2012 through 2020 (5 election cycles)	Old	24.7%	24.8%
2022 (1 election cycle)	New	16.4%	16.4%

RESEARCH & POLLING, INC.

4. Political party registration numbers are not meaningful predictors of partisan performance in elections, especially in Southeastern New Mexico.

In reviewing the New Mexico Supreme Court's July 5 Order, I noted that the Court directed the district court to consider (among other things) "evidence comparing the relevant congressional district's voter registration percentage/data, regarding the individual plaintiffs' party affiliation under the challenged congressional maps, as well as the same source of data under the prior maps." N.M. Supreme Court Order, July 5, 2023 at para. 7.[1]

[1] On August 25, 2023, as this report was being finalized, the New Mexico Supreme Court issued an Amended Order that does not include any mention of voter registration data. However, I have kept this discussion in my report in case it is useful to the Court.

In general, and specifically in New Mexico, political party registration is often not a reliable or meaningful predictor of partisan performance and election outcomes. There are many reasons for this. A good example to demonstrate that voter registration statistics, by party affiliation, are not a good indicator of partisan performance is to look at the Democratic performance in the presidential elections from 2000 to 2020 compared to the percentage of registered Democrats over a similar time. As the accompanying chart shows (Chart 2), in 2000 and 2004, New Mexico was a battleground state in the presidential elections, where a tiny margin determined the outcome of the races. Then, since 2008, the Democratic presidential candidates have won by large margins. This shows how New Mexico is trending more Democratic over time. But, during that same time, the percentage of registered Democrats in New Mexico declined significantly, while the percentage of registered Republicans remained roughly constant (Chart 3).

Chart 2

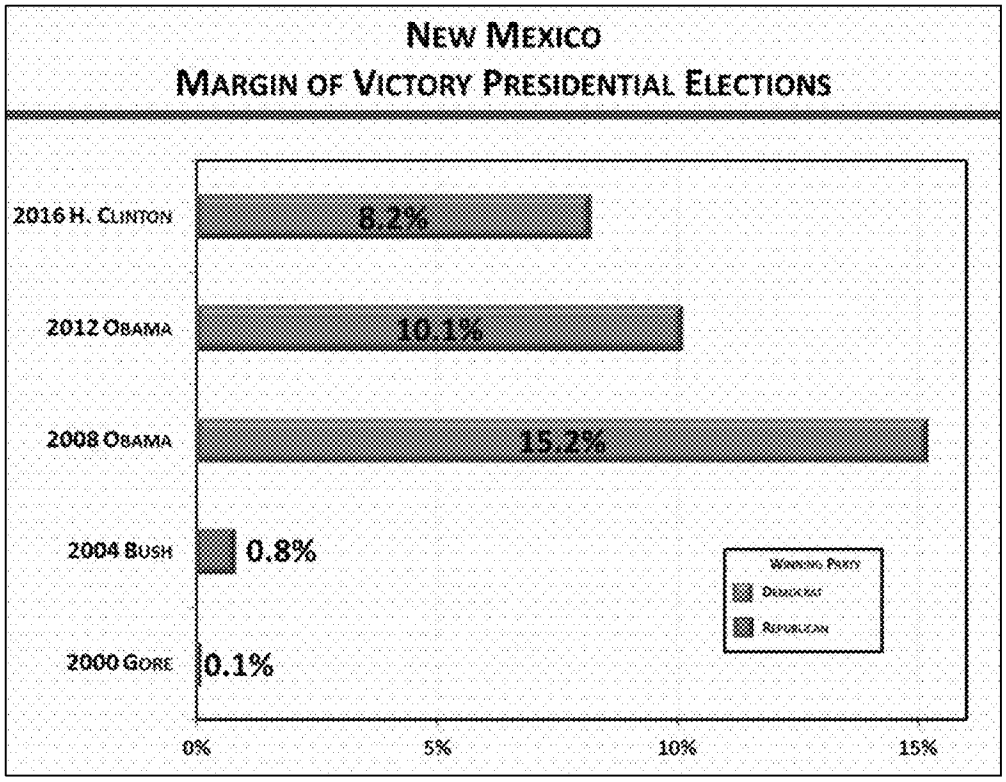
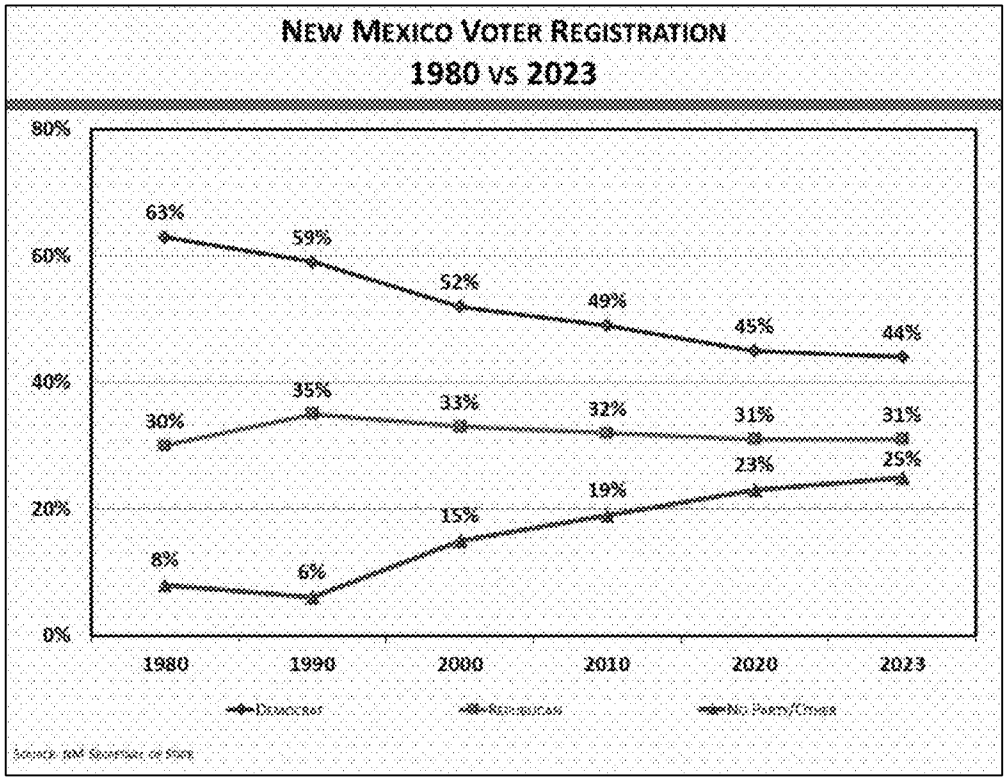


Chart 3



There are numerous reasons for this phenomenon. First, many conservative Democrats switched to the Republican Party over time. Second, many young people decline to state a political party affiliation when they register to vote, but they often vote for Democratic candidates. Third, some registered Republicans moved out of the state or died and were replaced by conservative Democrats who changed their registration to Republican. Therefore, political party registration is often not a reliable or meaningful predictor of partisan performance and election outcomes.

Dated: August 25, 2023

By: Brian Sanderoff
Brian Sanderoff

Brian Sanderoff
Curriculum Vitae

Address

Office:
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Education

University of New Mexico, B.A. Political Science

University of New Mexico, Attended Graduate School,
Political Science Department

Guest Lecturer
Taught an undergraduate 300 level course in Political Science Department of the University of New Mexico called *Campaign Management* (1985)

Professional Experience

April 1986-Present

President of Research & Polling, Inc.

Brian Sanderoff has been the political pollster/election analyst for the *Albuquerque Journal* for 37 years and for KOAT TV for over 20 years.

Research & Polling, Inc. has provided redistricting services on more than 180 occasions for New Mexico's congressional districts, state legislative districts, Public Regulation Commission Districts, Public Education Commission Districts, as well as county commission, city council, and school board districts throughout the state.

Research & Polling Inc. is the largest market research, demographic analysis, and public opinion polling corporation in New Mexico. Research & Polling has 8 full-time employees and 30 professional interviewers. Research & Polling specializes in public policy polling and litigation support including change of venue surveys. Brian Sanderoff has supervised the administration of over 2,000 survey research studies. Brian Sanderoff's major clients include New Mexico Administrative Office of the Courts, New Mexico State Legislature, Presbyterian Healthcare Services, PNM, University of New Mexico, and Sandia National Laboratories and Los Alamos National Laboratory. Research & Polling has provided demographic analysis services on more than 100 occasions for various local and state government entities.

January 1983
To March 1986

President of Sanderoff and Associates
A market research, demographic analysis and public opinion polling company in Albuquerque, New Mexico. Sanderoff and Associates specialized in serving government agencies at the city, county, and state level.

Professional Experience *(continued)*

November 1978
To December 1982

State Government service as a public policy director.
Positions held include:

Director, Management Analysis Division, Department of Finance Administration.

Responsible for administering this division of state government. The Management Analysis Division identified troubled areas in state government and recommended means to improve the management and operations of the agencies.

Director, Governor's Office of Community Affairs.

Responsible for improving the management and administration of this agency which delivered services throughout the State of New Mexico.

Director, Human Rights Commission.

Responsible for improving the management and administration of this agency which ruled on discrimination cases.

Chairman, Commission of Children and Youth.

Was the first chairman of the Governor's Commission on Children and Youth. The purpose of this commission was to establish a coordinating body within the executive branch to deal with children's issues that were inter-departmental in nature. As chairman of this commission, Sanderoff worked closely with many cabinet departments and division directors to implement pilot programs and to more efficiently administer children's programs which were interdisciplinary in nature.

Aide to the Governor, Governor's Office

Expert Witness Experience, 1992-Present

Brian Sanderoff has qualified as an expert witness in both state and federal district courts for survey research, demographic analysis, and redistricting on over 40 occasions in the past thirty years.

Art Bustos, As Personal Representative of the Estate of Edgar Garcia, and Selena Rodrigues, Individually, and as Next Friend of Ileana Rodriguez and Sophia Garcia, Minors vs . Caza Operating, LLC and Azteca Manufacturing, Inc. f/k/a Azteca Fabrication and Banta Oilfield Services, Inc. 4th Judicial District Court, County of San Miguel, State of New Mexico, #D-412-CV-2017-00592, 2019

El Encanto, Inc., d/b/a Bueno Foods, and Hatch Chile Association v. Hatch Chile Company, Inc. United States Patent and Trademark Office, Opposition Proceeding #91223190, 2017

Robert Pidcock v. Albuquerque Public School District and Governing Board of the Central New Mexico Community District. 2nd Judicial District Court, County of Bernalillo, State of New Mexico. #D-202-CV-2016-01002

Phillip Patrick Baca, Mary Molina Mescall v. Richard J. Berry in his official capacity as Mayor of Albuquerque. United States District Court for the District of New Mexico. #1:13-CV-0076 WJ/WPL, 2013

Brian F. Egolf Jr., et al. v. Diana J. Duran et al. Remand by the New Mexico State Supreme Court to the District Court for New Mexico State House of Representatives Redistricting, 1st Judicial District Court, County of Santa Fe, State of New Mexico, 2012. Appointed by the New Mexico District Court as a 706 Expert to aid the District Court in addressing New Mexico Supreme Court issues. #D-101-CV-2011-02942

Brian F. Egolf Jr., et al. v. Diana J. Duran et al. New Mexico State House of Representatives Redistricting, 1st Judicial District Court, County of Santa Fe, State of New Mexico, 2011-2012 #D-101-CV-2011-02942

Brian F. Egolf Jr., et al. v. Diana J. Duran et al. New Mexico State Senate Redistricting, 1st Judicial District Court, County of Santa Fe, State of New Mexico, 2011-2012 #D-101-CV-2011-02942

Brian F. Egolf Jr., et al. v. Diana J. Duran et al. New Mexico State Public Regulation Commission Redistricting, 1st Judicial District Court, County of Santa Fe, State of New Mexico, 2011-2012 #D-101-CV-2011-02942

Michael Archuleta (ACLU) et al. v City of Albuquerque et al. 2nd Judicial District Court, County of Bernalillo, State of New Mexico, 2011 #CV 2011-5792 (city council redistricting)

Ernest S. Mondragon, Gonsalo Arenas, Veronica Arenas, Scott Limbourne, Michael Cardenas, Jessica Cardenas and Medardo Vigil v. New Mexico Gas Company. State of New Mexico, County of Taos, Eighth District Judicial Court, 2011. # D-0820-CV-2011-00106

Ray and Cathy Collins et al v. America West Airlines Inc. d/b/a US Airways, Ever-Ready Oil Co., Inc d/b/a Chevron Redi-Mart, et al., 4th Judicial District Court, County of San Miguel, State of New Mexico, Change of Venue Hearing, June 2011 #D-412-CV-2006-00627

John Ivan Sutter, MD, PA, individually and on behalf of all others similarly situated v. Horizon Blue Cross Blue Shield of New Jersey, Superior Court of New Jersey, Essex County, State of New Jersey, Settlement Value Survey, #ESX-L-3685-02, February 2010

Expert Witness Experience, 1992-Present (continued)

Ray and Cathy Collins et al v. America West Airlines Inc. d/b/a US Airways, et al., 4th Judicial District Court, County of San Miguel, State of New Mexico, Change of Venue Survey (Affidavit Only) #D-412-CV-2006-00627

State of New Mexico v. Jessica Livingston, 4th Judicial District Court, County of San Miguel, State of New Mexico, Change of Venue Hearing #CR02007 00250, January 2009

U.S. v. Larry Lujan, Federal District Court, State of New Mexico, Southern Division, Comparison of Demographic Profile of Jury Wheel and Jury Pool Population vs. Adult Population (Census Data) USDC NM 05-CR-00924, September 2008.

State of New Mexico v. Jerry Fuller, 9th Judicial District Court, County of Roosevelt, State of New Mexico, Change of Venue Hearing #CR2005 00047, April 2006.

USA v. Cisneros, Federal District Court, State of Arizona, Comparison of Demographic Profile of Jury Wheel Population vs. Adult Population (Census Data) #CR 03-0730-PHX-SRB (Docket 1141), November 2005.

State of New Mexico v. Zachariah Craig, 13th Judicial District Court, County of Sandoval, State of New Mexico, Change of Venue Hearing #D-1333-CR-200100155, June 2005.

Johnny Bierner, et al. v. Cortez Gas Co., et al., 7th Judicial District Court, County of Sierra, State of New Mexico, Change of Venue Hearing # D-0721-CV-2001-0076, January 2005.

Robert Harshbarger as the Personal Representative of the Estate of Shawn H. Harshbarger v. The Regents of the University of California, Johnson Controls Northern New Mexico, L.L.C., and Johnson Controls World Services, Inc., 1st Judicial District Court, County of Rio Arriba, State of New Mexico, Change of Venue Hearing # D-0117-CV-2002-02073, September 2003.

Gilbert Armijo and Maria Casaus v. Wal-Mart Stores, Inc., a Delaware corporation, Sam's Club, an operating segment of Wal-Mart Stores, Inc., First Judicial District, County of Rio Arriba, State of New Mexico, Survey Research (Face-to-Face Interviews), Hearing # D-0117-CV-200002211, May 2003.

Frankie Pasquale v. Omkar Tiku, M.D., Second Judicial District Court, County of Bernalillo, State of New Mexico, Hearing # CV 2001-07418, April 2003.

State of New Mexico and State of New Mexico ex rel Patricia Madrid v. General Electric, et al., Federal District Court, Change of Venue Hearing # CV 99-1254 BSJ/DJS & # CV 99-1118 BSJ/LFG, October 2002 (Affidavit Only).

State of New Mexico v. Ruben Flores, 5th Judicial District Court, County of Lea, State of New Mexico, Change of Venue Hearing # CR 99-028, July 2002.

Michael Jepsen, et al. v. Rebecca Vigil-Giron, in her official capacity as New Mexico Secretary of State, et al., 1st Judicial District Court, County of Santa Fe, State of New Mexico, # D0101 CV 2001 02177 (Consolidated), Redistricting of United States Congress, Redistricting of New Mexico State House of Representatives, December 2001.

Martha Chapman, et al. v. El Paso Energy Corporation, a Foreign Corporation, El Paso Natural Gas Company, a Foreign Corporation, and John Cole, 5th Judicial District Court, County of Eddy, State of New Mexico, Change of Venue Hearing # CV 2001-62, September 2001.

Expert Witness Experience, 1992-Present (continued)

Delfina Archuleta & Rio Grande Café, Inc., v. Beneficial Standard Life Insurance, Company, Franklin Life Insurance Company, Usg Annuity & Life Company, American Life and Casualty Insurance Company, A/k/a Conseco Annuity Assurance Company, Joe A. Casados, Ronald J. Casados, Elsie A. Casados, and Camille Koehler, 1st Judicial District Court, County of Rio Arriba, State of New Mexico, Change of Venue Hearing # D-0117-CV0200000651, August 2001.

State of New Mexico v. Paul Payne; 5th Judicial District Court, County of Lea, State of New Mexico, Change of Venue Hearing, Case # CR99-0319G, March 2001.

Levi Garcia and Roger Rodriguez v. University of California, Los Alamos National Laboratories, Louis Schulte, and John and Jane Does I-X; 1st Judicial District Court, State of New Mexico, Change of Venue Survey, Case # D-D-0117-CV-9900563, February 2001.

State of New Mexico v. John Price, 5th Judicial District Court, County of Lea, State of New Mexico, Change of Venue Hearing # 99-318 C, December 2000.

State of New Mexico v. Jeffrey Taylor, 13th Judicial District Court, County of Sandoval, State of New Mexico, Change of Venue Hearing, February 2000.

Citadel v. Trumper, et al., District of New Mexico, #99-CV00922, August 1999.

James E. Schwiner v. Regents of the University of California DBA Los Alamos National Laboratory. 1st Judicial District Court, County of Rio Arriba, State of New Mexico, Change of Venue Hearing RA # 97-2120C, November 1998.

David Luhan and Pablo Lopez v. Albuquerque Metropolitan Arroyo Flood Control Authority District et al., USDC, CIV # 98-704 LH/RLP, August 1998.

State of New Mexico v. Shawn Popeleski, 7th Judicial District Court, County of Torrance, State of New Mexico, Change of Venue Hearing CR # 97-100 TOR, September 1998.

State of New Mexico v. Shawn Popeleski, 7th Judicial District Court, County of Torrance, State of New Mexico, Change of Venue Hearing CR # 97-100 TOR, June 1998.

Saberhagen v. Random House, et al., District of New Mexico, Trademark/Brand Confusion Survey, #98-CV01183, September 1998.

Cheesecake Factory, Inc. v. The Cheesecake Factory, District of New Mexico, Trademark/Brand Confusion Survey, #97-CV00187, February 1997.

State of New Mexico v. Roy Buchner, 7th Judicial District Court, County of Torrance, State of New Mexico, Change of Venue Hearing CR # 96-066 TOR, September 1997.

State of New Mexico v. Shaun Wilkins, 7th Judicial District Court, County of Torrance, State of New Mexico, Change of Venue Hearing CR # 96-92 TOR, May 1997.

United States v. Jason De La Torre, USDC, Criminal Case # 95-538 MV, May 1997, Demographic analysis, Survey Research, Voter File analysis (statewide).

United States v. Jason De La Torre, USDC, Criminal Case # 95-538 MV, February 1997, Demographic analysis, Survey Research, Voter File analysis (statewide).

Expert Witness Experience, 1992-Present (continued)

Aragon v. University of California Los Alamos National Laboratory, 1st Judicial District Court, County of Rio Arriba, State of New Mexico/# RA-95-2387, October 1996, Change of Venue Survey (Los Alamos, Taos, Rio Arriba, Santa Fe, San Miguel, Bernalillo, Chaves, Doña Ana Counties).

State of New Mexico v. Gordon House, July 1994, First Retrial, Change of Venue Survey, (Taos, Doña Ana Counties).

State of New Mexico v. Gordon House, March 1995, Second Retrial, Change of Venue Survey, (Taos, Doña Ana Counties), Media Analysis.

Docket # 93-218-T.C. Before the New Mexico State Corporation Commission. Expansion of the US West Albuquerque Metro calling area. October 1993, Market Research Study (Bernalillo County, Belen, Peña Blanca, Acoma, Laguna and Estancia).

Revo v. the New Mexico Disciplinary Board, et al. USDC CIV # 92-764 JB/RWM, December 1992, Federal District Court, Public Opinion Poll regarding Lawyer Direct Mail Advertising.

United States v. Cibola County, et al. USDC CIV # 93-1134 SC/LFG, Public Opinion Poll (Cibola County).

Appendix 1:

CD 2: 2002-2010

Median Spread: 12.51
Mean Spread: 14.79

2010: 169,762

- Democrat – Harry Teague, 44.60%, 75,709
- Republican – Steve Pearce, 55.40%, 94,053
- Spread: 10.8

2008: 231,552

- Democrat – Harry Teague, 55.96%, 129,572
- Republican – Edward Tinsley, 44.04%, 101,980
- Spread: 11.29

2006: **155,739**

- Democrat – Albert Kissling, 40.53%, 63,119
- Republican – Steve Pearce, 59.47%, 92,620
- C. Dean Burke (write-in) - 135
- Spread: 18.94

2004: **216,790**

- Democrat – Gary King, 39.80%, 86,292
- Republican – Steve Pearce, 60.20%, 130,498
- Spread: 20.4

2002: **141,628**

- Democrat – John Arthur Smith, 43.72%, 61,916
- Republican – Steve Pearce, 56.23%, 79,631
- Padraig Lynch (write-in), 0%, 39
- Geroge Dewey (write-in), 0%, 43
- Spread: 12.51

Appendix 2:

CD 2: 2012-2020

Median Spread: 18.2
Mean Spread: 16.4

2012: 225,515

- Democrat – Evelyn Madrid Erhard, 40.9%, 92,162
- Republican – Steve Pearce, 59.1%, 133,180
- Independent- Jack McGrann , .0%, 173
- Spread: 18.2

2014: 147,708

- Democrat – Roxanne Lara, 35.5%, 52,499
- Republican – Steve Pearce, 64.4%, 95,209
- Republican (write-in) – Jack McGrann, 0% 69
- Spread: 29

2016: **228,817**

- Democrat – Merrie Lee Soules, 37.2%, 85,232
- Republican – Steve Pearce, 62.7%, 143,515
- Republican (write-in) – Jack McGrann, 0% 70
- Spread: 25.5

2018: **199,373**

- Democrat – Xochitl Torres Small, 50.9%, 101,489
- Republican – Yvette Herrell, 49.0%, 97,767
- Independent - Steve Jones – 0%, 117
- Spread: 1.9

2020: **264,829**

- Democrat – Xochitl Torres Small, 46.3%, 122,546
- Republican – Yvette Herrell, 53.7%, 142,283
- Spread: 7.4

2022: **192,673**

- Democrat – Gabe Vasquez, 50.3%, 96,986
- Republican - Yvette Herrell, 49.6%, 95,636
- Democrat (write-in) - Eliseo Luna – 0%, 51
- Spread: 0.7

Appendix 3:

CD 1: 2012-2020

2012-2020 Median Spread: 18.3
2012-2020 Mean Spread: 20.98

2012: 275,855

- Democrat – Michelle Lujan Grisham, 59.1%, 162,924
- Republican – Janice Arnold Jones, 40.8%, 112,472
- Green Party – Jeanna Pahls, .0%, 459
- Spread: 18.3

2014: 180,032

- Democrat – Michelle Lujan Grisham, 58.6%, 105,474
- Republican – Michael Frese, 41.4%, 74,558
- Spread: 17.2

2016: 277,967

- Democrat – Michelle Lujan Grisham, 65.1%, 181,088
- Republican – Richard Priem, 34.9%, 96,879
- Spread: 30.2

2018: 249,162

- Democrat – Deb Haaland, 59.1%, 147,336
- Republican – Janice Arnold Jones, 36.3%, 90,507
- Libertarian – Lloyd Princeton, 4.5%, 11,319
- Spread: 22.8

2020: 321,209

- Democrat – Deb Haaland, 58.2%, 186,953
- Republican – Michelle Garcia Holmes, 41.8%, 134,337
- Spread: 16.4

2021: 132,217 (Special Election)

- Democrat – Melanie Stansbury, 60.4%, 79,838
- Republican – Mark Moores, 35.6%, 47,111
- Independent - Aubrey Dunn, 2.7%, 3534
- Libertarian – Chris Manning, 1.3%, 1734
- Spread: 24.8

2022: 280,671

- Democrat – Melanie Stansbury, 55.7%, 156,462
- Republican – Michelle Garcia Holmes, 44.2%, 124,151
- Independent -Victoria Gonzales, 0%, 58
- Spread: 11.5

Appendix 4:

CD 3: 2012-2020

2012-2020 Median Spread: 24.8
2012-2020 Mean Spread: 24.74

2012: 264,719

- Democrat – Ben Ray Lujan, 63.1%, 167,103
- Republican – Jefferson Byrd, 36.9%, 97,616
- Spread: 26.2

2014: 184,076

- Democrat – Ben Ray Lujan – 61.5%, 113,249
- Republican – Jefferson Byrd – 38.4%, 70,775
- Republican (write-in) Thomas Hook – 0%, 52
- Spread: 23.1

2016: 273,342

- Democrat – Ben Ray Lujan, 62.4%, 170,612
- Republican – Michael Romero, 37.6%, 102,730
- Spread: 24.8

2018: 244,893

- Democrat – Ben Ray Lujan, 63.4%, 155,201
- Republican – Jerald McFall, 31.2%, 76,427
- Libertarian – Chris Manning, 5.4%, 13,265
- Spread: 32.2

2020: 317,448

- Democrat – Teresa Leger Fernandez, 58.7%, 186,282
- Republican – Alexis Johnson, 41.3%, 131,166
- Spread: 17.4

2022: 230,782

- Democrat – Teresa Leger Fernandez, 58.2%, 134,217
- Republican – Alexis Johnson, 41.8%, 96,565
- Spread: 16.4