

- a. Plaintiff's expert reports must be furnished by January 10, 2022 (extended until January 20, 2022 by agreement of the parties).
- b. Defendants' expert reports must be furnished by February 10, 2022 (extended until February 22, 2022 by agreement of the parties).
- c. Discovery must be completed by March 30, 2022.
- d. Docket call for trial to be held on June 6, 2022.

3. On January 20, 2022, Plaintiff's expert Dr. Robert M. Stein submitted his expert report, a copy of which is attached as Exhibit A.

4. Following receipt of Dr. Stein's expert report, on February 9, 2022, SBISD took Dr. Stein's deposition, a copy of which is attached as Exhibit B. Relevant to this motion to strike, Dr. Stein's deposition confirmed:

- a. There was nothing else he needed or wanted to do to render his expert opinion. Exhibit B, pp. 12-13.
- b. He did not perform an Ecological Inference ("EI") analysis¹ as part of his opinion or report. Exhibit B, pp. 45-47.

5. On February 21, 2022, SBISD's expert Dr. John Alford submitted his rebuttal expert report, a copy of which is attached as Exhibit C. Dr. Alford criticizes Dr. Stein's failure to use an EI analysis in this case. Dr. Alford was subsequently deposed by Plaintiff on March 24, 2022 (transcript not yet available).

6. After Dr. Alford's deposition, on March 28, 2022, Dr. Stein belatedly submitted his Supplement to Expert Report, a copy of which is attached as Exhibit D. According to Dr. Stein's supplemental report, "I present an election-by-election analysis of racially-polarized voting in

¹ EI "is a mathematical technique similar to, but largely regarded as an improvement upon, the traditional Ecological Regression (ER) technique approved in *Gingles* to analyze aggregate level data." *Hall v. Louisiana*, 108 F.Supp.3d 419, 433 n. 15 (M.D. La. 2015). "The [EI] process is generally accepted in voting cases in this Circuit." *Thomas v. Bryant*, 366 F.Supp.3d 786, 793 (S.D. Miss. 2019).

SBISD’s trustee elections using ecological inference (EI) statistical techniques. ... The EI analysis depicts several features not stated in my January 20, 2022 expert report...”

7. For the reasons below, SBISD asks the Court to strike Dr. Stein’s supplemental expert report as an inappropriate attempt to “fix” or “bolster” his initial report.

ARGUMENT

8. Under Fed. R. Civ. P. 26(a), parties must make timely expert witness disclosures within the deadlines set by the Court’s scheduling order. *In re Savage Inland Marine*, 2021 U.S. Dist. Lexis 132326, * 6 (E.D. Tex. 2021). Here, Plaintiff’s deadline was January 20, 2022 [see Dkt. 22, extended ten days by the parties’ agreement]. Importantly, a party’s expert’s initial report must contain “a **complete** statement of all opinions the expert witness will express and the basis and reasons for them.” *Id.* (emphasis added) (quoting Fed. R. Civ. P. 26(a)(2)(B)(1)).² In turn, “[a]ny opinions that are not properly disclosed in accordance with Rule 26(a) may be excluded ‘unless the failure was substantially justified or is harmless.’” *State Auto. Mut. Ins. Co. v. Freehold Mgmt., Inc.*, 2019 U.S. Dist. Lexis 55052, * 14 (N.D. Tex. 2019) (quoting Fed. R. Civ. P. 37(c)(1)).³

9. Although allowed if timely, supplemental expert disclosures “are not intended to provide an extension of the deadline by which a party must deliver the lion’s share of its expert information. Initial expert disclosures must be ‘**full and complete.**’” *In re C.F. Bean L.L.C.*, 841 F.3d 365, 371 (5th Cir. 2016) (emphasis added).

² “Rule 26(a) requires the expert’s initial report to include ‘a **complete** statement of all opinions the witness will express and the basis and reasons for them.’ Rule 26(e) does not permit circumvention of Rule 26(a)’s disclosure requirement.” *Cutler v. Louisville Ladder, Inc.*, 2012 U.S. Dist. Lexis 101094, *17 (S.D. Tex. 2012) (internal citations omitted) (emphasis in original). See also, *Friebel v. Paradise Shores of Bay County, LLC*, 2011 U.S. Dist. Lexis 62847, * 6 (N.D. Fla. 2011) (“to construe supplementation to apply whenever a party wants to bolster or submit additional expert opinions would [wreak] havoc in docket control and amount to unlimited expert opinion preparation.”).

³ “The purpose of [Rule 37(c)(1)] is ‘to prevent the practice of “sandbagging” an adversary with new evidence.’” *Coene v. 3M Co.*, 303 F.R.D. 32, 42 (W.D.N.Y. 2014) (quoting cases).

10. In keeping with the above principle, “[p]ermissible supplementation of an expert report and disclosures can only occur *in certain limited circumstances*.” *Diaz v. Con-Way Truckload, Inc.*, 279 F.R.D. 412, 421 (S.D. Tex. 2012) (emphasis in original). Thus, supplemental expert reports are *only* permissible as a means of “correcting inaccuracies[] or filling the interstices of an incomplete report based on information *that was not available at the time of the initial disclosure*.” *Id.* (quoting *Cook v. Rockwell Int’l Corp.*, 580 F.Supp.2d 1071, 1169 (D. Colo. 2006), and citing *Cedar Petrochemicals, Inc. v. Dongbu Hannong Chem. Co., Ltd.*, 769 F.Supp.2d 269, 277-78 (S.D.N.Y. 2011) (“If an expert’s report ‘does not rely [on] any information that was previously unknown or unavailable to him,’ it is not an appropriate supplemental report.”)). As recently re-iterated by Judge Hanen,

Permissible supplementation of an expert report occurs in limited circumstances when the party or expert learns that information previously disclosed is incomplete or incorrect in some material respect; in other words, *if the expert report does not rely upon information previously unknown or unavailable to him before, it is not an appropriate supplemental report.*

Conn v. C.R. Bard, Inc., 2021 U.S. Dist. Lexis 107522, * 4-5 (S.D. Tex. 2021) (emphasis added).

11. “Courts generally distinguish ‘true supplementation’ (e.g., correcting inadvertent errors or omissions) from gamesmanship⁴ and have repeatedly rejected attempts by parties to bolster their position by ‘supplementing’ an expert report with a ‘new and improved’ expert report.” *Grant v. CRST Expedited Inc.*, 2021 U.S. Dist. Lexis 61977, * 16 (E.D. Tex. 2021) (internal citations omitted). “To rule otherwise would create a system where preliminary reports could be followed by supplementary reports and there would be no finality to expert reports, as each side, in order to

⁴ “Even without the charge of gamesmanship, there is heightened concern when a purported supplement is... after the expert has been deposed.” *Gilley v. C.H. Robinson Worldwide, Inc.*, 2021 U.S. Dist. Lexis 124348, * 8 (S.D.W. Va. 2021). Such is the case here.

buttress its case or position, could ‘supplement’ existing reports and modify opinions previously given.” *Id.* at * 17. See also, *Buxton v. Lil’ Drug Store Prods.*, 2007 U.S. Dist. Lexis 56263, * 20 (S.D. Miss. 2007), *aff’d*, 294 Fed. Appx. 92 (5th Cir. 2008) (“Courts have similarly made it clear that supplemental expert reports cannot be used to ‘fix’ problems in initial reports.”).

12. “Rule 26(e) is not an avenue to correct failures of omission because the expert did an inadequate or incomplete preparation, add new opinions, or deepen or strengthen existing opinions.” *In re Absbestos Prods. Liability Litig.*, 289 F.R.D. 424, 425 (E.D. Pa. 2013) (internal quotations and citations omitted). See also *Ezaki Glico Kabushiki v. Lotte Int’l Am. Corp.*, 2019 U.S. Dist. Lexis 23654, * 10-11 (D. N.J. 2019) (same). In other words,

Nor does Rule 26(e) create a loophole through which a party who submits partial expert witness disclosures, or who wishes to revise her disclosures in light of her opponent’s challenges to the analysis and conclusions therein, can add to them to her advantage after the court’s deadline for doing so has passed. Rather, supplementation under the Rules means correcting inaccuracies, or filling interstices of an incomplete report based on information that was not available at the time of the initial disclosure.

Luke v. Family Care & Urgent Med. Clinics, 323 Fed. Appx. 496, 500 (9th Cir. 2009). See also, *Pluck v. BP Oil Pipeline Co.*, 640 F.3d 671, 681 (6th Cir. 2011) (“We have recognized that ‘district courts have broad discretion to exclude untimely disclosed expert-witness testimony,’ particularly... after the weaknesses in the expert’s prior testimony have been revealed.”); *Friebel*, 2011 U.S. Dist. Lexis 62847 at * 5 (“Rule 26(e) is not a blank check ... that can refine and extend an expert’s testimony to cover deficiencies uncovered by one’s opponent. An incomplete report cannot be cured by use of supplementation. Supplementation of an expert report pursuant to Rule 26(e) does not cover failures of omission because the expert did an inadequate or incomplete preparation.”).

13. Here, Dr. Stein’s supplemental report – which was submitted after the Court’s expert report deadline, after his deposition, and after Dr. Alford’s criticism of his failure to conduct an EI analysis – does *not* rely upon information previously unknown or unavailable to him at the time of his initial report (or his subsequent deposition). Instead, Dr. Stein’s supplemental report is merely an attempt to “fix” or “bolster” his initial report with a “new and improved” report. This is not an appropriate supplementation.

14. Moreover, Dr. Stein’s failure to conduct an EI analysis in the first instance was neither substantially justified nor harmless. First, there is no reason he could not have performed an EI analysis as part of his original opinion and report; rather, EI is a well-recognized and accepted mathematical technique. Second, this failure is not harmless since it precluded SBISD’s counsel from questioning Dr. Stein on his “new and improved” EI analysis at his deposition.

15. Dr. Stein’s supplemental report is an improper, untimely attempt to “fix” or “bolster” his initial opinion and report. It should be stricken for this reason, and Dr. Stein’s trial testimony should be limited to the analysis in his initial report.

CONCLUSION AND PRAYER

16. Based on the above, SBISD asks the Court to strike Robert M. Stein’s supplemental expert report dated March 28, 2022, and to limit Dr. Stein’s testimony at trial to the analysis in his original report dated January 20, 2022.

Respectfully submitted,

**ABERNATHY, ROEDER, BOYD &
HULLETT, P.C.**

/s/Charles J. Crawford

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ATTORNEYS FOR DEFENDANTS

CERTIFICATE OF CONFERENCE

I hereby certify that Plaintiff's counsel, Barry Abrams, has stated that Plaintiff opposes this motion.

/s/Charles J. Crawford

Charles J. Crawford

CERTIFICATE OF SERVICE

On April 5, 2022, I electronically served the foregoing on counsel for Plaintiff and amicus by the Court's ECF system.

/s/Charles J. Crawford

Charles J. Crawford

EXHIBIT A

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

VIRGINIA ELIZONDO

Plaintiff,

v.

SPRING BRANCH INDEPENT SCHOOL DISTRICT, CHRIS GONZALEZ, PAM
GOODSON, KAREN PECK, JOSEF D. KLAM, MINDA CAESAR, CHRIS EARNEST, J.
CARTER BREED, in their official capacity as member of the Board of Trustee of Spring
Branch ISD

Defendants

EXPERT REPORT
OF
Robert M. Stein, Ph.D.

January 20, 2022

I. Background and Qualifications

I am the Lena Gohman Fox Professor of Political Science and a fellow in urban politics at the Baker Institute at Rice University. A copy of my curriculum vitae is attached as Appendix A. I am being compensated at \$250 per hour.

My current research focuses on alternative modes of elections and voting procedures, voting behavior and public policy in the United States. I teach classes on voting behavior, election sciences, public policy and survey research.

My work has been supported by the National Science Foundation, the City of Houston's Office of Public Safety and Homeland Security and the Pew Charitable Trusts, among others. Some of my select publications include "Reducing the Undervote with Vote by Mail" (published in *American Politics Research*), "Election Administration during National Disasters and Emergencies: Hurricane Sandy and the 2012 Election" (published in *Election Law Journal*), "Voting for Minority Candidates in Multi-Racial/Ethnic Communities," (published in *Urban Affairs Review*) and "The Effect of Election Day Vote Centers on Voter Participation" (published in *Election Law Journal*). In addition, I have written extensively on federal spending, 'pork barrel politics' and the electoral connection between single member district representatives, spending policies and incumbent reelection (published in *American Journal of Political Science* and *Journal of Politics*). I am co-author of *Perpetuating the Pork Barrel* (Cambridge University Press). A complete list of my publications is included in my attached curriculum vitae.

Since 2010, I have been an expert witness in several cases involving election administration and voting. I have consulted for several jurisdictions in the design, implementation and evaluation of alternative voting systems including early voting, Election Day vote centers, mail-assisted voting and in-person polling locations. In these jurisdictions, I have worked closely with election administrators and elected officials to fulfill their obligation to conduct elections. These jurisdictions include: Collin, Harris and Lubbock Counties, Texas, 64 Colorado counties that make up the Colorado County Clerks Association, and Albuquerque, New Mexico. I have also designed voting districts for municipal governments and school districts in Texas. I am currently designing election districts for Lancaster ISD, Goose Creek ISD and the City of Baytown.

I have been retained by counsel for Virginia Elizondo to provide expert testimony on:

- Whether voting in SBISD school board elections is racially polarized.
- Whether Latinos or Hispanics are politically cohesive in SBISD school board trustee elections and vote as a block for Latino-preferred candidate.
- Whether the Latino or Hispanic voting age population in SBISD is sufficiently large and geographically compact to constitute a majority of the voting-age population in one or more single member districts under an illustrative seven-district plan.

- Whether White Non-Hispanics vote sufficiently as a bloc to enable them, in the absence of special circumstances (e.g., single-member districts), to defeat the minority voters' preferred candidates of choice.
- Whether single member district elections or at-large elections enhances the proportional representation of minority-preferred candidates on elected legislatives bodies.
- Whether taxing and spending practices differ significantly between governments with single member district and at-large elections.
- Whether legislative bodies are more responsive to the preferences of minority and non-minority voters in at-large or single member district elections.

II. Summary of Opinions

- There is statistically significant evidence of racial polarized voting in the Spring Branch Independent District's Board of Trustees elections for the period 2015-2021.
- White Non-Hispanics vote sufficiently as a bloc to enable them, in the absence of special circumstances (e.g., single-member districts), to defeat the minority voters' preferred candidates of choice.
- The geographic concentration of Hispanics in the Spring Branch Independent School District is sufficient to constitute a majority of the voting-age population in one or more single member districts under an illustrative seven-district plan.
- There is strong evidence in the scholarly literature to conclude that:
 - Single member district forms of representation enhances proportional representation of minority candidates on legislative bodies.
 - Single member district representation increases the likelihood that minority candidates will contest elections for position on legislative bodies.
 - Single member district representation will produce policies more responsive to the preference of minority voters.
- SBISD should adopt a single member district plan for the election of the district's seven trustees.

III. Materials Reviewed

To establish an expert opinion in this case, I reviewed a variety of materials from academic, governmental, legal and media sources. Building on my existing knowledge, expertise and experience, I consulted the scholarly (peer reviewed) research on:

- Minority representation in local governments and school districts with single member and at-large representation.
- Spending and taxing practices of local governments and school districts with single member and at-large representation.
- The responsiveness of policies in local governments and school districts with single member and at-large forms of government.

I have relied on election results provided by the SBISD for trustee elections, data from the U.S. Bureau of the Census and Harris County's Election Administrator Office for my analysis of racially polarized voting in SBISD's trustee elections.

IV. Racially polarized voting in Spring Branch Independent School District

I used a definition of racially polarized voting as outlined in *Thornburg v. Gingles* to assess whether this condition existed in the Spring Branch School District trustee elections between 2017-2021. I further sought to determine whether the extent of racially polarized voting in SBISD trustee elections was of sufficient magnitude to dilute the votes of minority voters and prevent them from electing a candidate of their choice. Finally, I assessed the likelihood that single member district elections would remedy the effect of racially polarized voting in SBISD trustee elections.

Racially polarized voting is defined as when the relevant minority group “is politically cohesive and that the white majority voters sufficiently as a bloc to enable it... usually to defeat the minority’s preferred candidate (Thornburg v Gingles 478 U.S. 30, 49 (1986).”

In assessing the degree of racially polarized voting in SBISD trustee elections I obtained the following information:

- A list of all persons eligible to vote in SBISD trustee elections for the years in which trustee elections were held between 2015 and 2021.
- The residential location and voting precinct (i.e., latitude and longitude) of all eligible SBISD voters
- The voting histories of each eligible SBISD voter in the 2015, 2017, 2019 and 2021 SBISD trustee elections from data provide by SBISD and Harris County.
- The racial and ethnicity of each eligible SBISD voter using Imai and Khana (2016) ecological inference software. These estimates of racial and ethnicity are obtained by using the Center for Disease Control’s list of common racial and ethnic surnames along with information about the racial and ethnic makeup of the voter’s residential location i.e., census block or block group. Estimates at or above 90% were used to assigning voters to one racial and/or ethnic group including: Non-Hispanic White, Non-Hispanic Black, Non-Hispanic Asian, Non-Hispanic other and Hispanic.

I aggregated the proportion of voters by race and ethnicity by SBISD’s voting precincts (N=7) by election (N=5) to identify majority-minority and majority White precincts. I further calculated the proportion of vote cast for each trustee candidate by voting precinct.

Ten trustee contests were held between 2015 and 2021 in seven to eight election precincts per election. Four of the ten contests were uncontested (i.e., only one candidate stood for election). We can identify the share of vote cast for one or more trustee candidates and the share of voters in each precinct that are Non-Hispanic White, Non-Hispanic Black, Non-Hispanic Asian, Non-Hispanic other and Hispanic in 73 precinct election contests.

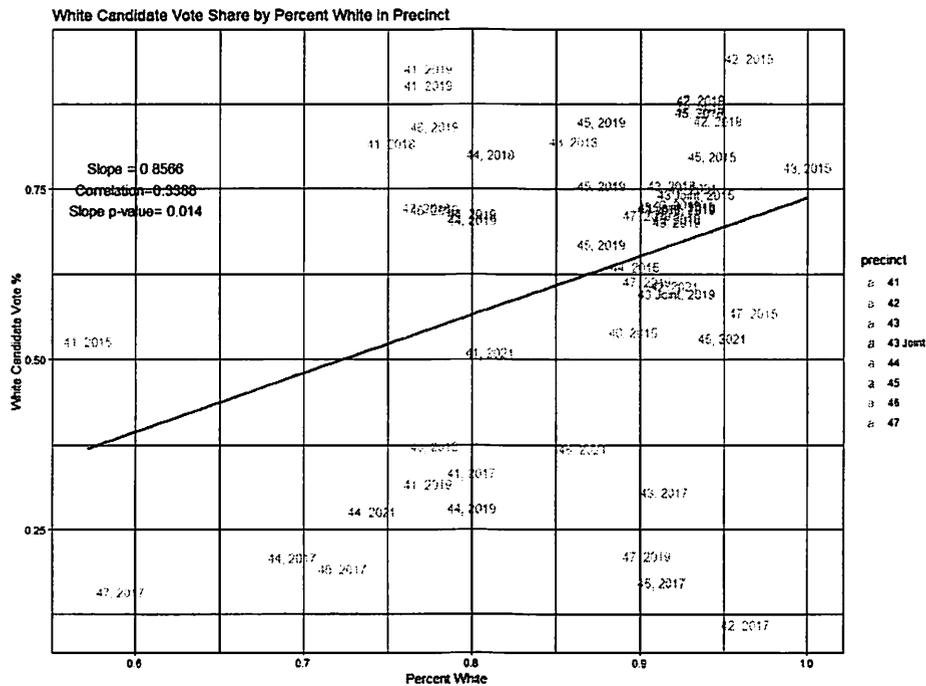
The dominant races and ethnicities among SBISD voters are White (majority) and Hispanic (minority). Asian and African-American SBISD voters rarely exceed 10% of the district voting population in any election year.

To measure the degree to which there is racially polarized voting in SBISD Trustee elections I regressed¹ the proportion of persons White and Hispanic in each voting district on the proportion of votes cast for each candidate. Racially polarized voting is established when the direction of these relationships are signed in opposite directions. A second condition for polarized voting is when the White majority vote against a minority preferred candidate i.e., Hispanic candidate is significant and positive. That is, the share of vote the Hispanic received increases significantly as the proportion of voters in each voting district increases.

Racially polarized voting is observed in every election studied. White and Hispanic voters diverge in their support for each candidate on the ballot, including uncontested contests where we report under vote as the second candidate.

Figures 1-4 report the proportion of vote cast for the White candidate, minority-preferred candidate (i.e., Hispanic surname candidate), and the proportion of vote Hispanic and White in each precinct in all elections. Hispanic surname candidates are identified as the minority-preferred candidate. A minority-preferred candidate appeared on the ballot in seven of ten contests. The findings confirm significant ($p < .05$) racially polarized voting for White and Hispanic voters.

Fig 1: The proportion of vote cast for white candidate and Share of vote White



¹ Ordinary least squares regression.

Fig 2: The proportion of vote cast for white candidate and Share of vote Hispanic

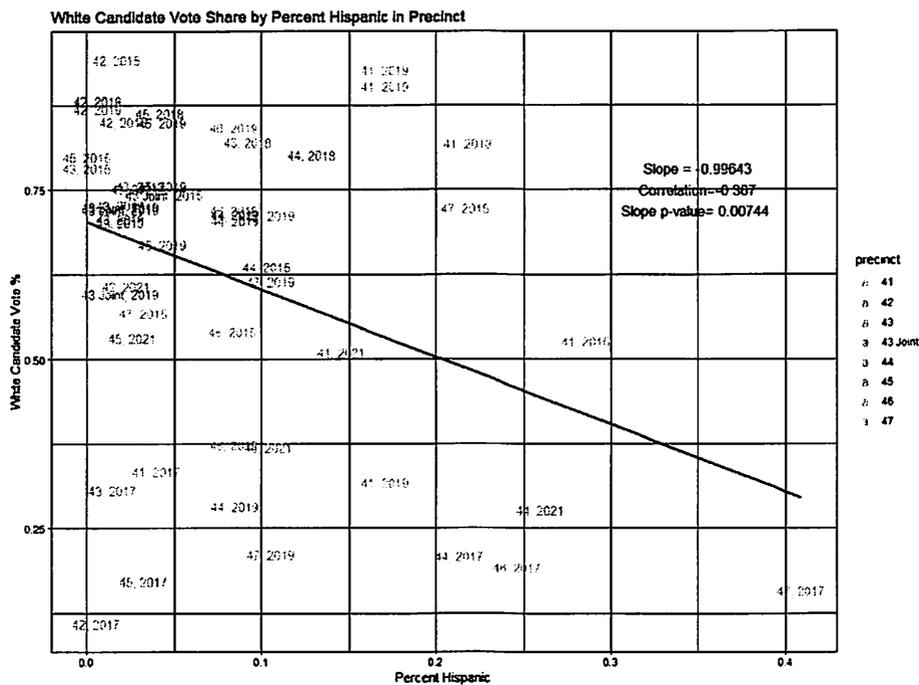


Fig 3: The proportion of vote cast for Hispanic candidate and Share of vote White

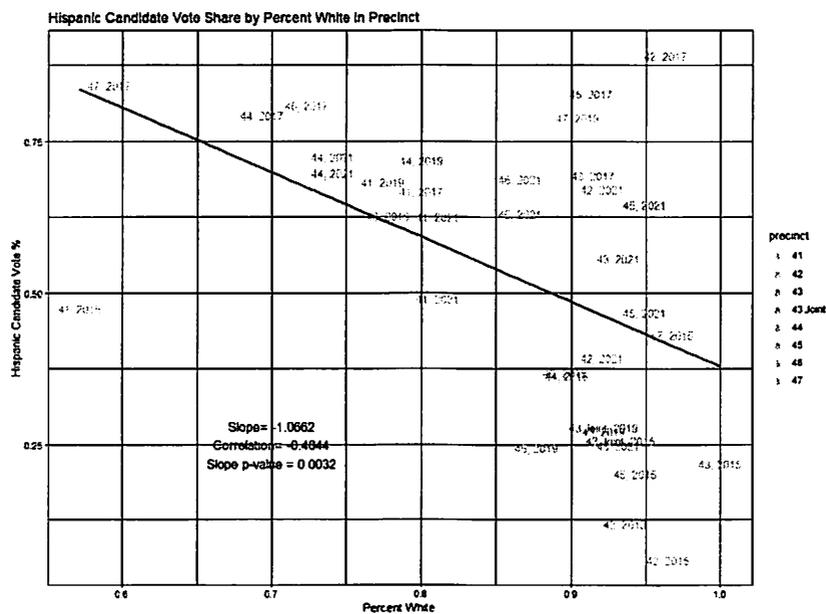
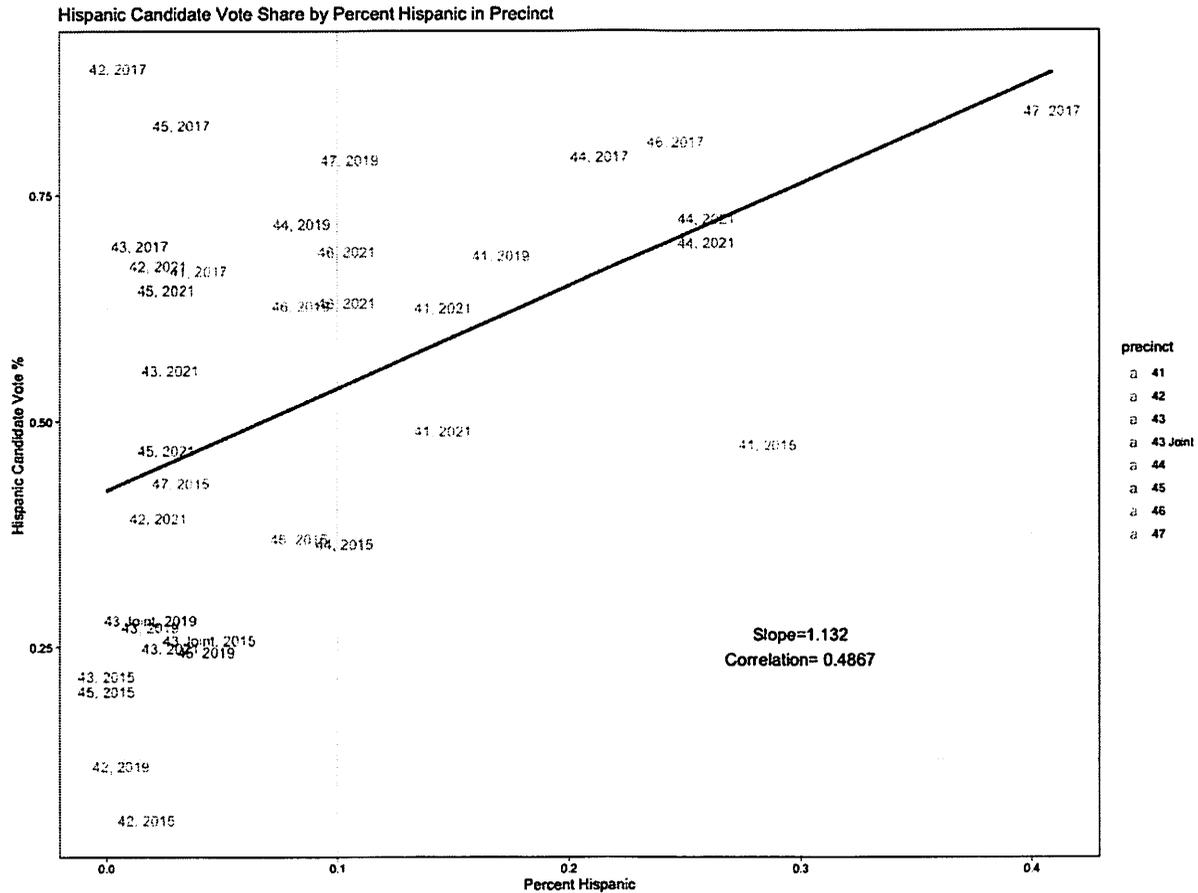


Fig 4: The proportion of vote cast for Hispanic candidate and Share of vote Hispanic



V. Compactness of Hispanic citizen voting age persons in SBISD

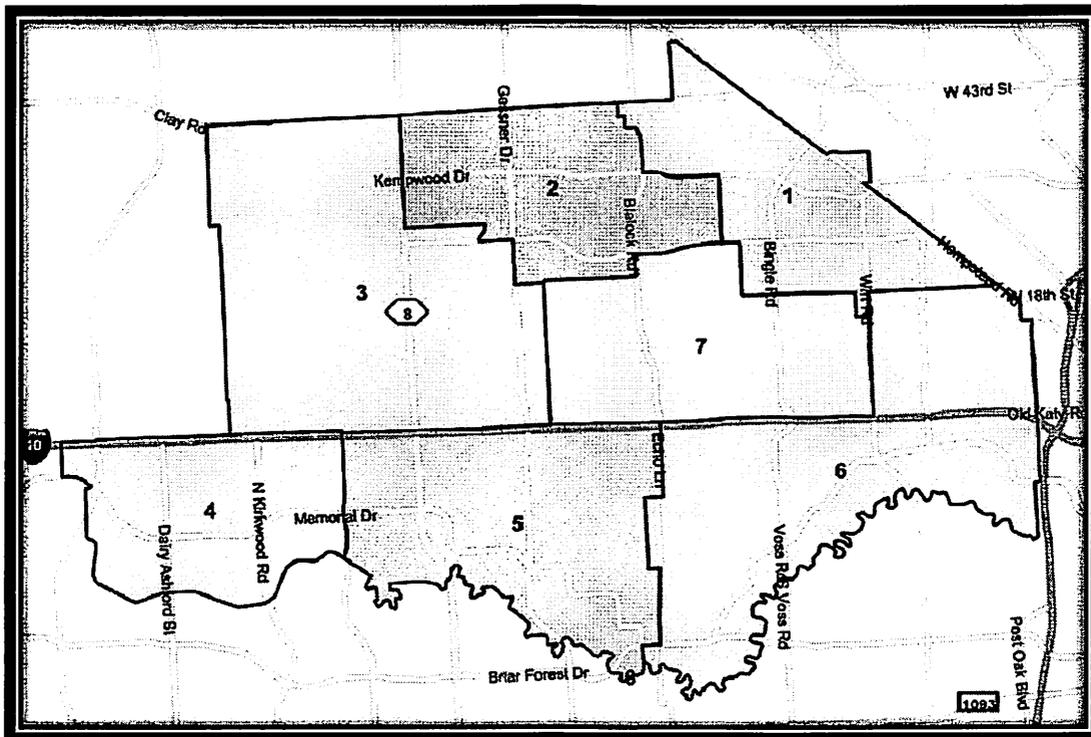
Table 1 reports the number and proportion of citizen voting age by race and ethnicity for the seven proposed voting districts in SBISD. These data are from the 2020 U.S. Census and the American Community Survey 2015-2019 and best approximate that the likelihood that at least one or more majority Hispanic trustee districts can be constructed. More than half (52.8%) of the citizen voting age population in proposed district 1 is sufficient to enable Hispanic voters to elect a candidate of their choice i.e., an Hispanic.

Table 1
 Citizen Voting Age Population by SBSID Voting District

District	Total Population	Voting Age Population	Citizen Voting Age Population	% Hispanic Citizen Voting Age Population
1	26,171	18,782	9,180	52.8
2	26,131	19,802	14,355	30.7
3	26,132	19,732	14,345	32.5
4	26,432	19,164	14,180	17.4
5	26,110	19,429	16,235	9.5
6	26,194	20,493	18,450	15.4
7	26,194	19,091	12,535	31.1

Under the proposed configuration of voting districts in SBISD there is sufficient evidence to show that at least one single member majority Hispanic trustee district can be created. There may be other configurations of voting districts that could yield more than one majority Hispanic trustee districts.

Demonstrative Spring Branch ISD Single-Member District



VI. Racial and ethnic segregation in SBISD

The ethnic makeup of the district's seven election/enrollment districts is heavily skewed. Four districts (i.e., Landrum, Northbrook, Spring Oaks and Spring Woods) are overwhelmingly comprised of Hispanic students, with an average of 87% of students in these election/enrollment districts Hispanic. In the remaining three election/enrollment districts (Memorial, Spring Branch and Spring Forest) between 42% and 52% of the student are white.

I have measured segregation of SBISD students using the index of dissimilarity between whites and Hispanics at the school and enrollment zone level. The index is equal to:

$$\frac{1}{2} \sum_{i=1}^N \left| \frac{w_i}{W} - \frac{l_i}{L} \right|,$$

where w_i and l_i represent the number of whites and Latinos in school i respectively, W and L represent the total number of whites and Latinos in the district, respectively and N represents the total number of schools (enrollment zones) in the district. Information on the racial and ethnic makeup of SBISD schools comes from National Center for Education Statistics².

The dissimilarity index captures how proportional Hispanics and whites are distributed across schools and enrollment zones. For example, SBISD is comprised of 26.7% white students 59.2% Hispanic students.³ Given these district-wide distributions, one would expect every school and/or enrollment zone would have the same proportion of students Hispanic and white if the district was not segregated or was fully integrated. Another way to think about the dissimilarity index is the proportion of Hispanic (white) students who would have to move to a different school or enrollment zone in order for the composition of each school or enrollment zone to be identical to the composition of the district as a whole.

Researchers (Abbott and Magazinnik 2020; Massey and Denton 1993; Ananat 2011; Collins and Margo 2000; Cutler and Glaeser 1997; Cutler, Glaeser and Vigdor 1999) identify dissimilarity index scores below .3 as indicating low levels of segregation, .3 to .6 as moderate levels of segregation and .6 and above as high levels of segregation. SBISD's dissimilarity index score at the school level is .694 and .596 at the enrollment zone level. These scores suggest that well over half of the Hispanic students enrolled in SBISD schools would have to move to another school in order to achieve an integrated distribution of students by ethnicity.

Table 2 reports the proportion of students by enrollment zone in SBISD by race and ethnicity. In four of the districts seven enrollment zones 78% or more of the students are Hispanic. In the

² Source: https://nces.ed.gov/ccd/schoolsearch/school_list.asp?Search=1&DistrictID=4841100

³ The remaining proportion of the SBISD students at Asian (5.9%), Black (4.8%), and two or more races (2.3%).

remaining three enrollment zones 42% to 52% of the students are White. There is strong evidence that the racial and ethnic makeup of SBISD schools and enrollment districts is high segregated

Table 2 Percent Enrollment by Race/Ethnicity

Enrollment Zone	% White	% Hispanic
Northbrook Middle	0.02	0.96
Spring Woods Middle	0.05	0.88
Spring Oaks Middle	0.07	0.85
Landrum Middle	0.13	0.78
Spring Forest Middle	0.42	0.36
Spring Branch Middle	0.47	0.36
Memorial Middle	0.52	0.25

VII. Recommendations

The degree of racial segregation and voter polarization in SBISD supports the plaintiff's request that future SBISD trustee elections be held with a single member district plan of representation. The district currently has seven board members and elections are conducted in seven precincts corresponding to the district's enrollment districts. Using a single member district plan to elect trustees will most likely result in the election of at least one school board trustee reflecting the preferences of SBISD's Hispanic voters, and likely more.

VIII. Minority representation in at-large and single member systems

How we elect our legislative representatives has long been a prominent subject of study. A core research question in this field of study is whether the method of election discriminates against representation of non-majority populations including racial and ethnic minorities. In the United States, the two most popular ways for electing our representatives are single member district and at-large elections. In at-large elections, voters across an entire jurisdiction (e.g., city, county, school district) have the opportunity to select from among contesting candidates for every available seat in the governing body. Alternatively, single member district representation divides the jurisdiction into separate precincts/wards each with its own seat in the legislative/governing body.

Opponents of at-large representation claim that majority interests, voting in a bloc, dilute minority votes. When minorities are concentrated in particular areas such that they comprise a majority, switching to single member district representation can afford minorities representation in the legislative body. Properly configured, single member district representation can produce representation for minorities proportionate to their representation in the jurisdiction. For example, if a minority group comprises 20% of the adult voting age population in a school district, it is more likely that 20% of the legislative body will be comprised of members preferred by the minority group with single member district elections than at-large elections.

Though the vast majority of empirical research demonstrates that single district representation results in greater and more proportional representation for Black and Hispanic voters (Davidson

and Grofman 1994; Davidson and Korbel 2981; Engstrom and McDonald 1981; Karnig and Welch 1982; Leal, Martinez-Ebers and Meier 2004; Marschall, Ruhil, and Shah 2010; Meier et al 2005; Molina Jr and Meier 2018; Moncrief and Thompson 1992; Polinard 1994; Robinson and England 1981; Stewart, England and Meier 1989; Trounstine and Valdini 2008; Abbot and Magazinnik 2020), several studies, have reported null findings (Bullock and MacManus 1987; Cole 1974; MacManus 1978; Welch 1990; Leal, Martinez-Ebers and Meier 2004⁴). Two studies have reported a negative relationship between single member district elections and minority representation (Meier and Rutherford 2014; Welch and Karnig 1978).

Two factors explain the lack of unanimity in the scholarly literature on the effect of single member district representation on minority representation. The first is the contingent nature of electoral reform on minority representation and the second is the challenge researchers face in making reliable and valid casual inferences and estimates of this effect. Single member district elections can succeed in electing minority-preferred candidates when the minority population is sufficiently large and geographically concentrated such that it constitutes a majority in the area they occupy, as is the case in SBISD. Most studies compare the representation of minority populations among single member and at-large systems of representation without consideration of how and why these different forms of representations were first adopted, thus omitting unobserved differences between jurisdictions with long histories of at-large representation.

Abott and Magazinnik (2020) identify two contingencies which condition the positive effect of single member district representation has on minority representation. “[T]he voting population be segregated enough for the minority group to constitute a local majority in at least one ward, and that the political boundaries be drawn accordingly (2020:719).” A second condition is that the district must be of sufficient size to attract candidates to run for office.

Studies by Abott and Magazinnik (2020), Marschall, Ruhil and Shah 2010) and Trounstine and Valdini (2008) all employ contingent effects of minority group size and segregation when estimating the effects of changing from at-large to single member district representation on minority representation. These scholars all report significant gains in minority representation, albeit for different genders, races and ethnicities in city councils and school districts with single member district representation and where the same changed from at-large to single member district representation.

To date, the strongest empirical evidence supports the thesis that the likelihood of proportional representation of racial and ethnic minorities on legislative bodies is greater with single member districts than at-large elections when district size is large and minority group size is sufficiently large and segregated. Abott and Magazinnik note “When all of these conditions are met, the positive impact of reform is striking, exceeding one additional officeholder for every three available seats (730).” When these conditions are not met, however, moving from an at-large to single member system of representation was found to have a null or even negative effect on

⁴ The authors qualify their null findings by noting that Hispanics “may be able to profit from at-large districting when they are a majority of the population (2004:1241).” In non-majority Hispanic settings, Hispanic representation does not benefit from at-large districting.

minority representation, accounting for “why a large and active academic literature ...has produced so many conflicting findings (731).”

The scholarly literature supports the following conclusions:

- Single member district representation increases the likelihood that minority candidates will contest elections for positions on legislative bodies.
- Single member district forms of representation enhances proportional representation of minority candidates on legislative bodies.
- Single member district representation will produce policies more responsive to the preference of minority voters.

IX. The taxing and spending policies of governments with at-large and single member district representation

A purported advantage of at-large over single member district elections is that elected single member district representatives trade off the virtues of public goods against the attractiveness of spending on particularistic goods (‘pork’) benefitting voters in their home or single member districts. In at-large systems, representatives are thought to voice the preferences of the average (median) resident throughout the entire jurisdiction. In single member systems, the representative better expresses the preferences of the average resident within a specific geography. Assuming preferences vary by geography, at-large systems work to pull the tails of the preference distributions inward, reducing the representation of diverse preferences. A potential consequence of this presumed effect of at-large representation is to under represent (and under value) non-majority voters’ preferences.

At the federal level Mayhew’s seminal work (1974) established the logic underlying higher spending and taxing in governments with single member district representation. Mayhew and subsequently Sheplse, Weingast and Johnson (1981) argued that representatives elected from single member districts had a strong incentive to extract distributive⁵ spending benefits for their constituents to enhance their re-election. A system of log rolling in which single member district representatives agreed to support each other’s district specific spending priorities produced an inefficient level of spending and taxing i.e., produce more taxing and spending than might occur with an at-large system of representation. By implication, the level of spending and taxing was assumed lower in legislative bodies with at-large representation, where the electoral benefits of distributive taxes and concentrated spending are not available.

Empirical support for a significant and positive relationship between spending and the electoral fortunes of single member district representatives has been mixed, modest and conditional. Most research has been unsuccessful in corroborating a significant relationship between spending allocations to single member district congressional representatives (Bickers and Stein 2000). The prevailing finding is the electoral connection is conditional on incumbent’s electoral vulnerability,

⁵ Distributive spending refers to outlays concentrated to specific rather than generalized recipients, often defined by geography and which is funded by taxes levied on all persons inside and more importantly outside the area in which the spending benefits are located. An example of distributive spending is infrastructure projects located in specific areas of a jurisdiction and not readily accessible to persons not living in the immediate area.

a rare condition and related to grant awards, not the amount of money flowing to the district (Stein and Bickers 1994).

Research on the spending and taxing policies of subnational governments does not demonstrate significant differences between jurisdictions with at-large and single member representation (Morgan and Pelissero 1980; Lineberry and Fowler 1967; Langbein, Crewson and Brasher 1997; Farnham 1990). In a few instances, (Zax 1990; Deno and Mehay 1987) researchers have found that cities with at-large elections spend more on municipal employees than cities with single member district representation. The few studies that did find significantly higher spending in cities with single member representation (Southwick 1997; Dalenberg and Duffy-Deno 1991) used weaker cross sectional research designs with limited controls for factors that shape municipal taxing and spending policies, including state laws,⁶ the range of goods and services provided⁷ and most importantly citizens' preferences for spending. These studies fail to take into account that the adoption of at-large or single member district systems is related to the same factors shaping spending and taxing decisions.

The research on spending and taxing among governments with different modes of representation presumes that the higher levels of spending governments in jurisdictions with single member district representation is both inefficient and non-representative of the preferences of the full community. Though spending and taxing may be higher in single member district governments this finding does not suggest anything other than that citizens in these jurisdictions prefer higher spending. In the next section of my report I turn to this question asking whether single member or at-large modes of representation better represent the interest of citizens, both majority and minority citizens.

X. The representation of policy preferences among jurisdictions with different modes of representation

Tausanovitch and Warshaw's research (2014) ask whether different modes of representation provide for better representation of public preferences. Using a unique database that measured public preferences for spending and tax policies among every U.S. city and town over 20,000 in population (N=1,600) the authors estimate whether the taxing and spending policies of these communities match citizen preferences by mode of representation.⁸

Drawing upon previously discussed explanations for spending and taxing among at-large and single member district systems of representation the authors hypothesized that *cities with at-large districts are more responsive to citizens' policy preferences than cities with single-member districts*. The authors' design was sufficiently rigorous to correct many of the deficiencies in previous research that produced mixed findings about the relationship between spending and

⁶ Many states mandate minimum spending and service content for the goods and services their municipalities provide their citizens, independently influencing spending. Tax limits imposed by states on cities and school districts further shape spending.

⁷ Cities differ significantly on the number and scope of goods and services they provide their constituents (Peterson 1991). The repertoire of goods and services is itself a function of the constituent preferences, constituents' ability to pay for these goods and services as well as how these goods and service are produced (Stein 1991).

⁸ The authors constructed a measure of public preferences for taxing and spending across a large number public policies e.g., public employee pensions, recycling, health care and bans on smoking in bars and restaurants.

alternative modes of representation. The authors conclude: “our findings provide no support that at-large districts lead to better representation (2014: 621).”

A great number of minority school board members, in either at-large or single member districts elections, should produce policies favored by minorities. Multiple studies suggest greater minority representation on school boards translates into outcomes that are more positive for minority students (Meier, Stewart and England 1989; Reyes, Scribner and Schribner 1999; Spring 2000; Leal and Hess 2000; Rocha and Wrinke 2011; Theobold 2007; Leal, Martinez-Ebers and Meier 2004). Robinson (2016), however, finds that a great proportion of Hispanic board members leads to *less* support for bilingual policies, popular among Hispanic voters. Flink and Molina (2016) find the level of Hispanic representation has a positive effect on bilingual education spending only when the proportion of bilingual population in the district is relatively small. Is the relationship between minority representation and policies preferred by minorities stronger under single member district or at-large elections?

Leal et al (2004) asked whether greater Latino representation on school boards with single member rather than at-large elections nets great Latino representation among the district’s teachers and administrators. They find that “at-large elections negatively influence Latino educational representation, which produces a ripple effect that ultimately reduces the share of Latino teachers (2004:1224).”

“Latino representation on school boards is significantly associated with increases in the percentage of Latino administrators, and the percentage of Latinos in administration is the most important variable determining the presence of Latino teachers. As we know the Latino community wants more Latinos teaching their children, greater Latino school board representation is therefore more likely to lead to education policies congruent with community wishes (2004:1242).”

Leal et al (2004) also uncover an important condition governing the link between single member district election, proportional minority representation on school boards and minority supported educational policies. “[W]hen Latinos are a minority in the population, the population-representation relationship is non-linear, with larger percentages getting significantly more representation than smaller percentages (2004: 1234).” This finding suggests the etiology pro-minority policies under single member district elections with proportional minority representation is conditional on the size of the minority population

McBrayer (2020) builds on Leal et al findings and suggests descriptive representation (i.e., minority board members) does not always lead to substantive policy representation. Instead McBrayer hypothesizes that this relationship is conditioned on the mode of representation i.e., single member versus at-large. She specifically looks at the provision of bilingual education services among at-large and single member district school districts in Texas school districts. McBrayer finds that different modes of representation are better at translating minority representation into substantive policies when demand for these policies varies. Specifically McBrayer finds:

- Hispanic representatives have a positive effect on bilingual funding allocation when the entire board serves single-member districts, suggesting that this specific electoral arrangement strengthens the relationship between descriptive and substantive representation.
- Hispanic representatives in at-large electoral systems allocate more bilingual funding proportion only when there are small portions of qualifying students.
- Hispanic representatives in at-large systems have a negative effect on bilingual allocation when there are large portions of qualifying students.

“This suggests that schools with the least demand for bilingual funding are best represented by minority officials in at-large systems, yet schools with the most demand are underrepresented by minority officials. Thus, in both electoral scenarios, Hispanic representatives substantively represent campuses with low demand for bilingual programming, which is congruent with Flink and Molina’s (2016) findings. Only Hispanic officials in single-member districts substantively represent campuses with high demand for bilingual programming, congruent with theoretical expectations (McBrayer 2020:1689-1690).”

The extant literature on the representation of minority policy preferences shows that descriptive representation (i.e., proportional minority representation on school boards) is a necessary but not sufficient condition for fulfilling the policy preferences of minority constituents. This policy connection for minority interests is significantly enhanced with single member district elections rather than at-large elections.

A single-member plan for SBISD would likely strongly improve bilingual and other educational outcomes critical for Hispanic students. In addition, a single-member districting plan for SBISD will increase the responsiveness of school board trustees to minority and low-income students, minority voters and minority educators.

I state under penalty of perjury that the foregoing is true and correct.

Executed on January 20, 2022.

Robert Stein

Robert M. Stein

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B.A., Ohio Wesleyan University, Delaware, Ohio, 1972.

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Fields of Specialization

Elections and election administration, Federalism and intergovernmental relations, state and local government, urban politics and public policy.

Teaching Positions

Lena Gohlman Fox Professor of Political Science, 1996

Fellow, James A. Baker III Institute for Public Policy, 2006

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Visiting Associate Professor and research scientist, Workshop in Political Theory-Public Policy and Department of Political Science, Indiana University, 1987-1988

Associate Professor, Department of Political Science, Rice University, 1983-1989

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Administrative positions

Faculty Director, Center for Civic Engagement, Rice University 2007-2021

Dean, School of Social Sciences, Rice University, 1996- 2006

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Chair, Department of Political Science, Rice University, 1994-1995

Director, Policy Studies Program (undergraduate major), Rice University, 1987-1995

Director, Graduate Studies, Department of Political Science, Rice University, 1987

Chair, Department of Political Science, Rice University, 1984-1986

Director, Rice Institute of Policy Analysis Public Opinion Poll, 1983-present

Political analyst, KHOU-TV, Houston, TX, 1983-present

Fellowships, awards, and offices

Outstanding reviewer award, *Political Research Quarterly*, 2010.

Best paper award on Federalism and Intergovernmental Relations for “Inter-Local Cooperation and the Distribution of Federal Grants,” by the section on Federalism and Intergovernmental Relations, American Political Science Association, 2004 (with Kenneth Bickers).

President, Urban Politics Subsection, American Political Science Association, 1999-2000.

Recipient, George R. Brown Award for Superior Teaching, Rice University, 1998.

President, Southwestern Political Science Association, 1998.

Recipient, Outstanding Mentor of Women in Political Science Award, Women’s Caucus for Political Science, American Political Science Association, 1996.

Special book award from the Urban Politics and Policy Section of the American Political Science Association for *Urban Alternatives: Private and Public Markets in the Provision of Local Services*, 1991.

Research fellowship, Indiana University, Workshop in Political Theory and Public Policy, 1987-1988.

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Fellowship, U.S. Advisory Commission on Intergovernmental Relations, 1978-1979.

Research Grants and Contracts

Measuring and improving the impact of using stadiums and arenas for voting. Funded by New Venture Fund. 8/1/2021-2/28/2022. Co-PI, \$125,350.

The integrity of mail-in voting in the 2020 Election. Funded by the National Science Foundation (2105671), 12/1/2020-11/30/2020. PI, \$120,283.

Optimizing vote-by-mail implementations on consumer grade equipment. Funded by the National Science Foundation (2033923), 7/1/2020-6/30/2021. Co-PI, \$200,000.

Making voting safe for voters and poll workers: Meeting the challenge of the COVID-19 Virus. Funded by Rice University, COVID-19 Initiative, 5/1/2020-12/31/2020. PI, \$45,300.

Election Day Vote Centers in Harris County, Texas. Funded by the Arnold Foundation, May 2019-December 2020, \$100,000.

Hurricane Harvey: Longitudinal Survey. Funded by the National Science Foundation, January 2018 – December 2021 (SBER1760292). Co-PI, \$200,000.

Urban Flooding: Identifying where it floods and evaluating remedies. May 2018-September 2019. Funded by the Kinder Institute, Ken Kennedy Institute and Office of Research, Rice University. Co-PI, \$74,450.

2016 City of Houston Citizen Survey, September 2016-January 2017. Funded by the City of Houston, \$23,500.

Vote by mail, September 2014-September 2015. Funded by The Pew Charitable Trusts, \$48,000.

Saturday Run-off Election Exit Poll Survey, City of Houston, October-November, 2013. \$4,000.

Prioritizing and selecting bridge management actions for heightened truck loads and natural hazards in light of funding allocation patterns. Funded by the National Science Foundation, September 2012-August, 2015. Co-PI, \$1.2 million.

Phase 2, Development and enhancement of online storm risk calculator tool for public usage, City of Houston, Office of Public Safety and Homeland Security, November, 2012-June 2013. Co-PI, \$189,000.

NetSE: Large Urban-Scale Polymorphic Wireless Networks: Community-Driven Assessment, Design and Access. Funded by the National Science Foundation, September 2010-2013. Co-PI, \$1.9 million.

Development and enhancement of online storm risk calculator tool for public usage, City of Houston, Office of Public Safety and Homeland Security, January, 2011-June 2011. Co-PI, \$309,000.

Increasing turnout among the less engaged: A study of Election Day vote centers. Funded by The Pew Charitable Trusts, September, 2007-May, 2009. PI, \$260,000.

Independent Response of Complex Urban Infrastructures Subjected to Multiple Hazards, National Science Foundation, October 2007–October 2010. Co-PI, \$20,000.

Program evaluation, City of Houston, SAFEclear, traffic incident management program, July 2006-January 2008. PI, \$20,000.

Program evaluation, City of Houston, SAFEclear, traffic incident management program, February 2005-December 2005. PI, \$20,000.

Program Utilization Among Households Eligible for Head Start Enrollment, funded by the Harris County Department of Education, June, 2001. PI, \$15,000.

The Changing Structure of Federal Aid and the Politics of the Electoral Connection. Funded by the National Science Foundation, 2001-2002 (SES0095997). January 2001-January 2003. PI, \$230,000.

Greater Harris County 9-1-1 Emergency Network Data Archive and Analysis, January 2000-January 2001. PI, \$15,000.

Evaluation of Greater Harris County Emergency Network: Round II. Funded by the Greater Harris County Emergency Network, September, 1993-January, 1994. PI, \$5,000.

Evaluation of Greater Harris County 9-1-1 Emergency Network. Funded by the Greater Harris County Emergency Network, January 1992-July 1993. PI, \$5,000.

Selective Universalization of Domestic Public Policy. Funded by the National Science Foundation (SES8921109) 1990-1992. PI, \$185,000.

Contracting for Municipal Services. Funded by the U.S. Advisory Commission on Intergovernmental Relations. 1986-1990. PI.

The Fiscal Austerity and Urban Innovation Project. Funded by the U.S. Department of Housing and Urban Development. 1983-1985. PI.

Research Associate, Field Network Evaluation Study of the Reagan Domestic Program. Princeton Urban and Regional Center, Princeton University. Funded by the Ford Foundation. 1982-1984. PI.

Research Associate, Field Network Evaluation Study of the Community Development Block Grant: Round 8. Funded by the U.S. Department of Housing and Urban Development. Summer 1982. PI.

The Structural Character of Federal Grants-in-Aid. Funded by the U.S. Department of Housing and Urban Development. 1982-83. PI.

The Allocation of Federal Grants-in-Aid. Funded by the U.S. Advisory Commission on Intergovernmental Relations. 1979-1981. PI.

The Allocation of State-Local Aid: An Examination of Within State Variation. Funded by the U.S. Advisory Commission on Intergovernmental Relations. 1979-1981. PI.

Editorial Positions

Editorial board member, *Journal of Election Technology and Systems*, 2013-2016

Editorial board member, *American Political Science Review*, 2001- 2007

Executive Committee, American Politics, *American Political Science Review*, 2004-2007

Editorial board member, *American Journal of Political Science*, 1994-1998

Editorial board member, *Journal of Politics*, 1994-1998

Editorial board member, *Social Science Quarterly*, 1993-present

Editorial board member, *State and Local Government Review*, 1987-1992

Editorial board member, *Urban Affairs Review* (formerly *Urban Affairs Quarterly*), 1996- 2000

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Books

Perpetuating the Pork Barrel: Policy Subsystems and American Democracy, Cambridge University Press, 1995, with Kenneth N. Bickers.

Federal Domestic Outlays, 1983-1990. 1991. M.E. Sharp, with Kenneth N. Bickers

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Articles

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"Choosing the less convenient way to vote: An anomaly in vote by mail elections," presented at Election Science Meeting, University of Pennsylvania, Philadelphia, PA. June 2019.

"Compositional effects of vote by mail elections," presented at VBMcon: A conference to discuss vote by mail election reform, Washington, D.C. June 20, 2019.

"Vote fraud and errant voting," invited presentation at the Department of Political Science, University of Nebraska, Lincoln, NE. April 25, 2013.

"Polling place practices," prepared for presentation at the Measure of Elections Conference, Massachusetts Institute of Technology, Boston, MA. June 18-19, 2012.

"Where, when and how we vote: Does it matter?" Presented at the Scottish National Election Commission, Strathclyde University, Glasgow, Scotland. November 12-15, 2010.

"The future of elections," presented at the Future of Governance Conference, Howard Baker Institute of Government, University of Tennessee, Knoxville, TN. October 14-15, 2010.

"Cost of elections," presented at the 2010 Meeting of the Midwest Political Science Association, Chicago, IL. April 3-5, 2000. With Greg Vonnahme.

"Early voting and campaign news coverage," presented at the 2010 Meeting of the American Political Science Association, Washington, D.C. September 1-3, 2010.

"The cost of elections," prepared for The Pew Charitable Trusts. 2009. With Greg Vonnahme.

"The effects of early voting on congressional campaign expenditures." Presented at the 2009 Meeting of the Midwest Political Science Association, Chicago, IL. April 13-15, 2009. With Marvin McNeese.

"The effects of Election Day vote centers on voter experiences," presented at the 2008 Meeting of the Midwest Political Science Association, Chicago, IL. April 3-5, 2008. With Greg Vonnahme.

Professional Associations

President, Urban Subsection, American Political Science Association, 1999-2000

President, Southwest Political Science Association, 1997-1998

Chair, Nominations Committee, Southern Political Science Association, 1995

Nomination committee, Southern Political Science Association, 1993-1994
Executive Council, Southwest Political Science Association, 1992-1994
Chair, Nominations Committee, Southwest Political Science Association, 1993-1994
Section Head, State and Local Government, Southern Political Science Association Meetings, 1993
Section Head, State and Intergovernmental Relations, Midwest Political Science Association, 1992
Executive Board, Urban Politics Section, American Political Science Association, 1990-1992
Executive Board, Southwestern Political Science Association, 1985-1991, 1993-1994
Program Chair, Southwestern Political Science Association Annual Meetings, 1983
Section Head, Intergovernmental Relations, Southern Political Science Association Meetings, 1983

Ph.D. Thesis advisees

Albert Ellis, Ph.D. 1989. Associate Professor, University of Texas, Corpus Christi (deceased)
Stephanie Post, Ph.D. 1998. Director, Center for Civic Engagement, Rice University
Martin Johnson, Ph.D. 2002. Professor and Dean, Louisiana State University (deceased)
Gavin Dillingham, Ph.D. 2004. Research Scientist, Houston Advanced Research Center
Johanna Dunaway, Ph.D. 2006. Associate Professor, Texas A&M University
Gregory Vonnahme, Ph.D. 2009. Assistant Professor, University of Missouri-Kansas City
Marvin McNeese, Ph.D. 2015, Christian Bible University, Houston, TX
Andrew Menger, Ph.D. 2017. Vanderbilt University, Nashville, TN
Matthew Lamb, Ph.D. 2020. Austin Community College, Austin, TX

Teaching

Urban Politics (undergraduate)
Public Policy (graduate and undergraduate)
Bureaucracy and Public Policy
Policy Implementation
Federalism
Political Behavior

Recent expert testimony

Expert Report in *The League of Women Voters of Arkansas and Arkansas United et al v John Thurston in his official capacity as the Secretary of State of Arkansas, et al*, CASE NO. 60CV-21-3138 [Voting rights case in the state of Arkansas] December, 2021-January, 2022.

Expert Report in *Mark Wandering Medicine et al. v. Linda McCulloch et al.*, No. CV 12-135-BLG-DWM, 2014 WL 12588302 (D. Mont. Mar. 26, 2014), [voting rights case in the state of Montana] February-June, 2014

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Expert Report in the case of *Martin Cowen, et al. vs Brian P. Kemp*, No. 1:17-CV-04660-LMM, 2018 WL 8141305 (N.D. Ga. Jan. 25, 2018) [ballot access case, challenge to state's candidate and party ballot access requirements] January-May, 2018.

Expert Report in *Jayla Allen et al. v. Waller County, Texas et al.*, 472 F. Supp. 3d 351 (S.D. Tex. 2020) [challenge to the operation of early voting] September 2019-September 2020.

Expert Report in *Donald J. Trump et al. v. Kathy Boockvar et al.* 141 S. Ct. 1044, 208 L. Ed. 2d 517 (2021) [challenge to Pennsylvania's new no-excuse voting procedures] August, 2020.

Consultant on election administration to: Harris County, Texas; Albuquerque, New Mexico; Colorado County Clerks Association; The Pew Charitable Trusts; Arnold Foundation; Collin County, Texas; Lubbock County, Texas

EXHIBIT B

1	<p>1 IN THE UNITED STATES DISTRICT COURT</p> <p>2 FOR THE SOUTHERN DISTRICT OF TEXAS</p> <p>3 HOUSTON DIVISION</p> <p>4 VIRGINIA ELIZONDO,)</p> <p>5 Plaintiff,)</p> <p>6 v.) Civil Action No.</p> <p>7) 4:21-cv-01997</p> <p>8 SPRING BRANCH INDEPENDENT)</p> <p>9 SCHOOL DISTRICT, CHRIS)</p> <p>10 GONZALEZ, PAM GOODSON,)</p> <p>11 KAREN PECK, JOSEF D. KLAM,)</p> <p>12 MINDA CAESAR, CHRIS EARNEST,)</p> <p>13 J. CARTER BREED, in their)</p> <p>14 official capacity as members)</p> <p>15 of the Board of Trustees of)</p> <p>16 Spring Branch ISD)</p> <p>17 Defendants.)</p> <p>18 *****</p> <p>19 ORAL DEPOSITION OF</p> <p>20 ROBERT M. STEIN, Ph.D.</p> <p>21 FEBRUARY 9, 2022</p> <p>22 (REPORTED REMOTELY)</p> <p>23 *****</p> <p>24 ORAL DEPOSITION OF ROBERT M. STEIN, Ph.D.,</p> <p>25 produced as a witness at the instance of the Defendants,</p> <p>and duly sworn, was taken in the above-styled and</p> <p>numbered cause on February 9, 2022, from 9:27 a.m. to</p> <p>11:31 a.m., before Dana Taylor, CSR in and for the</p> <p>State of Texas, reported remotely via Zoom by machine</p> <p>shorthand, pursuant to the Federal Rules of Civil</p> <p>Procedure and the provisions stated on the record or</p> <p>attached hereto.</p>	3
2	<p>1 A P P E A R A N C E S</p> <p>2 (Via Zoom)</p> <p>3</p> <p>4 FOR THE PLAINTIFF:</p> <p>5 MR. BARRY ABRAMS</p> <p>6 BLANK ROME</p> <p>7 717 Texas Avenue</p> <p>8 Suite 1400</p> <p>9 Houston, Texas 77002-2727</p> <p>10 713-228-6606</p> <p>11 713-228-6630 Fax</p> <p>12 barry.abrams@blankrome.com</p> <p>13</p> <p>14 - and -</p> <p>15 MR. MARTIN GOLANDO</p> <p>16 THE LAW OFFICE OF MARTIN GOLANDO, PLLC</p> <p>17 405 North Saint Mary's Street</p> <p>18 Suite 700</p> <p>19 San Antonio, Texas 78205-2334</p> <p>20 210-892-8543</p> <p>21</p> <p>22 FOR THE DEFENDANTS:</p> <p>23 MR. CHARLES J. CRAWFORD</p> <p>24 ABERNATHY, ROEDER, BOYD & HULLETT, P.C.</p> <p>25 1700 Redbud Boulevard</p> <p>Suite 300</p> <p>McKinney, Texas 75069</p> <p>214-544-4000</p> <p>214-544-4040 Fax</p> <p>ccrawford@abernathy-law.com</p>	4
3	<p>1 INDEX</p> <p>2 PAGE</p> <p>3 Appearances 2</p> <p>4 Stipulations 5</p> <p>5</p> <p>6 WITNESS: ROBERT M. STEIN, Ph.D.</p> <p>7</p> <p>8 Examination by Mr. Crawford 6</p> <p>9 Signature and Changes 85</p> <p>10 Reporter's Certificate 87</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>	3
4	<p>1 EXHIBITS</p> <p>2 NUMBER DESCRIPTION PAGE</p> <p>3 Exhibit 1 Expert Report of Robert M. Stein, Ph.D. 7</p> <p>4 January 20, 2022</p> <p>5 Exhibit 2 Email Dated February 7, 2022 with Attachments 23</p> <p>6</p> <p>7 Exhibit 3 Color Map SBISD000001 50</p> <p>8 Exhibit 4 Demonstrative Spring Branch ISD Single-Member District 51</p> <p>9</p> <p>10 Exhibit 5 "Partisanship, Structure, and Representation: The Puzzle of African American Education Politics" by Kenneth J. Meier and Amanda Rutherford 63</p> <p>11</p> <p>12 Exhibit 6 "The Impact of At-Large Elections on the Representation of Blacks and Hispanics" by Susan Welch 69</p> <p>13</p> <p>14 Exhibit 7 "At-Large Elections and Minority Representation in Local Government" by Carolyn Abbott and Asya Magazinnik 75</p> <p>15</p> <p>16 Exhibit 8 Press Release "Republican Party of Texas Doubles Down on Local Elections" 81</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>	4

<p style="text-align: center;">P R O C E E D I N G S</p> <p style="text-align: center;">FEBRUARY 9, 2022 - 9:27 A.M.</p> <p style="text-align: center;">(Reported Remotely)</p> <p style="text-align: center;">* * * *</p> <p>THE REPORTER: Today is February 9, 2022.</p> <p>The time is approximately 9:27 a.m.</p> <p>My name is Dana Taylor. My Texas CSR Number is 6048. I will be administering the oath and reporting the deposition stenographically from Mansfield, Texas.</p> <p>The witness is located in Houston, Texas. Will Counsel please state your appearances and any agreements for the record, and then I will swear in the witness.</p> <p>MR. CRAWFORD: Sure. I'll start. Charles Crawford for the Defendants. And we'll take it pursuant to the federal rules.</p> <p>MR. ABRAMS: Barry Abrams for the Plaintiff.</p> <p>I agree that we're taking it per the rules.</p> <p>MR. GOLANDO: Martin Golando for the Plaintiffs.</p> <p>And I agree with Barry.</p> <p style="text-align: center;">(Witness sworn.)</p>	5	<p>1 summer, early spring. The early spring, late --</p> <p>2 early -- late spring, early summer. Excuse me.</p> <p>3 Q. of 2021?</p> <p>4 A. 2021.</p> <p>5 Q. And what is your rate of compensation?</p> <p>6 A. \$250 per hour.</p> <p>7 Q. I have -- I have sent Barry and Dana copies of</p> <p>8 the exhibits I'd like to use with you in your deposition</p> <p>9 today. Do you have access to those?</p> <p>10 A. Yes, I do.</p> <p>11 Q. Perfect. The first exhibit I would like to</p> <p>12 talk to you about and mark is your report.</p> <p>13 MR. CRAWFORD: And so, Dana, if you would</p> <p>14 mark that as Exhibit 1.</p> <p>15 Barry, do you want to start these new,</p> <p>16 or do we want to start after the last number from your</p> <p>17 depositions? Do you have a preference?</p> <p>18 MR. ABRAMS: I'm really indifferent.</p> <p>19 I don't honestly recall where we left off. So I think</p> <p>20 there will be few enough exhibits in this case that</p> <p>21 maybe we can do it per witness or per group of</p> <p>22 witnesses.</p> <p>23 MR. CRAWFORD: Perfect. Then we'll just</p> <p>24 make this Stein Deposition Exhibit 1.</p> <p>25 (Exhibit 1 identified.)</p>	7
<p style="text-align: center;">ROBERT M. STEIN, Ph.D.,</p> <p>having been first duly sworn, testified as follows:</p> <p style="text-align: center;">EXAMINATION</p> <p>BY MR. CRAWFORD:</p> <p>Q. Good morning.</p> <p>A. Good morning.</p> <p>Q. Can you hear me okay?</p> <p>A. Yes.</p> <p>Q. Good. If any time it's -- because we're doing</p> <p>this by zoom, I'm garbled or unclear, please let me</p> <p>know, and I'll do the same for you.</p> <p>A. I will.</p> <p>Q. Okay. Will you please state your name, please?</p> <p>A. Robert Mark Stein.</p> <p>Q. Dr. Stein, what is your occupation?</p> <p>A. I am a professor of political science at</p> <p>Rice University.</p> <p>Q. How long have you been a professor at Rice?</p> <p>A. Since 1979.</p> <p>Q. And have you been hired by the Plaintiff in</p> <p>this case as an expert?</p> <p>A. Yes, I have.</p> <p>Q. When were you hired?</p> <p>A. That's a very good question. It was last year.</p> <p>I think Mr. Abrams and Golando approached me late</p>	6	<p>1 Q. Dr. Stein, is Exhibit 1 a copy of your report</p> <p>2 in this case?</p> <p>3 A. Yes, it is.</p> <p>4 Q. Is your resume attached to the report?</p> <p>5 A. Yes, it is.</p> <p>6 Q. And does your resume adequately describe and</p> <p>7 list your qualifications to opine as an expert in this</p> <p>8 case?</p> <p>9 A. Yes, it does.</p> <p>10 Q. Okay. So rather than go through that, we'll</p> <p>11 just rest on the resume, if that's okay?</p> <p>12 A. (Nods head.)</p> <p>13 Q. What is the scope of your employment as an</p> <p>14 expert in the lawsuit?</p> <p>15 A. And -- and I'll be looking to my -- to your</p> <p>16 left because I have another screen that has my -- has</p> <p>17 the exhibit up. So I'm not trying to be rude or just</p> <p>18 wanted you to think I'm -- but on Page 2 --</p> <p>19 Q. I absolutely understand.</p> <p>20 A. -- and 3, I stipulate, I guess, I have been</p> <p>21 retained by counsel to provide expert testimony, and</p> <p>22 there are, I believe, five, six, seven -- eight bullets.</p> <p>23 I can go through them, but they're</p> <p>24 basically the -- the issues of whether Spring Branch ISD</p> <p>25 school board elections are racially polarized.</p>	8

<p>1 whether Latinos or Hispanics are 2 politically cohesive in the Spring Branch ISD school 3 board trustee elections and vote as a block for 4 Latino-preferred candidates -- or candidate. 5 whether Hispanic or Latino voting-age 6 population in the Spring Branch ISD is sufficiently 7 large and geographically compact to constitute a 8 majority of voting population in at least one, or more, 9 single-member districts under what I offer later on as 10 an illustrative district plan. 11 And then the last four points deal with 12 whether white Non-Hispanics vote sufficiently as a block 13 to enable them, in the absence of special circumstances, 14 like a special -- like a single-member district, to 15 defeat a minority candidate who is a preferred choice of 16 the minority voter. 17 whether single-member district elections 18 or at-large elections enhance the proportional 19 representation of minority-preferred candidates on 20 elected legislative bodies, like a school board. 21 whether taxing and spending practices 22 differ significantly between governments with 23 single-member district representation and at-large 24 elections or representation. 25 And then, finally, whether legislative</p>	<p>9</p>	<p>1 Q. What have you done in order to render your 2 opinion in this case? 3 A. A number of things. Of course, I -- to deal 4 with the last four points, in reverse order, I reread 5 the literature on -- the scholarly literature on these 6 issues that I -- the last four bullets, I think on 7 Page -- help me here -- 3. 8 I requested -- to deal with these issues 9 on the first three bullets -- actually, the first four 10 bullets; I apologize -- I requested materials and 11 information from the Spring Branch ISD. I acquired 12 information from the Harris County election 13 administrator's office. 14 And, where necessary, I read newspaper 15 accounts of the candidates running for office in the 16 Spring Branch ISD trustee -- school board trustee 17 elections. 18 Q. Did you -- 19 A. Oh, I'm sorry. 20 Q. Oh, go ahead. 21 A. I also acquired data from the U.S. Bureau of 22 Census for demographic information. 23 Q. Did you keep copies of the newspaper accounts 24 that you just were referring to that you had reviewed? 25 A. I think one or two, yes.</p>	<p>11</p>
<p>1 bodies are more responsive to the preferences of 2 minority and nonminority voters in at-large or 3 single-member district forms of representation. 4 Q. Are the bullet points you read off more 5 commonly known as the Gingles factors? 6 A. Yes. That was how I understood these issues, 7 from reading Gingles and being advised. 8 Q. And would the scope of your opinion and 9 engagement be to opine on Gingles Factors 1, 2, and 3? 10 A. Yes, they would. 11 Q. And are you opining on the Senate Factors also? 12 A. I'm -- I'm sorry. I couldn't hear that last 13 word. 14 Q. The Senate Factors. Are you opining on the 15 Senate Factors or the "totality of the circumstances" 16 factors? 17 A. Oh, okay. I didn't know what "Senate" meant. 18 I -- I am opining on what I said here. 19 If -- if that constitutes a -- I think you called it the 20 totality of circumstances, I'm inclined to agree with 21 that, yes. 22 Q. Okay. Are there any other subjects that you 23 are opining on that are not listed in the bullet points 24 in your report? 25 A. No.</p>	<p>10</p>	<p>1 Q. Would you be able to locate those and provide 2 those to Barry to be able to provide to me? 3 A. Yes, I -- I am certain I can. 4 Q. Okay. I'd ask if you could do that, please? 5 A. Can I just write myself a note? 6 Q. Sure. 7 A. I'm forgetful. 8 Got it. 9 Q. Okay. You were telling me what you had done in 10 order to render your opinion, and I interrupted you with 11 the newspaper request. Any other tasks that you've 12 done, other than what you've just told me, in order to 13 render your opinion? 14 A. No, I don't -- no. 15 Q. Who did you talk to in preparation to render 16 your opinion? 17 A. Well, of course Mr. Abrams and Mr. Golando, and 18 that's it. I -- I didn't talk to anybody else. As I 19 said, I -- I read a good deal. And that is -- those are 20 the only people I talked to about this case. 21 Q. Is there anything else that you need or want or 22 plan to do to render your opinion in this case? 23 A. At this time, no. 24 Q. Are you fully prepared to render your opinion 25 today?</p>	<p>12</p>

4 (Pages 13-16)

<p style="text-align: right;">13</p> <p>1 A. Yes.</p> <p>2 Q. What is your opinion?</p> <p>3 A. Well, as I said in my report, I think there is</p> <p>4 statistically significant evidence of racial polarized</p> <p>5 voting in the Spring Branch ISD -- Independent School</p> <p>6 District trustee elections from 2015 to 2021.</p> <p>7 Q. And, Dr. Stein, are you reading from the</p> <p>8 "Summary of Opinions" portion of your report on Page 3?</p> <p>9 A. Yes.</p> <p>10 Q. Okay.</p> <p>11 A. I think that non-white (sic) Hispanics vote</p> <p>12 sufficiently as a block to enable them, in the absence</p> <p>13 of a single-member district form of representation, to</p> <p>14 defeat minority voters, which would be the preferred</p> <p>15 candidates of choice for those Hispanic voters.</p> <p>16 I also believe the geographic concentration</p> <p>17 of Hispanics in the Spring Branch ISD district is</p> <p>18 sufficient to constitute a majority of the voting-age</p> <p>19 population in at least one single-member district under</p> <p>20 what I offered as an illustrative seven-district plan.</p> <p>21 Although, there may be more. I have not investigated</p> <p>22 that. I only looked for the one.</p> <p>23 Regarding the literature and research,</p> <p>24 scholarly literature, I find strong evidence that</p> <p>25 single-member district forms of representation do -- do,</p>	<p style="text-align: right;">15</p> <p>1 A. That's a good question.</p> <p>2 As I write in the report -- although, I --</p> <p>3 I should be careful here. I know the arguments in</p> <p>4 favor of at-large forms of representation. So I'll</p> <p>5 distinguish my answer by saying there have been</p> <p>6 arguments -- or hypotheses, I should say, about the</p> <p>7 advantages of single-member district representation</p> <p>8 over at-large.</p> <p>9 Those advantages seem to flow from the</p> <p>10 idea that single-member district representation has</p> <p>11 disadvantages that are overcome by at-large. Those</p> <p>12 disadvantages include excessive spending above demand.</p> <p>13 Sometimes we call this a pork barrel.</p> <p>14 So single-member district representation</p> <p>15 leads single-member district representatives to increase</p> <p>16 spending for their district at the expense of the</p> <p>17 benefits to the whole district, a sort of</p> <p>18 particularization, and a greater concern for the --</p> <p>19 not for the many, but for the some.</p> <p>20 Second, at-large forms of representation</p> <p>21 are thought to be able to represent what is known as</p> <p>22 the collective interest, the greater good of the</p> <p>23 district, over the -- the good of a particular segment</p> <p>24 or geography.</p> <p>25 The literatures I offer here -- and I'm on</p>
<p style="text-align: right;">14</p> <p>1 in fact, enhance proportional representation of minority</p> <p>2 candidates on legislative bodies.</p> <p>3 Single-member district representation</p> <p>4 increases the likelihood that minority candidates will</p> <p>5 contest -- that means run for -- positions on</p> <p>6 legislative bodies.</p> <p>7 And single-member district representation</p> <p>8 will produce policies, decisions of these legislative</p> <p>9 bodies, that are more responsive to minority voters and</p> <p>10 their policy preferences.</p> <p>11 THE WITNESS: And if I'm going too fast,</p> <p>12 Ms. Taylor, please just slow me down. I am working</p> <p>13 extremely hard to not deliver a fast answer.</p> <p>14 A. Oh, and I'm sorry. I apologize. The</p> <p>15 concluding recommendation is that the Spring Branch ISD</p> <p>16 should adopt single-member district plans for the</p> <p>17 election of its seven district trustees.</p> <p>18 Q. And that is a summary of your opinions in the</p> <p>19 case. Do you have any other opinions, other than the</p> <p>20 ones that you just listed for me?</p> <p>21 A. No, I do not.</p> <p>22 Q. Your last summary talks about a single-member</p> <p>23 district plan, and I want to ask, if you could, tell me</p> <p>24 the positive aspects of at-large systems for school</p> <p>25 districts?</p>	<p style="text-align: right;">16</p> <p>1 Page 3 -- do not seem to conclusively -- there are mixed</p> <p>2 results, and there's even results that would support.</p> <p>3 But to use the phrase the totality of the research and</p> <p>4 the -- and the best research and the most recent does</p> <p>5 not seem to support those arguments in favor of at-large</p> <p>6 over single-member district representation.</p> <p>7 Q. And I note that you were very careful, at</p> <p>8 the beginning of your answer, to say that these were</p> <p>9 arguments in favor of at-large, not necessarily your</p> <p>10 opinion about that.</p> <p>11 So let me ask you. Do you agree or</p> <p>12 disagree with the arguments that you've laid out for me?</p> <p>13 A. It's my conclusion that the literature and</p> <p>14 my own findings here -- but particularly the literature</p> <p>15 that I reviewed -- would not support the arguments</p> <p>16 or hypotheses that suggested at-large forms of</p> <p>17 representation are superior, on those points I made,</p> <p>18 to single-member district representation.</p> <p>19 Q. What about the middle ground of those two</p> <p>20 systems, the at-large on one end, pure single-member</p> <p>21 districts on the other? What about mixed districts</p> <p>22 where you have one or two at-large seats and the</p> <p>23 remainder are single-member districts? Tell me about</p> <p>24 the positive aspects of that sort of a system.</p> <p>25 A. I -- I did not review that literature. I know</p>

<p style="text-align: right;">17</p> <p>1 that literature exists, and I'm -- I'm quite happy to -- 2 to review it. But I, at this point, have not formed an 3 opinion about mixed systems. And there -- there are 4 many of them. Our own City of Houston city council has 5 a mixed plan and has since 1981. 6 But I have not -- I want to be clear 7 here -- have not reviewed that literature, nor have 8 I formed an opinion about the superiority, inferiority, 9 or -- or any of the issues I addressed here. I only 10 looked at single-member versus at-large. 11 Q. You mentioned the City of Houston in your 12 answer, and so that -- that leads me to ask this 13 question. When you are looking at elections and 14 systems, is there a difference between analyzing those 15 systems and elections with regard to cities versus 16 school districts? 17 A. I am certain there is, but, again, except for 18 the literature I reviewed, I -- my first focus was 19 school districts, but there's no question that there 20 have been -- and my literature review includes both 21 school districts and some studies on general purpose 22 municipal governments. 23 But I am not ready to opine whether or not 24 single-member district forms of representation and 25 at-large vary by form of government, school district</p>	<p style="text-align: right;">19</p> <p>1 forms of representation increase -- increase or have no 2 effect on the election of minority candidates, and that 3 literature is -- I think the core of it is at the top of 4 Page 11, if you can see that. 5 Q. Yes. And I'm going to -- 6 A. And it's -- 7 Q. I'm going to come back to those later because 8 we're just going to work -- just so you know, I'm just 9 going to work through your report sequentially -- 10 A. Sure. 11 Q. -- because it's easier for simple minds like 12 me to do it that way. And so I'm going to come back 13 to some of these studies that you reference on Page 11. 14 But these are primarily what you're 15 referencing, on Page 3, when you say "the scholarly 16 literature"? 17 A. Yes. 18 Q. Perfect. 19 I want to turn quickly to Page 2 of your 20 report, and you state, towards the bottom, that "I have 21 also designed voting districts for municipal governments 22 and school districts in Texas. I am currently designing 23 election districts for Lancaster ISD, Goose Creek ISD, 24 and the City of Baytown." 25 My question is are there any other school</p>
<p style="text-align: right;">18</p> <p>1 and -- and general purpose governments. It was not the 2 scope of my work, which is not to say that I -- I 3 couldn't have done that. I just did not. I was not 4 asked to do that. 5 Q. I want to turn back to your report, and we're 6 on Page 3, the fourth bullet point, the Summary of 7 opinions, and you discuss the scholarly literature. 8 You make reference to scholarly literature to conclude 9 certain items. 10 what scholarly literature are you referring 11 to specifically there? 12 A. In the first bullet? 13 Q. Or just when you say "There is strong" -- 14 A. Or all three? 15 Q. -- "evidence in the scholarly literature," 16 are there certain studies that you're specifically 17 referencing, and can you tell me what that -- what those 18 are? 19 A. Sure. Yeah, I mean, the best way to answer 20 that would be to go to page -- help me here -- Page 10. 21 And I tried to organize my review of the literature 22 around, I believe, at least three. Did minority 23 representation in at-large districts increase -- did 24 at-large -- excuse me. 25 Did at-large versus single-member district</p>	<p style="text-align: right;">20</p> <p>1 districts for which you are designing election 2 districts -- 3 A. That I -- 4 Q. -- or that you have designed election districts 5 for? 6 A. Have or -- or currently? I'm sorry. 7 Q. It's a two-part question. 8 A. Sure. 9 Q. So both of them. 10 A. I -- I have done it for HISD; Houston Community 11 College; Lone Star; San Jacinto. Give me a second. 12 I've just got to -- oh, Lyman County ISD, South Dakota. 13 And, to the best of my memory, that's it, and then the 14 ones I'm currently doing. 15 Q. And does that entail actually drawing a map, 16 like you've done in your report in our case? 17 A. Let me clarify, yes, I first have -- I didn't 18 draw a map here. I -- I worked with the map that I was 19 given. Needless to say, I was working with the precinct 20 or enrollment districts that are currently being used 21 for electing trustees. 22 But to -- to your first, yes, I have drawn 23 maps. I think -- I use the word "design." I think 24 your -- your language is maybe better. I -- I 25 constructed or drew maps, yes.</p>

6 (Pages 21-24)

<p style="text-align: right;">21</p> <p>1 Q. Is that normally the type of work that 2 demographers do? 3 A. I don't know. I -- and that's a fair question. 4 The -- the short answer is I have worked with 5 demographers. I'm -- I'm not altogether certain what 6 exactly they do, except enrollment districts. But the 7 short answer is I'm not certain, but I would -- I would 8 assume so, yes. 9 Q. And as opposed to analyzing election data, what 10 are -- what do you believe your qualifications are to 11 design the district themselves, or draw the maps, as 12 we've been talking here? 13 A. Well, I'm -- I am familiar with, as -- as I'm 14 often advised by attorneys I work for or the school 15 districts whose attorneys I work for, regarding rules 16 and requirements, voting rights, single-member 17 districts, one person one vote. 18 I've trained and taken courses on 19 geographical information systems. I have trained and 20 actually served on the U.S. Bureau of Census advisory 21 board; so I'm pretty familiar with the data that is 22 provided there. 23 And I believe I am knowledgeable about 24 elections and election procedures, such that I can work 25 with the voting data provided by, in this case, county</p>	<p style="text-align: right;">23</p> <p>1 expert report. 2 Q. The next section of your -- of Page 3 is 3 "Materials Reviewed." And you say that you consulted 4 the scholarly, peer-reviewed research on, and then you 5 list some bullet points. 6 Is that the same research that you and 7 I were talking about just a moment ago, or is this a 8 different -- 9 A. Yes, it is. 10 Q. -- body of research? 11 A. I'm sorry. I couldn't hear. 12 Q. Or is this a different body of research? 13 A. No, no. This is what we had previously -- 14 previously discussed and I elaborate on later in the 15 report. 16 Q. And then the last paragraph on Page 3 says that 17 you have "relied on election results provided by the 18 Spring Branch ISD for trustee elections, data from the 19 U.S. Bureau of the Census, and Harris County's Election 20 Administrator Office for my analysis of racially 21 polarized voting in SBISD's trustee elections." 22 Do you see that reference? 23 A. Yes. 24 (Exhibit 2 identified.) 25 Q. If you would, as the next exhibit, look at the</p>
<p style="text-align: right;">22</p> <p>1 and election administrators. 2 Q. Of the -- of the election districts that you've 3 designed for schools before, have they all been pure 4 single-member districts, or have any of them been a 5 mixed system of partially at-large and partially 6 single-member? 7 A. Only the city of Houston has been a mixed 8 system. All others have been single-member districts. 9 I -- I qualify that. I'm sorry. My 10 memory. I did -- and this is a while back -- Fort Bend 11 ISD. And I did their redistricting when they moved from 12 an at-large to a single-member. And if you're going to 13 ask me the year, I'm going to vaguely recall it as in 14 the early 1980s. 15 Q. Going to page -- back to Page 3 now of your 16 report, your final opinion is that "Spring Branch should 17 adopt a single-member district plan for the election of 18 the district's seven trustees." 19 Did I take your earlier testimony to say 20 that you did not analyze whether or not Spring Branch 21 should adopt a mixed system? 22 A. No, I did not. 23 Q. Okay. So you don't have an opinion whether 24 that would be good, bad, or indifferent at this point? 25 A. Not based on the work I have done in -- in my</p>	<p style="text-align: right;">24</p> <p>1 email from Barry to me, and it has attachments to it. 2 A. I -- I don't recall seeing that. I apologize. 3 I'm sure I got it. I just don't have it at -- 4 Q. This is an email that Barry sent me on this 5 Monday, and it says "Attached are materials provided by 6 Dr. Stein." 7 A. Yes. Yes, I do remember. If you give me a 8 second, I'll get it up. 9 Okay. And which exhibit is it? 10 Q. We can mark this now as Exhibit Number 2. 11 A. Okay. Barry Abrams' email. I got it. I see 12 it. 13 Q. Okay. My first question is are these the 14 materials that you're referring to on the bottom of 15 Page 3 of your report? 16 A. Yes. 17 Q. Are there any other materials that you're 18 referring to, in your report on Page 3, that are not 19 contained in the email that Barry sent me? 20 A. Yes. If you go to the bottom -- and I 21 apologize. I omitted this in my report. There is 22 another source of information, and I have to get it. 23 Yeah, on Page 9, Footnote 2. 24 Q. I'm with you. 25 A. I used data from the NCES, the National --</p>

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<p style="text-align: right;">25</p> <p>1 well, you're going to ask me what it stands for; it's 2 the National Center for Education Statistics -- to 3 acquire information on the racial makeup of schools and 4 enrollment districts in Spring Branch. And that was 5 used in my racial and ethnic segregation analysis on 6 Page 9. That was not included on the bottom of Page 3. 7 Q. Okay. Would you be able to print those 8 materials and send them to Barry so he could forward 9 them to me? 10 A. Yes, yeah. 11 Q. Okay. Thank you. 12 A. There's one -- yeah. 13 Q. If you need to finish an answer, please feel 14 free. 15 A. There was one other piece of information I 16 acquired from Mr. Golando on the American Community 17 Survey, on Page Number 8, and that's Table Number 1. 18 And I will -- well, that data's there. The source is 19 the American Community Survey, and I should have put a 20 footnote in that for the website as well, which I will 21 do. 22 Q. All right. And I had a couple of questions 23 about that, but I'll get to those later. 24 other than the -- what you've now told me 25 about, the additional information, is there any other</p>	<p style="text-align: right;">27</p> <p>1 it. 2 A. This was used for -- I'm parsing everything 3 together here. Give me just one second so I can tell 4 you. 5 These are the data that I -- I used for 6 table number -- get this back up. Yeah, these are the 7 data I used for Table Number 1 on Page 8. 8 Q. And if I am reading this correctly, the first 9 three columns of the spreadsheet all came from the 2020 10 census? 11 A. Yes. 12 Q. And then do all the remaining columns come from 13 the American Community Survey? 14 A. That is correct. 15 Q. And that's the 2015 to 2019 -- 16 A. That is -- 17 Q. -- five-year ACS? 18 A. I believe all of the -- oh, I'm sorry. Yes, 19 the first three columns are the census, and the 20 remaining columns are from the American Community Census 21 (sic) from 2015 to 2019. 22 Q. Is there a reason why you use the census for 23 the first three columns and not for the remaining 24 columns? 25 A. Citizen voting age population is not data</p>
<p style="text-align: right;">26</p> <p>1 information that you're referring to, in Page 4 of your 2 report, that's not included in the materials that Barry 3 sent me the other day? 4 A. I'm just double-checking to make certain, if 5 you don't mind. 6 Q. Sure. 7 A. I want to make certain I didn't -- no. No, 8 there is no other information. 9 Q. Okay. Turning to Exhibit 2, which is Barry's 10 email and the attachments, I just want to ask you what 11 the attachments are and what they -- what they mean and 12 how you use them. 13 A. Okay. 14 Q. And so the first one, the first attachment, I 15 think, is labeled "Copy of SBISD Demonstrative Data," 16 and it appears to be a chart. And it looks like this 17 chart may have formed part of the basis of your chart on 18 Page 8 of your report. 19 A. Help me here. 20 Q. Sure. 21 A. Are we talking about the -- the one that's 22 "Special Tabulation of Citizen Voting Age Population"? 23 Q. It's the one that -- 24 A. Yeah, I got it. That's it. 25 Q. Yeah. So tell me what this is and how you used</p>	<p style="text-align: right;">28</p> <p>1 collected in the census; whereas, citizen -- let me get 2 that -- citizen voting age population is collected only 3 in the American Community Survey. It is not collected 4 in the census. 5 Q. And is there a 2020 American Community Survey, 6 or was the 2015 to 2019 the most recent data set that 7 you were able to use? 8 A. It was the most recent that was available to us 9 at the time. 10 Q. Is there a 2020 ACS? 11 A. I believe there is, but I am not certain it's 12 been released. I -- I just don't know. I honestly 13 don't know. 14 Q. And then under your column that says 15 "Hispanic CVAP" -- and CVAP stands for citizen voting 16 age population; is that correct? 17 A. Yes. 18 Q. And in your proposed District 1, you have a 19 52.8 percent Hispanic CVAP; is that correct? 20 A. That's correct. 21 Q. And so that puts it over the 50 percent 22 Gingles 1 threshold for an acceptable illustrative 23 district, correct? 24 A. That is correct. 25 Q. Next to the 52.8, you have a plus/minus of 5.9.</p>

8 (Pages 29-32)

<p style="text-align: right;">29</p> <p>1 Is that plus/minus of 5.9 the margin of error?</p> <p>2 A. That is correct.</p> <p>3 Q. So does that mean that the Hispanic CVAP in</p> <p>4 District 1, within the margin of error that you've</p> <p>5 listed, could be below 50 percent?</p> <p>6 A. Yes.</p> <p>7 Q. How did you -- do you know how the ACS gathered</p> <p>8 or computed the Hispanic CVAP in Spring Branch?</p> <p>9 A. They would have conducted surveys.</p> <p>10 Q. Is it -- is it self-identification or is it</p> <p>11 surname based or do you know?</p> <p>12 A. No, the -- my understanding -- and on this,</p> <p>13 I will have to -- I'd have to do more work. It is</p> <p>14 self-identified.</p> <p>15 Q. I'm sorry. I didn't --</p> <p>16 A. Self-identified. It's the result of a survey</p> <p>17 question asked.</p> <p>18 Q. Did you use the chart that we're referring to</p> <p>19 for any other purpose than using it for Table 1 in your</p> <p>20 report?</p> <p>21 A. No, I did not.</p> <p>22 Q. And other than the 2020 census and the 2015 to</p> <p>23 2019 ACS survey, did you rely on any other information</p> <p>24 or data to create this spreadsheet?</p> <p>25 A. This one here on -- that we're looking --</p>	<p style="text-align: right;">31</p> <p>1 an additional overflow on some years, but this is</p> <p>2 basically the data that informed my racial polarization</p> <p>3 analysis.</p> <p>4 Q. And where did you -- what information did you</p> <p>5 use to come up with your chart?</p> <p>6 A. The data that I -- I'm not certain -- repeat</p> <p>7 that again, please.</p> <p>8 Q. Sure. What data did you use to input into your</p> <p>9 Excel spreadsheet to create this?</p> <p>10 A. I asked, as I said I think on Page 3, for</p> <p>11 the Spring Branch ISD to provide me vote totals by</p> <p>12 candidate, by year, by polling location.</p> <p>13 Q. And, ultimately, did the information in this</p> <p>14 spreadsheet, that we're looking at -- we're talking</p> <p>15 about, become part of Figures 1, 2, 3, and 4 on</p> <p>16 Pages 5 through 7 of your report?</p> <p>17 A. I'm going to switch back and forth. I just</p> <p>18 want to make certain I'm -- yes, these are the ones for</p> <p>19 Figures 1 through 4, yes.</p> <p>20 Q. Okay. Perfect.</p> <p>21 The next attachment to Barry's email, that</p> <p>22 I'd like to ask you about, is entitled "Election Results</p> <p>23 2015 to 2021."</p> <p>24 A. Okay. Yes.</p> <p>25 Q. And like the prior one, this came on an Excel</p>
<p style="text-align: right;">30</p> <p>1 Q. Yes.</p> <p>2 A. -- I'm looking at? No, I did not.</p> <p>3 Q. Okay. The next attachment to Barry's email</p> <p>4 that I would like to ask you about is the one entitled</p> <p>5 "Data SBISD Election." And when you -- when Barry sent</p> <p>6 it to me, it was on an Excel spreadsheet, and then, when</p> <p>7 I printed it off, it gives me a harder-to-read version.</p> <p>8 A. Yes, sir.</p> <p>9 Q. But it was sent in Excel form.</p> <p>10 Can you tell me what this is and what you</p> <p>11 used this for, in terms of your opinion?</p> <p>12 A. I'll start with the second question. It was</p> <p>13 used to do my voter polarization racial -- racial</p> <p>14 polarization. It's a result of trustee elections by</p> <p>15 year, by precinct or voting tabulation area, by</p> <p>16 candidate, along with the racial or ethnic makeup of</p> <p>17 each voting place, in terms of what was the racial</p> <p>18 makeup of the men and women that cast ballots in that</p> <p>19 election, in that year, in that polling place, or in</p> <p>20 this case precinct.</p> <p>21 Trustee -- maybe this will help. When I</p> <p>22 refer to precincts and polling places and enrollment</p> <p>23 districts, they're all the same. There are seven</p> <p>24 trustees, and, although they are at-large, these</p> <p>25 elections are held in these seven. There was actually</p>	<p style="text-align: right;">32</p> <p>1 spreadsheet, and I'd like to ask you, what did you use</p> <p>2 this for, and what data did you use to input to create</p> <p>3 this?</p> <p>4 A. This is virtually the same data, coming from</p> <p>5 the same source, as we saw in the spreadsheet above.</p> <p>6 It is a different display of the data, but it's the same</p> <p>7 data and the same source, and it was used to inform my</p> <p>8 analysis on racial polarized voting, as reported in -- I</p> <p>9 forgot the section -- but Figures 1 through 4.</p> <p>10 Q. Perfect.</p> <p>11 The next attachment to Barry's email is</p> <p>12 entitled "Polarization Spreadsheet."</p> <p>13 A. Oh, yes, I'm with you.</p> <p>14 Q. Okay. And like the -- like the earlier</p> <p>15 questions, I just want to ask, you know, how did you --</p> <p>16 what is this, how did you use it, and what did you use</p> <p>17 to create it?</p> <p>18 A. All right. Let me just -- give me one second.</p> <p>19 So if you go to my report and you go to</p> <p>20 Page -- help me here -- 9, this data, which came from</p> <p>21 the National Center on Educational Statistics --</p> <p>22 Education -- National Center for Education Statistics,</p> <p>23 and this informed Section 6 of my report on "Racial and</p> <p>24 ethnic segregation in Spring Branch ISD."</p> <p>25 Q. Where did you get the information to put into</p>

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<p>33</p> <p>1 your spreadsheet?</p> <p>2 A. From the National Center for Education</p> <p>3 Statistics. The website is in Footnote Number 2 on</p> <p>4 Page 9.</p> <p>5 Q. And that's the one we talked about earlier?</p> <p>6 A. Yes.</p> <p>7 Q. And then the final attachment to Barry's</p> <p>8 email was entitled "Spring Branch Segregation ISD Data</p> <p>9 Analysis 2."</p> <p>10 A. Let me go back. Yes.</p> <p>11 Q. And if you could tell me what this is, how you</p> <p>12 used it, and what you used to create it?</p> <p>13 A. These are the calculations that I made. Let</p> <p>14 me go back to the report. And on Page 9, again, in</p> <p>15 Section 6, this formula for calculating racial</p> <p>16 segregation or dispersion, those are the computed</p> <p>17 scores for each of the schools and each of the</p> <p>18 enrollment districts in Spring Branch ISD.</p> <p>19 Q. All right. I think I'm ready to move on to</p> <p>20 Page 4 of your report.</p> <p>21 A. Give me one second. Okay.</p> <p>22 Q. And this is the section entitled "Racially</p> <p>23 Polarized Voting in Spring Branch ISD." And your first</p> <p>24 paragraph states that you "used a definition of racially</p> <p>25 polarized voting as outlined in Thornburg versus Gingles</p>	<p>35</p> <p>1 A. No, I do not.</p> <p>2 Q. You analyze, I believe, ten trustee elections,</p> <p>3 in Spring Branch ISD, to form the basis of your opinion?</p> <p>4 A. That's correct.</p> <p>5 Q. You did not analyze any exogenous elections,</p> <p>6 did you?</p> <p>7 A. Say that again. Any?</p> <p>8 Q. You did not analyze any exogenous elections,</p> <p>9 did you? Non-Spring Branch elections?</p> <p>10 A. No, no.</p> <p>11 Q. Why did you -- can you tell me why you did not</p> <p>12 do that?</p> <p>13 A. It wasn't what was asked of me.</p> <p>14 Q. The final paragraph, on Page 4 of your report,</p> <p>15 states that "The dominate races and ethnicities among</p> <p>16 Spring Branch ISD voters are White, the majority, and</p> <p>17 Hispanic, the minority."</p> <p>18 Do you know the current percentages of</p> <p>19 those two groups based on the 2020 census?</p> <p>20 A. I think that's in -- as in total population or</p> <p>21 total voting age population?</p> <p>22 Q. Well, that's a great question. I'm just trying</p> <p>23 to refer it to the statement in your report. So what</p> <p>24 were you referring to in your report when you say that</p> <p>25 the dominate races among the voters are white, the</p>
<p>34</p> <p>1 case to assess whether this condition existed in the</p> <p>2 Spring Branch ISD trustee elections between 2017 and</p> <p>3 2021."</p> <p>4 A. 2015 and --</p> <p>5 Q. Okay. You anticipated my question.</p> <p>6 A. That's a typo, for which I do apologize.</p> <p>7 Q. Okay. Because I --</p> <p>8 A. It should be 2015.</p> <p>9 Q. I was going to ask you why you chose 2017, but</p> <p>10 you've --</p> <p>11 A. No.</p> <p>12 Q. -- now answered that.</p> <p>13 A. It's a -- it's a typographical error.</p> <p>14 Q. Okay. So why did you choose -- why didn't you</p> <p>15 go earlier than 2015?</p> <p>16 A. I'm sorry. I couldn't hear that.</p> <p>17 Q. Sure. Why didn't you do any analysis earlier</p> <p>18 than 2015?</p> <p>19 A. I -- and to -- the honest answer is I -- my</p> <p>20 recollection was I couldn't get data before 2015, and</p> <p>21 I -- this was the data that was available to me. But</p> <p>22 I -- that is my recollection.</p> <p>23 Q. Do you know who the minority-preferred</p> <p>24 candidates were in the Spring Branch elections prior</p> <p>25 to 2015?</p>	<p>36</p> <p>1 majority, and Hispanic, the minority?</p> <p>2 A. I think I was referring here to Section 6 of</p> <p>3 my report, racial and ethnic segregation. And if I</p> <p>4 remember correctly, for example, Spring Branch is</p> <p>5 comprised of 26.7 percent white students and 59 percent</p> <p>6 Hispanic students.</p> <p>7 Q. Right. But now the percentages of students</p> <p>8 does not necessarily correspond to the percentages of</p> <p>9 voters, does it?</p> <p>10 A. That's correct.</p> <p>11 Q. Because most students don't vote?</p> <p>12 A. Well, yes, most students will have parents,</p> <p>13 maybe all students, and we will assume that, but not</p> <p>14 necessarily, the -- the race and ethnicity. So the only</p> <p>15 other source of information I have would have been the</p> <p>16 census data and citizen voting age population that are</p> <p>17 reported in the exhibit that I --</p> <p>18 Q. Would it also be on the -- your Table 1 on</p> <p>19 Page 8 of your report? You have a chart.</p> <p>20 A. Yes, that -- that would be the makeup of</p> <p>21 the districts, but I'd go back to the census and the</p> <p>22 ACS reports. And then from that, I would have</p> <p>23 calculated the percent of population, Spring Branch ISD,</p> <p>24 white, Hispanic. I cannot give you that number now.</p> <p>25 Q. Okay. Turning to the next page of your report,</p>

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1 Page 5, at the very beginning of Page 5, you state,
 2 "To measure the degree to which there is racially
 3 polarized voting in Spring Branch ISD trustee elections,
 4 I regressed the proportion of persons," et cetera,
 5 et cetera.
 6 My question is what does "I regressed"
 7 mean?
 8 A. It -- Footnote Number 1. It's a kind of
 9 "ordinary least squares." Basically, it's a plot.
 10 Simply, along the -- what you'd call the Y -- well,
 11 the horizontal axis --
 12 Q. And so you'll understand, I'm a liberal arts
 13 major, and so a lot of what you're going to say might be
 14 very simple to you, but is very --
 15 A. I understand.
 16 Q. -- detailed to me. So help -- help the
 17 uninitiated.
 18 A. What I'm asking is simply this, given an
 19 election -- let me -- let me re- -- I'm going to go back
 20 up so you can see in the report.
 21 It's a proportion of vote cast for the
 22 white candidate, the minority-preferred candidate, in
 23 this case Hispanic surname candidate, and the proportion
 24 of vote Hispanic and white in each precinct in each
 25 election for each candidate.

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1 So all I'm saying -- asking is, if I have a
 2 Precinct 1, and it's 70 percent Hispanic, how many votes
 3 did the Hispanic-preferred candidate get in that
 4 precinct in that election.
 5 My expectation is that there's a
 6 relationship between the race or racial makeup of a
 7 voting precinct and their support for minority -- excuse
 8 me -- for minority-preferred candidates. And if that
 9 relationship is significant and steep -- steep tells me
 10 how many units of racial makeup in the precinct are
 11 related to how many unit changes in vote for the
 12 minority-preferred candidate or the majority-white
 13 candidate.
 14 So that, if a line is steep and moving from
 15 left to right, like in Figure 1, that tells me that, as
 16 the racial makeup of a precinct increases, that is
 17 white, the share of vote in that precinct for the white
 18 candidate goes up proportionately.
 19 The slope is simply the change in the
 20 racial makeup of a precinct to the change in the share
 21 of vote for the white or minority-preferred candidate.
 22 A slope of 1 would mean that, for every percentage
 23 increase in the racial makeup of the voting precinct,
 24 there is an equal 1 percent increase in the share of
 25 vote for the white candidate; the same for the minority.

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1 Does that help?
 2 Q. It does.
 3 A. Okay.
 4 Q. And I believe you say in your report, on
 5 Page 5, that Hispanic surname candidates were identified
 6 as the minority-preferred candidate, for purposes of
 7 your figures, correct?
 8 A. Yes.
 9 Q. Did you take into consideration a white
 10 candidate with a Hispanic surname? For example,
 11 Chris Gonzalez, who is the current board president of
 12 the Spring Branch trustees. How did you -- how did you
 13 compensate for somebody with a surname of Gonzalez that
 14 is not Hispanic?
 15 A. I don't know that I -- I apologize. Did you
 16 say how did I compensate?
 17 Q. Sure.
 18 A. I'm not certain I'm understanding.
 19 Q. Well, I guess --
 20 A. I know she's not -- I know Ms. Gonzalez has a
 21 Hispanic surname, and that's all I -- as my report
 22 indicated, if the surname of the candidate was Hispanic,
 23 I assumed that they were the preferred candidate of the
 24 Hispanic voter. I did not determine whether voters were
 25 aware of Ms. Gonzalez's preferred ethnic identification.

40

1 Q. So for purposes of your table -- figures in
 2 your report, you considered Chris Gonzalez to be a
 3 preferred Hispanic candidate?
 4 A. That is correct.
 5 Q. Okay. You kind of did this already, but I'm
 6 going to ask you, if you did it, to do it again. And
 7 that is to walk me through Figures 1, 2, 3, and 4, your
 8 charts, and -- and just tell me what they mean, how to
 9 read them.
 10 A. So, as I said before, what I'm trying to
 11 ascertain is if the racial makeup of a voting precinct
 12 is related to the support for the preferred -- excuse
 13 me -- preferred minority candidate or the preferred
 14 majority racial group.
 15 And what we do on the horizontal axis is
 16 simply tell you what the racial makeup of each voting
 17 precinct was in each of the elections conducted between
 18 2015 and 2017. That goes from, oh, you know, around
 19 50 percent to 100 percent for Whites; obviously
 20 different for Hispanics.
 21 I then identify the white or minority, in
 22 this case Hispanic surname, candidate, and simply ask,
 23 if the racial makeup of the precinct changes, how does
 24 the vote share for candidates, by race, change.
 25 A slope. A slope is simply the change

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1 in the number of -- or share of vote for a candidate
 2 matched with a change in the proportion of vote, white
 3 or Hispanic.
 4 A positive line, a line -- and positive
 5 means it goes from the lower left-hand to the upper
 6 right-hand corner. It tells me that there is a racially
 7 polarized pattern of voting. As there are more white or
 8 Hispanic people in the precinct voting, there will be
 9 more votes for the white or Hispanic candidate.
 10 The strength of that relationship, the
 11 significance of the racial polarized, is measured by
 12 that slope. And as I said before, if there's a
 13 1 percent change in the percent of people in the voting
 14 precinct white and a 1 percent change in the proportion
 15 of vote for the white candidate, that slope is 1. And
 16 that is a positive, I would say. That's as extreme as
 17 you can get for racial polarized voting.
 18 If it's negative, it slopes -- for
 19 instance, in Figure 2, it slopes downward. That tells
 20 me that, as the percent of Hispanic voters in the
 21 precinct increases, the share of vote those voters give
 22 to the white candidate goes down. And, again, as -- if
 23 it approaches 1, that's extreme racial polarized voting.
 24 So if you start with Number 1, you find
 25 that white voters tend to vote for white candidates.

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1 If you -- in my table figure, you can see the .856, in
 2 the left-hand side of the figure.
 3 Q. Let's see. Yes, I do.
 4 A. There's the slope, correlation, and P.
 5 So .856 is -- gets very close to 1. There
 6 is a statistical test of significance. Is that slope
 7 significant or could it have happened just by chance?
 8 And the answer is 99 -- .01 -- can you see that, .014?
 9 Q. Yes, sir.
 10 A. That would mean that 99 times out of 100, if
 11 you saw this distribution, you would conclude it was
 12 nonrandom. It would mean that only 1 time out of 99
 13 would you say that that relationship was random, as if
 14 you were just throwing darts at a dartboard. And it's a
 15 very --
 16 Q. And this Figure 1 --
 17 A. I'm sorry.
 18 Q. In this Figure 1 that we're talking about, are
 19 white candidates voting for -- white voters voting for
 20 white candidates?
 21 A. Yes.
 22 Q. Is that what Figure 1 is showing?
 23 A. Yes. So there we find highly polarized -- it's
 24 not 1, but it -- you know, and .85 is -- is pretty high.
 25 If you go down to Figure 2, here all that

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1 we've changed -- same elections; same candidates; same
 2 precincts. Only difference is I'm now asking what
 3 about Hispanic voters in precincts and their support
 4 for white candidates, and the slope here is .99 -- 996.
 5 It's negative. It means this is about total racial
 6 polarization. Hispanic candidates will vote at
 7 increasingly lower rates for white candidates, almost
 8 1 to 1.
 9 Q. Did you mean Hispanic voters? I think you said
 10 Hispanic candidates.
 11 A. Did I say -- voters, yes. I apologize.
 12 Hispanic voters in precincts will vote
 13 against, or not for, the white candidate at almost a
 14 perfect 1-to-1 relationship. 1 percent increase in the
 15 Hispanic share of vote in that precinct results in a
 16 1 percent lower share of vote for the white candidate.
 17 I can -- you want me to -- I know you're
 18 busy -- I didn't want to -- you were looking for
 19 something, and I didn't want to --
 20 Q. No.
 21 A. -- interrupt you.
 22 Q. Continue, please.
 23 A. Figure 3 is the percent of white vote in each
 24 precinct regressed or displayed with the percent of
 25 Hispanic candidate vote. So in a precinct with white

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1 voters, as the share of the precinct's white vote goes
 2 up, the share of -- excuse me -- the share of vote cast
 3 for the Hispanic candidate goes down, and there the
 4 slope actually exceeds 1.
 5 So what does that mean? It means that, for
 6 every 1 percent increase in the share of votes that are
 7 white, there is a 1.06 percent drop in the share of vote
 8 casts for Hispanic candidates. So that level of extreme
 9 polarization exceeds. It actually goes over the
 10 1 percent change. There's even more drop in support
 11 for Hispanic candidates as the precinct's share of
 12 white voters goes up. And that, of course, is negative.
 13 Finally, Figure 4 is the percent of
 14 Hispanic vote in each precinct and the share of vote for
 15 each Hispanic candidate in that precinct. There, the
 16 slope exceeds 1. That means that, with a 1 percent
 17 increase in the percent of vote Hispanic in each
 18 precinct, there is 1.13, or 13 percent, more votes for
 19 the Hispanic candidate in that precinct.
 20 This suggests to me that white and Hispanic
 21 voters are highly polarized when voting for candidates
 22 who are white and Hispanic.
 23 Q. Would you --
 24 THE WITNESS: Can I indulge and just ask if
 25 I can get a glass of water?

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1 MR. CRAWFORD: In fact, we've been going
 2 close to an hour. Would you like to take a short break?
 3 THE WITNESS: If it's -- if it's all right.
 4 I don't --
 5 MR. CRAWFORD: It is perfectly fine. Why
 6 don't we take -- I've got 10:28. Do you want to take
 7 five minutes?
 8 THE WITNESS: That'll be fine. Thank you.
 9 (Break from 10:28 to 10:34.)
 10 Q. (BY MR. CRAWFORD) Before we left off, we were
 11 talking about your analysis of racial polarization and
 12 the four figures in your report.
 13 Would you agree that your method of
 14 assessing racially polarized voting in Spring Branch ISD
 15 elections combines all ten of the contests that you
 16 examined into one overall analysis, rather than an
 17 election-by-election polarization analysis?
 18 A. Yes, I -- I think, yes.
 19 Q. Can we determine, from your reported analysis,
 20 which specific election contests were polarized and to
 21 what degree?
 22 A. Yes.
 23 Q. How would we do that?
 24 A. So take a look at Figure 4.
 25 Q. Okay.

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1 A. If you look at the points -- those are the
 2 percentages -- you can see that some are closer and some
 3 are further from that line that I've drawn. When you do
 4 a regression, when you regress, when you look at the
 5 slopes, some cases will be closer to the fitted line and
 6 some will be further away.
 7 So what we do here is we try to look at
 8 the totality, all of the elections, and say that,
 9 over the period 2015 to 2021, we find that there is
 10 a statistically significant and strong -- there's a
 11 difference between significant and strong --
 12 relationship. There are some elections where this
 13 relationship may not be as strong as others.
 14 Q. Did you perform any of the typical King's
 15 ecological inference analysis on individual election
 16 contests?
 17 A. I use the -- the ecological inference mostly
 18 for imputing --
 19 Q. That's normally known as EI, correct?
 20 A. Yes, yes.
 21 Q. Okay.
 22 A. I use the ecological inference to impute the
 23 racial and ethnic membership of each voter. But in this
 24 analysis, there's some debate about whether or not this
 25 is, in fact, ecological inference.

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1 The regression technique is the same, but
 2 I had only a universe of, I think -- I think about 73
 3 election contest precincts. That's not a lot of cases.
 4 It's sufficient to make statistical inferences and --
 5 and parametric statistics around 30. In fact, exactly
 6 30 is about what you need.
 7 And so I had, obviously, twice -- a little
 8 more than twice 30 observations. So the inference --
 9 ecological inference wasn't necessary in estimating
 10 polarization. The data, how can I say, speak for
 11 itself.
 12 Q. You did not run an EI analysis as a
 13 confirmation or double-check?
 14 A. No, I did not.
 15 Q. Did you perform any racially polarized election
 16 analysis using CVAP or Spanish surname registered
 17 voters, as typically done in these cases?
 18 A. Yes. I mean, we wanted to know the racial
 19 or ethnic composition of the electric, and we used an
 20 imputation that is -- we -- I think I discussed it on --
 21 help me here. I'll find it. It's on page -- give me a
 22 second.
 23 On Page 4 we identify the racial and
 24 ethnic membership of each registered voter in each
 25 election year, of course, in each election precinct,

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1 using Imai and Khana's. This is the EI approach, I
 2 believe, you're reporting -- or referring to. And,
 3 as I said, it describes how we do it.
 4 We use the Center for Disease Control's
 5 racial and ethnic surname list, along with the census
 6 data for the residential location of each voter, to
 7 impute their race or ethnicity. And that, I think, is
 8 recorded in the email that Barry sent you. And then we
 9 use that estimate to say this person is Black, Hispanic,
 10 Asian, white.
 11 Q. Did you use a Bayesian Improved Surname
 12 Geocoding analysis?
 13 A. That -- that is how we -- I believe, on page --
 14 help me here. I think you're referring to -- oh, give
 15 me another second. The Barreto, Cohen, Collingwood, and
 16 Dunn paper, that's referred to as "A Novel Method for
 17 Showing Racially Polarized Voting: Bayesian Improved
 18 Surname Geocoding."
 19 Q. And is that typical analysis of these types of
 20 cases?
 21 A. I'd be careful to use the word "typical." I
 22 consider it the state of the art or the best practice.
 23 It is not typical, and it has not been widely used in
 24 the past. I -- and I cannot comment about -- I don't
 25 know how widely used it is now, but, in the literature

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1 I have read, I consider this the best practice.
 2 Q. And why do you consider it best practice?
 3 A. Well, it's a long explanation, and I apologize.
 4 Having taught -- having taught this in my survey
 5 research class, I believe it does two things. It
 6 leverages a lot of information. It leverages the
 7 surname of a person. It leverages where they live,
 8 and that -- the research about how people choose where
 9 they live tells you a lot about who they are, Democrats,
 10 Republicans, African Americans, and Hispanics.
 11 So I am -- how can I say? -- convinced,
 12 not so much by the Barreto article, but by the
 13 Imai and Khana paper. And I've taken some time to
 14 talk to Imai and Khana about this for other research
 15 that I have conducted, and I'm convinced that it is the
 16 most exact means of measuring racial without, of course,
 17 surveying the voter themselves.
 18 Q. Anything else you'd like to add to --
 19 A. No.
 20 Q. -- that answer?
 21 Okay. Great. Then let's now turn to your
 22 proposed illustrative district, and that is on Page 8 of
 23 your report.
 24 A. Yeah.
 25 Q. And Page 8 has a table, Table 1, and then,

50

1 below it, a demonstrative map of a single-member
 2 district.
 3 My first question is what did you do to
 4 create the map?
 5 A. I didn't really do very much. I started with
 6 the seven districts that the Spring Branch ISD has
 7 identified as polling places. Those were, of course,
 8 the basis of my voter polarization analysis.
 9 And other than obtaining, from Mr. Golando,
 10 the data from the American Community Survey, I
 11 identified at least one, District Number 1, where there
 12 was a sufficient -- in this case, majority -- of
 13 Hispanic voting age to create a district.
 14 (Exhibit 3 identified.)
 15 Q. Okay. I would like you to look at what I'm
 16 going to ask Dana to mark as Exhibit 3, which is the
 17 color map, that hopefully was forwarded to you. And
 18 it's --
 19 A. Hold on; hold on. Okay. Not the one in the
 20 report?
 21 Q. No, no. But that's going to be the next one.
 22 It's this one right here.
 23 A. Yes, yes. I've got it. Okay.
 24 Q. Great. I'd like to mark that as Exhibit 3, the
 25 colored map.

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1 And then, as Exhibit 4, I'd like to mark
 2 just a bigger copy of the map from your report. This
 3 was a page from a document filed by the Plaintiff in the
 4 case, and it just simply replicates your map and your
 5 Table Number 1. I did this because I might want to draw
 6 on it, and it's kind of bigger. But it should be the
 7 same table and map that's in your report.
 8 (Exhibit 4 identified.)
 9 Q. And so the first question I have for you is
 10 Exhibit 3, which is the colored map, is this the map
 11 of the middle school attendance zones that you're
 12 referring to that you based your table -- your
 13 demonstrative map off of?
 14 A. Yes.
 15 Q. And I believe you've already told me this, and
 16 so just confirm that you have. But you got -- where did
 17 you get the 52.8 percent Hispanic citizen voting age
 18 population for your District 1?
 19 A. Mr. Golando had shared that with me from the
 20 ACS.
 21 Q. Okay. And we've already talked about that in
 22 fair detail?
 23 A. (Nods head.)
 24 Q. Any other information that went into providing
 25 that number of 52.8 percent?

52

1 A. No.
 2 Q. Okay. Also looking at Table 1 -- and I'll just
 3 use District 1 as the example -- you have a voting age
 4 population of 18,782, and a citizen voting age
 5 population of 9,180.
 6 Can you explain the difference in those two
 7 numbers, the reason why?
 8 A. Well, I suspect it will be noncitizens.
 9 Q. Is that because many Hispanic residents are
 10 noncitizens?
 11 A. I don't know if many are, but I -- I would say
 12 that it is due to the fact that residents -- some
 13 residents, and a large number in that district, are not
 14 citizens. And it would infer that, if it's heavily
 15 Hispanic, that, yes, some portion of them, probably as
 16 many as half.
 17 Q. Would it also be due to, in general, Hispanic
 18 residents tend to be younger, and, therefore, not
 19 vote -- not of voting age?
 20 A. Those are reasonable hypotheses, but I -- I
 21 just don't -- I mean, to answer that definitively, I
 22 can't tell you. I have not looked at that data.
 23 Q. And in your proposed District 1, you have a
 24 52.8 percent Hispanic citizen voting population. Do you
 25 know would that have been possible prior to the 2020

<p style="text-align: right;">53</p> <p>1 census?</p> <p>2 A. I don't know. I have not looked at that data.</p> <p>3 Q. In determining the numbers and percentages</p> <p>4 of your Hispanic population for your map, did you use</p> <p>5 Hispanic surname data?</p> <p>6 A. This data, which comes from the ACS, would have</p> <p>7 used self-reported Hispanic identification. That's my</p> <p>8 understanding of the ACS and data I've used in the past.</p> <p>9 Q. If you -- if you could tell me, what is</p> <p>10 "raking"?</p> <p>11 A. (No response.)</p> <p>12 Q. Raking, r-a-k-i-n-g.</p> <p>13 A. In what -- I'm sorry. I don't know. Raking</p> <p>14 leaves? Raking data?</p> <p>15 Q. No. In terms of constructing illustrative</p> <p>16 districts, are you familiar with the process known as</p> <p>17 "raking"?</p> <p>18 A. I am not. I'm not certain. I'm -- I'm</p> <p>19 familiar with it in very different survey research</p> <p>20 contexts.</p> <p>21 Q. And another phrase it may go by -- maybe this</p> <p>22 will sound more familiar -- is "iterative proportional</p> <p>23 fitting." Are you familiar with that?</p> <p>24 A. I -- I have heard the term, but I couldn't give</p> <p>25 you a definitive def-- no.</p>	<p style="text-align: right;">55</p> <p>1 Q. But you have not attempted to draw any other</p> <p>2 map, other than the one that is on Page 8 of your</p> <p>3 report --</p> <p>4 A. No.</p> <p>5 Q. -- right?</p> <p>6 A. No, I have not.</p> <p>7 Q. Did you -- did you take into account or respect</p> <p>8 census blocks when you were creating your illustrative</p> <p>9 map?</p> <p>10 A. No, I did not.</p> <p>11 Q. Did race predominate in your creation of</p> <p>12 District 1 of your illustrative map? Was that the</p> <p>13 predominate factor you considered, race?</p> <p>14 A. That's a hard question. I -- I don't want</p> <p>15 to be evasive. Let me -- let me say exactly what I</p> <p>16 attempted to do.</p> <p>17 Because I was doing racial polarized voting</p> <p>18 based on seven districts, it seemed logical to use those</p> <p>19 seven districts as the initial illustrative or</p> <p>20 demonstrative. So the only consideration I gave was</p> <p>21 what are the current district boundaries.</p> <p>22 I'll give you an example. I did not look</p> <p>23 for one person, one vote. I don't know if these are --</p> <p>24 if they meet that one -- the Baker -- Baker Carr, like</p> <p>25 every district has to be within a top-to-bottom</p>
<p style="text-align: right;">54</p> <p>1 Q. Okay.</p> <p>2 A. I wouldn't feel comfortable.</p> <p>3 Q. And you did not use that method or analysis in</p> <p>4 creating your illustrative district?</p> <p>5 A. NO.</p> <p>6 Q. Do you understand the term "traditional</p> <p>7 districting principles"?</p> <p>8 A. Not -- I mean, the -- it makes perfect sense</p> <p>9 to me, but I don't know what you're referring -- I mean,</p> <p>10 I don't know what those conditions would be.</p> <p>11 Q. Okay. In creating your map, the demonstrative</p> <p>12 district, did you respect neighborhoods and</p> <p>13 subdivisions? Did you try to keep those intact?</p> <p>14 A. No. I took the districts that currently exist</p> <p>15 for the purposes of conducting elections for trustee</p> <p>16 elections. I have to say that was the sole criteria;</p> <p>17 that is, the districts -- enrollment districts</p> <p>18 corresponded to the voting places.</p> <p>19 And as I said -- I think we call this a</p> <p>20 demonstrative or illustrative district map -- there</p> <p>21 might be other -- I think I said in my report there</p> <p>22 are -- it doesn't preclude other district plans, other</p> <p>23 configurations that could be done following other</p> <p>24 practices I would have used in drawing district</p> <p>25 boundaries -- have used in drawing district boundaries.</p>	<p style="text-align: right;">56</p> <p>1 10 percent.</p> <p>2 I simply said, if you were to create a</p> <p>3 district map from the current voting locations, what</p> <p>4 would it look like; could there actually have been a</p> <p>5 majority/minority? I did not attempt to do any other</p> <p>6 drawings or use other criteria.</p> <p>7 Q. Okay. So I would like you to have in front</p> <p>8 of you, if you're able to, both the colored map of the</p> <p>9 district boundaries and either the map from your report</p> <p>10 or Exhibit 4, whichever is easier for you to refer to.</p> <p>11 A. I've got my -- the map from my report.</p> <p>12 Q. Okay. And I note that, although your</p> <p>13 illustrative map is similar to the attendance districts</p> <p>14 in Exhibit 3, they're -- they're not exactly the same.</p> <p>15 would you agree with that?</p> <p>16 A. I -- I have to check that. I had thought they</p> <p>17 were exactly the same. They may deviate a little, but</p> <p>18 I -- I --</p> <p>19 Q. All right.</p> <p>20 A. The answer is I don't know.</p> <p>21 Q. Okay. So, for example, I'm going to draw on</p> <p>22 my copy of the map -- and hopefully you're able to see</p> <p>23 this. This is why in person is so much more fun than</p> <p>24 Zoom.</p> <p>25 I have drawn a circle between District 1</p>

15 (Pages 57-60)

<p style="text-align: right;">57</p> <p>1 and District 7 that has, like, a little jut in it. Are 2 you able to see what I'm talking about?</p> <p>3 A. Yes, I do. I do.</p> <p>4 Q. Okay. And that does not appear on the district 5 boundary. That's a change from the normal attendance 6 boundary to your proposed map.</p> <p>7 And so my question is can you explain to me 8 why you have that little jut in your proposed district?</p> <p>9 A. I can't. Those were maps that were shared 10 with -- with me by Mr. Golando, and they may have 11 reflected a slight change in the makeup, the deviation 12 from the current enrollment districts. I had not 13 noticed that before.</p> <p>14 Q. Okay. And then similarly, between your 15 Districts 5 and 6, there's a little jut, you know, 16 a little kind of carve-out that is not as part of the 17 regular attendance boundaries. Can you explain why?</p> <p>18 A. Again, I assume that that was a change that 19 Mr. Golando had made to adjust boundaries for the 20 demonstrative plan.</p> <p>21 Q. Okay. And can you explain why your proposed 22 District 6 is the only proposed district that is both 23 north and south of I-10?</p> <p>24 A. No, I can't, other than it seemed to follow the 25 boundaries of enrollment districts.</p>	<p style="text-align: right;">59</p> <p>1 chart, that the Spring Forest Middle School is highly 2 segregated?</p> <p>3 A. Spring Forest?</p> <p>4 Q. The Spring Forest Middle School that has 5 .42 percent white and .36 percent Hispanic.</p> <p>6 A. Well, again, the -- what you -- maybe I should 7 go back and make clear what I mean by disparity or 8 highly segregated.</p> <p>9 So if you have a district that currently 10 has -- go up to Page 9 -- Page 9, middle paragraph, 11 "The dissimilarity index captures how proportional 12 Hispanics and whites are distributed across the 13 district."</p> <p>14 So if Spring Branch ISD is composed of 15 26.7 percent white and 59.2 Hispanic, that's the 16 baseline from which you would expect to see the 17 distribution deviate. And what I've noticed is that 18 there's a significant deviation from that proportional 19 distribution. There's some districts that -- and 20 schools, some enrollment districts that are more and 21 some less.</p> <p>22 What constitutes the degree of 23 dissimilarity is a judgment that I drew from the 24 literature, and anything around .3 to .6 is moderate, 25 anything above .6, in the dissimilarity indexes are,</p>
<p style="text-align: right;">58</p> <p>1 Q. Did you do anything to check to confirm that 2 your proposed District 1 will, in fact, have the effect 3 of allowing Hispanic voters to elect the trustee of 4 their choice?</p> <p>5 A. Other than the majority voting age population, 6 that is of course Hispanic, no.</p> <p>7 Q. Did you run any simulated elections?</p> <p>8 A. No, I did not.</p> <p>9 Q. I'd like to turn now to Page 10 of your report.</p> <p>10 A. Page?</p> <p>11 Q. 10, 1-0.</p> <p>12 A. Okay.</p> <p>13 Q. And I guess I need to at least -- I need to 14 start with Page 9 because I think it's the setup for the 15 question. And on the bottom of Page 9, you identify 16 certain percentages indicating whether you have low, 17 middle, or high levels of segregation.</p> <p>18 And so, based on those numbers, on Page 10 19 you say "There is strong evidence that the racial and 20 ethnic makeup of Spring Branch schools and enrollment 21 districts is highly segregated." And then you have a 22 chart.</p> <p>23 Do you see that?</p> <p>24 A. Yes.</p> <p>25 Q. So my question is are you saying, with this</p>	<p style="text-align: right;">60</p> <p>1 in some cases at the school level, .69 and .59. so yes. 2 To your question, is Spring Forest 3 significantly dissimilar or -- or segregated, I'd say 4 so. Those indexes are -- are pretty high and not, 5 again, due to what I will call chance, but to some force 6 that's moving those students into a highly dissimilar 7 racial and ethnic makeup.</p> <p>8 Q. And would your answer be the same as to the 9 Spring Branch Middle School? It's the one right below 10 Spring Forest.</p> <p>11 A. Yeah, I -- I would say those numbers are almost 12 identical. And when you compare them to the -- you 13 know, they're -- the word -- the term I would use would 14 be "moderate dissimilarity."</p> <p>15 Q. What about Memorial Middle School? What would 16 you consider Memorial Middle School?</p> <p>17 A. I would consider that from moderate to 18 beginning to get high-moderate.</p> <p>19 Q. On Page 11 of your report -- we've talked about 20 this briefly already, and I told you I'd come back to 21 it, and I'd like to now. About some of the reports and 22 research, the scholarly literature that you looked at 23 and relied on, and you list some of it here on the top 24 of Page 11. Are you with me?</p> <p>25 A. Yes.</p>

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1 Q. The first question I have for you, after you
 2 cite a number of the studies, you say, "several studies
 3 have reported null findings," n-u-l-l. What do you mean
 4 by "null findings"?

5 A. There was no significant effect between the
 6 form of representation and the proportion of minority
 7 representatives on these representative bodies. No
 8 relationship. No positive; no negative; no significant
 9 relationship. Null means you reject the null hypothesis
 10 that there is -- you accept the null hypothesis that
 11 there's no -- no relationship here.

12 Q. And then in Footnote 4, you note that,
 13 "The authors qualify their null findings by noting
 14 that Hispanics may be able to profit from at-large
 15 districting when they are a majority of the population."
 16 Do you agree with that statement?

17 A. Do I agree that -- that they wrote that, or
 18 that I agree with --

19 Q. I guess, first, do you agree that they wrote
 20 it, and, second, do you agree with their conclusion?

21 A. Yes, it's their conclusion. I think that I
 22 would say that that is probably true, in the literature,
 23 yes. Yes, I would agree with the statement.

24 Q. Based on the --

25 A. Excuse me.

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1 Q. No, no problem.
 2 Based on the population trends in
 3 Spring Branch from, say, you know, the 2010 census to
 4 the 2020 census, the Hispanic population is growing in
 5 Spring Branch, correct?

6 A. I -- I don't want to be evasive, but I don't
 7 know that. I mean, if you said that to me -- I have
 8 not looked at the growth in Hispanic population in
 9 Spring Branch. Honestly, I just don't know.

10 Q. So you don't -- you don't know, one way or the
 11 other, whether Hispanics will be the majority population
 12 in Spring Branch in the near future?

13 A. I would -- I could not make that judgment at
 14 this time.

15 Q. You reference a study by Meier and Rutherford
 16 and a study by Welch and Karnig for the proposition that
 17 "Two studies have reported a negative relationship
 18 between single-member district elections and minority
 19 representation."
 20 Do you see that reference?

21 A. Yes.

22 MR. CRAWFORD: I would like Dana to mark as
 23 Exhibit 4 a copy of the Meier and Rutherford article.

24 THE REPORTER: I believe we did the
 25 black-and-white map as Exhibit 4.

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1 MR. CRAWFORD: Oh, Exhibit 5.
 2 THE REPORTER: Okay.
 3 MR. CRAWFORD: Thank you.
 4 (Exhibit 5 identified.)
 5 Q. Dr. Stein, do you have that?
 6 A. Let me get it up.
 7 Q. Sure.
 8 A. Give me one second. I had it up, and I'm
 9 trying to -- what's the word here? And you're referring
 10 to the Meier and Rutherford?
 11 Q. Meier and Rutherford.
 12 A. Well, I can't find it. Give me a second.
 13 I know I had it a second ago, and I apologize.
 14 Q. Oh, no problem. You're doing a great job.
 15 A. I got it. I got it.
 16 Q. Okay. I'd like to ask you a couple of
 17 questions about this article. The first page -- first
 18 of all, this is the article that you're referring to in
 19 your report?
 20 A. Yes.
 21 Q. Okay. The first page of the report, which is
 22 Page 265, towards the bottom of the left-hand column of
 23 the page, states that "African Americans actually do
 24 better in at-large systems. Although this minority
 25 group has been disadvantaged by at-large districts

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1 30 years ago, they have since overcome these hurdles and
 2 now appear to be better off under this type of electoral
 3 structure in the case of school board elections."
 4 Are you aware of this finding by Meier and
 5 Rutherford?
 6 A. Yes.
 7 Q. Do you agree or disagree with it?
 8 A. I think that that is -- I think that the --
 9 that their explanation, which comes in later, I agree
 10 with. This is not the full explanation for what's going
 11 on.
 12 Q. I'd like to turn to the next page of the
 13 article, Page 266, the -- the second full paragraph
 14 on the left-hand column, beginning with the word
 15 "Other studies."
 16 A. Got it.
 17 Q. Okay. This says that "Other studies question
 18 the detrimental impact of at-large elections on
 19 descriptive representation, either disputing the
 20 negative impact on minorities in general or suggesting
 21 that the impact has disappeared over time," citing
 22 MacManus and but see Davidson.
 23 "Other studies find that no impact of
 24 electoral structure include Fraga and Elis's 2009
 25 examination of Latino representation in school districts

<p style="text-align: right;">65</p> <p>1 in California."</p> <p>2 A. Yes, sir.</p> <p>3 Q. Are you aware of those studies?</p> <p>4 A. Yes.</p> <p>5 Q. Do you dispute the findings of those studies?</p> <p>6 A. No, no. I -- I'm aware of them. I don't --</p> <p>7 I think they -- my characterization in my report -- if</p> <p>8 I could go to that --</p> <p>9 Q. Please do.</p> <p>10 A. -- for a second -- is this -- hold on.</p> <p>11 On Page 11 of my report --</p> <p>12 Q. Yes, sir.</p> <p>13 A. -- second paragraph, so I -- the Meier and</p> <p>14 Rutherford, Welch and Karnig, and I'd -- I'd even</p> <p>15 include the Cole paper, the MacManus paper, which show</p> <p>16 no result.</p> <p>17 There are two factors that explain what</p> <p>18 I would call the lack of unanimity in this field, right.</p> <p>19 I mean, the -- if you look at the totality of research,</p> <p>20 although it -- the balance is single-member districts</p> <p>21 do tend to promote minority representation, there are</p> <p>22 a good number of papers that show not.</p> <p>23 So I offer the explanation that there are</p> <p>24 two explanations, I think, in the literature. I think</p> <p>25 even Ken points this out, Ken and Ms. Rutherford. One</p>	<p style="text-align: right;">67</p> <p>1 representation producing the effect he sees.</p> <p>2 Q. On the same page on the right-hand side of</p> <p>3 the paper, the first full paragraph talks about, "The</p> <p>4 literature has also ignored one fundamental element of</p> <p>5 U.S. elections, the role of partisanship."</p> <p>6 And I won't read the whole paragraph for</p> <p>7 you, but I'd ask you to read it and just ask, do you</p> <p>8 agree with the statements that he's making in that</p> <p>9 paragraph?</p> <p>10 A. Yes, yes.</p> <p>11 Q. What about Spring Branch ISD elections? Did</p> <p>12 you look into the role of partisanship in the outcome of</p> <p>13 SBISD elections?</p> <p>14 A. No, I did not.</p> <p>15 Q. Further down the page, same page 266, it's</p> <p>16 the last full paragraph, and it begins with, "Although</p> <p>17 framed as a way."</p> <p>18 A. Yes.</p> <p>19 Q. The second sentence of that paragraph reads,</p> <p>20 "The low turnout of nonpartisan school board elections</p> <p>21 held in the spring has meant an electorate dominated by</p> <p>22 those with a direct interest in schools, primarily</p> <p>23 parents and teachers."</p> <p>24 Do you agree with that statement?</p> <p>25 A. Yes. I mean, I think that -- yes. I don't</p>
<p style="text-align: right;">66</p> <p>1 is that the nature of electoral reform on minority</p> <p>2 representation is contingent. And the other, to be very</p> <p>3 simple and blunt, is that the quality of the research</p> <p>4 and the research designs of some older research is</p> <p>5 simply not sufficient to answer the question at hand.</p> <p>6 I think that some of the cross-sectional</p> <p>7 work -- and I would include in this Ken's and</p> <p>8 Ms. Rutherford's paper. It is a 2014 paper. Others</p> <p>9 that I've -- Abott and Magazinnik use much more</p> <p>10 powerful, much more improved and state of the art.</p> <p>11 And I want to be clear here. We -- we did</p> <p>12 not have these types of tools in 2000 or 2014, and we</p> <p>13 surely didn't have these tools for causal inference in</p> <p>14 the previous century.</p> <p>15 So my conclusion about these papers is</p> <p>16 that -- that they're -- are they wrong? They're simply</p> <p>17 not using the most sophisticated scientific methods for</p> <p>18 answering the question at hand. I'm not suggesting</p> <p>19 that, at the time that they were written, they were</p> <p>20 wrong. I'm simply suggesting we've advanced, and that</p> <p>21 advancement has given us a better and more reliable and</p> <p>22 valid answer to the question about representation.</p> <p>23 So I didn't write the articles, but I do</p> <p>24 think that Ken would agree with -- as he says, it's</p> <p>25 contingent on a condition of larger size minority</p>	<p style="text-align: right;">68</p> <p>1 think there's any -- yes, I do agree with this</p> <p>2 statement.</p> <p>3 Q. And is that -- is that a good or a bad thing,</p> <p>4 that --</p> <p>5 A. I don't have a judgment about --</p> <p>6 Q. -- that the electorate is dominated by teachers</p> <p>7 and parents?</p> <p>8 A. I -- I don't have an opinion on whether that's</p> <p>9 good or bad.</p> <p>10 Q. Fair enough.</p> <p>11 Do you know whether -- and I'm not talking</p> <p>12 about school board elections. But, in general, whether</p> <p>13 the population of Spring Branch ISD has a democratic or</p> <p>14 a republican voting majority?</p> <p>15 A. I don't know. I do not know.</p> <p>16 Q. And, finally, my last question about this</p> <p>17 article is on Page 275, left-hand column, the last</p> <p>18 full paragraph, beginning "one open question." And</p> <p>19 the very last sentence of that paragraph states,</p> <p>20 "Election systems establish the rules of the game and</p> <p>21 incentives; they do not necessarily determine winners."</p> <p>22 Do you agree with that statement?</p> <p>23 A. You're just a few steps ahead of me.</p> <p>24 Q. Oh, I'm sorry.</p> <p>25 A. Page 170?</p>

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1 Q. 275.
 2 A. 275. Right- or left-hand column?
 3 Q. Left-hand column.
 4 A. Okay. And the --
 5 Q. The last full paragraph, beginning "One open
 6 question."
 7 A. Got it.
 8 Q. And it's the very last sentence. And rather
 9 than reread it again, I'll just ask you if you agree
 10 with that statement?
 11 A. I'd agree with it.
 12 (Exhibit 6 identified.)
 13 Q. I'd like to mark, as Exhibit 6, the next
 14 article that I sent you in advance from Susan Welch.
 15 A. Yes. Give me one second.
 16 Q. No problem.
 17 A. I've got to close one. I'm just running out
 18 of -- okay. I'm ready.
 19 Q. Okay. Are you familiar with Susan Welch?
 20 A. Yes, very, very familiar with her.
 21 Q. You kind of smiled and -- and like you have a
 22 good relationship?
 23 A. I -- I've known her, I suspect, longer than --
 24 I met Susan Welch when I started graduate school. I
 25 won't tell you when that was, but a long -- I've known

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1 her a long time, yes.
 2 Q. And she -- is she a professor at the University
 3 of Nebraska?
 4 A. No. She -- she's a retired emeritus from the
 5 University -- Pennsylvania State. She was at Nebraska
 6 when she wrote that paper.
 7 Q. Okay. And the article that I have given you
 8 is called "The Impact of At-Large Elections on the
 9 Representation of Blacks and Hispanics." And this
 10 apparently is from the Journal of Politics from 1990.
 11 And the report that you cite in your
 12 report, on Page 11, is Welch and Karnig 1978. Do you
 13 know if this Exhibit 6 is an update of that 1978 study?
 14 A. It -- it's a -- yeah, it's -- the word "update"
 15 wouldn't -- I'd just say it's based on the same data
 16 and -- and a further analysis, yes.
 17 Q. And I'd like to ask you just a few questions
 18 about some of the statements that Dr. Welch made in her
 19 article. The first page I'd like to ask you questions
 20 about is on Page 1053 of the article.
 21 A. Okay. I'm on that page.
 22 Q. Okay. And the top of the -- the top paragraph
 23 says, "The findings concerning election structures and
 24 Hispanic representation are, however, less clear cut."
 25 And then she cites the MacManus 1978 study,

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1 "showed that, among the major types of electoral
 2 systems, Hispanic representation is slightly more
 3 equitable in district than pure at-large elections,
 4 but most equitable in mixed systems."
 5 And she cites a Taebel article, from 1978,
 6 that, "like MacManus, found that Hispanics were best
 7 represented in mixed systems."
 8 And she cites Welch and Karnig, 1978, for
 9 finding "that structure makes hardly any difference for
 10 Hispanic representation."
 11 So my first question to you is are you
 12 familiar with these three studies?
 13 A. Yes. I mean, I -- I can't tell you I've read
 14 the papers recently, but -- and I did not read them for
 15 this report. But I am -- I know of the -- I know about
 16 that work, yes.
 17 Q. And do you know -- do you agree or disagree
 18 with their conclusions, as stated in Dr. Welch's
 19 article?
 20 A. I don't disagree with their findings. I mean,
 21 whether they're generalizable to the 21st century, to
 22 the contemporary situation in Spring Branch, I have not
 23 made a conclusion.
 24 Q. Okay. And just so we're clear, when we're
 25 talking "mixed system," we're talking about a system

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1 that has one or more at-large positions and one or more
 2 single-member positions, correct?
 3 A. That's correct, yes.
 4 Q. Okay. So if we were to accept the results
 5 of these studies as being accurate, would a mixed
 6 Spring Branch ISD system be more equitable to Hispanics
 7 than a pure single-member system?
 8 MR. ABRAMS: Objection to the form of the
 9 question.
 10 A. You know, I just -- you know, it's a fair
 11 question; one that should be studied. I did not.
 12 I can't form an opinion for the Spring Branch ISD.
 13 Q. Fair enough.
 14 Turning to Page 1065 of Dr. Welch's
 15 article.
 16 A. 2607
 17 Q. 1065.
 18 A. Oh, 1065?
 19 Q. Yes, sir.
 20 A. Yes, I'm there.
 21 Q. And I think she is simply reiterating what
 22 she stated on the page that we were just looking at.
 23 Under the heading "Hispanic Representation," the first
 24 full paragraph, last sentence, she states, "Hispanics
 25 appear to do somewhat better in cities with both

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1 at-large and district elections than in either of
 2 the pure types."
 3 Do you see that reference?
 4 A. Yes.
 5 Q. And your answer, on whether you agree or
 6 disagree, would be the same as we just discussed before?
 7 A. Yes, I'm -- it's not a question I -- you know,
 8 it's a -- it's a fair question, but it is not one that
 9 I looked at for this -- the purposes of this report and
 10 case.
 11 Q. Turning to Page 1067 of her report.
 12 A. 1067, got it.
 13 Q. Yes. The paragraph that begins "Another
 14 complicating factor."
 15 A. Got it.
 16 Q. Okay. About a little bit more than halfway
 17 down the paragraph, she states, "In Texas, on the other
 18 hand, Hispanic representation is quite high (.83) in
 19 mixed systems."
 20 Do you know where she got that from, those
 21 statistics?
 22 A. No, I do not.
 23 Q. You're not in a position to either agree or
 24 disagree with those statistics?
 25 A. No, I -- you know, I want to be very clear

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1 here. I think Susan's a fine scholar, and I -- these
 2 are peer-reviewed, but I have no idea where that data
 3 came from.
 4 Q. And on a similar question on Page 1072 of her
 5 report.
 6 A. Yes, I'm there.
 7 Q. The very last paragraph, second sentence, she
 8 states, "Overall, district elections do not promote more
 9 equitable representation for Hispanics."
 10 And then, skipping a sentence, she says,
 11 "we found that small Hispanic populations are best
 12 represented in mixed elections."
 13 Do you have any comment on those findings?
 14 A. No. I mean, again, I'm not questioning her
 15 findings. I'm simply saying that I have no basis for
 16 making a judgment.
 17 Q. Page 11 of your report also discusses a report
 18 from Abott -- and I'm going to butcher his coauthor's
 19 last name. It starts with an M.
 20 A. Magazinnik.
 21 Q. Magazinnik?
 22 A. We both will make the same mistake.
 23 Q. Okay. I would ask Dana to mark, as Exhibit 7,
 24 a copy of the Abott and the name we can't pronounce
 25 report.

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1 (Exhibit 7 identified.)
 2 Q. And, Dr. Stein, I'd ask if you could get that
 3 in front of you?
 4 A. Let me get that up. Give me one second. I've
 5 just got -- I've got so many -- okay. I'm just about --
 6 I had to close the Welch and -- I think it's -- no.
 7 I've got -- I'm sorry. I keep opening up the Meier and
 8 Rutherford one. I'll get it. Give me just a second.
 9 Wait a minute. Where is it? Oh, you added that. That
 10 was the one that -- in the second --
 11 Q. Yes, sir. Yes, sir, that was the one.
 12 A. Yeah, I've got all these attachments, and that
 13 was in Barry's second attachment. There it is. I got
 14 it.
 15 Q. Great. And I'm going to -- I'm going to ask
 16 you a question about this article, and I'm going to
 17 refer it to something you stated on Page 9 of your
 18 report.
 19 A. Okay.
 20 Q. So it's going to be kind of a compare and
 21 contrast. And so I would like you to look at the
 22 Abott article and go to Page 726.
 23 A. Got it.
 24 Q. And there is a highlighted paragraph on that
 25 page on the right-hand column. And rather than read it,

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1 I would just ask you to read it to yourself, and let me
 2 know after you've had a chance to do that.
 3 A. Yes.
 4 Q. Okay. And you've had a chance to read what
 5 Abott said in that paragraph?
 6 A. (Nods head.)
 7 Q. On Page 9 of your report, the next -- the last
 8 full paragraph on that page, you cite, Researchers,
 9 Abott and our other author from the 2020 study. Is this
 10 the report that you're referring to in your report?
 11 A. Let me just quickly read it.
 12 Q. Sure.
 13 A. Yes.
 14 Q. Okay. And you say that Abott -- and some other
 15 researchers, but we're talking about the Abott report --
 16 "identify dissimilarity index scores below .3 as
 17 indicating low levels of segregation, .3 to .6 as
 18 moderate levels of segregation, and .6 and above as
 19 high levels of segregation. SBISD's dissimilarity
 20 index score at the school level is .694 and .596 at
 21 the enrollment zone level."
 22 Did I read that correctly?
 23 A. Yes.
 24 Q. Okay. So with the current Spanish surname
 25 registered voter proportion for Spring Branch below

<p style="text-align: right;">77</p> <p>1 20 percent and the Spanish surname registered voter 2 proportion among actual Spring Branch ISD 2021 board 3 election voters below 6 percent, would you agree that 4 Spring Branch ISD is in the category that the authors 5 identify as low on Latino eligible voters and high on 6 segregation? 7 A. Yes. 8 Q. Do you agree the conclusion in that case -- 9 with the conclusion in that case, in the case of 10 Spring Branch, that "reformers ought to carefully 11 consider moving forward with conversion efforts under 12 this set of adverse conditions"? 13 A. I'm not certain what they meant by "carefully 14 consider moving forward with conversion." what I would 15 believe you would want to be careful about is drawing 16 those districts to take into consideration the range of 17 concentration of Hispanic voters. 18 I think you would not necessarily be 19 cautious about making the conversion. I would be 20 careful about how to make that conversion and be more 21 careful about drawing those districts. 22 Q. Turning to Page 12 of your report, Section 9 of 23 your report deals with "The taxing and spending policies 24 of governments with at-large and single-member district 25 representation," correct?</p>	<p style="text-align: right;">79</p> <p>1 then you continue with the sentence. 2 And my question, on the front end, is what 3 is a subnational government? 4 A. It -- it's cities and counties and, of course, 5 rural districts and special districts. 6 Q. I thought that might be what it meant, but I 7 wasn't positive. 8 A. I apologize for the jargon. 9 Q. And then the next paragraph on this page, you 10 state that "The research on spending and taxing among 11 governments with different modes of representation 12 presumes that the higher levels of spending governments 13 in jurisdictions with single-member district 14 representation is both inefficient and nonrepresentative 15 of the preferences of the full community." 16 Do you agree with that presumption? 17 A. The literature has always -- yes, I -- I think 18 the characterization of the literature has been that 19 single and at-large differ because of this what we call 20 pork barrel spending hypothesis. I don't agree with 21 that being true, but I think the literature has been 22 dominated by that working hypothesis. 23 Q. And when you say "pork barrel spending," that 24 would be for single-member districts, correct? 25 A. That is correct.</p>
<p style="text-align: right;">78</p> <p>1 A. Yes. 2 Q. Do you -- how are Spring Branch ISD's Title I 3 funds affected by its having an at-large system? 4 A. I don't know. 5 Q. As part of Page 12 of your report, this 6 section, the last paragraph, it begins with a sentence 7 that states "Empirical support for a significant and 8 positive relationship between spending and the electoral 9 fortunes of single-member district representatives has 10 been mixed, modest, and conditional." 11 Do you see that? 12 A. Yes. 13 Q. What did you mean by that statement? 14 A. You know, it -- it's a -- it's a big 15 literature. I should point out I contributed to it with 16 my colleague Ken Bickers. And like a lot of things, 17 it's just not simple. 18 Spending levels, mixed in that large 19 system, seem to be conditional on a whole set of 20 factors, not the least of which is not only the form of 21 government but the composition and preferences of voters 22 in those districts. 23 Q. Turning to Page 13 of your report, the first 24 full paragraph, you state that "Research on the spending 25 and taxing policies of subnational governments," and</p>	<p style="text-align: right;">80</p> <p>1 Q. Okay. Page 14 of your report. And I note that 2 your report is only 15 pages long; so we're doing great. 3 The first full paragraph begins with 4 "A great number of minority school board members," and 5 it goes to talk about two reports. "Robinson, 2016, 6 finds that a great proportion of Hispanic board members 7 leads to less support for bilingual policies, popular 8 among Hispanic voters." 9 And you cite "Flink and Molina, from 2016, 10 as finding the level of Hispanic representation has a 11 positive effect on bilingual education spending only 12 when the proportion of bilingual population in the 13 district is relatively small." 14 My first question is do you agree with 15 those conclusions of those studies? 16 A. Yes, I think they are -- they are an accurate 17 result. 18 Q. And the next paragraph talks about a study by 19 Leal about teachers and administrators and particularly 20 Latino representation. 21 Do you know, in Texas, what the actual 22 percentage of the available teacher pool that is 23 Hispanic? 24 A. I don't. 25 Q. And do you know where Spring Branch level of</p>

<p style="text-align: right;">81</p> <p>1 Latino representation, how that corresponds with the 2 available pool in the state? 3 A. No, I do not. 4 Q. All right. I just have a few follow-up 5 questions, not from your report. We are now finished. 6 Are you aware of the increase in 7 partisanship playing a role in school board elections? 8 A. I am aware of news coverage of that, yes, and 9 I am aware of anecdotes like our -- I mean, I've read 10 accounts of that in the news, yes. 11 Q. So I'd like Dana to mark, as Exhibit 8, our 12 final exhibit, which is a Press Release from the 13 Republican Party of Texas. 14 A. I've seen it. Yes, I know -- I've got it right 15 here. 16 (Exhibit 8 identified.) 17 Q. First of all, before I -- before I showed this 18 to you, were you familiar with this press release? 19 A. No, no. I just read news accounts. 20 Q. Okay. And this is a -- 21 A. The press -- I don't -- I've not seen the 22 press release before, no. 23 Q. Great. So this is a press release from the 24 Republican Party of Texas, dated December 6, 2021. And 25 the first paragraph of the press release reads, "As part</p>	<p style="text-align: right;">83</p> <p>1 were you aware of that? 2 A. Yes, I was aware of the Harris -- of HISD, in 3 particular, and I've known about Cypress-Fairbanks. 4 And I should reveal to you that I have worked for 5 Cypress-Fairbanks before, both on bond elections and 6 redistricting. 7 Q. And then the next two paragraphs, of the 8 press release, have statements from the Republican Party 9 Chairman Matt Rinaldi and the Republican Vice Chair 10 Cat Parks. 11 Are you aware of the statements that these 12 two leaders of the Republican Party of Texas have made 13 regarding school board elections? 14 A. Not until I read this press release, no. 15 Q. Are you familiar with the Chris Earnest 16 election for the Spring Branch board? 17 A. No, I'm not, I mean, other than what I've done 18 in my report. I mean, he's -- he's a data point, yes, 19 but I -- no, I don't know anything about the campaign. 20 Q. Okay. So you're not aware, one way or the 21 other, whether the partisanship, that was expressed 22 by the GOP in the press release, played a role in the 23 election of Mr. Earnest? 24 A. No, I am not aware of that. 25 MR. CRAWFORD: Dr. Stein, I think that's</p>
<p style="text-align: right;">82</p> <p>1 of a growing commitment to advance conservative 2 principles on a local level, the Republican Party of 3 Texas, RPT, announced Monday an initiative to play a 4 greater role in nonpartisan races and ballot 5 propositions. As part of this initiative, the RPT 6 announced the creation of a Local Government Committee 7 composed of RPT Executive Committee members and local 8 GOP leaders. The committee will assist county parties 9 in electing conservative candidates in often-overlooked 10 school board and municipal elections." 11 Were you aware that the Republican Party of 12 Texas was -- has this new commitment and new initiative? 13 A. I had read about it in the newspapers, yes. 14 Q. And the next sentence of the press release 15 notes that "The Texas GOP has celebrated major successes 16 in recent nonpartisan races." 17 Is that a true statement, to your 18 knowledge? 19 A. I -- I don't know that to be true, but I think 20 it -- the short answer is I don't know if it's true. 21 I don't know. 22 Q. And part of what -- of the successes they list 23 in the press release is that "GOP-supported challengers 24 unseated three long-time incumbents in Cypress-Fairbanks 25 ISD, in Harris County."</p>	<p style="text-align: right;">84</p> <p>1 all I have today. I really appreciate your time. 2 THE WITNESS: Thank you so much. It was a 3 pleasure. I hope I didn't talk too fast, Ms. Taylor. 4 MR. CRAWFORD: You were wonderful. 5 MR. ABRAMS: Plaintiff will reserve its 6 questions until later. 7 (Per the Federal Rules of Civil Procedure, 8 signature was requested by the deponent 9 or a party before the deposition was 10 completed.) 11 (End of proceedings at 11:31.) 12 13 14 15 16 17 18 19 20 21 22 23 24 25</p>

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1 WITNESS NAME: ROBERT M. STEIN, Ph.D.
 2 DATE OF DEPOSITION: FEBRUARY 9, 2022
 3 CHANGES AND SIGNATURE
 4 PAGE/LINE CHANGE REASON
 5 _____
 6 _____
 7 _____
 8 _____
 9 _____
 10 _____
 11 _____
 12 _____
 13 _____
 14 _____
 15 _____
 16 _____
 17 _____
 18 _____
 19 _____
 20 _____
 21 _____
 22 _____
 23 _____
 24 _____
 25 _____

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1 I, ROBERT M. STEIN, Ph.D., have read the foregoing
 2 deposition and hereby affix my signature that same is
 3 true and correct, except as noted above.
 4
 5 _____
 ROBERT M. STEIN, Ph.D.
 6
 7
 8
 9 STATE OF _____)
 10 COUNTY OF _____)
 11
 12 Before me, _____, on this day
 13 personally appeared ROBERT M. STEIN, Ph.D. known to me
 14 (or proved to me under oath or through _____)
 15 (description of identity card or other document) to be
 16 the person whose name is subscribed to the foregoing
 17 instrument and acknowledged to me that they executed the
 18 same for the purposes and consideration therein
 19 expressed.
 20 Given under my hand and seal of office this ____
 21 day of _____, 2022.
 22
 23 _____
 24 NOTARY PUBLIC IN AND FOR
 25 THE STATE OF _____

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1 IN THE UNITED STATES DISTRICT COURT
 2 FOR THE SOUTHERN DISTRICT OF TEXAS
 3 HOUSTON DIVISION
 4 VIRGINIA ELIZONDO,)
)
 4 Plaintiff,)
) Civil Action No.
 5 v.) 4:21-cv-01997
)
 6 SPRING BRANCH INDEPENDENT)
 SCHOOL DISTRICT, CHRIS)
 7 GONZALEZ, PAM GOODSON,)
 KAREN PECK, JOSEF D. KLAM,)
 8 MINDA CAESAR, CHRIS EARNEST,)
 J. CARTER BREED, in their)
 9 official capacity as members)
 of the Board of Trustees of)
 10 Spring Branch ISD)
)
 11 Defendants.)
 12
 13 REPORTER'S CERTIFICATION
 14 ORAL DEPOSITION
 15 OF ROBERT M. STEIN, Ph.D.
 16 FEBRUARY 9, 2022
 17 (REPORTED REMOTELY)
 18
 19 I, Dana A. Taylor, Certified Shorthand Reporter in
 20 and for the State of Texas, hereby certify to the
 21 following:
 22 That the witness, ROBERT M. STEIN, Ph.D., was duly
 23 sworn by the officer and that the transcript of the oral
 24 deposition is a true record of the testimony given by
 25 the witness;

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1 That the deposition was submitted on
 2 March 1st, 2022, to the attorney for the
 3 witness for examination, signature, and return to me by
 4 April 5th, 2022;
 5 I further certify pursuant to FRCP Rule 25
 6 30(f)(1) that the signature of the deponent:
 7 _____ was requested by the deponent or a
 8 party before the completion of the deposition and that
 9 the signature is to be before any notary public and
 10 returned within 30 days from date of receipt of the
 11 transcript. If returned, the attached Changes and
 12 Signature Page contains any changes and the reasons
 13 therefore:
 14 _____ was not requested by the deponent or a
 15 party before the completion of the deposition.
 16 That pursuant to information given to the deposition
 17 officer at the time said testimony was taken, the
 18 following includes all parties of record and the amount
 19 of time used by each party at the time of the
 20 deposition:
 21 FOR THE PLAINTIFF:
 22 MR. BARRY ABRAMS
 BLANK ROME
 23 717 Texas Avenue, Suite 1400
 Houston, Texas 77002-2727
 24 713-228-6606, 713-228-6630 Fax
 barry.abrams@blankrome.com
 25 Time used: (0:00)

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1 FOR THE PLAINTIFF:
2 MR. MARTIN GOLANDO
3 THE LAW OFFICE OF MARTIN GOLANDO, PLLC
4 405 North Saint Mary's Street, Suite 700
5 San Antonio, Texas 78205-2334
6 210-892-8543
7 Time used: (0:00)

8 FOR THE DEFENDANTS:
9 MR. CHARLES J. CRAWFORD
10 ABERNATHY, ROEDER, BOYD & HULLETT, P.C.
11 1700 Redbud Boulevard, Suite 300
12 McKinney, Texas 75069
13 214-544-4000, 214-544-4040 Fax
14 ccrawford@abernathy-law.com
15 Time used: (1:58)

16 That \$690.55 is the deposition officer's charges
17 to the Defendants for preparing the original deposition
18 transcript and any copies of exhibits;

19 I further certify that I am neither counsel for,
20 related to, nor employed by any of the parties or
21 attorneys in the action in which this proceeding was
22 taken, and further that I am not financially or
23 otherwise interested in the outcome of this action.
24 Certified to by me this 1st day of March, 2022.

25 /s/ Dana Taylor_____
DANA TAYLOR, TEXAS CSR 6048
Expiration Date: 04/30/23
STORMY JACKSON REPORTING
Firm Registration No. 610
1518 Clear Creek Drive
Allen, Texas 75002
214.491.0117
stormyrpr@outlook.com

EXHIBIT C

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

VIRGINIA ELIZONDO

Plaintiff,

v.

SPRING BRANCH INDEPENT SCHOOL DISTRICT, CHRIS GONZALEZ,
PAM GOODSON, KAREN PECK, JOSEF D. KLAM, MINDA CAESAR,
CHRIS EARNEST, J. CARTER BREED, in their official capacity as members of the
Board of Trustees of Spring Branch ISD

Defendants

EXPERT REPORT OF JOHN R. ALFORD, Ph.D.

February 21, 2022

Scope of Inquiry

I have been retained by the law firm of Abernathy, Roeder, Boyd & Hullett, P.C. as an expert to provide analysis related to *Elizondo v. Spring Branch Independent School District, et al.* The specific scope of my assignment was to offer my expert opinions on the methodology and data employed by Dr. Robert M. Stein in his expert report(s) prepared on the Plaintiff's behalf in the this lawsuit. I have not yet been able to read and assess Dr. Stein's recent deposition in this case, and given the light it may shed on numerous areas not clearly documented in his report, I expect to supplement this report when that deposition transcript has been made available to me. My rate of compensation in this matter is \$400 per hour.

I. Qualifications

I am a tenured full professor of political science at Rice University. At Rice, I have taught courses on redistricting, elections, political representation, voting behavior and statistical methods at both the undergraduate and graduate level. Over the last thirty years, I have worked with numerous local governments on districting plans and on Voting Rights Act issues. I have previously provided expert reports and/or testified as an expert witness in voting rights and statistical issues in a variety of court cases, working for the U.S. Attorney in Houston, the Texas Attorney General, a U.S. Congressman and various cities and school districts.

In the 2000 round of redistricting, I was retained as an expert to provide advice to then Texas Attorney General John Cornyn in his role as Chair of the Legislative Redistricting Board. I subsequently served as the expert for the State of Texas in the state and federal litigation involving the 2001 redistricting for U.S. Congress, the Texas Senate, the Texas House of Representatives, and the Texas State Board of Education. I have continued to work for the Texas Attorney General in various election related lawsuits throughout the decades since, including challenges to various redistricting plans, and a challenge to the at large election of Texas Supreme Court and Court of Appeals justices. I have also worked as an expert on redistricting and voting rights cases in Louisiana, New Mexico, Mississippi, Wisconsin, Florida, Georgia, Michigan, New York, Arkansas, Pennsylvania and Alabama. The details of my academic background, including all publications in the last ten years, and work as an expert on all cases in which I have testified by deposition or at trial in the last four years, are covered in the attached CV (Appendix 1).

II. Data and Sources

In preparing my report, I have reviewed the filings in this case. I have also reviewed the report filed by the plaintiff's expert in this case, and various materials disclosure by Dr. Stein that he relied on in preparing his report. I have also reviewed various publications that Dr. Stein quoted or cited in his report.

III. Dr. Stein's Report

Dr. Stein's report focuses on three broad areas; evidence of racially polarized elections in Spring Branch ISD, the ability to create a citizen majority Hispanic single-member district in Spring Branch ISD, and a review of various published literature on the impact and desirability of single-member versus at large elections for school districts. I was not asked to evaluate the demographic and Geographic Information System (GIS) work that Dr. Stein performed and reported on, and so will not address that section of his report here.

Racially (Ethnically) Polarized Voting in Spring Branch ISD

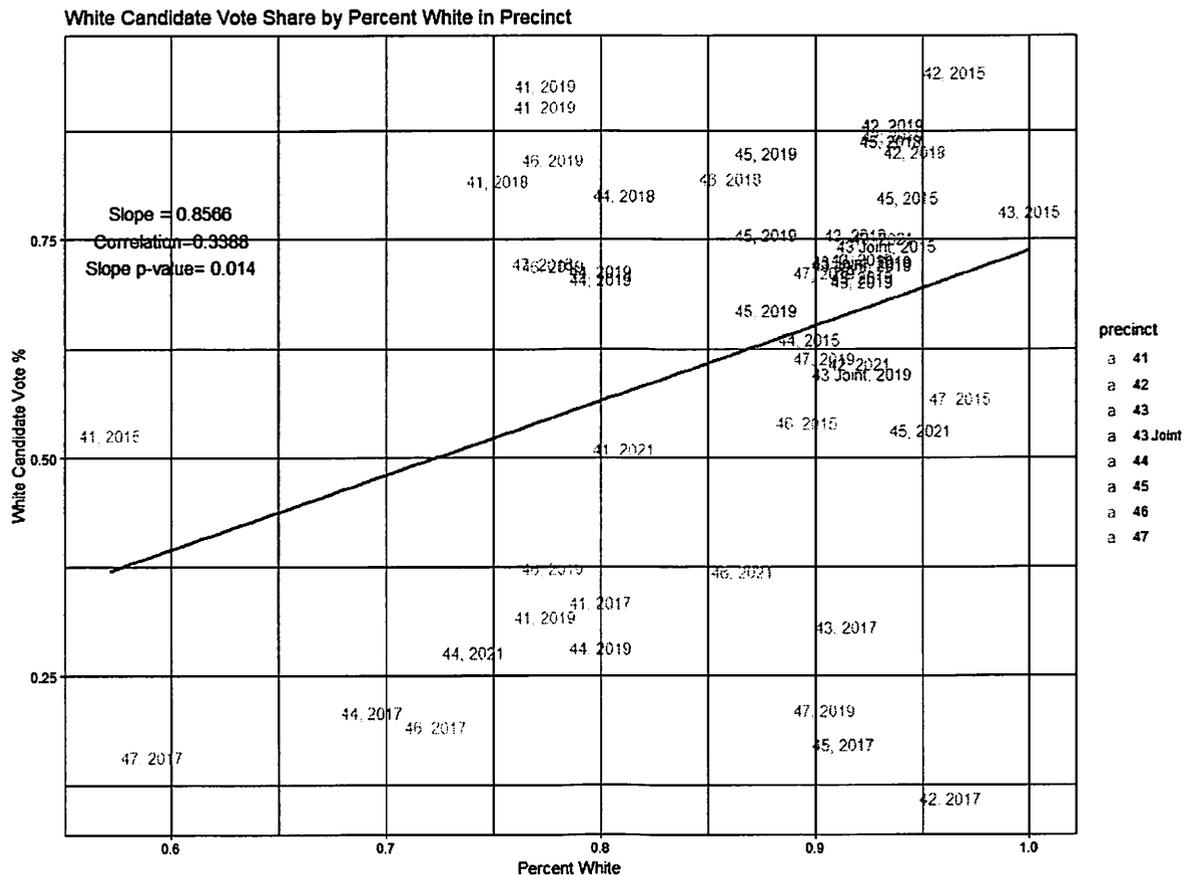
The analysis of racial and ethnic polarization that Dr. Stein provides in his report takes a broad collective view of this issue, rather than the more traditional VRA litigation approach of analyzing each election contest separately, and then considering the general pattern across those election contests. Typically, an analysis of the school board elections for the purpose of assessing the *Gingles* 2 and 3 threshold tests would proceed by selecting recent (last 5-10 years) contested elections and collecting votes cast for the candidates in each contest by polling place in a specific year, along with estimates of the ethnicity of the voters in each polling place using either Census Bureau Citizen Voting Age Population (CVAP) data, or an estimate of the number of Hispanic voters at each polling place in each contest based on an application of the Census Spanish Surname list to the recorded list of voters that actually participated in the election contest. In each election contest estimates of the degree of Hispanic cohesion (*Gingles* 2) and Anglo bloc voting (*Gingles* 3) would then be produced by applying some recent variant of King's Ecological Inference (EI) to estimate both of these two separate parameters, and also to estimate a confidence interval for each of these parameters.

The EI estimate of the share of Hispanic voters favoring a particular candidate provides the evidence to answer the *Gingles* 2 question as to whether Hispanic voters are cohesive in support

of a preferred candidate, and whether the confidence intervals associated with that estimated level of support allow us to reject the null hypotheses of zero cohesion among Hispanic voters (e.g. splitting 50/50 in a two person contest). Assuming that in a given contest there is statistically significant evidence of a cohesively supported preferred candidate (regardless of whether that candidate is Hispanic or Anglo), the analysis would then shift to the degree to which there is statistically significant evidence that Anglo voters were cohesive in voting in opposition to that Hispanic preferred candidate. With these separate estimates for each of the contested election contests in the chosen time period we could turn to the final summary question of the *Gingles* inquiry: looking across the analyzed election contests, was the cohesively supported preferred candidate of Hispanic voters by those voters usually defeated by Anglo bloc voting in opposition to that preferred candidate.

In contrast to this usual approach, Dr. Stein's analysis proceeds by selecting only contests with at least one candidate with a Hispanic surname, and then assuming that that candidate is actually Hispanic and is also the preferred candidate of Hispanic voters. In addition, Dr. Stein's methodology is atypical for VRA cases in that he utilizes Imai and Khana's Bayesian Improved Surname Geocoding (BISG) to estimate the proportion of minority voters in each polling place in each election, rather than the common established technique of using either CVAP or Spanish Surname coding based directly on the Census Spanish Surname list. Since the issue in this case involves the degree of cohesive preferences among Hispanic voters and the degree of cohesive opposition to those Hispanic preferred candidates among non-Hispanic voters, there is nothing to be gained by using BISG to create separate estimates of White, Black, and Asian voters, as all three are by definition non-Hispanic voters.

While non-standard, the results provided by Dr. Stein in his report are suggestive in regard to the degree to which voters vote choices might be linked to their support for Hispanic surnamed candidates. For ease of reference, Figure 2 (page 6) from Dr. Stein's report is reproduced below.



Looking at the region from the middle to the right side of the graph that represents polling places where Dr. Stein estimates that 75% or more of the voters are non-Hispanic Whites, it is clear that rather than clustering tightly along the prediction line in the graph, as we would expect if ethnicity of the candidates and voters was the driving force in vote choice in these elections, the results are scattered all over the range of possible vote shares. Even if we focus on specific polling places we see very different results, for example in polling place 42 we see over 80% support for the non-Hispanic White candidate in 2015, and in the next election in 2017, less than 20% support for the non-Hispanic White candidate.

This highly scattered pattern suggests that the voters are responding to some set of influences well beyond the ethnicity of the candidates. The lack of a strong association is also clear in the reported summary measure of association. The correlation coefficient of .3388 is not itself on an intuitive scale, but it can be squared to obtain the R-squared for the relationship, a linear measure of the proportion of the variation in the vote cast for the candidate that is accounted for by

variation in the proportion of non-Hispanic voters across the polling places. In this case the R-squared for Dr. Stein's Figure 2 is .1148, indicating that less than 12 percent of the variation in voting patterns for White candidates is accounted for by variation in the proportion of non-Hispanic White voters across the polling places. Put another way, over 87 percent of the variation in non-Hispanic White voting behavior is explained by factors other than voter and candidate ethnicity. Among a range of other concerns, this unexplained variance could reflect geographic divides within the Spring Branch ISD (e.g. north of I-10 versus south of I-10), nascent partisan divides that have come to be an increasingly common feature of local elections despite their officially non-partisan character, and non-racial differences in candidate positions and campaigns.

Taken together, the issues identified above suggest that the evidence relating to *Gingles 2* and *Gingles 3* provided in Dr. Stein's report are not sufficient to meet the plaintiff's burden of proof on these two threshold conditions, or on the broader totality of the circumstances. This is not to say that the analysis provided by Dr. Stein is not compatible with the existence within Spring Branch ISD of legally significant racially polarized voting. Instead, the generalized summary form of the analysis does not provide the election by election details that would allow a conclusion as to whether elections in Spring Branch ISD demonstrate the presence of legally significant racially polarized voting, rather than its mere possibility, in the way that a more traditional analysis could.

Existing Research on Minority representation in At-large and Single-member Systems

Dr. Stein cites an extensive body of academic literature on the effectiveness of switching from at large to single-member district elections. While much of the literature reports a positive relationship between single-member district election systems and minority representation, most of that historical literature was based primarily on studies of Black representation. The findings are not as clear or unqualified when the focal minority group shifts from Blacks to Hispanics. In fact, as Dr. Stein correctly notes certain conditions must be met in order to achieve positive representational outcomes for Hispanic voters, and "when these conditions are not met, however, moving from an at-large to single-member system of representation was found to have a null or even negative effect on minority representation" (page 11-12).

This question with regard to Hispanic voters arises early in the literature Dr. Stein cites. The 1990 Welch article summarizes a series of studies reaching back to the 70s in which impact of election structures was much less clear for Hispanic voters compared to Black voters. As she notes on page 1053 of that article:¹

The findings concerning election structures and Hispanic representation are, however, less clear cut. Davidson and Korbel (1981) found that Hispanics as well as blacks fare better in district elections though the analysis they present combined data for Hispanics and blacks. MacManus (1978) showed that, among the major types of electoral systems, Hispanic representation is slightly more equitable in district than pure at-large elections, but most equitable in mixed systems, although these differences were small. Taebel (1978) reported that council size was more important than electoral structure for Hispanics, though for each size of council, Hispanics were better represented in district rather than at-large elections; he, like MacManus, found that Hispanics were best represented in mixed systems. Welch and Karnig (1978) found that structure makes hardly any difference for Hispanic representation, a finding echoed a decade later by Guerra's (1989) study of Los Angeles county.

Welch goes on to conclude, on the basis of the more up-to-date analysis presented in that article, that her current analysis confirms the earlier reports. She states, referring to the broad findings supporting the superiority of single-member district systems over at-large systems for Black representation that “These generalizations about the linkage between electoral structures and the representation of blacks do not apply to Hispanics. Overall, district elections do not promote more equitable representation for Hispanics” (page 1072).

These concerns about the nature of the connection between electoral structures and Hispanic representation in Welch’s 1990 article are reinforced by the conclusions reached thirty years later. In one of the most recent and comprehensive studies that Dr. Stein cites, Abott and Magazinnik summarize their findings on this issue on page 726.²

In large and segregated districts with sufficiently small Latino populations, the reform actually had a negative effect on Latino officeholding. As the third panels of Figures 4 and 5 show, at Latino VEP of 0.20, conversions in both high-dissimilarity and high-enrollment districts decreased the proportion of seats won by Latinos by 20 percentage points ($p < .05$). The negative effects are not surprising: Not only do these districts lack a large enough Latino minority to constitute an influential voting bloc, but also, as critics

¹ Welch, S. 1990. The Impact of At-Large Elections on the Representation of Blacks and Hispanics. *The Journal of Politics*, 52(4), 1050–1076. <https://doi.org/10.2307/2131682>

²Abbot, Carolyn and Asya Magazinnik. 2021. “At-Large Elections and Minority Representation in Local Government,” *American Journal of Political Science*. 64:717-773.

of the reform have argued, introducing an ethnic gerrymander may amplify voters' perceptions that political conflict falls along this particular dimension. The result—increasingly racially polarized voting, coupled with small numbers of Latino voters relative to other groups—may create new barriers to Latino electoral victories. As the histograms at the top of Figures 4 and 5 show, not many of the treated observations were both low on Latino VEP and high on segregation and/or enrollment, and therefore not many districts experienced negative treatment effects in practice; that said, reformers ought to carefully consider moving forward with conversion efforts under this set of adverse conditions.

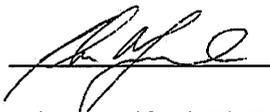
The conditions they cite are closely matched in the Spring Branch ISD. As Dr. Stein notes in his report “Researchers (Abbott and Magazinnik 2020; Massey and Denton 1993; Ananat 2011; Collins and Margo 2000; Cutler and Glaeser 1997; Cutler, Glaeser and Vigdor 1999) identify dissimilarity index scores below .3 as indicating low levels of segregation, .3 to .6 as moderate levels of segregation and .6 and above as high levels of segregation. The Spring Branch ISD’s dissimilarity index score at the school level is .694 and .596 at the enrollment zone level” (page 9). This puts Spring Branch ISD in Abott and Magazinnik’s highest category of dissimilarity in enrollment.

Similarly, the low level of Voter Eligible Population (VEP) in Spring Branch ISD also puts Spring Branch ISD in the category where Abbot and Magazinnik observe potential negative effects of a move to a single-member district election system. Spanish Surname Registered Voters (SSRV) make up less than 20% of the registered voters in Spring Branch ISD , and in the most recent 2021 school board elections that included the Position 4 Elizondo – Earnest contest, Spanish Surname Registered Voters made up less than six percent of the actual election day Spring Branch ISD voters.

This combination of low Hispanic proportions in terms of eligible voters and relatively high dissimilarity makes Spring Branch ISD the sort of district that the Abott and Magazinnik article warns typically experiences negative effects on Hispanic representation, rather than the more common intended positive effects. The warning offered by Abbot and Magazinnik about the unintended negative consequences of a move to all at-large system must be considered carefully here as part of the totality of the circumstances. The demographic conditions they describe are a close match for the situation in Spring Branch ISD, and the early signs of the negative effects they warn about can already be seen in terms of the current rapidly spiraling and intensely

divisive political treatment of the single-member district issue in Spring Branch ISD (for example the 'Don't HISD our SBISD' signs at the recent school board meetings).

February 21, 2022

A handwritten signature in black ink, appearing to read "John R. Alford", is written over a horizontal line.

John R. Alford, Ph.D.

Appendix 1

Curriculum Vitae – John Alford, Ph.D.

John R. Alford

Curriculum Vitae

February, 2022

Dept. of Political Science
Rice University - MS-24
P.O. Box 1892
Houston, Texas 77251-1892
713-348-3364
jra@rice.edu

Employment:

Full Professor, Rice University, 2015 to present.
Associate Professor, Rice University, 1985-2015.
Assistant Professor, University of Georgia, 1981-1985.
Instructor, Oakland University, 1980-1981.
Teaching-Research Fellow, University of Iowa, 1977-1980.
Research Associate, Institute for Urban Studies, Houston, Texas, 1976-1977.

Education:

Ph.D., University of Iowa, Political Science, 1981.
M.A., University of Iowa, Political Science, 1980.
M.P.A., University of Houston, Public Administration, 1977.
B.S., University of Houston, Political Science, 1975.

Books:

Predisposed: Liberals, Conservatives, and the Biology of Political Differences. New York: Routledge, 2013. Co-authors, John R. Hibbing and Kevin B. Smith.

Articles:

“Political Orientations Vary with Detection of Androstenone,” with Amanda Friesen, Michael Gruszczynski, and Kevin B. Smith. **Politics and the Life Sciences**. (Spring, 2020).

“Intuitive ethics and political orientations: Testing moral foundations as a theory of political ideology.” with Kevin Smith, John Hibbing, Nicholas Martin, and Peter Hatemi. **American Journal of Political Science**. (April, 2017).

“The Genetic and Environmental Foundations of Political, Psychological, Social, and Economic Behaviors: A Panel Study of Twins and Families.” with Peter Hatemi, Kevin Smith, and John Hibbing. **Twin Research and Human Genetics**. (May, 2015.)

“Liberals and conservatives: Non-convertible currencies.” with John R. Hibbing and Kevin B. Smith. **Behavioral and Brain Sciences** (January, 2015).

“Non-Political Images Evoke Neural Predictors Of Political Ideology.” with Woo-Young Ahn, Kenneth T. Kishida, Xiaosi Gu, Terry Lohrenz, Ann Harvey, Kevin Smith, Gideon Yaffe, John Hibbing, Peter Dayan, P. Read Montague. **Current Biology**. (November, 2014).

“Cortisol and Politics: Variance in Voting Behavior is Predicted by Baseline Cortisol Levels.” with Jeffrey French, Kevin Smith, Adam Guck, Andrew Birnie, and John Hibbing. **Physiology & Behavior**. (June, 2014).

“Differences in Negativity Bias Underlie Variations in Political Ideology.” with Kevin B. Smith and John R. Hibbing. **Behavioral and Brain Sciences**. (June, 2014).

“Negativity bias and political preferences: A response to commentators Response.” with Kevin B. Smith and John R. Hibbing. **Behavioral and Brain Sciences**. (June, 2014).

“Genetic and Environmental Transmission of Political Orientations.” with Carolyn L. Funk, Matthew Hibbing, Kevin B. Smith, Nicholas R. Eaton, Robert F. Krueger, Lindon J. Eaves, John R. Hibbing. **Political Psychology**, (December, 2013).

“Biology, Ideology, and Epistemology: How Do We Know Political Attitudes Are Inherited and Why Should We Care?” with Kevin Smith, Peter K. Hatemi, Lindon J. Eaves, Carolyn Funk, and John R. Hibbing. **American Journal of Political Science**. (January, 2012)

“Disgust Sensitivity and the Neurophysiology of Left-Right Political Orientations.” with Kevin Smith, John Hibbing, Douglas Oxley, and Matthew Hibbing, **PlosONE**, (October, 2011).

“Linking Genetics and Political Attitudes: Re-Conceptualizing Political Ideology.” with Kevin Smith, John Hibbing, Douglas Oxley, and Matthew Hibbing, **Political Psychology**, (June, 2011).

“The Politics of Mate Choice.” with Peter Hatemi, John R. Hibbing, Nicholas Martin and Lindon Eaves, **Journal of Politics**, (March, 2011).

“Not by Twins Alone: Using the Extended Twin Family Design to Investigate the Genetic Basis of Political Beliefs” with Peter Hatemi, John Hibbing, Sarah Medland, Matthew Keller, Kevin Smith, Nicholas Martin, and Lindon Eaves, **American Journal of Political Science**, (July, 2010).

“The Ultimate Source of Political Opinions: Genes and the Environment” with John R. Hibbing in **Understanding Public Opinion**, 3rd Edition eds. Barbara Norrander and Clyde Wilcox, Washington D.C.: CQ Press, (2010).

“Is There a ‘Party’ in your Genes” with Peter Hatemi, John R. Hibbing, Nicholas Martin and Lindon Eaves, **Political Research Quarterly**, (September, 2009).

“Twin Studies, Molecular Genetics, Politics, and Tolerance: A Response to Beckwith and Morris” with John R. Hibbing and Cary Funk, **Perspectives on Politics**, (December, 2008). This is a solicited response to a critique of our 2005 APSR article “Are Political Orientations Genetically Transmitted?”

“Political Attitudes Vary with Physiological Traits” with Douglas R. Oxley, Kevin B. Smith, Matthew V. Hibbing, Jennifer L. Miller, Mario Scalora, Peter K. Hatemi, and John R. Hibbing, **Science**, (September 19, 2008).

“The New Empirical Biopolitics” with John R. Hibbing, **Annual Review of Political Science**, (June, 2008).

“Beyond Liberals and Conservatives to Political Genotypes and Phenotypes” with John R. Hibbing and Cary Funk, **Perspectives on Politics**, (June, 2008). This is a solicited response to a critique of our 2005 APSR article “Are Political Orientations Genetically Transmitted?”

“Personal, Interpersonal, and Political Temperaments” with John R. Hibbing, **Annals of the American Academy of Political and Social Science**, (November, 2007).

“Is Politics in our Genes?” with John R. Hibbing, **Tidsskriftet Politik**, (February, 2007).

“Biology and Rational Choice” with John R. Hibbing, **The Political Economist**, (Fall, 2005)

“Are Political Orientations Genetically Transmitted?” with John R. Hibbing and Carolyn Funk, **American Political Science Review**, (May, 2005). (The main findings table from this article has been reprinted in two college level text books - Psychology, 9th ed. and Invitation to Psychology 4th ed. both by Wade and Tavris, Prentice Hall, 2007).

“The Origin of Politics: An Evolutionary Theory of Political Behavior” with John R. Hibbing, **Perspectives on Politics**, (December, 2004).

“Accepting Authoritative Decisions: Humans as Wary Cooperators” with John R. Hibbing, **American Journal of Political Science**, (January, 2004).

“Electoral Convergence of the Two Houses of Congress” with John R. Hibbing, in **The Exceptional Senate**, ed. Bruce Oppenheimer, Columbus: Ohio State University Press, (2002).

“We’re All in this Together: The Decline of Trust in Government, 1958-1996.” in **What is it About Government that Americans Dislike?**, eds. John Hibbing and Beth Theiss-Morse, Cambridge: Cambridge University Press, (2001).

“The 2000 Census and the New Redistricting,” **Texas State Bar Association School Law Section Newsletter**, (July, 2000).

“Overdraft: The Political Cost of Congressional Malfeasance” with Holly Teeters, Dan Ward, and Rick Wilson, **Journal of Politics** (August, 1994).

“Personal and Partisan Advantage in U.S. Congressional Elections, 1846-1990” with David W. Brady, in **Congress Reconsidered** 5th edition, eds. Larry Dodd and Bruce Oppenheimer, CQ Press, (1993).

“The 1990 Congressional Election Results and the Fallacy that They Embodied an Anti-Incumbent Mood” with John R. Hibbing, **PS 25** (June, 1992).

“Constituency Population and Representation in the United States Senate” with John R. Hibbing. **Legislative Studies Quarterly**, (November, 1990).

“Editors' Introduction: Electing the U.S. Senate” with Bruce I. Oppenheimer. **Legislative Studies Quarterly**, (November, 1990).

“Personal and Partisan Advantage in U.S. Congressional Elections, 1846-1990” with David W. Brady, in **Congress Reconsidered** 4th edition, eds. Larry Dodd and Bruce Oppenheimer, CQ Press, (1988). Reprinted in *The Congress of the United States, 1789-1989*, ed. Joel Silby, Carlson Publishing Inc., (1991), and in *The Quest for Office*, eds. Wayne and Wilcox, St. Martins Press, (1991).

“Can Government Regulate Fertility? An Assessment of Pro-natalist Policy in Eastern Europe” with Jerome Legge. **The Western Political Quarterly** (December, 1986).

"Partisanship and Voting" with James Campbell, Mary Munro, and Bruce Campbell, in **Research in Micropolitics. Volume 1 - Voting Behavior**. Samuel Long, ed. JAI Press, (1986).

"Economic Conditions and Individual Vote in the Federal Republic of Germany" with Jerome S. Legge. **Journal of Politics** (November, 1984).

"Television Markets and Congressional Elections" with James Campbell and Keith Henry. **Legislative Studies Quarterly** (November, 1984).

"Economic Conditions and the Forgotten Side of Congress: A Foray into U.S. Senate Elections" with John R. Hibbing, **British Journal of Political Science** (October, 1982).

"Increased Incumbency Advantage in the House" with John R. Hibbing, **Journal of Politics** (November, 1981). Reprinted in *The Congress of the United States, 1789-1989*, Carlson Publishing Inc., (1991).

"The Electoral Impact of Economic Conditions: Who is Held Responsible?" with John R. Hibbing, **American Journal of Political Science** (August, 1981).

"Comment on Increased Incumbency Advantage" with John R. Hibbing, Refereed communication: **American Political Science Review** (March, 1981).

"Can Government Regulate Safety? The Coal Mine Example" with Michael Lewis-Beck, **American Political Science Review** (September, 1980).

Awards and Honors:

CQ Press Award - 1988, honoring the outstanding paper in legislative politics presented at the 1987 Annual Meeting of the American Political Science Association. Awarded for "The Demise of the Upper House and the Rise of the Senate: Electoral Responsiveness in the United States Senate" with John Hibbing.

Research Grants:

National Science Foundation, 2009-2011, "Identifying the Biological Influences on Political Temperaments", with John Hibbing, Kevin Smith, Kim Espy, Nicolas Martin and Read Montague. This is a collaborative project involving Rice, University of Nebraska, Baylor College of Medicine, and Queensland Institute for Medical Research.

National Science Foundation, 2007-2010, "Genes and Politics: Providing the Necessary Data", with John Hibbing, Kevin Smith, and Lindon Eaves. This is a collaborative project involving Rice, University of Nebraska, Virginia Commonwealth University, and the University of Minnesota.

National Science Foundation, 2007-2010, "Investigating the Genetic Basis of Economic Behavior", with John Hibbing and Kevin Smith. This is a collaborative project involving Rice, University of Nebraska, Virginia Commonwealth University, and the Queensland Institute of Medical Research.

Rice University Faculty Initiatives Fund, 2007-2009, "The Biological Substrates of Political Behavior". This is in assistance of a collaborative project involving Rice, Baylor College of Medicine, Queensland Institute of Medical Research, University of Nebraska, Virginia Commonwealth University, and the University of Minnesota.

National Science Foundation, 2004-2006, "Decision-Making on Behalf of Others", with John Hibbing. This is a collaborative project involving Rice and the University of Nebraska.

National Science Foundation, 2001-2002, dissertation grant for Kevin Arceneaux, "Doctoral Dissertation Research in Political Science: Voting Behavior in the Context of U.S. Federalism."

National Science Foundation, 2000-2001, dissertation grant for Stacy Ulbig, "Doctoral Dissertation Research in Political Science: Sub-national Contextual Influences on Political Trust."

National Science Foundation, 1999-2000, dissertation grant for Richard Engstrom, "Doctoral Dissertation Research in Political Science: Electoral District Structure and Political Behavior."

Rice University Research Grant, 1985, Recent Trends in British Parliamentary Elections.

Faculty Research Grants Program, University of Georgia, Summer, 1982. Impact of Media Structure on Congressional Elections, with James Campbell.

Papers Presented:

"The Physiological Basis of Political Temperaments" 6th European Consortium for Political Research General Conference, Reykjavik, Iceland (2011), with Kevin Smith, and John Hibbing.

"Identifying the Biological Influences on Political Temperaments" National Science Foundation Annual Human Social Dynamics Meeting (2010), with John Hibbing, Kimberly Espy, Nicholas Martin, Read Montague, and Kevin B. Smith.

"Political Orientations May Be Related to Detection of the Odor of Androstenone" Annual meeting of the Midwest Political Science Association, Chicago, IL (2010), with Kevin Smith, Amanda Balzer, Michael Gruszczynski, Carly M. Jacobs, and John Hibbing.

"Toward a Modern View of Political Man: Genetic and Environmental Transmission of Political Orientations from Attitude Intensity to Political Participation" Annual meeting of the American Political Science Association, Washington, DC (2010), with Carolyn Funk, Kevin Smith, and John Hibbing.

"Genetic and Environmental Transmission of Political Involvement from Attitude Intensity to Political Participation" Annual meeting of the International Society for Political Psychology, San Francisco, CA (2010), with Carolyn Funk, Kevin Smith, and John Hibbing.

"Are Violations of the EEA Relevant to Political Attitudes and Behaviors?" Annual meeting of the Midwest Political Science Association, Chicago, IL (2010), with Kevin Smith, and John Hibbing.

"The Neural Basis of Representation" Annual meeting of the American Political Science Association, Toronto, Canada (2009), with John Hibbing.

“Genetic and Environmental Transmission of Value Orientations” Annual meeting of the American Political Science Association, Toronto, Canada (2009), with Carolyn Funk, Kevin Smith, Matthew Hibbing, Pete Hatemi, Robert Krueger, Lindon Eaves, and John Hibbing.

“The Genetic Heritability of Political Orientations: A New Twin Study of Political Attitudes” Annual Meeting of the International Society for Political Psychology, Dublin, Ireland (2009), with John Hibbing, Cary Funk, Kevin Smith, and Peter K Hatemi.

“The Heritability of Value Orientations” Annual meeting of the Behavior Genetics Association, Minneapolis, MN (2009), with Kevin Smith, John Hibbing, Carolyn Funk, Robert Krueger, Peter Hatemi, and Lindon Eaves.

“The Ick Factor: Disgust Sensitivity as a Predictor of Political Attitudes” Annual meeting of the Midwest Political Science Association, Chicago, IL (2009), with Kevin Smith, Douglas Oxley Matthew Hibbing, and John Hibbing.

“The Ideological Animal: The Origins and Implications of Ideology” Annual meeting of the American Political Science Association, Boston, MA (2008), with Kevin Smith, Matthew Hibbing, Douglas Oxley, and John Hibbing.

“The Physiological Differences of Liberals and Conservatives” Annual meeting of the Midwest Political Science Association, Chicago, IL (2008), with Kevin Smith, Douglas Oxley, and John Hibbing.

“Looking for Political Genes: The Influence of Serotonin on Political and Social Values” Annual meeting of the Midwest Political Science Association, Chicago, IL (2008), with Peter Hatemi, Sarah Medland, John Hibbing, and Nicholas Martin.

“Not by Twins Alone: Using the Extended Twin Family Design to Investigate the Genetic Basis of Political Beliefs” Annual meeting of the American Political Science Association, Chicago, IL (2007), with Peter Hatemi, John Hibbing, Matthew Keller, Nicholas Martin, Sarah Medland, and Lindon Eaves.

“Factorial Association: A generalization of the Fulker between-within model to the multivariate case” Annual meeting of the Behavior Genetics Association, Amsterdam, The Netherlands (2007), with Sarah Medland, Peter Hatemi, John Hibbing, William Coventry, Nicholas Martin, and Michael Neale.

“Not by Twins Alone: Using the Extended Twin Family Design to Investigate the Genetic Basis of Political Beliefs” Annual meeting of the Midwest Political Science Association, Chicago, IL (2007), with Peter Hatemi, John Hibbing, Nicholas Martin, and Lindon Eaves.

“Getting from Genes to Politics: The Connecting Role of Emotion-Reading Capability” Annual Meeting of the International Society for Political Psychology, Portland, OR, (2007.), with John Hibbing.

“The Neurological Basis of Representative Democracy.” Hendricks Conference on Political Behavior, Lincoln, NE (2006), with John Hibbing.

“The Neural Basis of Representative Democracy” Annual meeting of the American Political Science Association, Philadelphia, PA (2006), with John Hibbing.

“How are Political Orientations Genetically Transmitted? A Research Agenda” Annual meeting of the Midwest Political Science Association, Chicago Illinois (2006), with John Hibbing.

"The Politics of Mate Choice" Annual meeting of the Southern Political Science Association, Atlanta, GA (2006), with John Hibbing.

"The Challenge Evolutionary Biology Poses for Rational Choice" Annual meeting of the American Political Science Association, Washington, DC (2005), with John Hibbing and Kevin Smith.

"Decision Making on Behalf of Others" Annual meeting of the American Political Science Association, Washington, DC (2005), with John Hibbing.

"The Source of Political Attitudes and Behavior: Assessing Genetic and Environmental Contributions" Annual meeting of the Midwest Political Science Association, Chicago Illinois (2005), with John Hibbing and Carolyn Funk.

"The Source of Political Attitudes and Behavior: Assessing Genetic and Environmental Contributions" Annual meeting of the American Political Science Association, Chicago Illinois (2004), with John Hibbing and Carolyn Funk.

"Accepting Authoritative Decisions: Humans as Wary Cooperators" Annual Meeting of the Midwest Political Science Association, Chicago, Illinois (2002), with John Hibbing

"Can We Trust the NES Trust Measure?" Annual Meeting of the Midwest Political Science Association, Chicago, Illinois (2001), with Stacy Ulbig.

"The Impact of Organizational Structure on the Production of Social Capital Among Group Members" Annual Meeting of the Southern Political Science Association, Atlanta, Georgia (2000), with Allison Rinden.

"Isolating the Origins of Incumbency Advantage: An Analysis of House Primaries, 1956-1998" Annual Meeting of the Southern Political Science Association, Atlanta, Georgia (2000), with Kevin Arceneaux.

"The Electorally Indistinct Senate," Norman Thomas Conference on Senate Exceptionalism, Vanderbilt University; Nashville, Tennessee; October (1999), with John R. Hibbing.

"Interest Group Participation and Social Capital" Annual Meeting of the Midwest Political Science Association, Chicago, Illinois (1999), with Allison Rinden.

"We're All in this Together: The Decline of Trust in Government, 1958-1996." The Hendricks Symposium, University of Nebraska, Lincoln. (1998)

"Constituency Population and Representation in the United States Senate," Electing the Senate; Houston, Texas; December (1989), with John R. Hibbing.

"The Disparate Electoral Security of House and Senate Incumbents," American Political Science Association Annual Meetings; Atlanta, Georgia; September (1989), with John R. Hibbing.

"Partisan and Incumbent Advantage in House Elections," Annual Meeting of the Southern Political Science Association (1987), with David W. Brady.

"Personal and Party Advantage in U.S. House Elections, 1846-1986" with David W. Brady, 1987 Social Science History Association Meetings.

"The Demise of the Upper House and the Rise of the Senate: Electoral Responsiveness in the United States Senate" with John Hibbing, 1987 Annual Meeting of the American Political Science Association.

"A Comparative Analysis of Economic Voting" with Jerome Legge, 1985 Annual Meeting of the American Political Science Association.

"An Analysis of Economic Conditions and the Individual Vote in Great Britain, 1964-1979" with Jerome Legge, 1985 Annual Meeting of the Western Political Science Association.

"Can Government Regulate Fertility? An Assessment of Pro-natalist Policy in Eastern Europe" with Jerome Legge, 1985 Annual Meeting of the Southwestern Social Science Association.

"Economic Conditions and the Individual Vote in the Federal Republic of Germany" with Jerome S. Legge, 1984 Annual Meeting of the Southern Political Science Association.

"The Conditions Required for Economic Issue Voting" with John R. Hibbing, 1984 Annual Meeting of the Midwest Political Science Association.

"Incumbency Advantage in Senate Elections," 1983 Annual Meeting of the Midwest Political Science Association.

"Television Markets and Congressional Elections: The Impact of Market/District Congruence" with James Campbell and Keith Henry, 1982 Annual Meeting of the Southern Political Science Association.

"Economic Conditions and Senate Elections" with John R. Hibbing, 1982 Annual Meeting of the Midwest Political Science Association. "Pocketbook Voting: Economic Conditions and Individual Level Voting," 1982 Annual Meeting of the American Political Science Association.

"Increased Incumbency Advantage in the House," with John R. Hibbing, 1981 Annual Meeting of the Midwest Political Science Association.

Other Conference Participation:

Roundtable Participant – Closing Round-table on Biopolitics; 2016 UC Merced Conference on Bio-Politics and Political Psychology, Merced, CA.

Roundtable Participant "Genes, Brains, and Core Political Orientations" 2008 Annual Meeting of the Southwestern Political Science Association, Las Vegas.

Roundtable Participant "Politics in the Laboratory" 2007 Annual Meeting of the Southern Political Science Association, New Orleans.

Short Course Lecturer, "What Neuroscience has to Offer Political Science" 2006 Annual Meeting of the American Political Science Association.

Panel chair and discussant, "Neuro-scientific Advances in the Study of Political Science" 2006 Annual Meeting of the American Political Science Association.

Presentation, "The Twin Study Approach to Assessing Genetic Influences on Political Behavior" Rice Conference on New Methods for Understanding Political Behavior, 2005.

Panel discussant, "The Political Consequences of Redistricting," 2002 Annual Meeting of the American Political Science Association.

Panel discussant, "Race and Redistricting," 1999 Annual Meeting of the Midwest Political Science Association.

Invited participant, "Roundtable on Public Dissatisfaction with American Political Institutions", 1998 Annual Meeting of the Southwestern Social Science Association.

Presentation, "Redistricting in the '90s," Texas Economic and Demographic Association, 1997.

Panel chair, "Congressional Elections," 1992 Annual Meeting of the Southern Political Science Association.

Panel discussant, "Incumbency and Congressional Elections," 1992 Annual Meeting of the American Political Science Association.

Panel chair, "Issues in Legislative Elections," 1991 Annual Meeting of the Midwest Political Science Association.

Panel chair, "Economic Attitudes and Public Policy in Europe," 1990 Annual Meeting of the Southern Political Science Association

Panel discussant, "Retrospective Voting in U.S. Elections," 1990 Annual Meeting of the Midwest Political Science Association.

Co-convenor, with Bruce Oppenheimer, of Electing the Senate, a national conference on the NES 1988 Senate Election Study. Funded by the Rice Institute for Policy Analysis, the University of Houston Center for Public Policy, and the National Science Foundation, Houston, Texas, December, 1989.

Invited participant, Understanding Congress: A Bicentennial Research Conference, Washington, D.C., February, 1989.

Invited participant--Hendricks Symposium on the United States Senate, University of Nebraska, Lincoln, Nebraska, October, 1988

Invited participant--Conference on the History of Congress, Stanford University, Stanford, California, June, 1988.

Invited participant, "Roundtable on Partisan Realignment in the 1980's", 1987 Annual Meeting of the Southern Political Science Association.

Professional Activities:

Other Universities:

Invited Speaker, Annual Lecture, Psi Kappa -the Psychology Club at Houston Community College, 2018.

Invited Speaker, Annual Allman Family Lecture, Dedman College Interdisciplinary Institute, Southern Methodist University, 2016.

Invited Speaker, Annual Lecture, Psi Sigma Alpha – Political Science Dept., Oklahoma State University, 2015.

Invited Lecturer, Department of Political Science, Vanderbilt University, 2014.

Invited Speaker, Annual Lecture, Psi Kappa -the Psychology Club at Houston Community College, 2014.

Invited Speaker, Graduate Student Colloquium, Department of Political Science, University of New Mexico, 2013.

Invited Keynote Speaker, Political Science Alumni Evening, University of Houston, 2013.

Invited Lecturer, Biology and Politics Masters Seminar (John Geer and David Bader), Department of Political Science and Biology Department, Vanderbilt University, 2010.

Invited Lecturer, Biology and Politics Senior Seminar (John Geer and David Bader), Department of Political Science and Biology Department, Vanderbilt University, 2008.

Visiting Fellow, the Hoover Institution, Stanford University, 2007.

Invited Speaker, Joint Political Psychology Graduate Seminar, University of Minnesota, 2007.

Invited Speaker, Department of Political Science, Vanderbilt University, 2006.

Member:

Editorial Board, Journal of Politics, 2007-2008.

Planning Committee for the National Election Studies' Senate Election Study, 1990-92.

Nominations Committee, Social Science History Association, 1988

Reviewer for:

American Journal of Political Science

American Political Science Review

American Politics Research

American Politics Quarterly

American Psychologist

American Sociological Review

Canadian Journal of Political Science

Comparative Politics

Electoral Studies

Evolution and Human Behavior

International Studies Quarterly

Journal of Politics
Journal of Urban Affairs
Legislative Studies Quarterly
National Science Foundation
PLoS ONE
Policy Studies Review
Political Behavior
Political Communication
Political Psychology
Political Research Quarterly
Public Opinion Quarterly
Science
Security Studies
Social Forces
Social Science Quarterly
Western Political Quarterly

University Service:

Member, University Senate, 2021-2023.

Member, University Parking Committee, 2016-2022.

Member, University Benefits Committee, 2013-2016.

Internship Director for the Department of Political Science, 2004-2018.

Member, University Council, 2012-2013.

Invited Speaker, Rice Classroom Connect, 2016.

Invited Speaker, Glasscock School, 2016.

Invited Speaker, Rice Alumni Association, Austin, 2016.

Invited Speaker, Rice Alumni Association, New York City, 2016.

Invited Speaker, Rice TEDxRiceU , 2013.

Invited Speaker, Rice Alumni Association, Atlanta, 2011.

Lecturer, Advanced Topics in AP Psychology, Rice University AP Summer Institute, 2009.

Scientia Lecture Series: "Politics in Our Genes: The Biology of Ideology" 2008

Invited Speaker, Rice Alumni Association, Seattle, San Francisco and Los Angeles, 2008.

Invited Speaker, Rice Alumni Association, Austin, Chicago and Washington, DC, 2006.

Invited Speaker, Rice Alumni Association, Dallas and New York, 2005.

Director: Rice University Behavioral Research Lab and Social Science Computing Lab, 2005-2006.

University Official Representative to the Inter-university Consortium for Political and Social Research, 1989-2012.

Director: Rice University Social Science Computing Lab, 1989-2004.

Member, Rice University Information Technology Access and Security Committee, 2001-2002

Rice University Committee on Computers, Member, 1988-1992, 1995-1996; Chair, 1996-1998, Co-chair, 1999.

Acting Chairman, Rice Institute for Policy Analysis, 1991-1992.

Divisional Member of the John W. Gardner Dissertation Award Selection Committee, 1998

Social Science Representative to the Educational Sub-committee of the Computer Planning Committee, 1989-1990.

Director of Graduate Admissions, Department of Political Science, Rice University, 1986-1988.

Co-director, Mellon Workshop: Southern Politics, May, 1988.

Guest Lecturer, Mellon Workshop: The U.S. Congress in Historical Perspective, May, 1987 and 1988.

Faculty Associate, Hanszen College, Rice University, 1987-1990.

Director, Political Data Analysis Center, University of Georgia, 1982-1985.

External Consulting:

Expert Witness, Johnson v. Wisconsin Elections Commission, 2022.

Expert Witness, Grant v. Raffensperger, challenge Georgia congressional map, 2022

Expert Witness, Brooks et al. v. Abbot, challenge to State Senate District 10, 2022.

Consultant, Lancaster ISD – redrawing of all school board member election districts including demographic analysis and redrawing of election districts, 2021.

Consultant, City of Baytown – redrawing of all city council member election districts including demographic analysis and redrawing of election districts, 2021.

Consultant, Goose Creek ISD – redrawing of all board member election districts including demographic analysis and redrawing of election districts, 2021.

Expert Witness, Christian Ministerial Alliance et al v. Arkansas, racially polarized voting analysis, 2020.

Expert Witness, Bruni et al. v. State of Texas, straight ticket voting analysis, 2020.

Consulting Expert, Sarasota County, VRA challenge to district map, 2020.

Expert Witness, Kumar v. Frisco ISD, TX, racially polarized voting analysis, 2019.

Expert Witness, Vaughan v. Lewisville ISD, TX, racially polarized voting analysis, 2019.

Expert Witness, Johnson v. Ardoin, (Louisiana), racially polarized voting analysis, 2019.

Expert Witness, Flores et al. v. Town of Islip, NY, racially polarized voting analysis, 2018.

Expert Witness, Tyson v. Richardson ISD, racially polarized voting analysis, 2018.

Expert Witness, Dwight v. State of Georgia, racially polarized voting analysis, 2018.

Expert Witness, NAACP v. East Ramapo Central School District, racially polarized voting analysis, 2018.

Expert Witness, Georgia NAACP v. State of Georgia, racially polarized voting analysis, 2018.

Expert Witness, United States v. City of Eastpoint, racially polarized voting analysis, 2017.

Expert Witness, Georgia NAACP v. Gwinnett County, racially polarized voting analysis, 2017.

Expert Witness for the State of Texas, Lopez, et al v. Abbott, a challenge to the current system of statewide at-large elections for the Texas Supreme Court and the Texas Court of Criminal Appeals, including election analysis, and racially polarized voting analysis, 2017.

Expert witness for the State of Texas, Perez, et al v State of Texas (and consolidated cases), challenge to adopted Texas election districts for the US Congress and the Texas House of Representatives, 2011-2017.

EXHIBIT D

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

VIRGINIA ELIZONDO

Plaintiff,

v.

SPRING BRANCH INDEPENT SCHOOL DISTRICT, CHRIS GONZALEZ,
PAM GOODSON, KAREN PECK, JOSEF D. KLAM, MINDA CAESAR, CHRIS EARNEST,
J. CARTER BREED, in their official capacity as members of the Board of Trustees of
Spring Branch ISD

Defendants.

SUPPLEMENT TO EXPERT REPORT
OF
Robert M. Stein, Ph.D.

March 28, 2022

In this supplement to my January 20, 2022 expert report I present an election-by-election analysis of racially-polarized voting in the Spring Branch Independent School District's trustee elections using ecological inference (EI) statistical techniques. Analyses of racially-polarized voting was conducted for all contested and uncontested trustee elections. In the case of uncontested elections the under vote in these contests is measured against the vote for the unopposed candidate.

Ecological inference is a statistical technique using precinct election data and either voter history files by precinct or Census demographic data by precinct to construct individual voting behavior from aggregate data. The method accounts for racial variation in voting behavior by precinct to arrive at the most likely point estimate that shares of each racial/ethnic group give to each candidate (King 1997).

The EI analysis depicts several features not stated in my January 20, 2022 expert report, including:

- Separate analyses of each trustee election in 2015, 2017, 2018, 2019 and 2021.
- Correlations between candidate vote and number of voters by race and ethnicity.
- Mean estimated proportion of vote for each candidate by race/ethnicity.
- Statistical tests for racially-polarized voting in each trustee election.

The results of the EI analysis of racially-polarized confirm my conclusion that:

- There is statistically significant evidence of racially-polarized voting in the Spring Branch Independent District's Board of Trustees elections for the period 2015-2021.
- White Non-Hispanics vote sufficiently as a bloc to enable them, in the absence of special circumstances (e.g., single-member districts), to defeat the minority voters' preferred candidates of choice.

2015 SBISD Trustee Elections

In 2015 there were two trustee elections in which four candidates vied for two seats on the SBISD Board of Trustees. Elizondo and Vierra contested for one of the two seats and Dawson and Adams competed for the other seat.

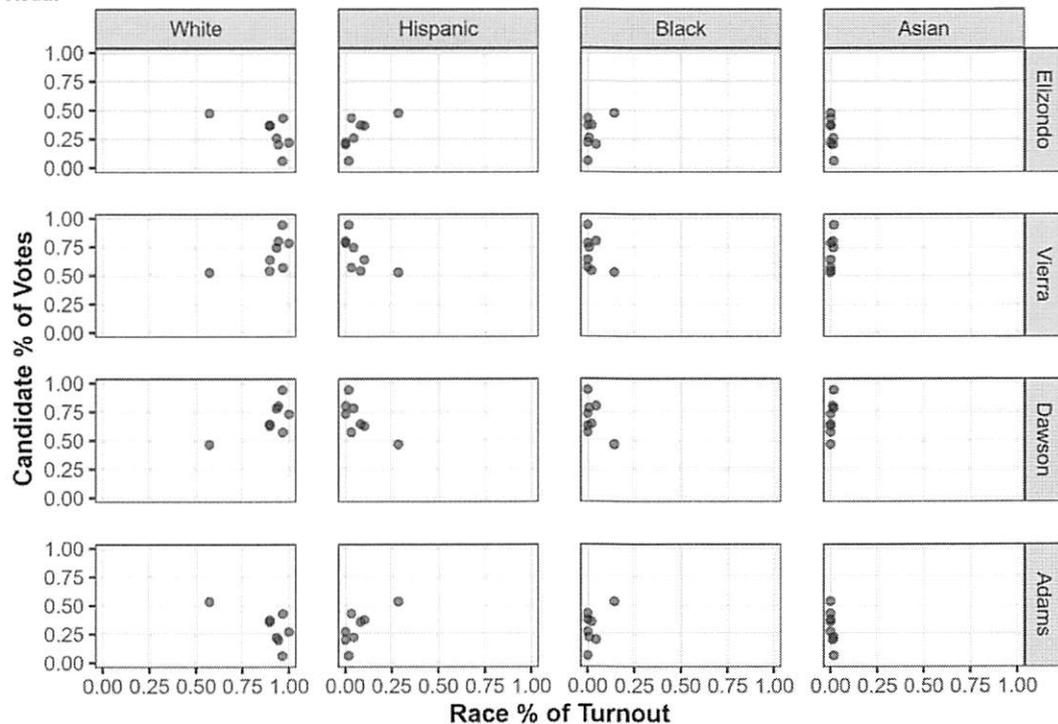
The descriptive analysis, correlations and estimated proportion of vote for each candidate by the race/ethnicity of voters confirm significant racially-polarized voting among Hispanic and White voters in both elections. On average the share of White vote received by Vierra was 85.9% compared to 13.4% for Elizondo. The share of Hispanic vote for the same pair of candidates was 92% for Elizondo and 1% for Vierra.

In the Dawson/Adams contest, I observed the same polarized voting among Whites and Hispanics. Dawson's average share of White vote was 87.7% and 1.3% share of Hispanic vote cast. Conversely, Adams' share of the Hispanic vote was 98% and his share of the White vote was 12.1%. The confidence intervals for these findings shows the estimated proportions are reliable and significant.

2015 Spring Branch Ecological Inference Report

Descriptive Analyses

Visual



Correlation

Table 1: Correlation Between Vote Share and Racial Composition

	White	Hispanic	Black	Asian
Elizondo	-0.5974	0.6811	0.4656	-0.7831
Vierra	0.5572	-0.6461	-0.4228	0.7912
Dawson	0.6658	-0.7393	-0.5517	0.8408
Adams	-0.6658	0.7393	0.5517	-0.8408

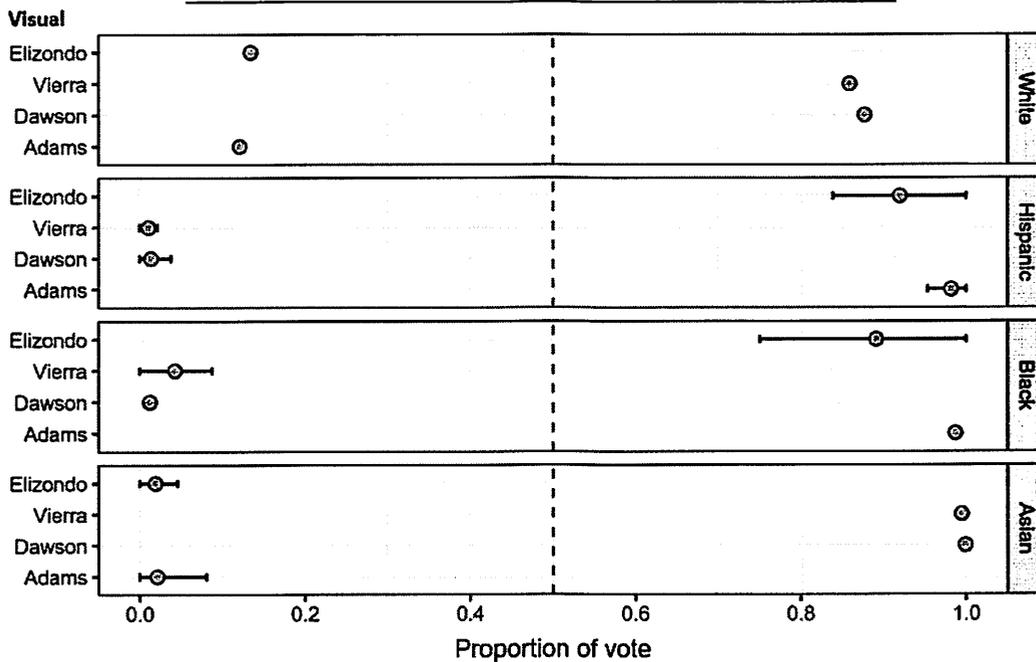
Ecological Inference

Table 2: Estimated Proportion White Vote for Each Candidate

	Mean	Standard Deviation	95% Lower CI	95% High CI
Elizondo	13.46	0.14	13.22	13.79
Vierra	85.91	0.20	85.54	86.33
Dawson	87.71	0.39	86.73	88.12
Adams	12.12	0.20	11.80	12.47

Table 3: Estimated Proportion Hispanic Vote for Each Candidate

	Mean	Standard Deviation	95% Lower CI	95% High CI
Elizondo	92.03	8.12	72.90	99.90
Vierra	1.06	1.06	0.00	3.61
Dawson	1.35	2.42	0.00	7.13
Adams	98.20	2.85	90.48	99.96



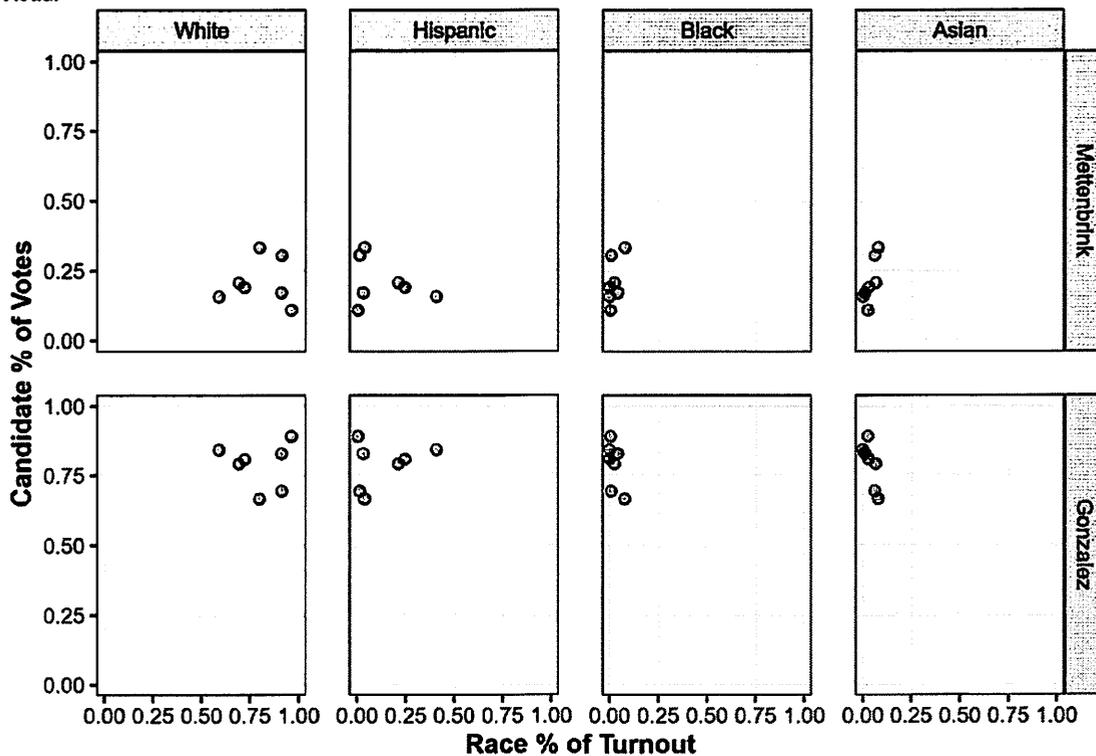
2017 SBISD Trustee Election

Mettenbrink and Gonzalez contested for one seat on the SBISD board in 2017. The contest between Mettenbrink and Gonzalez does not reflect significant evidence of racially-polarized voting. The EI analysis shows Gonzalez, the incumbent, garnered a majority of support from both White (74.5%) and Hispanic voters (90.8%). The difference in White voter support versus Hispanic voter support for Gonzalez, however, is 16.3 percentage points, a significant margin but not sufficient to demonstrate that non-Hispanic Whites voted as a block to defeat the Hispanic candidate of choice, Gonzalez.

2017 Spring Branch Ecological Inference Report

Descriptive Analyses

Visual



Correlation

Table 1: Correlation between Vote Share and Racial Composition

	White	Hispanic	Black	Asian
Mettenbrink	0.0405	-0.3029	0.5809	0.7999
Gonzalez	-0.0405	0.3029	-0.5809	-0.7999

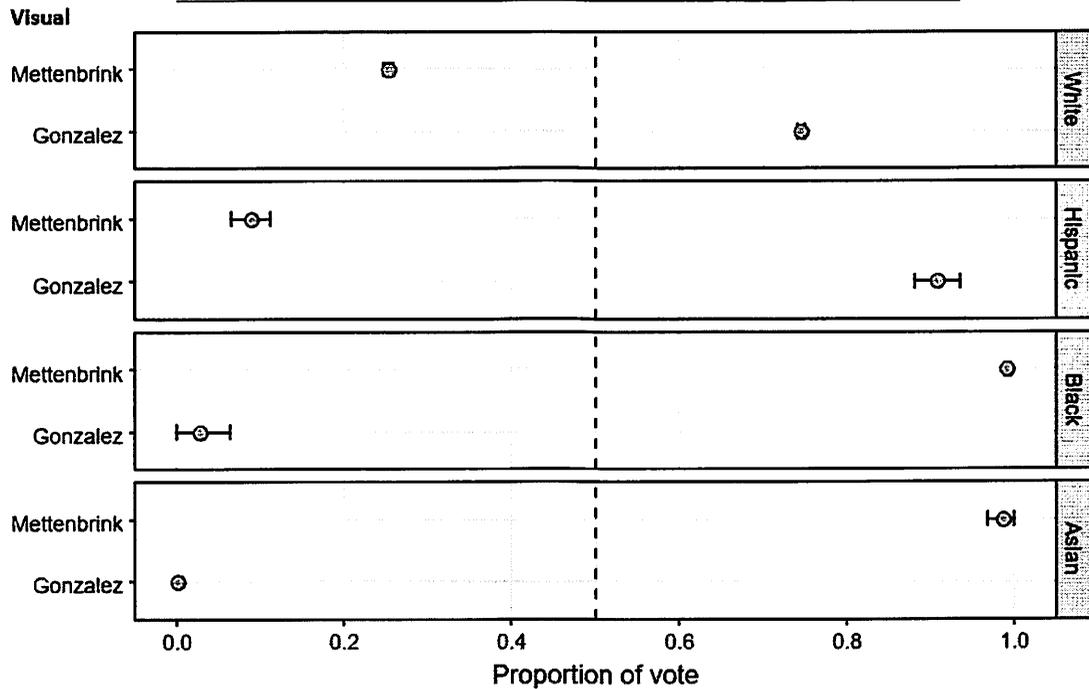
Ecological Inference

Table 2: Estimated Proportion White Vote for Each Candidate

	Mean	Standard Deviation	95% Lower CI	95% High CI
Mettenbrink	25.34	0.55	23.76	26.46
Gonzalez	74.56	0.41	73.76	75.95

Table 3: Estimated Proportion Hispanic Vote for Each Candidate

	Mean	Standard Deviation	95% Lower CI	95% High CI
Mettenbrink	8.84	2.35	4.88	14.43
Gonzalez	90.85	2.74	85.30	97.58



2018 SBISD Trustee Election

Two trustee positions were on the 2018 ballot, but only one position was contested. The contested election featured Caesar and Lezama. The second contest featured the uncontested re-election of Vierra. Evidence of racially-polarized voting is evident in the Caesar and Lezama election. The Vierra re-election exhibits weak evidence of racially-polarized voting.

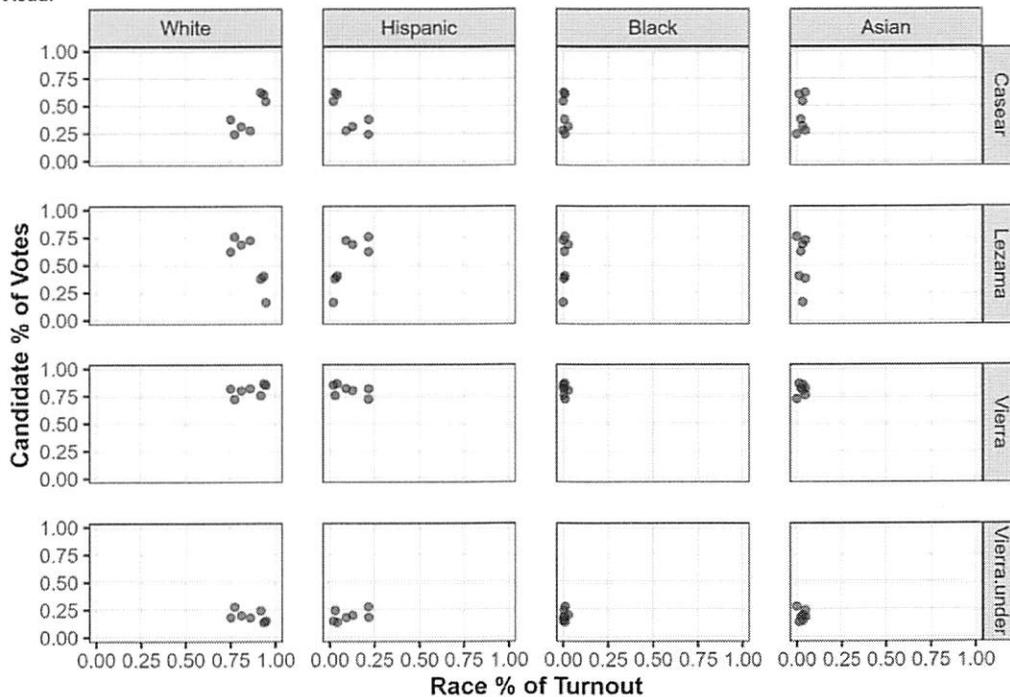
The descriptive plots and correlations for Caesar's and Lezama's respective shares of White and Hispanic vote show that their support significantly diverges with White and Hispanic voters. Caesar's vote share is positively related (.80) to the share of White vote in each precinct and negatively (-.76) related to the share of Hispanic vote in each precinct. Conversely, Lezama's vote share is positively related to the share of Hispanic vote in each precinct (.77) and negatively related to the share of White vote (-.82) in each precinct.

The EI estimates of the mean proportion of White and Hispanic vote for each candidate further underscore the racially-polarized voting in this election. Caesar and Lezama received 54% and 35% of the White vote respectively and 9% and 99% of the Hispanic vote respectively. The confidence intervals show these differences to be significant.

2018 Spring Branch Ecological Inference Report

Descriptive Analyses

Visual



Correlation

Table 1: Correlation Between Vote Share and Racial Composition

	White	Hispanic	Black	Asian
Casear	0.8009	-0.7661	-0.3021	0.2021
Lezama	-0.8234	0.7757	0.4121	-0.2073
Vierra	0.4737	-0.4677	-0.1454	0.1716
Vierra,under	-0.4737	0.4677	0.1454	-0.1716

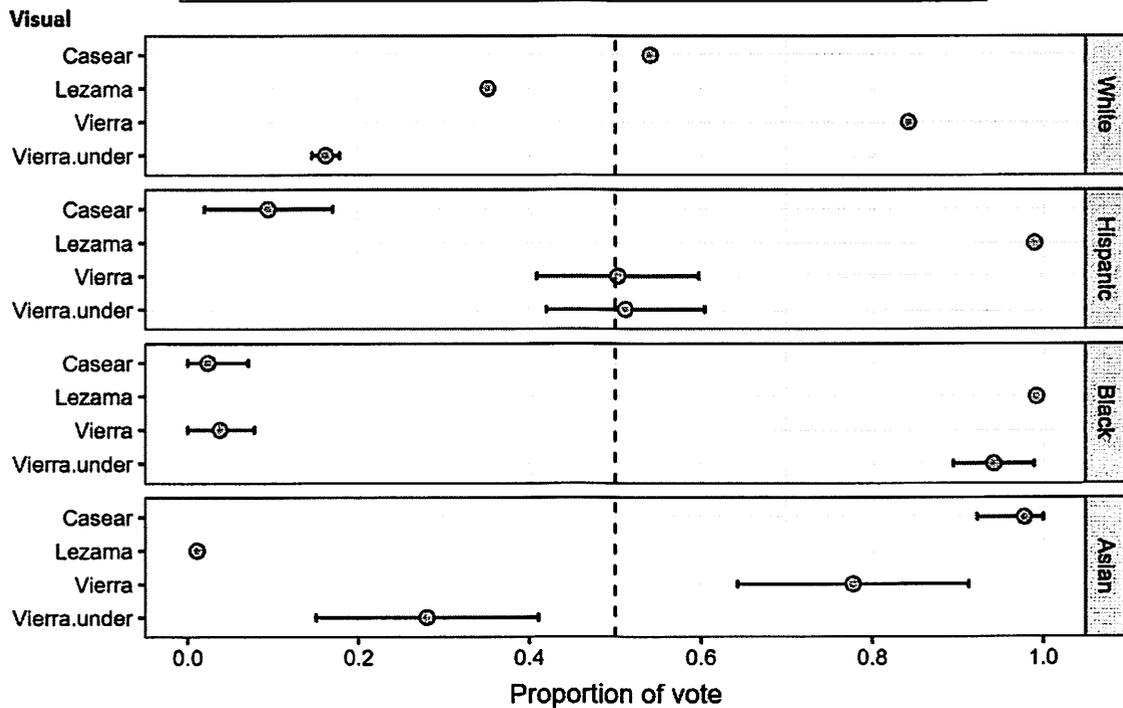
Ecological Inference

Table 2: Estimated Proportion White Vote for Each Candidate

	Mean	Standard Deviation	95% Lower CI	95% High CI
Casear	54.10	0.70	52.55	54.70
Lezama	35.13	0.03	35.08	35.22
Vierra	84.25	0.70	82.44	85.72
Vierra.under	16.11	1.60	12.35	18.85

Table 3: Estimated Proportion Hispanic Vote for Each Candidate

	Mean	Standard Deviation	95% Lower CI	95% High CI
Casear	9.42	7.49	0.04	24.88
Lezama	99.01	0.31	98.45	99.52
Vierra	50.30	9.43	31.93	67.84
Vierra.under	51.20	9.23	32.13	67.91



2019 SBISD Trustee Elections

One trustee seat was contested in 2019 with two candidates, Lopez and Breed. Two other Trustees, Peck and Goodson, ran unopposed for re-election. The descriptive plots and correlations for the Lopez and Breed election show substantial racial polarization between the vote for both candidates among White and Hispanic voters. Vote shares for the two uncontested trustee elections show weak

evidence of racially-polarized voting when the under vote in these two elections is measured against the vote for the two uncontested candidates.

The share of vote cast for Breed was positively related (.68) to the share of White vote in each precinct and negatively related to the share of Hispanic vote in each precinct (-.84). Conversely, Lopez's share of vote is positively related to the share of Hispanic vote in each precinct (.84) and negatively related to the share of White vote in each precinct (-.68).

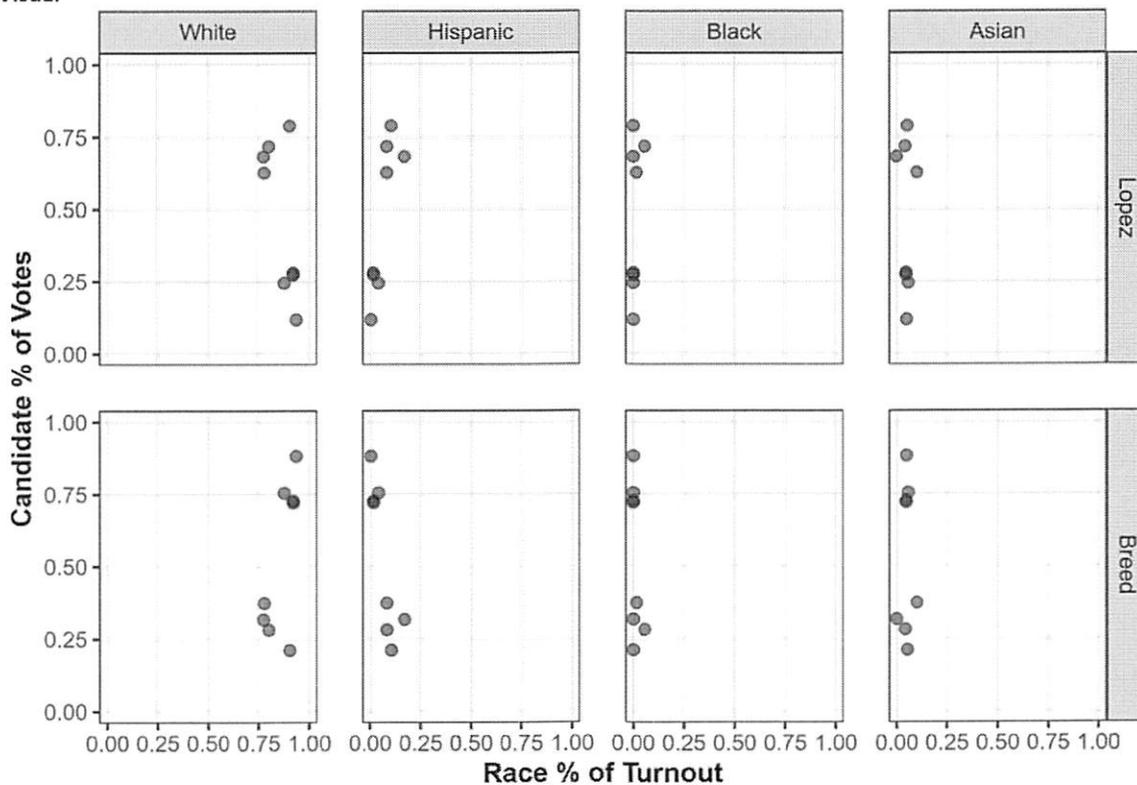
The EI estimates of the mean proportion of White and Hispanic vote for each candidate are skewed. Lopez received a 24.7% mean share of the White vote while garnering a 98% mean share of the Hispanic vote. Breed received a 75% mean share of the White vote and mean share of less than 2% of the Hispanic vote.

2019 Spring Branch Ecological Inference Report

Lopez vs. Breed

Descriptive Analyses

Visual



Correlation

Table 1: Correlation Between Vote Share and Racial Composition

	White	Hispanic	Black	Asian
Lopez	-0.6824	0.8465	0.4598	-0.0757
Breed	0.6824	-0.8465	-0.4598	0.0757

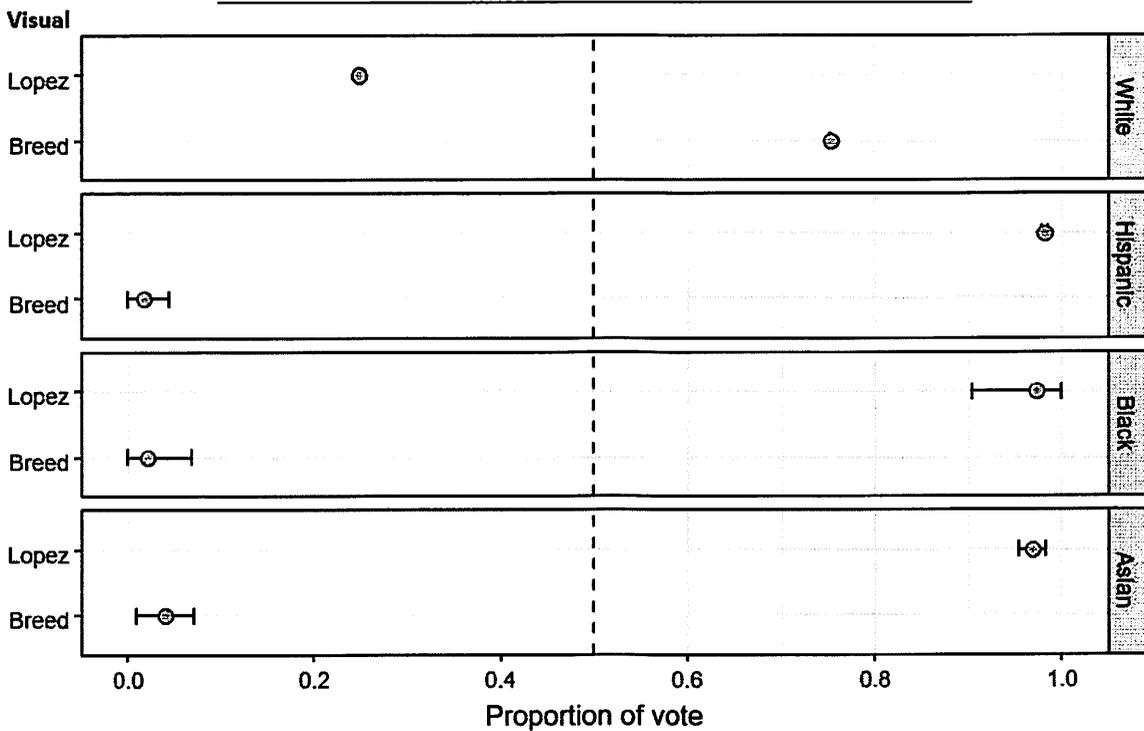
Ecological Inference

Table 2: Estimated Proportion White Vote for Each Candidate

	Mean	Standard Deviation	95% Lower CI	95% High CI
Lopez	24.72	0.05	24.63	24.81
Breed	75.24	0.06	75.13	75.35

Table 3: Estimated Proportion Hispanic Vote for Each Candidate

	Mean	Standard Deviation	95% Lower CI	95% High CI
Lopez	98.14	0.38	97.33	98.84
Breed	1.68	2.78	0.13	10.68



2021 SBISD Trustee Election

There were elections for two trustee positions in 2021. The contested election was between Elizondo and Earnest. Casear ran unopposed for re-election.

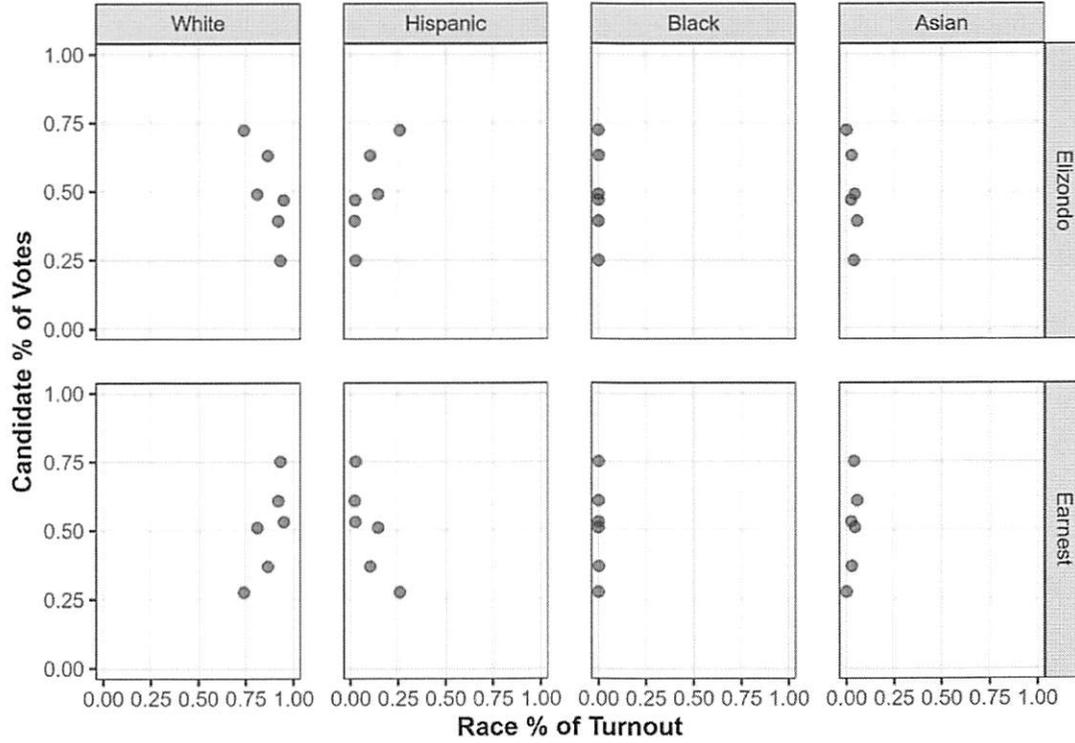
The descriptive plots and correlations show that the degree of racially-polarized voting in the contest between Elizondo and Earnest was significant. On average, Earnest garnered 66% of White voters' support compared to only 34% for Elizondo. Elizondo's estimated proportion of the Hispanic vote was 92.5% compared to only 5.7% for Earnest. The confidence intervals show these estimates to be statistically significant.

2021 Spring Branch Ecological Inference Report

Elizondo vs. Earnest

Descriptive Analyses

Visual



Correlation

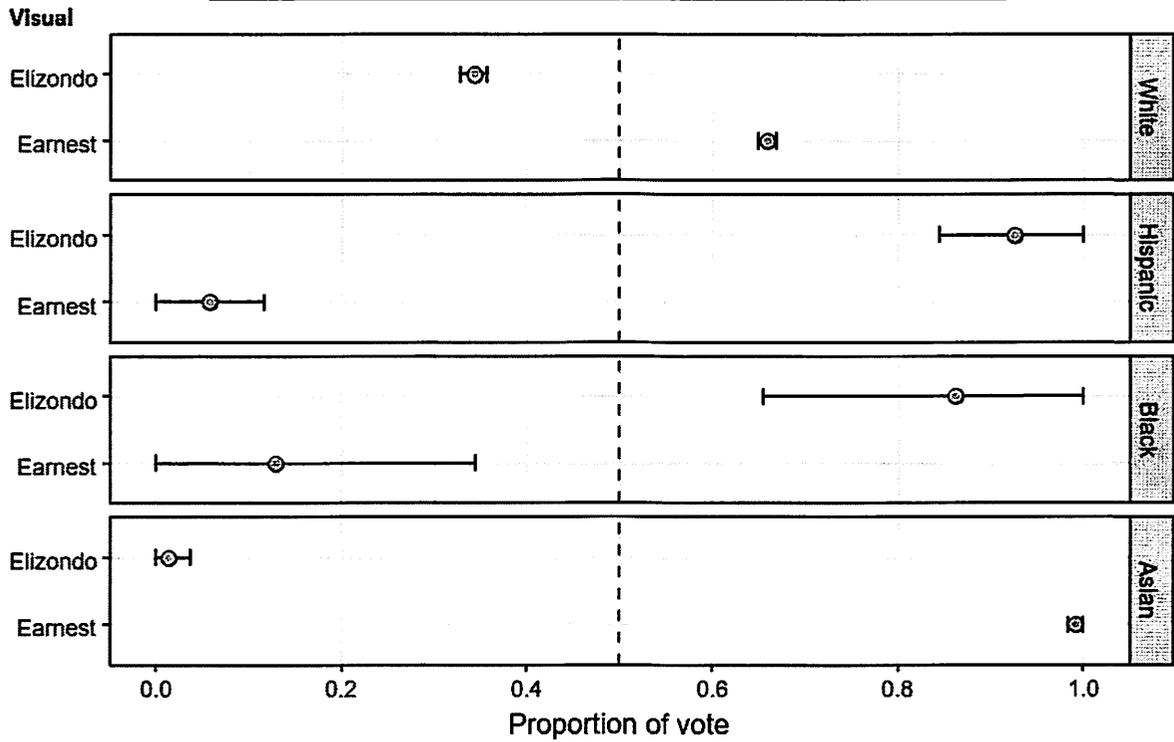
Table 1: Correlation Between Vote Share and Racial Composition

	White	Hispanic	Black	Asian
Elizondo	-0.7628	0.8115	0.1043	-0.7402
Earnest	0.7628	-0.8115	-0.1043	0.7402

	Mean	Standard Deviation	95% Lower CI	95% High CI
Elizondo	34.28	1.45	32.89	37.26
Earnest	65.93	0.92	63.79	67.10

Table 3: Estimated Proportion Hispanic Vote for Each Candidate

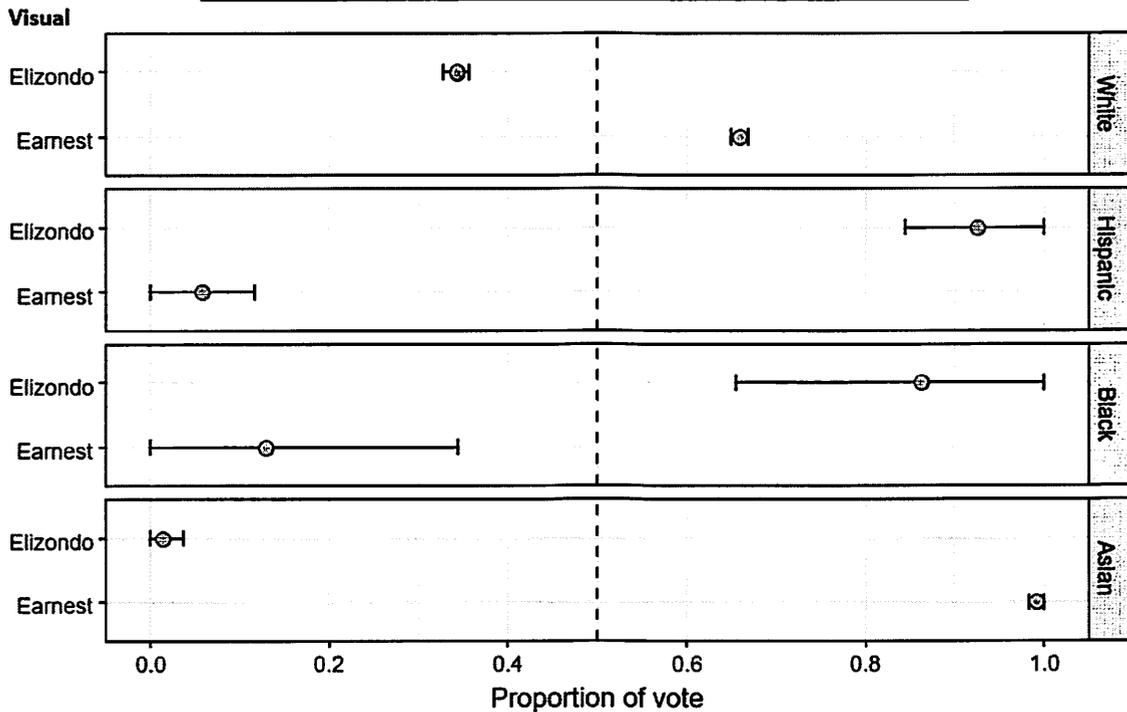
	Mean	Standard Deviation	95% Lower CI	95% High CI
Elizondo	92.52	8.08	73.63	99.95
Earnest	5.74	5.97	0.04	19.20



	Mean	Standard Deviation	95% Lower CI	95% High CI
Elizondo	34.28	1.45	32.89	37.26
Earnest	65.93	0.92	63.79	67.10

Table 3: Estimated Proportion Hispanic Vote for Each Candidate

	Mean	Standard Deviation	95% Lower CI	95% High CI
Elizondo	92.52	8.08	73.63	99.95
Earnest	5.74	5.97	0.04	19.20



Summary of findings

I conducted EI analysis of racially-polarized voting for 10 SBISD trustee elections. Six elections were contested and four were uncontested. My findings show that five of the six contested trustee elections exhibit significant racially-polarized voting among Hispanic and White voters. One contested election demonstrates modest racially-polarized voting. Only one of the four uncontested trustee elections exhibited significant racially-polarized voting; the other two uncontested elections did not reflect significant evidence of racial polarized voting. These findings confirm and corroborate those reported in my January 20, 2022 report.

I state under penalty of perjury that the foregoing is true and correct.

Executed on March 28, 2022.

Robert M. Stein

Robert M. Stein

Signed on _____, 2022

United States District Judge