CITIZEN
REDISTRICTING
COMMITTEE

5121 Masthead St. NE
Second Floor
ALBUQUERQUE,
NM 87109
(505) 362 9617

www.nmredistricting.org

CRC District Plans & Evaluations

for New Mexico Congress, State Senate, State House of Representatives, & Public Education Commission: 2020 Redistricting Cycle

November 2, 2021 (Reissued)

To: The New Mexico Legislature

STATE of NEW MEXICO

This page is left blank intentionally.

TABLE OF CONTENTS

CITIZEN REDISTRICTING COMMITTEE

Hon. Edward L. Chávez, *Chair*
5121 Masthead St. NE, 2nd Floor
Albuquerque, NM 87109
505.554.7706 | crc@state.nm.us

Hon. Edward L. Chávez (Chair)
Ryan Cangiolosi
Hon. Lisa Curtis
Joaquín Sanchez
Hon. Michael Sanchez
Robert Rhatigan
Christopher Saucedo

Dear Honorable Members of the New Mexico Legislature,

Through the submission of district plans and evaluations provided in this reissued report, the Citizen Redistricting Committee has completed its statutory obligations under the Redistricting Act. *See* (Laws 2021, Chapter 79, Sections 2–10).

The Redistricting Act created the Citizen Redistricting Committee and required that it provide the Legislature with the district plans developed through a public outreach process that included two sets of meetings held throughout the state. Following the meetings and development of district plans, the Act requires that the Committee adopt a minimum of three plans for each office subject to redistricting and provide written evaluations for each adopted plan. The written evaluations for each plan "address the satisfaction of the requirements set forth in the Redistricting Act, the ability of racial and language minorities to elect candidates of their choice, a measure of partisan fairness and the preservation of communities of interest." Laws 2021, Ch. 79, § 9.

Throughout the process, the Committee developed maps in accordance with the Redistricting Act, adhering to the schedule of development outlined in the Act and drawing district plans consistent with traditional redistricting principles and specific criteria enumerated in the Act.

During our first round of meetings, the Committee heard testimony from the public about the locations of communities of interest and how the Committee might adjust district boundaries accordingly. The testimony we received informed our development of the first concept maps, which the Committee published for public feedback and refinement. Through the second round of meetings held around the state, the Committee received feedback on our initial map concepts and considered alternative maps submitted by the public. The information gleaned from the second round of meetings informed our development and adoption of final district plans.

On Friday, October 15, 2021, the Committee adopted nine district plans: three Congressional plans; three New Mexico Senate plans; and three New Mexico Public Education Commission plans. On Wednesday, October 20, 2021, the Committee adopted three district plans for the New Mexico House of Representatives. The Committee submitted the adopted plans to an expert on partisan fairness for evaluation. The expert concluded that each map the Committee adopted for recommendation to the legislature is fair.

This report centralizes the evaluations of the Committee's adopted district plans and provides analyses on other aspects of the Committee's adopted plans, including information on the public outreach campaign that informed the Committee's work. **This reissued version of the report provides for corrections to the data tables in Congress Concept H, Senate Concept C, and Senate Concept C-1.**

Reissued: November 8, 2021

Hon. Justice Edward L. Chávez (Chair)

Citizen Redistricting Committee
Hon. Justice Edward L. Chávez (Chair)
Ryan Cangiolosi
Hon. Lisa Curtis
Joaquín Sanchez
Hon. Michael Sanchez
Christopher Saucedo
Robert Rhatigan

CRC MEMBERSHIP AND STAFF SUPPORT

The Committee

In 2021, the New Mexico Legislature passed the Redistricting Act. *See* Laws 2021, Ch. 79, §§ 2–10. The Act creates the seven-member Citizen Redistricting Committee and requires the Committee to propose district lines that are drawn fairly through a transparent, open, and participatory process for New Mexico's Congressional delegation, the New Mexico Senate, the New Mexico House of Representatives, and the Public Education Commission.

The Act provides for a decentralized, bipartisan appointment process where the members of the Committee are selected as follows: One member appointed by the Speaker of the House, one by the House Minority Floor Leader, one by the Senate President Pro Tempore, and one by the Senate Minority Floor Leader. Each of these four members may belong to a major political party. The State Ethics Commission appoints the Chair of the Committee, who must be a retired Justice of the New Mexico Supreme Court or a retired Judge of the New Mexico Court of Appeals, and two members who are not members of either of the two largest political parties in the state.

The State Ethics Commission appointed members on June 4, 2021, following an open and competitive selection and interview process. The State Ethics Commission received 69 applications for the three member positions it appointed. The legislative appointing authorities each made their respective appointments in the first weeks of June 2021.

The 2021 Citizen Redistricting Committee members are as follows:

Hon. Edward L. Chávez, Chair (Appointing Authority: State Ethics Commission)
Ryan Cangiolosi (Appointing Authority: House Minority Leader James Townsend)
Hon. Lisa Curtis (Appointing Authority: Senate President Pro Tempore Mimi Stewart)
Robert Rhatigan (Appointing Authority: State Ethics Commission)
Joaquín Sanchez (Appointing Authority: State Ethics Commission)
Hon. Michael Sanchez (Appointing Authority: Speaker of the House Brian Egolf)
Christopher Saucedo (Appointing Authority: Senate Minority Leader Gregory Baca)

The Committee's Contractors

The Citizen Redistricting Committee received support from the following entities:

- The State Ethics Commission (staff support)
- The Legislative Council Service (staff support)
- Metric Geometry and Gerrymander Group, Tisch College, Tufts University (public mapping tool)
- Vox Optima Consulting (advertising and meeting facilitation)
- Lilly Irvin-Vitela (Community Liaison through Vox Optima)
- Real Time Solutions (website)
- State Bar Center (office space)
- Rothstein Donatelli (legal services)
- Nielsen Merksamer Parrinello Gross & Leoni, LLP (legal services)
- David Cottrell (partisan fairness evaluation)
- Fabiola Tortajada (Spanish interpretation services)
- Frank Morgan, Creative Projects Associates, LLC (Navajo interpretation and translation services)
- Kathy Elliott, Satellite Facilitator in Portales, New Mexico ENMU Campus (2nd Round)
- Christina Morris, Satellite Facilitator in Gallup, New Mexico at UNM-Gallup (1st Round)
- Jonas Moya Satellite Facilitator in Portales, New Mexico ENMU Campus (1st Round)
- Melissa Ontiveros, Satellite Facilitator in Silver City, New Mexico WNMU Campus (1st and 2nd Rounds) and UNM-Gallup (2nd Round)

THE COMMITTEE'S WORKPLAN

The Committee's workplan followed the Legislature's instructions in Sections 6 through 9 of the Redistricting Act.

1. ORGANIZATIONAL WORK

Adoption of Rules of Procedure

The Committee adopted rules of procedure for its meetings at its initial meeting on July 2, 2021. In addition, the Committee adopted Rule 14(A)(2)(d) to detail the partisan fairness test to be followed by an independent expert. Follow the link to review the Committee's rules: Citizen Redistricting Committee's rules of procedure.

Website Development

The Committee contracted with Real Time Solutions for the development of its website. The State Ethics Commission staff developed and maintained the Committee's website through the duration of the Committee's work. The Committee's website is located at: https://www.nmredistricting.org/.

Creation and Launch of the NM Redistricting Public Comment Portal

The Committee relied on the services of the Metric Geometry and Gerrymander Group, Tisch College, Tufts University to develop the NM Redistricting Public Comment Portal: https://portal.newmexico-mapping.org/. Through this portal, members of the public could upload comment, maps of communities of interest, and maps of entire district plans for New Mexico's congressional delegation, the state Senate, the state House, and the Public Education Commission.

Public Outreach About the Commission's Work

The Committee contracted with Vox Optima Consulting to conduct public outreach, through four main avenues. First, the Vox team directly communicated with groups and individuals to answer questions about the redistricting process, facilitate submission of public comments and maps, and encourage participation in public meetings through direct email outreach. Second, Vox placed paid advertising, primarily through public radio venues with state-wide reach. Third, Vox engaged with traditional media to achieve "earned media" coverage through placement of editorials, distribution of press releases, and coordination of interviews by the CRC Chairperson and other designated spokespersons. Fourth, Vox provided direct community liaison work which entailed providing presentations and technical assistance sessions to individuals and groups to demonstrate how to 1) use DistrictR (map-drawing software), 2) navigate the public input portal, and 3) communicating within individual/organizational distribution lists about why redistricting matters. Messaging was customized depending on the interests of the organization. For example, customized technical assistance about messaging included why redistricting matters to agriculture producers, public health advocates, and historically disenfranchised voters. In the first round of public meetings calls were made to local organizations and individuals to encourage trusted voices within communities to help spread the word about redistricting. Communication tools were shared with local Chambers of Commerce, philanthropy, health professionals, grassroots organizations and county and municipal leaders to get involved and help spread the news about how to engage in the process to help inform redistricting recommendations. Questions from the public about redistricting and navigating the public input process were addressed via e-mail, phone calls, and texts. In-person and virtual meetings to learn about redistricting were held with a variety of stakeholders. Follow-up communications were sent to participants who signed in at public meetings with emails to maintain engagement in future public input sessions and CRC deliberation sessions. When community stakeholders reported barriers to communication, e-mails and public input was forwarded by the liaison directly to CRC members. During meetings, participants were supported in navigating public input.

This engagement effort generated nearly 40 original print, TV, and radio media pieces, many replicated and relayed throughout the state. Fourth, Vox used the CRC's social media platforms (Twitter and Facebook) to relay press release and earned media coverage as well as for real-time interaction with citizens who posted questions or comments. Through the combination of direct outreach, outlets that provided earned media coverage, and social media engagement, Vox Optima Consulting believes that most of the New Mexico population was informed of the committee's purpose and the opportunity for public participation by attending meetings in person or virtually and/or submitting comments and maps online. Vox Optima Consulting estimates that engagement through social media reached over 61,000 impressions on the Committee's Twitter account (@NMRedistricting) and over 10,000 impressions on the Committee's Facebook account (Citizen Redistricting Committee NM).

Organizational Meetings

To prepare for its substantive work, the Committee held two organizational meetings to adopt rules of procedure and to set a schedule for its substantive meetings for taking public commentary on communities of interest and district plans. The minutes and recordings of the Committee's organizational meetings may be reviewed here:

July 2, 2021	**Minutes (Virtual)**	**Zoom Recording**
July 23, 2021	**Minutes (Virtual)**	**Zoom Recording**

2. FIRST ROUND OF PUBLIC MEETINGS AND TESTIMONY

First Round of Meetings

The Redistricting Act required the Committee to hold a minimum of twelve public meetings: six meetings prior to the development and publication of the Committee's proposed district concepts and six meetings after the publication of the Committee's proposed district concepts to facilitate the development of district maps to be adopted and recommended to the Legislature. The Act required these meetings be held in various regions across the state, including in central New Mexico and in each of the four geographic quadrants of the state, with at least one meeting on tribal lands in each round. All meetings were required to allow for virtual attendance. The Committee also allowed public attendance at each meeting for testimony and public feedback wherever allowable under public health orders. The Committee chose to hold eight meetings during each round of meetings, with two meetings during each round on tribal lands.

From August 2 to August 15, 2021, the Committee held eight public meetings at which the Committee received testimony, documents, and information regarding the identification of communities of interest and the creation of district plans. All meetings were conducted pursuant to the requirements of the Redistricting Act and the Open Meetings Act. During the first round of meetings 287 persons attended the meetings in person and 102 spoke. 883 persons attended via zoom and 21 spoke.

August 2, 2021	**Minutes (Santa Fe)**	**Zoom Recording**
August 5, 2021	**Minutes (Las Vegas)**	**Zoom Recording**
August 7, 2021	**Minutes (ABQ West Mesa)**	**Zoom Recording**

August 9, 2021	**Minutes (Farmington)**	**Zoom Recording**
August 11, 2021	**Minutes (Roswell)**	**Zoom Recording**
August 12, 2021	**Minutes (Las Cruces)**	**Zoom Recording**
August 14, 2021	**Minutes (ABQ IPCC)**	**Zoom Recording**
August 15, 2021	**Minutes (Espanola)**	**Zoom Recording**

Public Testimony from First Round of Meetings
After holding the initial round of meetings to collect public information relating to the identification of communities of interest and the creation of district plans, the Committee compiled and indexed the testimony it received. The record of public testimony is available on the Committee's website, on the Meetings and Transparency page: https://www.nmredistricting.org/meetings-transparency/. The testimony received by the public also can be viewed at the following links:

- Chronological Summary of All Public Testimony (1st Round)
- Chronological Summary of Testimony on Congressional Districts (1st Round)
- Chronological Summary of Testimony on State House Districts (1st Round)
- Chronological Summary of Testimony on State Senate Districts (1st Round)

3. DRAWING AND PUBLICATION OF INITIAL MAP CONCEPTS

Meeting to Adopt Map Concepts
After receiving, compiling, and reviewing public testimony through the first round of meetings, and reviewing submissions of maps of communities of interest and district plans through the NM Redistricting Public Comment Portal, the Committee drew and published initial map concepts. Pursuant to the Redistricting Act, the Committee proposed map concepts that were based, in part, on the testimony, documents, and information that the Committee received through the first round of public meetings. On September 16, 2021, the Committee adopted several map concepts to be published for additional public input. That meeting may be reviewed here.

September 16, 2021	**Minutes (Virtual)**	**Zoom Recording**

Use of Federal Decennial Census Data
For the development of district plans, the Committee utilized data from the 2020 decennial Census. Delays in the receipt of 2020 Census data delayed the Committee from drawing district plan concepts. Research & Polling (R&P) received the 2020 Census data on August 12, 2021, in legacy format. R&P had to download the data into a readable format, share the data with DistrictR, County Clerks, and experts. Some counties had to split precincts because of the Census data, and this also delayed map drawing.

Redistricting Act Map-Drawing Criteria
The Committee developed maps in accordance with traditional redistricting principles such as compactness and equality of population among districts as well as specific criteria outlined in the Redistricting Act. *See* Laws 2021, Ch. 79, § 9.

Initial Maps Concepts Published
After its September 16, 2021 meeting, the Committee published on its website four groups of map concepts: (i) seven map concepts for New Mexico's congressional delegation and later due to public testimony added two complete Congressional maps and one partial map; (ii) three map concepts for the New Mexico Senate and later due to public testimony added three partial maps, and modified Concepts A-C by integrating the Navajo Nation, Pueblos and Apaches' consensus maps for a total of ten State House concepts; (iii) four map concepts for the New Mexico House of Representatives and later due to public input added two full and two partial maps and modified Concept D by integrating the Pueblo/Apache consensus map and integrating the Navajo Nation House map into Concept D for a total of ten House concepts ; and (iv) three map concepts for the New Mexico Public Education Commission and later due to public input added two complete Public Education Commission maps for a total of six PEC concepts. Each of these map concepts may be reviewed in detail at: https://www.nmredistricting.org/mapconcepts/.

4. SECOND ROUND OF PUBLIC MEETINGS AND TESTIMONY

Second Round of Meetings
Following the Committee's publication of map concepts on its website, the Committee held a second round of meetings to collect public testimony for the purpose of adopting district plans for submission to the Legislature. During the second round of public meetings, members of the public gave testimony regarding the initial map concepts, the location of communities of interest, and how district boundaries might be adjusted to better represent certain communities. During the second round, member of the public also submitted alternative map plans through the NM Redistricting Public Comment Portal. All meetings were conducted pursuant to the requirements of the Redistricting Act and the Open Meetings Act. During the second round of meetings 371 persons attended in person and 595 attended via zoom. A total of 242 people spoke regarding the concepts proposed by the Committee. In addition, the committee received 355 comments and/or maps in the Public Comment Gallery of the CRC website.

To review the second round of public meetings, please follow the links for meeting minutes or meeting recordings:

September 28, 2021	**Minutes (Rio Rancho)**	**Zoom Recording**
September 29, 2021	**Minutes (Crownpoint)**	**Zoom Recording**
October 1, 2021	**Minutes (ABQ – NHCC)**	**Zoom Recording**

October 2, 2021	**Minutes (Las Vegas, NM)**	**Zoom Recording**
October 4, 2021	**Minutes (Las Cruces)**	**Zoom Recording**
October 5, 2021	**Minutes (Roswell)**	**Zoom Recording**
October 7, 2021	**Minutes (ABQ – IPCC)**	**Zoom Recording**
October 8, 2021	**Minutes (Farmington)**	**Zoom Recording**

Public Testimony from Second Round of Meetings

After holding the second round of public meetings to collect public testimony on the initial map concepts and to review alternative district plans submitted by members of the public, the Committee compiled and indexed the testimony it received. The record of public testimony is available on the Committee's website, on the Meetings and Transparency page: www.nmredistricting.org/meetings-transparency/.

The testimony received by the public also can be viewed at the following links:

- Chronological Summary of All Public Testimony (2nd Round)
- Chronological Summary of Testimony on Congressional Districts (2nd Round)
- Chronological Summary of Testimony on State House Districts (2nd Round)
- Chronological Summary of Testimony on State Senate Districts (2nd Round)
- Chronological Summary of Testimony on PEC Districts (2nd Round)

5. COMMITTEE ADOPTION OF MAPS

Adoption of Maps for Submission to the Legislature

Following the second round of public meetings, the Committee adopted three district plans for each of New Mexico's congressional delegation, the New Mexico Senate, the New Mexico House of Representatives, and the New Mexico Public Education Commission. The Committee's meetings held for the purpose of adopting district plans were conducted pursuant to the requirements of the Redistricting Act and the Open Meetings Act. The minutes and recordings of those committee meetings may be reviewed here:

October 15, 2021	**Minutes (Virtual)**	**Zoom Recording**
October 19, 2021	**Minutes (Virtual)**	**Zoom Recording**
October 20, 2021	**Minutes (Virtual)**	**Zoom Recording**

The Committee adopted maps based on (i) testimony and documents received through both rounds of public meetings; (ii) traditional redistricting principles; and (iii) in accordance with the specific criteria enumerated in the Redistricting Act. Details as to the adopted maps may be found below at pages 29-104.

6. EVALUATION OF ADOPTED MAPS

Under the Redistricting Act, after the Committee adopts district plans, the Committee must provide written evaluations of each district plan that address (i) the satisfaction of the requirements set forth in the Redistricting Act, (ii) the ability of racial and language minorities to elect candidates of their choice, (iii) a measure of partisan fairness; and (iv) the preservation of communities of interest. *See* Laws 2021, Ch. 79, § 9.
The Committee provides the evaluation corresponding to each adopted map below, at pages 29-104.

SPECIAL CONSIDERATIONS RELATING TO 2020 REDISTRICTING

1. CONCERNS WITH UNDERCOUNTING

Section 1-3A-7(A)(3) provides that "the committee shall use the most recent federal decennial census data generated by the United States census bureau and may use other reliable sources of demographic data as determined by majority vote of the committee". During public meetings the Committee listened to testimony expressing concern over the census count with the consensus being that the United States Bureau of Census undercounted the New Mexico population particularly in Native American communities and other rural areas. The problems described included:

1) census packets being delivered to post office boxes and not to homes. However, due to the pandemic people were not allowed to go to the post office to retrieve the packets;

2) Rural addresses did not match the format crated by the Census Bureau;

3) the work around created by the Census Bureau did not work;

4) more packets were sent to the public without an explanation and people assumed they has answered online;

5) challenges with going house to house within the Navajo Nation to make sure the counts were accurate;

6) an aerial topography program known as Local Updated Census Addressing (LUCA) shows that where the Census Bureau reported people did not live aerial shots show that people actually live there as shown by vehicles and livestock being present around the areas of the homes where the Census Bureau indicated people did not live;

7) the Covid-19 pandemic also complicated the counting of population;

8) the Native Education Project reports the Census Bureau online strategy for census counts was made difficult because of the lack of internet access, poor broadband, confusion with the

12-digit identifier, and roads contributing to the shutdown of field operations resulted in an undercount, particularly since the response rate was only 17.9%.

9) According to the Census Bureau's own reports, the 2010 Census undercounted Native Americans living on reservations by 4.9 percent, more than double the rate of other racial minorities. Census Bureau, "Estimates of Undercount and Overcount in the 20201 Census" (May 22, 2012). https://www.census.gov/newsroom/releases/archives/2010_census/cb12-95.html.
(The report states "American Indians and Alaska Natives living on reservations were undercounted by 4.9 percent, compared with a 0.9 percent overcount in 2000").

Public testimony suggested that there exists other reliable data the Committee could rely on in lieu of the census data. For example, it was suggested that Medicaid enrollment could be helpful information, Native American enrollment records, and by tracking stimulus checks. Chair Chávez and member Robert Rhatigan with the University of New Mexico Geospatial Population Studies Center during a recess at the Espanola meeting contacted Secretary David Scrase to inquire about the potential availability of Medicaid data to inform the population counts. Secretary Scrase pledged full cooperation consistent with the law. It was later determined that the Committee could not identify an alternative reliable source of population data to rely on instead of the census count.

Section 1-3A-7(A)(3) authorizes the Committee to consider alternative data. In theory, a State has the discretion to adopt adjusted population numbers, *see, e.g., Fletcher v. Lamone*, 831 F. Supp. 2d 887 (D. Md. 2011) (three-judge court), *aff'd*, 567 U.S. 930 (2012) (rejecting challenge to Maryland's adjustments to reallocate incarcerated prisoners); *Evenwel v. Abbott*, 136 S. Ct. 1120, 1124 n.3 (2016) (noting that ten states do authorize adjustments);*Black Political Task Force v. Connolly*, 679 F. Supp. 109, 120 (D. Mass. 1988) (upholding use of mid-decade enumeration);*Burns v. Richardson*, 384 U.S. 73, 93-94 (1966) (holding Hawaii could use a registered-voter population base because of "Hawaii's special population problems" – in particular, its substantial temporary military population). A handful of courts have accepted various non-census estimates and adjustments over the years– for example, the Ninth Circuit in *Garza v. Cty. of L.A.*, 918 F.2d 763, 772-73 (9th Cir. 1990), and the Fifth Circuit in *Westwego Citizens for Better Government v. Westwego*, 906 F.2d 1042, 1045-46 (5th Cir. 1990). But generally (1) it was late in the decade, when the staleness of the Census data was clear, and (2) not projections but alternative estimates, such as those produced by the American Community Survey (which is also, obviously, a Census Bureau product).

However, one must be cautious. First, census figures carry a strong presumption of accuracy. *See, e.g., Valdespino v. Alamo Heights Indep. Sch. Dist.*, 168 F.3d 848, 853-54 (5th Cir. 1999); *McNeil v. Springfield Park Dist.*, 851 F.2d 937, 946 (7th Cir. 1988). But in *Karcher v. Daggett*, 462 U.S. 725 (1983), the Supreme Court recognized that "the census may systematically undercount population, and the rate of undercounting may vary from place to place." 462 U.S. at 738. It warned, however, that "[i]f a State does attempt to use a measure other than total population or to 'correct' the census figures, it may not do so in a haphazard, inconsistent, or conjectural manner." *Id.* at 732 n.4 (citing *Kirkpatrick v. Preisler*, 394 U.S. 526, 534-35 (1969)). Any adjustments must be "thoroughly documented and applied throughout the state in a systematic, not an ad hoc, manner." *Id.* at 535. It rejected New Jersey's attempt to justify its population deviations because of the undercount, since the adjustments were not sufficiently systematic.

Time simply did not allow the Committee to thoroughly investigate this issue. However, the Committee suggests that the Legislature consider funding for a Uniform Statewide Address Database. Perhaps the opportunity exists to build on the emergency response database and integrate or connect to LUCA on the Navajo Nation.

2. CONCERNS WITH PRISON GERRYMANDERING

Prison Gerrymandering Population 4.1.2020

Census day for purposes of this year's redistricting effort is April 1, 2020. The CRC heard and read testimony about "prison gerrymandering", which concerns counting people based on the location of the jail or prison they are housed in on Census Day as opposed to their pre-incarceration address. Counting people based on where they are housed as opposed to where they lived when incarcerated dilutes the political power of people. Other than being housed in a specific area many people in jails and prisons are represented by elected officials who have no tie to them, their communities, or who are unaware of their interests and needs. Indeed, many inmates are ineligible to vote. Mario Jimenez III Campaign Director for Common Cause New Mexico submitted written testimony on this subject. His testimony is at: https://www.nmredistricting.org/wp-content/uploads/2021/09/NM-Prison-Gerrymander-2020-Census_.pdf.

The CRC believes prison gerrymandering is a legitimate concern. However, the CRC also believes the Legislature is the deliberative body that should make the policy decision as to how to address the issue. The United States Census Bureau works with jurisdictions to adjust population counts based on an inmates address just prior to their incarceration. Attached as **appendix 4** is draft legislation prepared by Shawna Casebier at the request of the Committee Chair and with the permission of Jon Boller, that directs the inclusion of prison inmates in the population count of their last known address, rather than the population count of the correctional facility in which they are incarcerated. For alternative forms of legislation to address prison gerrymandering please see: https://www.ncsl.org/research/redistricting/reallocating-incarcerated-persons-for-redistricting.aspx.

To explore the possibility of the Committee addressing prison gerrymandering Chair Chávez wrote to every New Mexico jail and prison facility requesting inmate populations on Census Day, April 1, 2021, to include the addresses of the inmates just prior to their incarceration. In addition, the Committee requested the New Mexico Sentencing Commission to provide it with its 2020 and 2021 fiscal year jail and prison population reports. Looking at Sentencing Commission data the number of prisoners in jail or prison on June 30, 2020 is 11,169 (6,289 + 4,880).

The Sentencing Commission reported the following **prison** populations on June 30, 2020 and June 30, 2021:

Facility	County	Count type	6/30/20	6/30/21
PNM	Santa Fe	total	735	722
NENMDF	Union	total	432	557
CNMCF	Valencia	total	761	651
CNMCF (long term)	Valencia	total	2	2
SNMCF	Dona Ana	total	673	649

RCC	Chaves	total	262	292
Western	Cibola	total	336	325
Springer	Colfax	total	264	210
Otero	Otero	total	542	571
North Western	Cibola	total	471	415
LCCF	Lea	total	1270	1203
GCCF	Guadalupe	total	541	248
			6,289	**5,845**

The Sentencing Commission reported the following for **jail** populations on June 30, 2020, and June 30, 2021:

- Jails 6/30/2020 4,880 all 33 counties held for other counties and Feds
- Jails 6/30/2021 6,167 all 33 counties held for other counties and Feds

County	Grand Total (including individuals held for other counties & feds)	2020 Total held for County	Grand Total (including individuals held for other counties & feds)	2021Total held for County
Bernalillo County	1,223	1,211	1138	1129
Catron County	2	2	3	3
Chaves County	231	231	238	238
Cibola County	130	124	47	46
Colfax County	74	73	738	698
Curry County	158	158	171	168
De Baca County	7	7	8	7
Dona Ana County	489	213	562	300
Eddy County	241	241	246	230
Grant County	76	76	76	76
Guadalupe County	45	35	23	21
Harding County	0	0	0	0
Hidalgo County	43	6	74	12
Lea County	149	143	170	109
Lincoln County	59	57	not available	not available
Los Alamos County	7	4	8	6
Luna County	271	61	379	376
McKinley County	85	54	87	72
Mora County	5	5	not available	not available
Otero County	162	136	171	164
Quay County	34	33	138	135
Rio Arriba County	51	45	58	52
Roosevelt County	59	54	60	58

San Juan County	338	314	558	522
San Miguel County	55	48	95	67
Sandoval County	87	83	not available	not available
Santa Fe County	509	405	768	569
Sierra County	36	36	58	57
Socorro County	55	43	75	67
Taos County	31	29	55	53
Torrance County	33	33	not available	not available
Union County	10	10	36	36
Valencia County	125	125	127	119
Totals	**4,880**	**4,095**	**6,167**	**5,390**

Highlighted are the Counties without facilities: Cibola, Guadalupe, Harding, Mora, Sierra, Torrance and Union Counties.

The following is data received from jails and prisons after the CRC Chair emailed every jail and prison facility for jail and prison population data as of Census Day, April 1, 2021. The data requires someone to look at each address and or booking sheet to count how many inmates were from what city, state, or country. Time did not permit the Committee to perform the manual count. This data appears to be incomplete. In all there are approximately 11,169 individuals who were incarcerated in New Mexico jails and prisons on or about April 1, 2020.

- Department of Corrections: 6,593 offenders, 6,431 with recorded addresses
- Bernalillo County Juveniles 18 years of age or older: 5 with addresses
- Curry County: 146 with booking sheets
- De Baca County: 2 with booking sheets
- Dona Ana County: 510 with addresses other states and countries
- Eddy County: 266 with addresses
- Lincoln County: 81 with booking sheets
- Luna County:
    - Luna 63
    - Dona Ana 7
    - Grant 8
    - Hidalgo 6
    - Sierra 24
    - Out of State 19
    - Other 14
    - Not US Citizen 147
    - TOTAL 388
- San Juan County: 361 with booking sheets
- Sandoval County: Docket Detainees 99 with Docket

In conclusion, the Committee recommends that the Legislature consider legislation that will address the prison gerrymandering issue and that New Mexico take advantage of the assistance offered by the United States Bureau of Census for addressing the issue.

REQUIREMENTS FOR DISTRICT PLANS

1. MEASURING DEVIATION FOR CONGRESSIONAL AND STATE DISTRICTS

Population Equality

The idea that every voter must be equal to every other voter when casting a ballot has its genesis in the Equal Protection Clause, U.S. Const. amend. XIV, § 1 (Equal Protection Clause), and is commonly referred to as the "one person, one vote" doctrine. *Maestas v. Hall*, 2012-NMSC-006 ¶ 1. In addition to weighting votes equally this doctrine prohibits the dilution of individual voting power by means of state districting plans that allocate legislative seats to districts of unequal populations, thereby diminishing the relative voting strength of each person in overpopulated districts. Each person in each district (whether eligible to vote or not) must have the same opportunity to be represented by their elected official as each person in every other district. *See*, *Garza v. County of Los Angeles*, 918 F.2d 763 (9th Cir. 1990) (total population, not voting age population, eligible voters, or registered voters- is the appropriate standard to measure equal representation). This is achieved by providing that each district contains substantially the same number of people. Every ten years in a year ending in zero the United States Census Bureau provides every state with an official population count. As a result of population growth and shifts decennial redistricting is required to equalize population. (*Reynolds v. Sims*, 377 U.S. 533, 569 (plan must achieve "substantial equality of population among the various districts")). Slight deviation is permissible provided the deviation is necessary to achieve a rational state policy.

Because legitimate and rational state policies will often necessitate "minor deviations" from absolute population equality, the United States Supreme Court has held that minor deviations alone are insufficient to establish a prima facie case of invidious discrimination. *Voinovich v. Quilter*, 507 U.S. 146, 161 (1993). In *Brown v. Thomson*, 462 U.S. 835, 842 (1983), the United States Supreme Court held that redistricting plans with a maximum population deviation below ten percent fall within the category of minor deviations that are insufficient to establish a prima facie violation of the Equal Protection Clause.

Measuring Population Deviation

The prevailing method for measuring deviation is the total population deviation. The total population of the state is divided by the number of districts to identify the "ideal" population number for each district. The population deviation of a district is the percentage by which a district's population is above or below the ideal population. "Total population deviation" is determined by adding the population deviation of the district with the largest population to the population deviation of the district with the smallest population.

The United States Census Bureau conducts a decennial census throughout the United States to accomplish the proper apportionment of the United States House of Representatives. The official 2020 Census count for New Mexico is a total state population of 2,117,522, which continues to entitle New Mexico to three congressional districts. This reflects a population growth of 2.8% during the

last decade compared to a 20.1% population growth during 1990-2000, and 13.2% growth during 2000-2010. Ten counties experienced a growth in population whereas 23 counties experienced a decrease in population. The ideal population for New Mexico Congressional districts is 2,117,522/3 = 705,841. The ideal population for State Senate Districts is 2,117,522/42 = 50,417. The ideal population for State House Districts is 2,117,522/70 = 30,250. The ideal population for State Public Education Districts is 2,117,522/10 = 211,752.

Article I, Section 2 of the United States Constitution requires that congressional representatives must be "apportioned among the several states ... according to their numbers." In the landmark decision of *Wesberry v. Sanders*, 376 U.S. 1 (1964), the United States Supreme Court interpreted this to require that the population of each congressional district within a state must be "as nearly equal in population as practicable." The Committee adopted Congressional maps for the legislature's consideration that do not exceed a 0.00% deviation.

As an example of a total deviation calculation, in the case of Senate District Concept C the ideal population for each district is 50,417. The largest district has a population of 51,971, 1,554 more people than the ideal population for a deviation of +3.1%. The smallest district has a population of 49,923, 3,494 fewer people than the ideal population for a deviation of -6.9%. The total population deviation for Senate District Concept C is 10% (3.1 + 6.9). The Redistricting Act provides in Section 1-3A-7(A)(2) that "state districts shall be substantially equal in population; no plans for state office will be considered that have a total deviation of *more than ten percent*". Senate District Concept C complies with the Redistricting Act because it does not have a total deviation that exceeds 10%.

For state district plans, the requirement of equal representation has been interpreted by courts to require only substantial equality of population. Traditionally, courts have upheld redistricting plans with a maximum population deviation of less than 10%, considering such minor deviations insufficient to establish "a prima facie case of invidious discrimination under the Fourteenth Amendment." *Brown v. Thompson*, 462 U.S. 835, 842 *quoting Gaffney v. Cummings*, 412 U.S. 735, 745 (1973). More recently courts have clarified that plans with a population deviation under 10% do not enjoy a "safe harbor" from all constitutional challenges. *See Larios v. Cox*, 300 F.Supp.2d 1320 (N.D. Ga. 2004), a*ff'd* 504 U.S. 947 (2004) (affirming decision that state redistricting plan with deviation less than 10% violated the equal population principle.) Although state districts only need to be substantially equal in population, state redistricting plans should reflect a good faith effort to draw equipopulous districts with deviations from the ideal population supported by legitimate public policy rationales. *See Reynolds*, *supra*, 377 U.S. at 579 ("So long as the divergences from a strict population are based on legitimate considerations incident to the effectuation of a rational state policy, some deviations from the equal-population principle are constitutionally permissible"); *Larios*, *supra*, 300 F.Supp.2d at 1337-1338 (holding that population deviations must be supported by legitimate state interests.) Examples of legitimate public policy rationales that would justify minor population deviations include compliance with the Voting Rights Act and consideration of traditional redistricting principles including but not limited to preserving communities of interest and honoring existing geographic boundaries.

The Committee adopted maps for recommendation to the Legislature with total population deviations of equal to or less than 10%. This report specifies the total, mean and median deviation for each recommended map.

2. VOTING RIGHTS ACT COMPLIANCE WITHOUT MAKING RACE A PREDOMINANT FACTOR

The Voting Rights Act

The Redistricting Act provides in relevant part, "plans must comport with the provisions of the federal Voting Rights Act of 1965, as amended, and federal constitutional standards; plans that dilute a protected minority's voting strength are unacceptable; race may be considered in developing redistricting plans but shall not be the predominant consideration; traditional race-neutral districting principles shall not be subordinated to racial considerations[.]" *See* Laws 2021, Ch. 79, § 8(A)(5). In this regard the Act tracks federal statutory and constitutional law as interpreted by the United States Supreme Court in several cases.

The Committee retained the experienced redistricting and voting rights law firm of Nielsen Merksamer Parrinello Gross & Leoni, LLP, to serve as its Voting Rights Act counsel and to help ensure compliance with the Voting Rights Act.

Legal Standard

Congress enacted Section 2 of the Voting Rights Act to combat minority vote dilution. Section 2 provides that no "standard, practice, or procedure shall be imposed or applied . . . in a manner which results in a denial or abridgement of the right . . . to vote on account of race or color" or membership in a language minority group. 52 U.S.C. §§ 10301(a), 10303(f)(2).

While Section 2 requires the consideration of race in the redistricting process, and the Supreme Court has held that race is a factor that may be considered in redistricting more broadly, *see Easley v. Cromartie*, 532 U.S. 234, 257-58 (2001), the Court also has articulated constitutional limits on the use of race under the Fourteenth Amendment. Specifically, race may not be the "predominant" consideration in the creation of district lines, with other traditional criteria subordinated to racial considerations, unless the predominant use of race is narrowly tailored to fulfill a compelling state interest. *Abbott v. Perez*, 138 S. Ct. 2305, 2315 (2018).

The Supreme Court has repeatedly assumed that compliance with Section 2 is a compelling state interest, *see, e.g., Bethune-Hill v. Va. State Bd. of Elections*, 137 S. Ct. 788, 801 (2017); *Shaw v. Hunt*, 517 U.S. 899, 915 (1996), and, to survive this analysis, the State need not show that failing to draw the district in question necessarily would have violated Section 2; it will be given some latitude so long as there are "good reasons" with a "strong basis in evidence" for thinking Section 2 *might* require the district—a standard that "gives States 'breathing room' to adopt reasonable compliance measures that may prove, in perfect hindsight, not to have been needed." *Cooper v. Harris*, 137 S. Ct. 1455, 1464 (2017).

"A violation [of Section 2] is established if, based on the totality of circumstances, it is shown that the political processes . . . are not equally open to participation by members of a class of citizens protected by subsection (a) of this section in that its members have less opportunity than other members of the electorate to participate in the political process and to elect representatives of their choice." 52 U.S.C. § 10301(b).

In 1982, Congress clarified that Section 2 plaintiffs need not prove that "a contested electoral mechanism was intentionally adopted or maintained by state officials for a discriminatory purpose." *Thornburg v. Gingles*, 478 U.S. 30, 35 (1986) (*Gingles*). Rather, a "violation [can] be proved by showing discriminatory effect alone." *Id*. Accordingly, a Section 2 violation occurs where "a contested electoral practice or structure results in members of a protected group having less opportunity than other members of the electorate to participate in the political process and to elect representatives of their choice." *Id*. at 63. Importantly, the U.S. Supreme Court has invoked Section 2 to strike down legislative redistricting plans that result in minority vote dilution as defined by Section 2. *See League of United Latin Am. Citizens v. Perry*, 548 U.S. 399, 423-43 (2006) (*LULAC*).

A single-member redistricting scheme can run afoul of Section 2 either through "cracking" or "packing" minority voters. "Cracking" occurs when a redistricting plan fragments "a minority group that is large enough to constitute the majority in a single-member district . . . among various districts so that it is a majority in none." *Voinovich v. Quilter*, 507 U.S. 146, 153 (1993) (*Voinovich*). "If the majority in each district votes as a bloc against the minority[-preferred] candidate, the fragmented minority group will be unable to muster sufficient votes in any district to carry its candidate to victory." (*Id*.; *see also LULAC*, 548 U.S. at 427-43 (redistricting plan violated Section 2 by reducing Latino citizen voting-age population from 54.7% to 46% in challenged district).

"Packing," on the other hand, occurs when a redistricting plan results in excessive concentration of minority voters within a district, thereby depriving minority voters of influence in surrounding districts. *Voinovich*, 507 U.S. at 153; *see, e.g., Bone Shirt v. Hazeltine*, 461 F.3d 1011, 1016-19 (8th Cir. 2006) (finding a Section 2 violation where Native Americans comprised eighty-six percent of the voting-age population in a district); *Navajo Nation v. San Juan Cty.*, 929 F.3d 1270, 1290 (10th Cir. 2019) (discussing "packing" in the context of a redistricting challenge)

The Supreme Court has established a few elements that a plaintiff must prove to establish that a redistricting plan violates Section 2. Initially, a Section 2 plaintiff must satisfy the three so-called "*Gingles* preconditions" articulated by the Court in *Thornburg v. Gingles*. *See Growe v. Emison*, 507 U.S. 25, 37-42 (1993). The *Gingles* preconditions are as follows:

> "First, the minority group must be able to demonstrate that it is sufficiently large and geographically compact to constitute a majority in a single-member district."
>
> "Second, the minority group must be able to show that it is politically cohesive."
>
> "Third, the minority must be able to demonstrate that the white majority votes sufficiently as a bloc to enable it . . . usually to defeat the minority's preferred candidate."

Gingles, 478 U.S. at 50-51.[1]

[1] The "majority" does not actually have to be white (as opposed to some other racial group), or even comprised of a single racial group, to satisfy the third *Gingles* precondition. *See Gomez v. City of Watsonville*, 863 F.2d 1407, 1417 (9th Cir. 1988) ("Although the court did not separately find that Anglo bloc voting occurs, it is clear that the non-Hispanic majority in Watsonville usually votes sufficiently as a bloc to defeat the minority votes plus any crossover votes."); *Meek v. Metropolitan Dade County, Fla*., 805 F. Supp. 967, 976 & n.14 (S.D. Fla. 1992) ("In order to prove the third prong in *Gingles*, Black Plaintiffs must be able to demonstrate that the Non-Black majority votes sufficiently as a bloc . . . . Non-Blacks refer to Hispanics and Non-Hispanic Whites."), *aff'd. in part & rev'd. in part on other grounds*, 985 F.2d 1471 (11th Cir. 1993).

With respect to the first *Gingles* precondition—a sufficiently large and geographically compact minority group—a minority group is sufficiently large only where "the minority population in the potential election district is greater than 50 percent." *Bartlett v. Strickland,* 556 U.S. 1, 19-20 (2009) (*Bartlett*) (plur. opn. of Kennedy, J., joined by Roberts, C.J. and Alito, J.).)

The second and third *Gingles* preconditions are often referred to collectively as "racially polarized voting" and are considered together. Courts first assess whether a politically cohesive minority group exists, *i.e.*, "a significant number of minority group members usually vote for the same candidates." *Gingles*, 478 U.S. at 56. Then, courts look for legally significant majority bloc voting, *i.e*., a pattern in which the majority's "bloc vote . . . normally will defeat the combined strength of minority support plus [majority] 'crossover votes.'" *Id*. at 55. These elements can be established by expert testimony, *see, e.g., id.* at 53—74 (considering expert testimony regarding minority group's lack of success in past elections), or lay testimony, see *Sanchez v. Bond*, 875 F.2d 1488, 1493-94 (10th Cir. 1989) ("The experiences and observations of individuals involved in the political process are clearly relevant to the question of whether the minority group is politically cohesive").

A plaintiff who establishes all three *Gingles* preconditions must then demonstrate that, "based on the 'totality of the circumstances,' minorities have been denied an 'equal opportunity' to 'participate in the political process and to elect representatives of their choice.'" *Abrams v. Johnson*, 521 U.S. 74, 90 (1997) (quoting 52 U.S.C. § 10301(b). Courts look to the following non-exhaustive list of factors (the so-called "Senate Report Factors," based on the Senate Report accompanying the 1982 amendments to Section 2) to determine whether, based on the totality of circumstances, a Section 2 violation exists:

(1) "[W]hether the number of districts in which the minority group forms an effective majority is roughly proportional to its share of the population in the relevant area." *LULAC*, 548 U.S. at 426.) "[T]he proper geographic scope for assessing proportionality [is] statewide." *Id*. at 437.)

(2) "[T]he extent of any history of official discrimination in the state or political subdivision that touched the right of the members of the minority group to register, to vote, or otherwise participate in the democratic process." *Gingles*, 478 U.S. at 36-37 (quoting Sen. Rep. No. 97-417, 2d Sess. (1982), reprinted in 1982 U.S. Code Cong. & Admin. News, pp. 206—207).

(3) "[T]he extent to which voting in the elections of the state or political subdivision is racially polarized." *Id*. at 37.

(4) "[T]he extent to which the state or political subdivision has used unusually large election districts, majority vote requirements, anti-single shot provisions, or other voting practices or procedures that may enhance the opportunity for discrimination against the minority group." *Id*.

(5) "[I]f there is a candidate slating process, whether the members of the minority group have been denied access to the process." *Id*.

(6) "[T]he extent to which members of the minority group in the state or political subdivision bear the effects of discrimination in such areas as education, employment and health, which hinder their ability to participate effectively in the political process." *Id*.

(7) "[W]hether political campaigns have been characterized by overt or subtle racial appeals." *Id*.

(8) "[T]he extent to which members of the minority group have been elected to public office in the jurisdiction." *Id*.

(9) "[W]hether there is a significant lack of responsiveness on the part of elected officials to the particularized needs of the members of the minority group." *Id*.

(10) "[W]hether the policy underlying the state or political subdivision's use of such voting qualification, prerequisite to voting, or standard, practice or procedure is tenuous." *Id*.

(11) The extent to which there is evidence of "the lingering effects of past discrimination." *Id*. at 48 n.15.

The Committee's compliance with Section 2 and restrictions on use of race

Two primary populations were the focus of the Committee's Voting Rights Act analysis: Native Americans in the northwest part of the State, particularly the Navajo, Apache, and Pueblo Indians, and Hispanic voters, primarily in the southeastern part of the State.

It is important to note, however, that, in keeping with the mandate of the Redistricting Act, the Committee's map-drawing process relied on race-neutral, traditional redistricting criteria as its primary focus in crafting district lines, even in areas where the Voting Rights Act counseled the creation of a majority-minority district. While the Committee was aware of and sensitive to the Census data and demographics of the areas under review—in particular with respect to areas in which the Voting Rights Act arguably may have required the drawing of a majority-minority district—race was never the sole or predominant criterion used to draw any of the district lines. The Committee made a substantial effort to focus on the shared interests and community relationships that belonged together for fair and effective representation of all the people of the State of New Mexico when drawing district lines.

Native Americans in Northwest New Mexico

Congress extended the protection of the Voting Rights Act to American Indians in 1975 after finding that '"a pattern of educational inequity exists with respect to children of Indian …"' and 'substantial' evidence of discriminatory practices that affected the right of Indians to vote". *Windy Boy v. County of Big Horn*, 647 F. Supp. 1002, 1007 (D. Mont. 1986). New Mexico courts have repeatedly recognized that the Native American populations in the northwestern quadrant of the State meet the second and third *Gingles* requirements, *i.e.,* that voting in the region is polarized between Native American and non-Native American voters, and that districts with Native American voting age population of at least 60% are appropriate to provide those voters with a reasonable opportunity to elect their candidates of choice as required by the Voting Rights Act.

In 2002, the First Judicial District Court for the State of New Mexico, Judge Frank H. Allen, Jr., presiding, was faced with the need to draw legislative districts due to the malapportionment of the 1991 districts considering the 2000 Census and the inability of the Legislature and Governor to agree on adjusted plans. In the course of adopting new legislative lines, the court made extensive findings of fact and conclusions of law holding that the legislative plans adopted by the Legislature in 1991 "failed to provide adequately for equal Native American electoral access in Northwestern New Mexico" and it adopted the partial plan proposed by the Navajo Nation and the Jicarilla Apache Nation, in which Native American voters constituted a 60%+ majority in three state Senate districts

and six House districts. *See Jepsen v. Vigil-Giron*, No. D-0101-CV-02177 (N.M. D. Ct. Jan. 24, 2002) (findings of fact and conclusions of law).

In 2011, the same court, Judge James A. Hall presiding, similarly adopted extensive findings of fact and conclusions of law, holding that Native American voters in the northwestern were cohesive in their voting, that non-Native American voters routinely voted against them, and that it was appropriate to maintain the three majority-Native American Senate districts and six majority-Native American House districts that were adopted in 2002. *See Egolf v. Duran*, No. D-0101-CV-2011-02942 (N.M. D. Ct. January 3, 2012) (findings of fact and conclusions of law); *Maestas*, 274 P.3d at 74.

In the current process, the Committee's consultants, Research & Polling, Inc., conducted racially-polarized voting analysis using standard statistical techniques, including ecological regression analysis, weighted ecological regression analysis, homogenous precinct analysis, and King's ecological inference analysis. Though there are relatively few races in which a Native American candidate faced a non-Native American candidate,[2] these analyses tended to indicate that voting in the northwestern part of the State remains polarized between Native American and non-Native American voters, particularly at the primary elections in which Democratic candidates, who typically go on to win the general election, are chosen. The Research & Polling's analysis is attached as **appendix 2**.

Additional evidence in the form of public testimony at the Committee's public hearings, particularly those at the Indian Pueblo Cultural Center on October 7 and again in Farmington on October 8, further persuaded the Committee that polarized voting between Native American and non-Native American voters continues to characterize elections in northwest New Mexico, and that the three Senate districts and six House districts created by the courts in 2002 and maintained in 2012 continue to warrant protection under the Voting Rights Act. Multiple speakers testified to the cohesion of Native American voters; the history of discrimination against Native Americans in the areas of health, education, employment, and voting; continuing socioeconomic disparities that have negatively impacted Native American voting participation; and the unique interests that Native American tribes have in light of their sovereign status, the protection of sacred tribal lands, and the desire for self-determination, among other things.

Though the 2020 Census indicates that the Native American population in New Mexico has dropped since 2010, from 10.7% of the total population to 8.9%, three Senate districts out of 42 and six House districts out of 70 remains roughly proportional (indeed, slightly less than proportional in both cases) to the Native American population in the State. *See Johnson v. DeGrandy*, 512 U.S. 997 (1994) (rough proportionality relevant to the question of whether minority voters have equal opportunity to participate in the electoral process).

The relative reduction in Native American population and heavy concentration of Native American voters in certain areas presented challenges in terms of drawing three Senate districts and six House districts that remain above 60% Native American voting age population. However, the Supreme Court has held that a State that concludes that the standards of the Voting Rights Act may otherwise

[2] Races in which minority voters are presented with the choice of supporting a viable minority candidate are generally regarded as more probative in analyzing racially polarized voting. *See Sanchez v. State of Colorado*, 97 F.3d 1303, 1320 (10th Cir. 1996); *Ruiz v. City of Santa Maria*, 160 F.3d 543, 552 (9th Cir. 1998).

require the creation of a given majority-minority opportunity district may comply with the first Gingles criterion—numerosity—by underpopulating those districts so long as it does so within the 10% total deviation that the Court has articulated as the standard for constitutional population equality. *See Harris v. Ariz. Indep. Redistricting Comm'n*, 136 S. Ct. 1301, 1308-10 (2016) (holding that the State of Arizona did not engage in unconstitutional use of race in 2011 when it underpopulated several majority-Hispanic districts to ensure compliance with the federal Voting Rights Act, leading to a total plan deviation of 8.8 percent). The Committee has availed itself of that option with respect to several of the proposed Senate and House maps.[3]

Based on the Research & Polling analysis, prior court decisions, and public input the Committee determined that Senate Districts 3, 4 and 22 and House Districts 4, 5, 6, 9, 65 and 69 continue to warrant protection under the Voting Rights Act.

Hispanic Voters in Southeast New Mexico

Like Native American voters in the northwest, Hispanic voters in the southeastern portion of the State have been found by the courts to be a cohesive voting population that warrants protection under the Voting Rights Act.

In 1984, a federal three-judge panel found a detailed history of racial and ethnic discrimination affecting the Hispanic population in the southeastern portion of the State, particularly in and around Clovis. *Sanchez v. King*, No. 82-0067-M (D.N.M. 1984) (three-judge court). That panel found a violation of federal law and redrew House District 63 to include compact and politically cohesive Hispanic voter and make the district a performing, effective, majority-minority district. *Id*.

Although House District 63 was reshaped in the *Jepsen* court-ordered redistricting plan in 2002, it remained an effective majority-minority district, and in 2012 the New Mexico Supreme Court overturned a trial court finding that the district was no longer required by the Voting Rights Act, and held that the Hispanic population in southeast New Mexico "must be represented by an effective, citizen, majority-minority district as that term is commonly understood in Voting Rights Act litigation, and as it has been represented, at least in effect, for the past three decades." *See Maestas*, 274 P.3d at 81. On remand, the trial court reconstituted the district to closely resemble its configuration from *Sanchez* onward. *Id*. at 96-97.

Given the significant portion of the voting age population in the State that is Hispanic (44.3%), majority-Hispanic districts have naturally occurred throughout the State in the drawing of districts according to neutral redistricting criteria set out in the Redistricting Act. However, given the history cited above, the Committee's consultants also conducted racially polarized voting analyses using ecological regression analysis, weighted ecological regression analysis, homogenous precinct analysis, and King's ecological inference analysis in elections in several districts in the southeastern portion New Mexico, in particular HD53, HD58, HD61, HD63, SD32 and SD41. The Research & Polling reports are attached as **appendix 2**. Because those analyses generally reflected stark polarized voting, the Committee has determined to maintain those districts and the two overlying

[3] It is not possible to draw any one of New Mexico's three congressional districts with a majority of Native American voting age population—or even to much exceed 20%—so the Voting Rights Act does not dictate any particular configuration of congressional districts on that basis, *see Bartlett*, 556 U.S. at 19-20. And while it is possible to draw a PEC district with a narrow majority of Native American VAP, it is not possible to come close to the 60% NA-VAP that the evidence shows is necessary to establish an effective majority-Native American PEC district.

Senate districts as majority Hispanic voting age population districts, though it also remained focused on traditional redistricting criteria in the process, including unifying precincts, following county lines in most cases, unifying other communities of interest and cities, following major geographic and topographical boundaries like the Rio Grande River, and maintaining the cores of other existing districts as well.[4]

3. THE PROHIBTION ON THE USE OF PARTISAN DATA AND THE REQUIREMENT TO EVALUATE THE CRC'S MAPS FOR PARTISAN FAIRNESS

The Redistricting Act prohibits the Committee from using, relying upon or referencing partisan data, such as voting history or party registration data when proposing or adopting district plans. § 1-3A-7(C)(1). The prohibition was intended to prevent the use of partisan data to favor a political party. However, once the Committee adopts district plans the Committee must submit a written evaluation of the plans to include a measure of partisan fairness. The Committee during its first meeting adopted Rule 14(A)(2)(d) which provides:

> After the committee adopts the district plans, the committee shall prepare written evaluations of each district plan. These written evaluations shall include:
>
> . . .
>
> **(2)** for each district plan:
>
> . . .
>
> **(d)** measures of partisan fairness, which shall be informed by:
>
> **(i)** prior partisan election data in New Mexico, collected within the past ten years;
>
> **(ii)** a comparison of the committee's adopted plans for each districted body against an ensemble of computer-simulated district plans for each districted entity, so long as those district plans include constraints imposed by the Voting Rights Act of 1965, as amended, and identified by the committee; and
>
> **(iii)** established standards for measuring partisan gerrymandering, including the efficiency gap, the mean-median difference, and partisan symmetry.

The Committee commentary cites Jowei Chen and Jonathan Roden, "Cutting Through the Thicket: Redistricting Simulations and the Detection of Partisan Gerrymanders," Election Law Journal 14:14 (2015), 331-345; Nicholas O. Stephanopoulos and Eric McGhee, "Partisan Gerrymandering and the Efficiency Gap," U. Chi. L. Rev. 831 (2015) as examples supporting the adoption of this measure for partisan fairness.

4. THE EVALUATION OF THE CRC'S MAPS FOR PARTISAN FAIRNESS

[4] Though majority-Hispanic PEC districts naturally developed in the Albuquerque and Las Cruces areas, there is not possible to draw such a district in the southeastern portion of the State that is the focus of this analysis. Likewise, while narrow Hispanic VAP congressional districts contained in several of the plans, the size of the districts requires that southeastern portion of the New Mexico be combined with other parts of the State.

The Cottrell Evaluation – Overview

The Committee contracted with Professor David Cottrell to perform the measure of partisan fairness. Professor Cottrell's report is attached as **appendix 1**. Professor's Cottrell's analysis of the CRC's maps is displayed below at the end of each section corresponding to each districted entity. Overall, Professor Cottrell concluded that each of the CRC's adopted maps do not exhibit significant partisan bias when compared with a large ensemble of random computer-generated maps.

The Cottrell Evaluation – Methodology

He created 1,000 computer-simulated district plans for each district using the same criteria used by Research & Polling when drafting Committee plans. To measure partisan fairness Professor Cottrell used New Mexico election results from 2012 to 2020. His metrics included 1) number of majority democrat districts, 2) number of competitive districts, 3) Polsby-Popper Score, 4) efficiency gap, 5) mean-median, and 6) partisan asymmetry. The breakdown of the metrics are as follows:

- The number of Democratic districts is the number of districts where the Democratic share of the 2-party vote is expected to exceed 50%.
- The number of competitive districts is the number of districts where the Democratic share of the 2-party vote is expected to be between 45% and 55%.
- The Polsby-Popper score is a measure of District Compactness. High scores reflect more compact districts.
- The Efficiency Gap is a measure of wasted votes. Higher positive scores imply that the plan wastes more Republican votes than Democratic votes (and therefore favors Democrats)
- The Mean-Median measure refers to the difference between the average Democratic vote share across the districts (the mean) and the Democratic vote share in the median district (the median). Higher values imply that Democrats are underrepresented by the median district (and therefore favors Republicans).
- Partisan Asymmetry captures the Democrat's advantage in seat share in a hypothetical election where Democrats and Republicans have an equal share of the votes. Higher values imply a Democratic advantage (and therefore favors Democrats).

The Cottrell Evaluation – Results

All plans adopted by the Committee for recommendation to the Legislature are within the expected ranges for most measures, which supports the conclusion that the maps are fair. The charts with the measures are provided at the end of each of the four sections for district plan evaluations and included within Dr. Cottrell's full report attached to the **appendix 1**. Table 2 displays the partisan composition of all districts (page 28). Figure 1 contains the plot for Congress (page 41). Figure 3 contains the plot for the State Senate (page 64). Figure 4 contains the plot for the State House (page 90). Figure 2 contains the plot for the PEC (page 104). Each plot represents a different measure of partisan fairness. For each measure, each of the three concept plans are arranged along the x-axis according to their score. The distribution of scores for the 1,000 corresponding ensemble maps are displayed as histograms in the background of each plot. The height of each bar reflects the number of ensemble plans that scored values contained within the range of each bar. 95% of the computer-generated ensemble maps produced outcomes within the white region and 5% of the maps produced outcomes in the shaded region. This develops a range of outcomes that we can expect

to occur under non-partisan redistricting and establishes a baseline for determining whether a concept map is significantly unfair.

There are currently 45 Democrats, 24 Republicans and 1 Decline-to-State Representative in the New Mexico House of Representatives. There are currently 27 Democrats and 15 Republicans in the New Mexico Senate. There are currently 2 Democrats and 1 Republican in Congress from New Mexico.

The partisan composition of the Congressional plans adopted by the Committee has plan H with three majority-democrat districts, with one district being competitive, while plans E modified and H have 2 majority-democrat districts.

The partisan composition of the State Senate has plan A-1 with 28 majority-democrat districts, with 6 being competitive, while plan C has 27 majority-democrat districts with 3 being competitive, and plan C-1 also has 27 majority-democrat districts but with 4 being competitive districts.

The partisan composition of the State House plans has plan E1 with 47 majority-democrat districts with 11 being competitive, while plans I-1 and J have 44 majority-democrat districts, with 9 being competitive districts. Competitive districts are defined as either party having a 50% to 53.9% two-party vote share. Plan E1 has 23 majority-republican districts, with 4 being competitive. Plans I-1 and J have 26 majority-republican districts, with 7 being competitive.

The following table reflects the partisan composition of all plans adopted by the Committee:

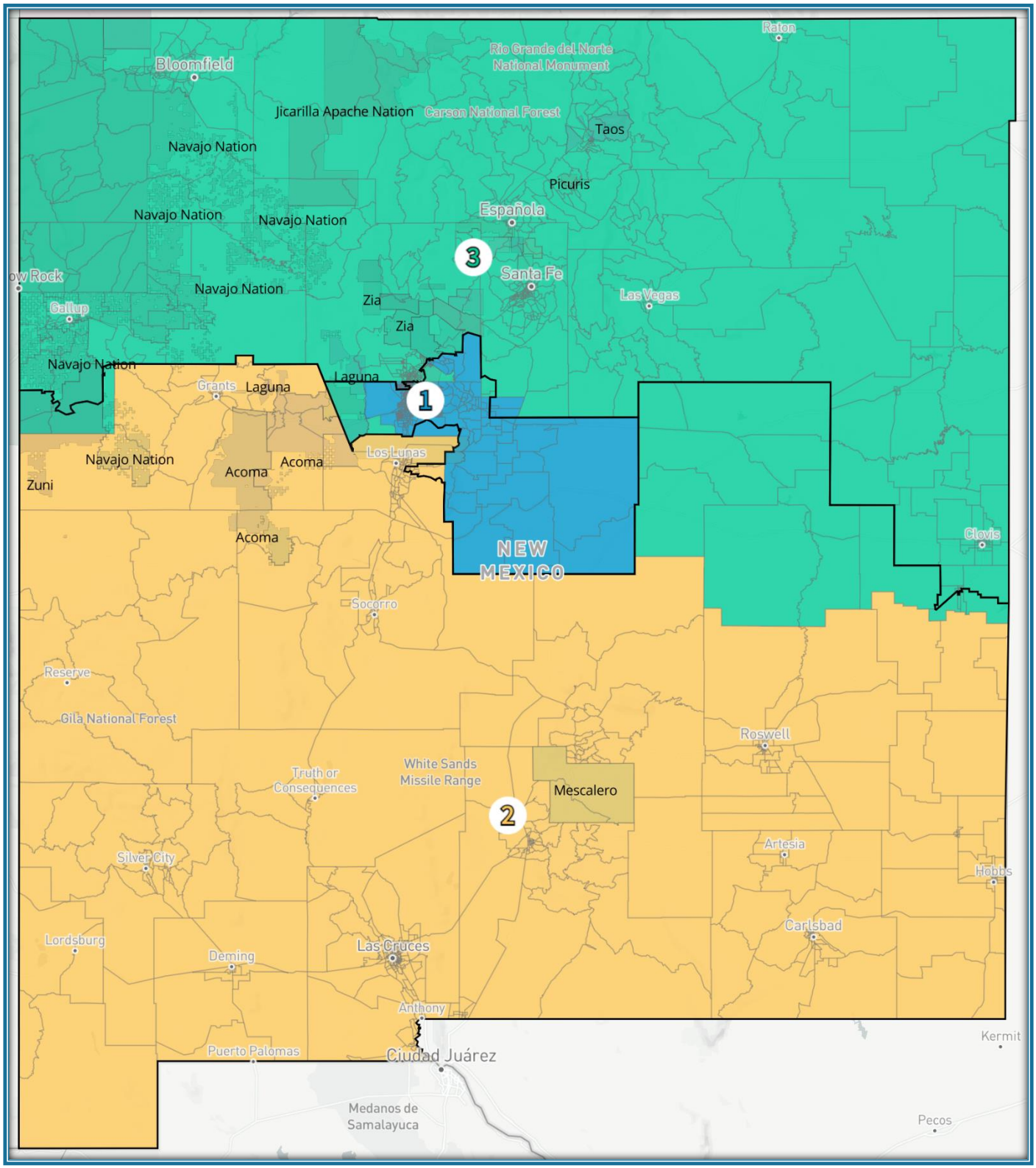
Table 2: Partisan Composition of All Proposed Plans

	Congress			Public Ed.			State Senate			State House		
Percent Dem	A	E	H	A	C	E	A1	C	C1	E1	I1	J
0% to 49.9%	1	1	0	3	3	3	14	15	15	23	26	26
50% to 100%	2	2	3	7	7	7	28	27	27	47	44	44
45% to 45.9%	1	0	0	0	0	0	2	2	2	1	3	3
46% to 46.9%	0	1	0	0	0	0	1	0	1	2	1	1
47% to 47.9%	0	0	0	1	1	0	0	1	0	0	3	3
48% to 48.9%	0	0	0	0	0	1	1	1	2	1	1	1
49% to 49.9%	0	0	0	0	0	0	1	1	1	1	2	2
50% to 50.9%	0	0	0	1	1	1	3	1	1	3	0	0
51% to 51.9%	0	0	0	1	1	1	1	0	0	4	4	4
52% to 52.9%	0	0	1	1	0	1	0	1	2	3	3	3
53% to 53.9%	0	0	0	0	1	0	2	1	2	1	2	2
54% to 54.9%	0	0	1	0	0	0	1	4	1	2	0	0
45% to 49.9%	1	1	0	1	1	1	5	5	6	5	10	10
50% to 54.9%	0	0	2	3	3	3	7	7	6	13	9	9

This page is left blank intentionally.

CONGRESSIONAL DISTRICT PLANS

Congressional Concept A



To view the map in full detail, see previous district boundaries, county boundaries, demographic data, and other data please click or search the following link: **https://districtr.org/plan/43318**

Congressional Concept A

Adoption

The following Committee members voted to adopt this map: Ryan Cangiolosi, Robert Rhatigan, Christopher Saucedo, and Justice Edward Chávez. The following member(s) voted against the adoption of this map: Hon. Lisa Curtis, Joaquin Sanchez, Hon. Michael Sanchez.

Population and Deviations

District	Populations	Deviation	
1	705,845	4	0.0%
2	705,840	-1	0.0%
3	705,837	-4	0.0%
NM Total	**2,117,522**	**Ideal**	**705,841**

Demographics

			Adult Non-Hispanic					
District	**Adult Hispanic**	**Adult NA Any**	**White**	**Native American**	**Black**	**Asian**	**Other**	**Total**
1	45.0%	7.0%	42.3%	3.8%	2.6%	2.9%	3.5%	55.0%
2	51.5%	6.5%	39.3%	3.6%	1.7%	1.0%	2.8%	48.5%
3	36.6%	20.9%	39.9%	17.8%	1.3%	1.4%	3.0%	63.4%
NM Total	**44.3%**	**11.5%**	**40.5%**	**8.4%**	**1.9%**	**1.8%**	**3.1%**	**55.7%**

Overall Plan Evaluation

Congress Concept A Overall	Mean
Total Deviation	0.0%
Largest Positive Deviation	0.0%
Largest Negative Deviation	0.0%
Mean Deviation +/-	0.0%
Median Deviation	0.0%
Assigned Population	2,117,522
Unassigned Population	0

Compactness

Measure of Compactness	Mean
Reock	0.45
Polsby-Popper	0.40

*By comparison the 2011 Court approved maps had the following compactness scores: Reock 0.42; Polsby-Popper 0.35.

Split Counties, Split Cities, and Contiguity

Congressional Concept A splits 0 cities with a greater-than-ideal population, 4 Cities with a less-than-ideal population and 4 Counties. Congressional Concept A has no contiguity issues.

VRA Compliance

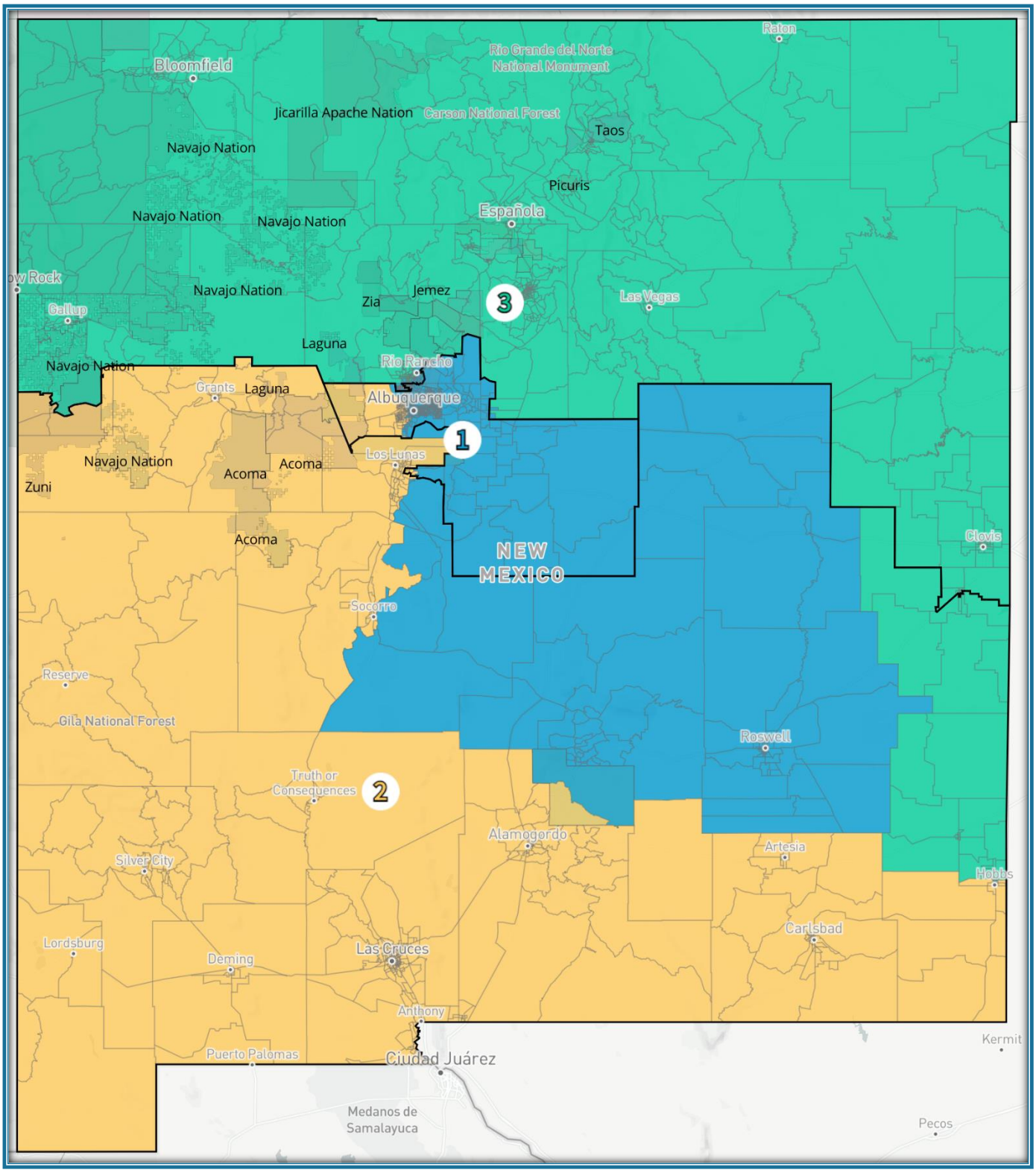
A VRA analysis was not required for Congressional maps. See pages 24-25, at footnotes 3 and 4 *supra*.

Description of Map Objectives and Development based on public input

- Maintain status quo. Keep Torrance County with Bernalillo County, Placitas, and Bernalillo in CD 1
- Cibola County in CD 2
- Isleta in CD 2

This page is left blank intentionally.

Congressional Concept H



To view the map in full detail, see previous district boundaries, county boundaries, demographic data, and other data please click or search the following link: **https://districtr.org/plan/66395**

Congressional Concept H

Adoption

The following Committee members voted to adopt this map: Hon. Lisa Curtis, Robert Rhatigan, Joaquin Sanchez, Hon. Michael Sanchez, and Justice Edward Chávez. The following members voted against the adoption of this map: Ryan Cangiolosi, Christopher Saucedo.

Population and Deviations

District	Populations	Deviation	
1	705,810	-31	0.0%
2	705,904	63	0.0%
3	705,808	-33	0.0%
NM Total	**2,117,522**	**Ideal**	**705,841**

Demographics

			Adult Non-Hispanic					
District	Adult Hispanic	Adult NA Any	White	Native American	Black	Asian	Other	Total
1	39.8%	6.9%	47.8%	3.7%	2.4%	2.8%	3.6%	60.2%
2	55.9%	7.9%	33.6%	4.9%	1.9%	1.1%	2.6%	44.1%
3	37.7%	19.9%	39.7%	16.7%	1.4%	1.4%	3.0%	62.3%
NM Total	**44.3%**	**11.5%**	**40.5%**	**8.4%**	**1.9%**	**1.8%**	**3.1%**	**55.7%**

Overall Plan Evaluation

Congress Concept H Overall	Mean
Total Deviation	0.0%
Largest Positive Deviation	0.0%
Largest Negative Deviation	0.0%
Mean Deviation +/-	0.0%
Median Deviation	0.0%
Assigned Population	2,117,522
Unassigned Population	0

Compactness

Measure of Compactness	Mean
Reock	0.41
Polsby-Popper	0.31

*By comparison the 2011 Court approved maps had the following compactness scores: Reock 0.42; Polsby-Popper 0.35.

Split Counties, Split Cities, and Contiguity

Congressional Concept H splits 0 cities with a greater-than-ideal population, 7 cities with a less-than-ideal population, and 9 Counties. Congressional Concept A has no contiguity issues.

VRA Compliance

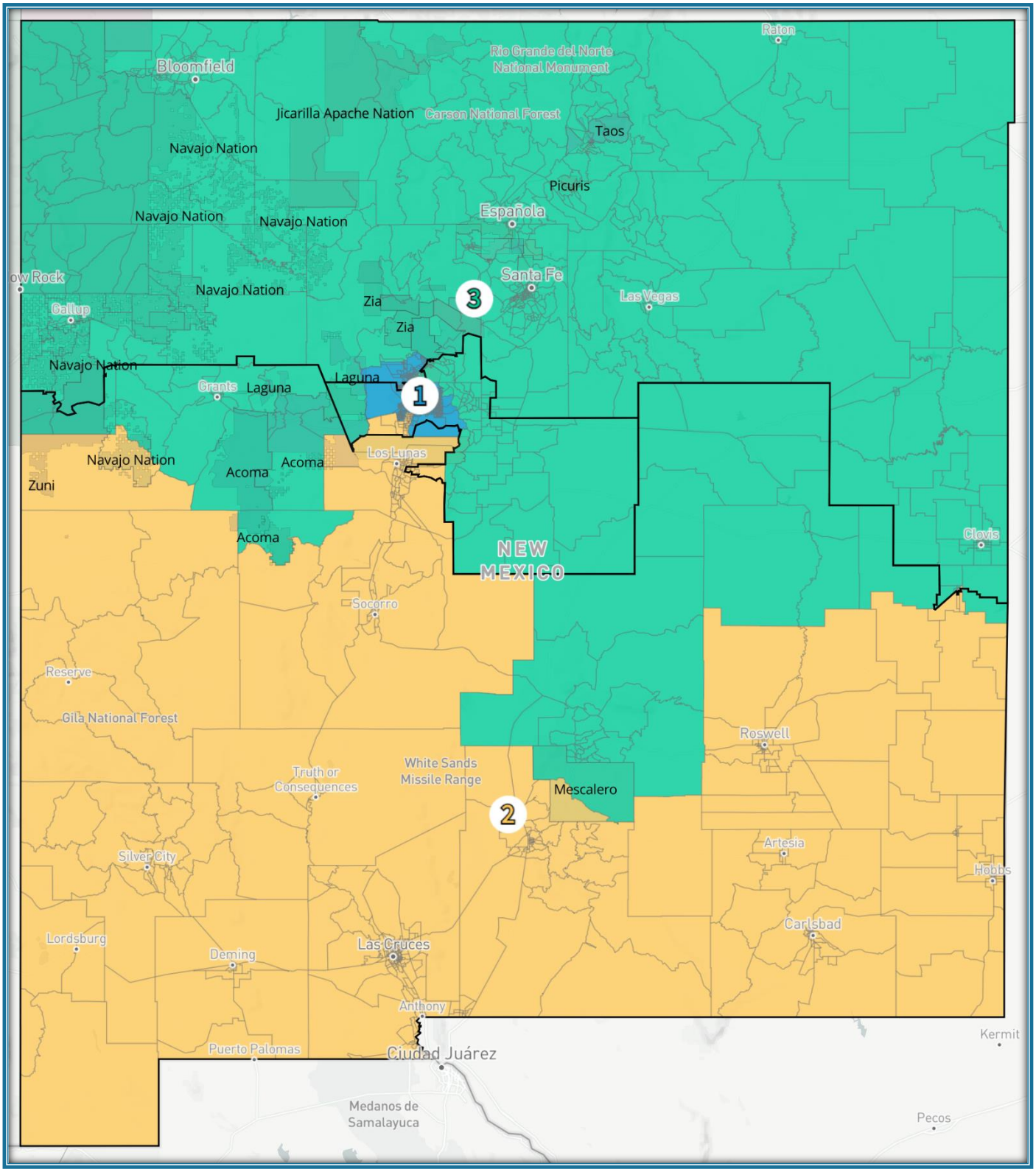
A VRA analysis was not required for Congressional maps. See pages 24-25, at footnotes 3 and 4 *supra*.

Description of Map Objectives and Development

- This map combines feedback from a coalition of community-based organizations throughout the state.
- The stated goal of the Coalition is fair representation for their communities.
- The core of CD3 in northern New Mexico is preserved.
- At the expressed wishes of the tribal nations, the congressional lines in the northwest quadrant are unchanged, maintaining the status quo.
- To'Hajiilee joins its neighboring Navajo chapters of Ramah and Alamo in CD2.
- Mescalero has made it known that it wants to have influence in two congressional districts. This map splits Mescalero between CD1 and CD2.
- Chaves, Guadalupe, De Baca, Lincoln counties join CD1.
- Roosevelt County, which is currently split between CD2 and CD3 will go entirely into CD3. Lea County will be in CD2 and CD3.
- Recognizing common concerns and values: Bernalillo County's South Valley becomes part of CD2:
- To read the full description by this maps author, please view the post on the public comment portal here: **https://portal.newmexico-mapping.org/submission/p5025**

- This page is left blank intentionally.

Congressional Concept E-Revised (Justice Chávez Map)



To view the map in full detail, see previous district boundaries, county boundaries, demographic data, and other data please click or search the following link: **https://districtr.org/plan/63307?portal**

Congressional Concept E-Revised

Adoption

The following Committee members voted to adopt this map: Ryan Cangiolosi, Hon. Lisa Curtis, Hon. Michael Sanchez. Robert Rhatigan, Christopher Saucedo, and Justice Edward Chávez. The following member voted against the adoption of this map: Joaquin Sanchez.

Population and Deviations

District	Populations	Deviation	
1	705,822	-19	0.0%
2	705,813	-28	0.0%
3	705,887	46	0.0%
NM Total	**2,117,522**	**Ideal**	**705,841**

Demographics

			Adult Non-Hispanic					
District	**Adult Hispanic**	**Adult NA Any**	**White**	**Native American**	**Black**	**Asian**	**Other**	**Total**
1	43.6%	7.3%	42.8%	4.0%	2.8%	3.1%	3.6%	56.4%
2	54.4%	4.7%	38.2%	1.8%	1.8%	1.0%	2.7%	45.6%
3	35.3%	22.2%	40.4%	19.1%	1.0%	1.2%	3.0%	64.7%
NM Total	**44.3%**	**11.5%**	**40.5%**	**8.4%**	**1.9%**	**1.8%**	**3.1%**	**55.7%**

Overall Plan Evaluation

Congress Concept E-Revised Overall	Mean
Total Deviation	0.0%
Largest Positive Deviation	0.0%
Largest Negative Deviation	0.0%
Mean Deviation +/-	0.0%
Median Deviation	0.0%
Assigned Population	2,117,522
Unassigned Population	0

Compactness

Measure of Compactness	Mean
Reock	0.46
Polsby-Popper	0.29

*By comparison the 2011 Court approved maps had the following compactness scores: Reock 0.42; Polsby-Popper 0.35

Split Counties, Split Cities, and Contiguity

Congressional Concept E-Revised splits 0 cities with a greater-than-ideal population, 5 cities with a less-than-ideal population, and 6 Counties. Congressional Concept E-Revised has no contiguity issues.

VRA Compliance

A VRA analysis was not required for Congressional maps. See pages 24-25, at footnotes 3 and 4 *supra*.

Description of Map Objectives and Development based on public input

- This plan is based on Concept E except it uses the 2020 precincts. Population deviation is 0.01%
- This map also splits the Mescalero Apache Nation consistent with Pueblo and Apache map feedback and equalizes population by taking some precincts from the western side of Cibola County.
- Urban Albuquerque/Rio Rancho (CD 1)
- CD 2 retains its core in southern NM and includes the unincorporated areas of the South Valley
- CD 3 retains its core in the north

EVALUATIONS OF PARTISAN FAIRNESS OF CRC'S CONGRESSIONAL PLANS

All Congressional plans were within all the expected ranges for the six partisan fairness metrics used by Professor Cottrell. The results for the concept maps for Congress are plotted in Figure 1 below.

Figure 1

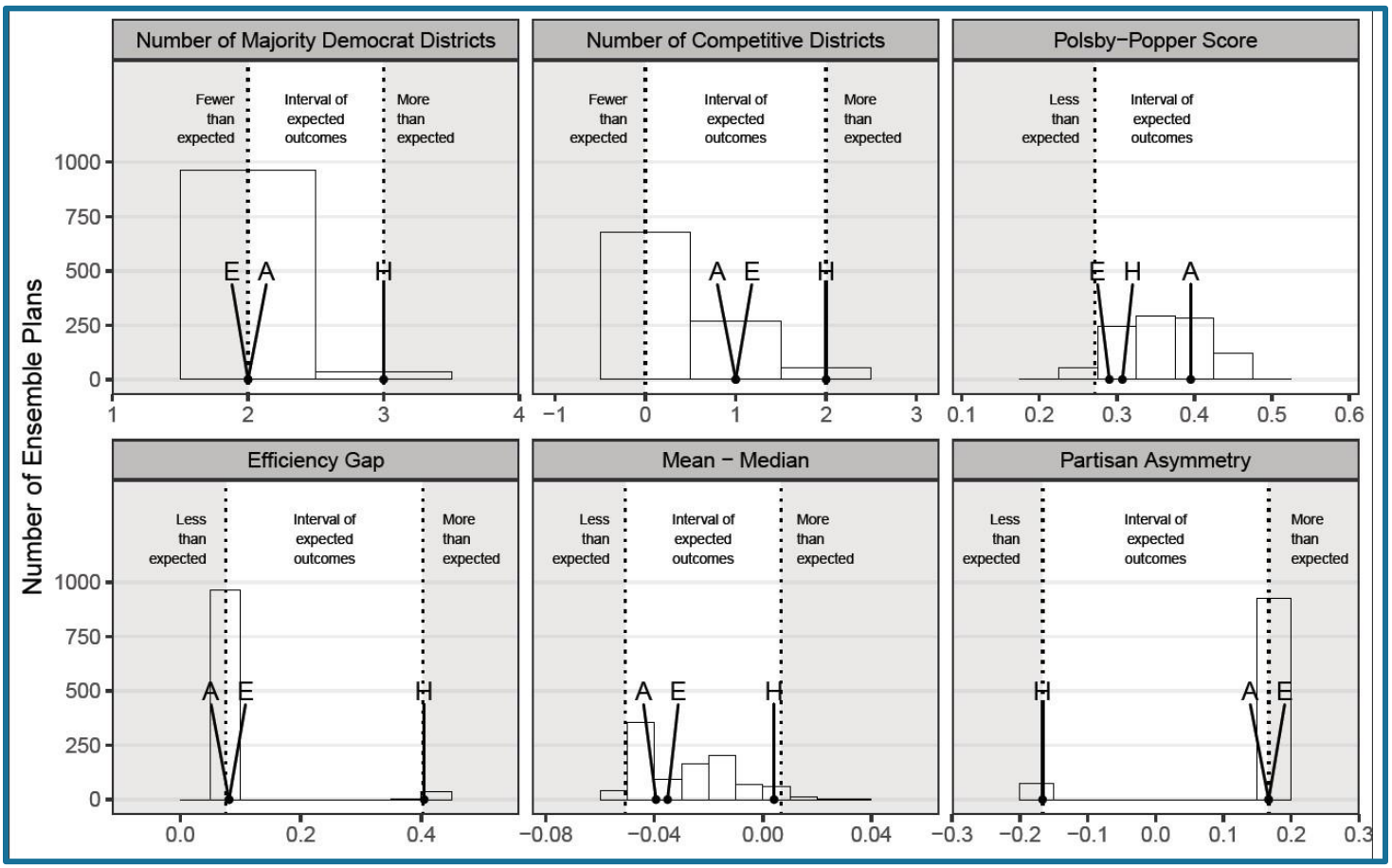


Figure 1: Professor Cottrell's ensemble analysis of the Committee's adopted Congressional district plans

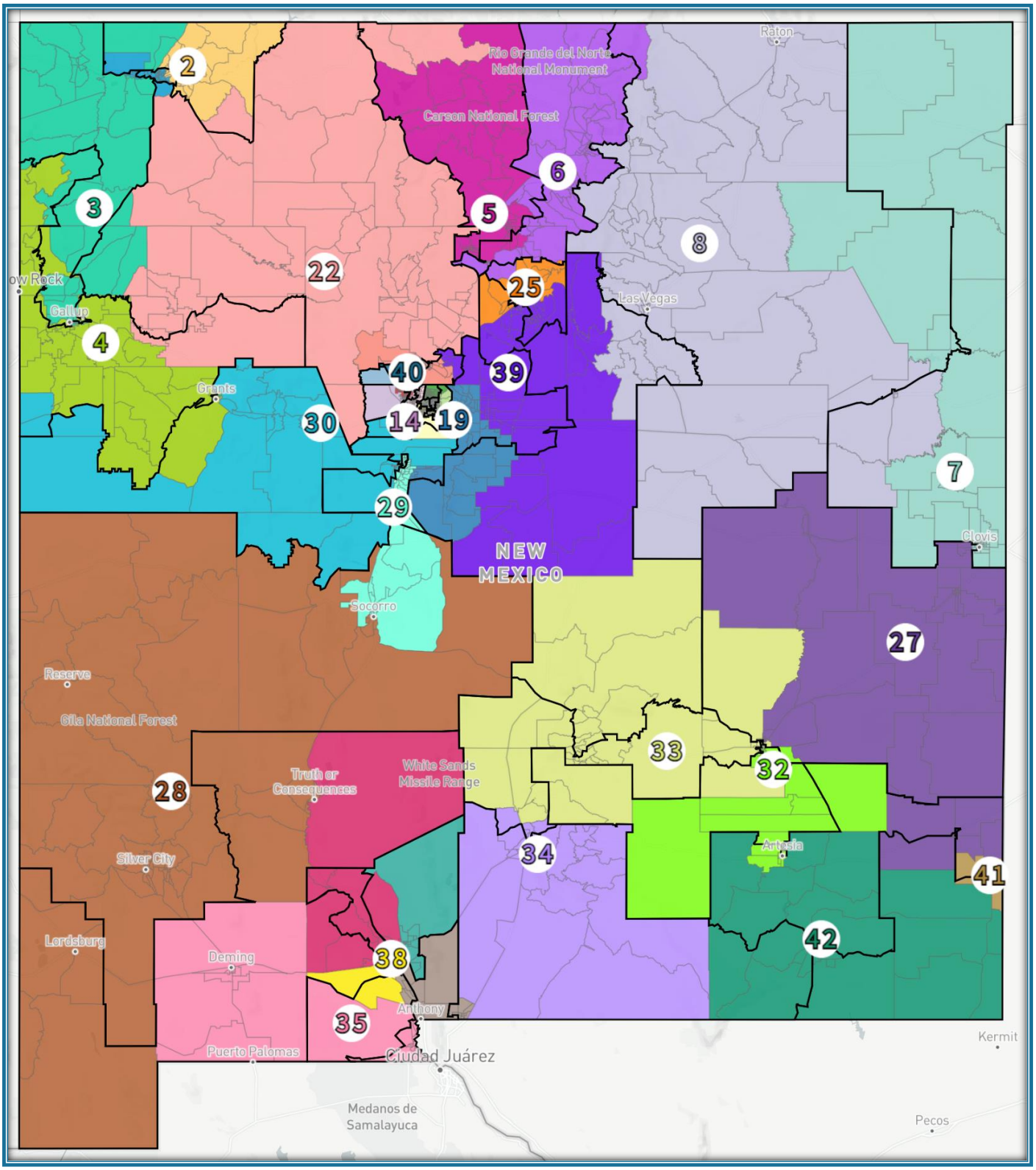
For each of the six measures, scores of the three concept plans are arranged as points along the x-axis, with the map concepts identified above each point. The distribution of scores for the 1,000 corresponding ensemble maps are displayed in histograms in the background of each plot. The height of the histogram bar reflects the number of ensemble plans that scored values contained within the range of each bar. 95% of the computer-generated ensemble maps produced outcomes within the white region and 5% of the maps produced outcomes in the shaded region. This develops a range of outcomes that we can expect to occur under non-partisan redistricting and establishes a baseline for determining whether a concept map is significantly unfair. As the figure displays, each of the concept maps for Congress fall within expected ranges for all six measures.

Maps A and E tend produce similar scores to each other, whereas Map H is distinct from the other two. Map H produces more Democratic districts than the others, but its partisan symmetry favors Republicans. Map H has a higher Efficiency Gap that favors Democrats while maps A and E have a more extreme Mean-Median score that favors Democrats. None of the Concept maps for Congress produce scores that are unexpected.

If anything is unusual, it is that plans E and A produce partisan symmetry scores that lean more Republican than the bulk of ensemble plans.

STATE SENATE DISTRICT PLANS

Senate Concept A-1



To view the map in full detail, see previous district boundaries, county boundaries, demographic data, and other data please click or search the following link: **https://districtr.org/plan/64078**

Senate Concept A-1

Adoption

The following Committee members voted to adopt this map: Hon. Lisa Curtis, Robert Rhatigan, Joaquin Sanchez, Hon. Michael Sanchez, Christopher Saucedo, and Justice Edward Chávez. The following member voted against the adoption of this map: Ryan Cangiolosi.

Population and Deviations

Ideal Population Per District	50,417

District	Populations	Deviation	
1	47,068	-3,349	-6.6%
2	47,318	-3,099	-6.1%
3	46,923	-3,494	-6.9%
4	48,552	-1,865	-3.7%
5	51,303	886	1.8%
6	51,634	1,217	2.4%
7	51,236	819	1.6%
8	51,471	1,054	2.1%
9	51,227	810	1.6%
10	48,778	-1,639	-3.3%
11	51,842	1,425	2.8%
12	48,860	-1,557	-3.1%
13	49,549	-868	-1.7%
14	48,362	-2,055	-4.1%
15	50,723	306	0.6%
16	51,566	1,149	2.3%
17	51,271	854	1.7%
18	51,889	1,472	2.9%
19	48,607	-1,810	-3.6%
20	51,448	1,031	2.0%
21	51,129	712	1.4%
22	49,066	-1,351	-2.7%
23	49,057	-1,360	-2.7%
24	51,556	1,139	2.3%
25	51,669	1,252	2.5%
26	50,012	-405	-0.8%

District	Populations	Deviation	
27	50,366	-51	-0.1%
28	51,304	887	1.8%
29	50,648	231	0.5%
30	48,020	-2,397	-4.8%
31	51,925	1,508	3.0%
32	51,659	1,242	2.5%
33	50,760	343	0.7%
34	48,287	-2,130	-4.2%
35	51,445	1,028	2.0%
36	51,971	1,554	3.1%
37	51,729	1,312	2.6%
38	51,870	1,453	2.9%
39	51,667	1,250	2.5%
40	51,697	1,280	2.5%
41	50,688	271	0.5%
42	51,370	953	1.9%
NM Total	**2,117,522**	**Ideal**	**50,417**

Overall Plan Evaluation

Senate Concept A-1 Overall	Mean
Total Deviation	10.0%
Largest Positive Deviation	3.1%
Largest Negative Deviation	-6.9%
Mean Deviation +/-	2.6%
Median Deviation	1.6%
Assigned Population	2,117,522
Unassigned Population	0

Compactness*

Measure of Compactness	Mean
Reock	0.40
Polsby-Popper	0.34

*By comparison the 2011 Court approved maps had the following compactness scores: Reock 0.38 Polsby-Popper 0.29

Split Counties, Split Cities, and Contiguity

Senate Concept A-1 splits 4 cities with a greater-than-ideal population, 21 cities with a less-than-ideal population, and 21 Counties. Senate Concept A-1 has no contiguity issues.

Demographics

District	Adult Hispanic	Adult NA Any	Adult Non-Hispanic White	Native American	Black	Asian	Other	Total
1	18.3%	39.2%	40.9%	35.1%	0.8%	1.1%	3.8%	81.7%
2	24.7%	17.3%	56.7%	13.9%	0.3%	0.6%	3.7%	75.3%
3	12.0%	75.3%	12.0%	72.0%	0.5%	1.4%	2.1%	88.0%
4	18.2%	65.7%	15.9%	62.2%	0.7%	1.1%	2.0%	81.8%
5	55.8%	10.6%	31.3%	7.4%	0.6%	2.5%	2.5%	44.2%
6	49.2%	7.8%	41.9%	4.6%	0.4%	0.8%	3.1%	50.8%
7	39.8%	3.4%	49.6%	0.6%	4.9%	1.5%	3.7%	60.2%
8	62.1%	4.0%	32.9%	1.0%	1.0%	0.6%	2.3%	37.9%
9	37.0%	6.7%	52.7%	3.6%	1.8%	1.5%	3.3%	63.0%
10	40.4%	7.3%	45.4%	4.0%	3.2%	3.2%	3.8%	59.6%
11	81.0%	6.1%	11.1%	3.1%	2.4%	0.8%	1.6%	19.0%
12	65.4%	7.5%	24.6%	3.7%	2.7%	0.8%	2.8%	34.6%
13	51.1%	6.2%	40.1%	3.0%	1.3%	1.4%	3.1%	48.9%
14	76.0%	5.0%	17.1%	2.1%	1.7%	1.0%	2.1%	24.0%
15	36.2%	9.7%	47.4%	6.1%	3.3%	3.1%	3.8%	63.8%
16	31.9%	8.9%	51.2%	5.1%	2.9%	4.2%	4.7%	68.1%
17	46.6%	9.6%	34.2%	6.2%	5.0%	4.2%	3.8%	53.4%
18	30.6%	7.5%	54.9%	4.0%	2.6%	3.4%	4.4%	69.4%
19	36.4%	4.7%	55.5%	1.6%	1.2%	1.5%	3.7%	63.6%
20	25.7%	6.4%	60.0%	3.6%	2.8%	3.8%	4.1%	74.3%
21	25.8%	4.2%	59.2%	2.0%	1.7%	7.6%	3.8%	74.2%
22	18.3%	65.5%	16.0%	62.2%	0.8%	0.8%	1.8%	81.7%
23	44.4%	7.7%	42.1%	4.2%	2.8%	2.8%	3.7%	55.6%
24	57.1%	5.0%	35.5%	1.7%	1.0%	1.7%	3.0%	42.9%
25	35.5%	4.1%	57.0%	1.8%	0.8%	1.8%	3.1%	64.5%
26	54.2%	7.5%	32.9%	4.3%	3.2%	2.5%	2.9%	45.8%
27	45.6%	3.0%	47.7%	0.7%	2.0%	1.0%	3.0%	54.4%
28	40.2%	4.6%	53.7%	1.3%	0.8%	0.7%	3.3%	59.8%
29	55.1%	5.5%	38.0%	2.1%	1.0%	0.8%	3.1%	44.9%

			Adult Non-Hispanic					
District	Adult Hispanic	Adult NA Any	White	Native American	Black	Asian	Other	Total
30	37.8%	37.5%	23.5%	34.5%	1.3%	0.6%	2.3%	62.2%
31	78.6%	2.8%	17.7%	0.6%	0.9%	0.7%	1.5%	21.4%
32	59.0%	3.1%	35.7%	0.7%	1.5%	0.6%	2.5%	41.0%
33	33.5%	10.7%	54.2%	7.3%	0.9%	0.9%	3.1%	66.5%
34	25.1%	3.8%	61.8%	0.9%	4.7%	2.2%	5.4%	74.9%
35	73.4%	2.9%	23.4%	0.4%	0.7%	0.5%	1.6%	26.6%
36	57.8%	3.9%	37.4%	0.6%	1.1%	0.8%	2.3%	42.2%
37	48.7%	3.9%	43.2%	0.8%	2.1%	2.3%	3.0%	51.3%
38	58.7%	4.8%	33.7%	1.1%	2.3%	1.4%	2.7%	41.3%
39	34.3%	4.5%	58.8%	1.3%	0.8%	0.9%	3.9%	65.7%
40	37.9%	6.4%	51.0%	2.9%	2.3%	1.7%	4.2%	62.1%
41	55.0%	3.2%	35.8%	0.9%	4.7%	1.2%	2.4%	45.0%
42	46.0%	3.4%	47.8%	0.8%	1.5%	0.9%	3.1%	54.0%
NM Total	**44.3%**	**11.5%**	**40.5%**	**8.4%**	**1.9%**	**1.8%**	**3.1%**	**55.7%**

Overview of Majority Minority Districts

Majority Minority Districts (VAP)	In This Plan
Adult Hispanic Districts	15
Adult Native American Districts	3
Adult Majority Minority Districts (All other Non-White)	11

Incumbent Pairings

Pairings	Instances	Districts Paired
# Districts paired D-D	1	10 and 13
# Districts paired R-R	2	29/30, 33/34
# Districts paired D-R	1	28 and 35

VRA Compliance

Based on public input the Committee's recommended plans respect the Voting Rights Act without resorting to the use of race as a predominant factor. For Native Americans the focus is on the

Northwest corner of the State. For State Senate Native American VRA districts based on public input and prior court decisions are SD3, SD4 and SD22. The target threshold for these districts is a non-Hispanic Native American Voting Age Population (NHNAVAP) greater than 60%. In addition, SD30 with a NHNAVAP of 34.5% is considered an influence district because although Native Americans may not be able to elect a candidate of their choice in this district, they can play a substantial and perhaps decisive role in the election of a candidate in this district. *See Georgia v. Ashcroft, 539 U.S. 461, 482 (2003)*. Judge Hall in 2011 approved Senate Districts 3, 4 and 22 as VRA districts with the NAVAP more than 66%. Senate District 3 was 75.7%, SD 4 was 68.3%, and SD22 was 66.4%. This map, Concept A-1 has SD 3 at 72%, SD 4 at 62.2% and SD 22 at 62.2%. For Hispanics the VRA districts based on public input are SD32 and SD41 with a target threshold greater than equal to 55%. The HVAP is 59% and 55% respectively.

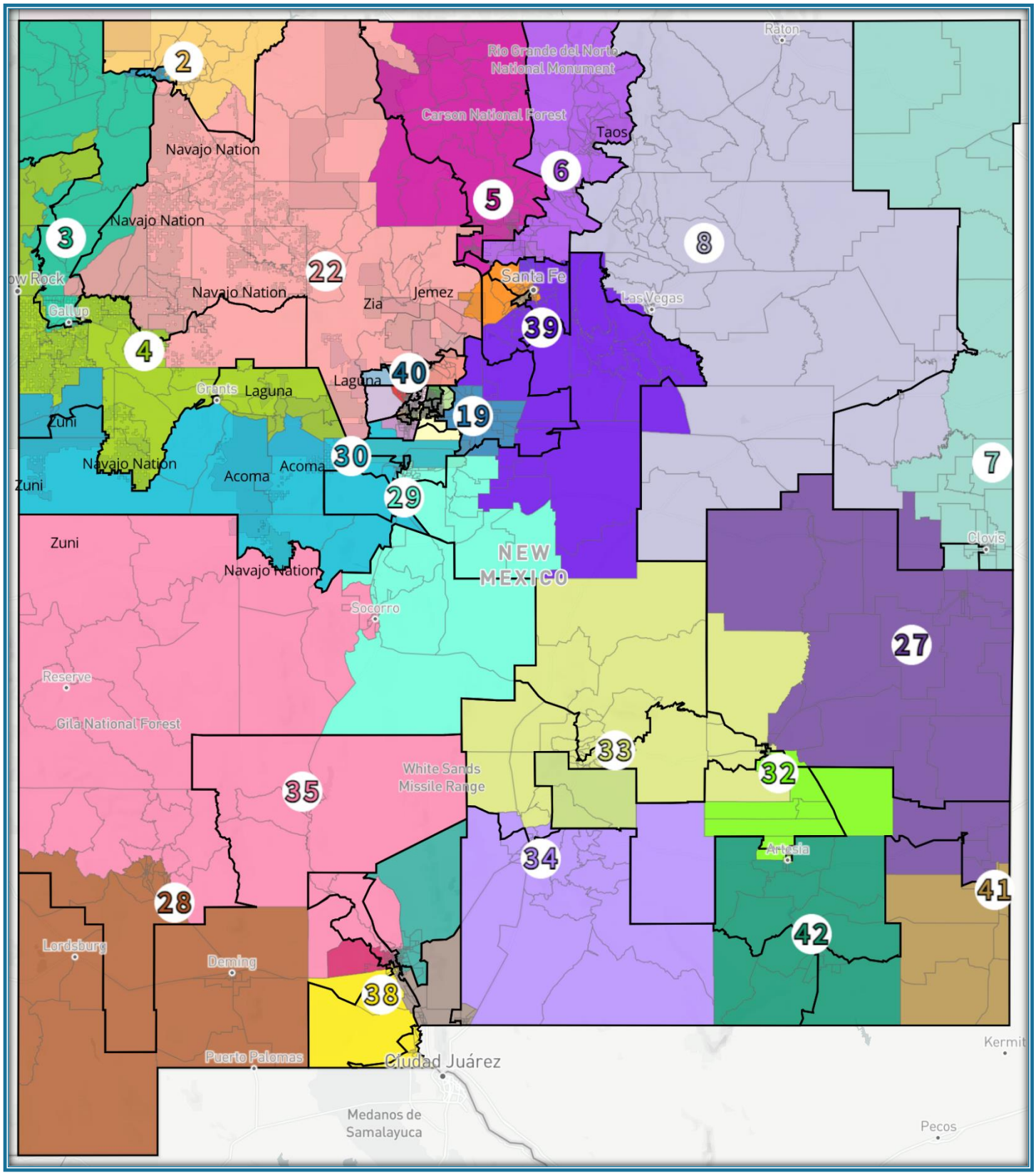
Partisan Fairness

This plan was within all the expected ranges for the six partisan fairness metrics used by Professor Cottrell. See further analysis infra. In addition, the Princeton Gerrymandering Project gave this plan an A for partisan fairness. See https://gerrymander.princeton.edu.

Description of Map Objectives and Development based on public input

- This map is based on Senate Concept A but is revised to reflect new precinct data.
- Does not split Hobbs, Carlsbad, Artesia, Ruidoso, Lovington, and Alamogordo, and still maintains two majority Hispanic districts in SE NM.
- Maintains three stronger Native American majority voting age districts, by utilizing Laguna/Acoma and Zuni Pueblos as part of the majority Native American districts. One of the districts is predominantly Pueblo/Jicarilla and two districts are predominately Navajo. SD 30 is used to bolster Native American districts instead of creating a Native American "influence" district.
- SD 39, that currently sprawls from Mora County to Rio Communities in Valencia County, and down to Ruidoso, is compacted into an Eldorado, Pecos, Placitas district, with a common bond of adjacency to mountains and wilderness areas and concerns for the environment.
- White Rock is with northern Santa Fe County and Taos. Los Alamos is with the Rio Arriba district. (This is status quo.)
- Pursuant to public feedback:
- Edgewood is not split, and it is included in an East Mountain district.
- Chaparral is not split and is included in a district with Anthony rather than Carlsbad and Alamogordo.
- More Hispanic neighborhoods (communities of interest) are included in the Roswell and Hobbs minority districts.
- In Albuquerque, north of I-40, the Rio Grande is used as a hard boundary separating the North Valley from the Westside.
- The International District is wholly contained in one Senate district.
- District boundaries in urban areas are straightened and priorities are given to major thoroughfares.

Senate Concept C



To view the map in full detail, see previous district boundaries, county boundaries, demographic data, and other data please click or search the following link: **https://districtr.org/plan/73788**

Senate Concept C

Adoption

The following Committee members voted to adopt this map: Ryan Cangiolosi, Robert Rhatigan, Christopher Saucedo, and Justice Edward Chávez. The following member(s) voted against the adoption of this map: Hon. Lisa Curtis, Joaquin Sanchez, and Hon. Michael Sanchez.

Population and Deviations

Ideal Population Per District	50,417

District	Populations	Deviation	
1	47,905	-2,512	-5.0%
2	48,641	-1,776	-3.5%
3	48,232	-2,185	-4.3%
4	47,966	-2,451	-4.9%
5	51,388	971	1.9%
6	52,889	2,472	4.9%
7	52,237	1,820	3.6%
8	49,583	-834	-1.7%
9	49,576	-841	-1.7%
10	50,660	243	0.5%
11	50,648	231	0.5%
12	52,354	1,937	3.8%
13	52,291	1,874	3.7%
14	50,984	567	1.1%
15	47,959	-2,458	-4.9%
16	48,876	-1,541	-3.1%
17	51,271	854	1.7%
18	50,393	-24	0.0%
19	52,068	1,651	3.3%
20	51,431	1,014	2.0%
21	50,384	-33	-0.1%
22	48,042	-2,375	-4.7%
23	48,072	-2,345	-4.7%
24	49,453	-964	-1.9%
25	49,075	-1,342	-2.7%
26	48,388	-2,029	-4.0%

District	Populations	Deviation	
27	52,512	2,095	4.2%
28	52,739	2,322	4.6%
29	52,893	2,476	4.9%
30	48,220	-2,197	-4.4%
31	52,393	1,976	3.9%
32	50,733	316	0.6%
33	48,476	-1,941	-3.8%
34	48,451	-1,966	-3.9%
35	52,639	2,222	4.4%
36	51,724	1,307	2.6%
37	52,443	2,026	4.0%
38	52,577	2,160	4.3%
39	48,865	-1,552	-3.1%
40	51,857	1,440	2.9%
41	52,103	1,686	3.3%
42	48,131	-2,286	-4.5%
NM Total:	**2,117,522**		

Overall Plan Evaluation

Senate Concept C Overall	Mean
Total Deviation	9.9%
Largest Positive Deviation	4.9%
Largest Negative Deviation	-5.0%
Mean Deviation +/-	3.2%
Median Deviation	0.5%
Assigned Population	2,117,522
Unassigned Population	0

Compactness*

Measure of Compactness	Mean
Reock	0.44
Polsby-Popper	0.37

*By comparison the 2011 Court approved maps had the following compactness scores: Reock 0.38 Polsby-Popper 0.29

Split Counties, Split Cities, and Contiguity

Senate Concept C splits, 4 cities with a greater-than-ideal population, and 21 cities with a less-than-ideal population, and 22 Counties. Senate Concept C has no contiguity issues.

Demographics

District	Adult Hispanic	Adult NA Any	Adult Non-Hispanic White	Native American	Black	Asian	Other	Total
1	19.1%	37.0%	42.2%	32.9%	0.9%	1.1%	3.9%	80.9%
2	23.7%	18.1%	57.0%	14.7%	0.3%	0.6%	3.7%	76.3%
3	14.5%	75.7%	9.4%	71.9%	0.5%	1.5%	2.1%	85.5%
4	19.0%	63.5%	16.7%	60.5%	0.8%	1.0%	2.1%	81.0%
5	55.7%	9.1%	32.6%	6.1%	0.6%	2.5%	2.5%	44.3%
6	50.6%	9.2%	39.6%	5.7%	0.4%	0.8%	3.0%	49.4%
7	40.3%	3.3%	48.4%	0.6%	5.2%	1.6%	3.9%	59.7%
8	60.3%	4.1%	34.8%	1.0%	1.0%	0.7%	2.3%	39.7%
9	36.7%	6.8%	53.2%	3.8%	1.6%	1.5%	3.2%	63.3%
10	40.2%	7.3%	45.9%	3.9%	3.0%	3.1%	3.9%	59.8%
11	79.9%	6.7%	11.3%	3.6%	2.6%	1.0%	1.7%	20.1%
12	68.0%	7.2%	22.6%	3.5%	2.5%	0.8%	2.6%	32.0%
13	51.3%	6.3%	40.0%	3.0%	1.3%	1.4%	3.1%	48.7%
14	76.8%	4.9%	16.7%	2.0%	1.6%	0.9%	2.0%	23.2%
15	37.1%	9.8%	46.6%	6.1%	3.2%	3.1%	3.9%	62.9%
16	30.9%	8.9%	52.0%	5.1%	3.0%	4.3%	4.7%	69.1%
17	46.6%	9.6%	34.2%	6.2%	5.0%	4.2%	3.8%	53.4%
18	31.4%	7.6%	54.2%	4.3%	2.7%	3.2%	4.2%	68.6%
19	26.6%	5.6%	63.3%	2.3%	1.7%	1.9%	4.3%	73.4%
20	25.1%	5.9%	61.1%	3.1%	2.4%	4.0%	4.3%	74.9%
21	26.1%	4.2%	58.8%	2.0%	1.7%	7.6%	3.8%	73.9%
22	13.8%	71.1%	14.7%	68.1%	0.8%	0.8%	1.8%	86.2%
23	46.1%	6.7%	41.3%	3.4%	2.9%	2.5%	3.8%	53.9%
24	59.3%	5.0%	33.4%	1.6%	1.0%	1.7%	3.0%	40.7%
25	36.1%	3.7%	56.9%	1.3%	0.8%	1.8%	3.1%	63.9%
26	50.4%	8.2%	35.6%	5.0%	3.3%	2.8%	3.0%	49.6%
27	45.8%	3.1%	47.8%	0.8%	2.0%	0.9%	2.7%	54.2%
28	53.6%	3.6%	41.4%	0.7%	0.9%	0.7%	2.7%	46.4%
29	59.5%	5.0%	34.6%	1.8%	0.9%	0.4%	2.8%	40.5%

			Adult Non-Hispanic					
District	Adult Hispanic	Adult NA Any	White	Native American	Black	Asian	Other	Total
30	35.9%	33.7%	29.2%	30.7%	1.2%	0.7%	2.3%	64.1%
31	76.8%	2.8%	19.3%	0.7%	1.0%	0.7%	1.6%	23.2%
32	60.7%	3.1%	34.1%	0.7%	1.5%	0.6%	2.4%	39.3%
33	32.0%	11.0%	55.4%	7.6%	0.9%	0.9%	3.2%	68.0%
34	25.1%	3.8%	61.8%	0.9%	4.7%	2.2%	5.4%	74.9%
35	44.8%	4.9%	48.6%	1.4%	0.9%	1.2%	3.1%	55.2%
36	62.5%	4.4%	32.3%	0.8%	1.5%	0.6%	2.3%	37.5%
37	48.7%	4.0%	43.2%	0.8%	2.1%	2.3%	3.0%	51.3%
38	69.1%	3.7%	25.5%	0.6%	1.5%	1.3%	2.0%	30.9%
39	37.4%	4.9%	55.3%	2.0%	0.7%	1.0%	3.6%	62.6%
40	38.0%	6.4%	50.7%	2.9%	2.5%	1.7%	4.1%	62.0%
41	55.4%	3.1%	36.0%	0.7%	4.3%	1.1%	2.6%	44.6%
42	45.2%	3.5%	48.5%	0.8%	1.5%	1.0%	3.0%	54.8%
NM Total	**44.3%**	**11.5%**	**40.5%**	**8.4%**	**1.9%**	**1.8%**	**3.1%**	**55.7%**

Overview of Majority Minority Districts

Majority Minority Districts (VAP)	In This Plan
Adult Hispanic Districts	16
Adult Native American Districts	3
Adult Majority Minority Districts (All other Non-White)	11

Incumbent Pairings

Pairings	Instances	Districts Paired
# Districts paired D-D	1	10 and 13
# Districts paired R-R	2	33/34, 41/42
# Districts paired D-R	0	0

VRA Compliance

Based on public input the Committee's recommended plans respect the Voting Rights Act without resorting to the use of race as a predominant factor. For Native Americans the focus is on the Northwest corner of the State. For State Senate Native American VRA districts based on public

input and prior court decisions are SD3, SD4 and SD22. The target threshold for these districts is a non-Hispanic Native American Voting Age Population (NHNAVAP) greater than 60%. In addition, SD30 with a NHNAVAP of 34.5% is considered an influence district because although Native Americans may not be able to elect a candidate of their choice in this district, they can play a substantial and perhaps decisive role in the election of a candidate in this district. *See Georgia v. Ashcroft, 539 U.S. 461, 482 (2003)*. Judge Hall in 2011 approved Senate Districts 3, 4 and 22 as VRA districts with the NAVAP more than 66%. Senate District 3 was 75.7%, SD 4 was 68.3%, and SD22 was 66.4%. This map, Concept C has SD 3 at 71.9%, SD 4 at 60.5% and SD 22 at 68.1%. For Hispanics the VRA districts based on public input are SD32 and SD41 with a target threshold greater than equal to 55%. The HVAP is 59% and 55% respectively. In 2011 the HVAP for these districts were 55% and 51.5% respectively.

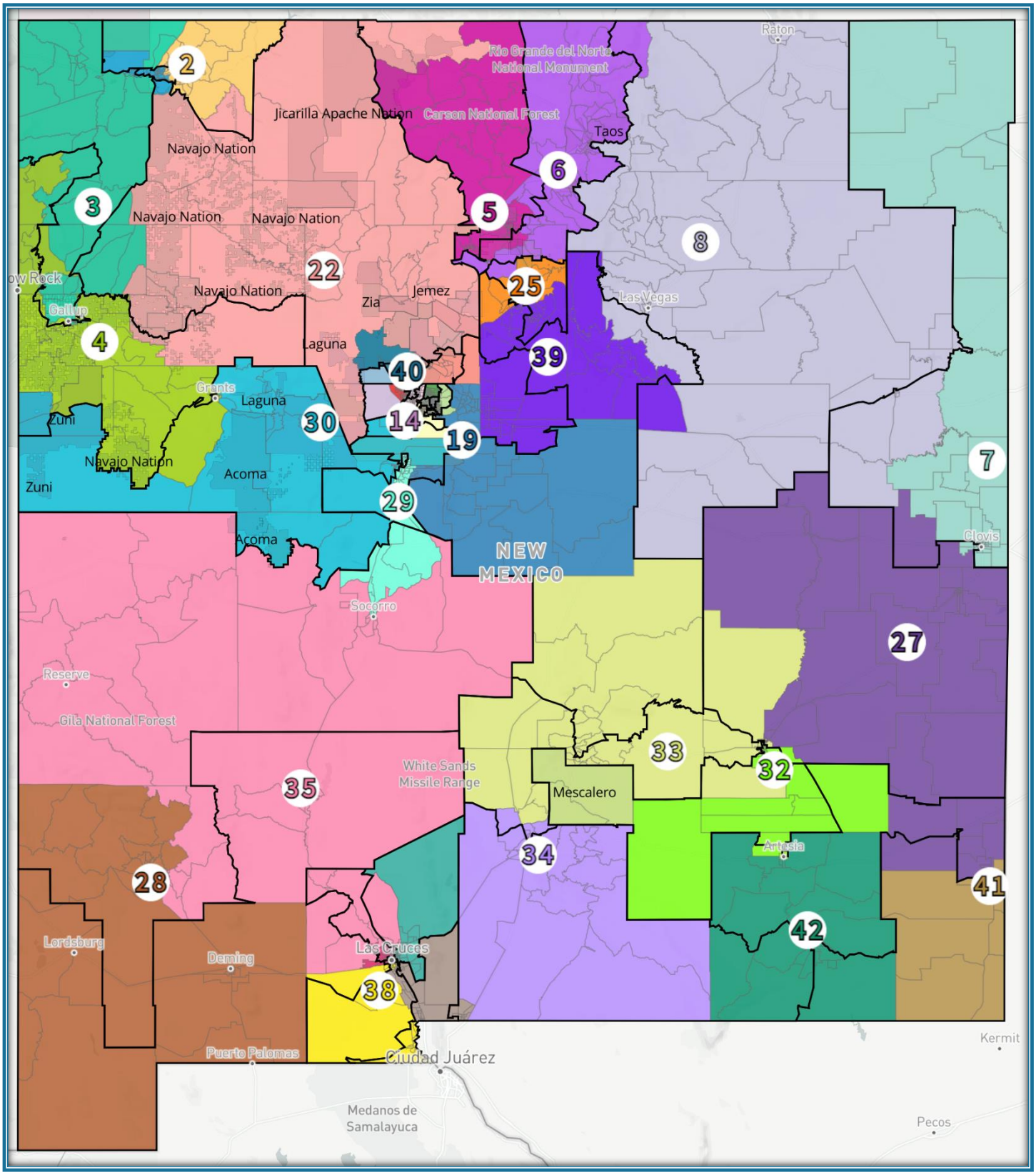
Partisan Fairness

This plan was within all the expected ranges for the six partisan fairness metrics used by Professor Cottrell. See further analysis infra. In addition, the Princeton Gerrymandering Project gave this plan an A for partisan fairness. See https://gerrymander.princeton.edu.

Description of Map Objectives and Development based on public input

- Chaparral/Anthony district does not include Sunland Park, and Chaparral is not split. Sunland Park district goes into Las Cruces.
- Los Alamos County split (status quo) with Los Alamos with Rio Arriba (SD 5) and White Rock with Northern Santa Fe County in Taos District (SD 6).
- This Los Alamos split allows SD 7 and SD 8 (NE NM) to maintain a more status quo orientation, as compared to other concepts the Committee considered.
- Eddy County has a district that stays within the county's boundaries.
- Maintains two majority Hispanic districts: Hobbs-based (55.4%) and Roswell-based (60.7%). Artesia and Hobbs are split. Carlsbad is whole.
- Two Westside Albuquerque districts take on a north/south configuration.

Senate Concept C-1



To view the map in full detail, see previous district boundaries, county boundaries, demographic data, and other data please click or search the following link: **https://districtr.org/plan/67358**

Senate Concept C-1

Adoption

The following Committee members voted to adopt this map: Hon. Lisa Curtis, Joaquin Sanchez, Hon. Michael Sanchez. Robert Rhatigan, and Justice Edward Chávez. The following members voted against the adoption of this map: Ryan Cangiolosi, Christopher Saucedo.

Population and Deviations

Ideal Population Per District	50,417

District	Populations	Deviation	
1	47,068	-3,349	-6.6%
2	47,318	-3,099	-6.1%
3	46,923	-3,494	-6.9%
4	48,552	-1,865	-3.7%
5	51,303	886	1.8%
6	51,634	1,217	2.4%
7	51,837	1,420	2.8%
8	50,938	521	1.0%
9	51,890	1,473	2.9%
10	51,189	772	1.5%
11	51,164	747	1.5%
12	48,454	-1,963	-3.9%
13	49,549	-868	-1.7%
14	49,446	-971	-1.9%
15	51,309	892	1.8%
16	50,018	-399	-0.8%
17	51,271	854	1.7%
18	51,548	1,131	2.2%
19	49,115	-1,302	-2.6%
20	51,178	761	1.5%
21	51,834	1,417	2.8%
22	49,066	-1,351	-2.7%
23	49,028	-1,389	-2.8%
24	51,885	1,468	2.9%
25	51,685	1,268	2.5%
26	51,265	848	1.7%

District	Populations	Deviation	
27	50,838	421	0.8%
28	51,832	1,415	2.8%
29	50,558	141	0.3%
30	48,020	-2,397	-4.8%
31	51,840	1,423	2.8%
32	50,897	480	1.0%
33	51,896	1,479	2.9%
34	48,287	-2,130	-4.2%
35	51,345	928	1.8%
36	51,750	1,333	2.6%
37	51,890	1,473	2.9%
38	51,677	1,260	2.5%
39	50,659	242	0.5%
40	50,678	261	0.5%
41	50,757	340	0.7%
42	48,131	-2,286	-4.5%
NM Total:	**2,117,522**		

Overall Plan Evaluation

Senate Concept C-1 Overall	Mean
Total Deviation	9.9%
Largest Positive Deviation	2.9%
Largest Negative Deviation	-6.9%
Mean Deviation +/-	2.5%
Median Deviation	1.3%
Assigned Population	2,117,522
Unassigned Population	0

Compactness*

Measure of Compactness	Mean
Reock	0.43
Polsby-Popper	0.35

*By comparison the 2011 Court approved maps had the following compactness scores: Reock 0.38 Polsby-Popper 0.29

Split Counties, Split Cities, and Contiguity

Senate Concept C-1 splits; 4 cities with a greater-than-ideal population, and 16 cities with a less-than-ideal population, and 22 Counties. Senate Concept C-1 has no contiguity issues.

Demographics

District	Adult Hispanic	Adult NA Any	Adult Non-Hispanic					
			White	Native American	Black	Asian	Other	Total
1	18.3%	39.2%	40.9%	35.1%	0.8%	1.1%	3.8%	81.7%
2	24.7%	17.3%	56.7%	13.9%	0.3%	0.6%	3.7%	75.3%
3	12.0%	75.3%	12.0%	72.0%	0.5%	1.4%	2.1%	88.0%
4	18.2%	65.7%	15.9%	62.2%	0.7%	1.1%	2.0%	81.8%
5	55.8%	10.6%	31.3%	7.4%	0.6%	2.5%	2.5%	44.2%
6	49.2%	7.8%	41.9%	4.6%	0.4%	0.8%	3.1%	50.8%
7	40.4%	3.3%	48.3%	0.6%	5.2%	1.6%	3.9%	59.6%
8	60.4%	4.0%	34.7%	1.0%	1.0%	0.6%	2.3%	39.6%
9	36.3%	6.6%	53.8%	3.5%	1.7%	1.5%	3.3%	63.7%
10	40.3%	7.3%	45.8%	3.9%	3.0%	3.1%	3.9%	59.7%
11	81.9%	5.7%	11.0%	2.6%	2.2%	0.7%	1.6%	18.1%
12	64.0%	8.0%	25.1%	4.1%	2.9%	1.0%	2.9%	36.0%
13	51.1%	6.2%	40.1%	3.0%	1.3%	1.4%	3.1%	48.9%
14	76.5%	4.9%	16.8%	2.1%	1.6%	1.0%	2.0%	23.5%
15	36.2%	9.7%	47.2%	6.0%	3.4%	3.2%	3.9%	63.8%
16	31.4%	8.9%	51.6%	5.1%	3.0%	4.3%	4.7%	68.6%
17	46.6%	9.6%	34.2%	6.2%	5.0%	4.2%	3.8%	53.4%
18	30.9%	7.4%	55.0%	4.0%	2.5%	3.2%	4.3%	69.1%
19	37.2%	4.9%	54.3%	2.1%	1.4%	1.5%	3.5%	62.8%
20	26.3%	6.2%	59.7%	3.3%	2.6%	3.9%	4.2%	73.7%
21	25.5%	4.2%	59.6%	2.0%	1.7%	7.5%	3.8%	74.5%
22	18.3%	65.5%	16.0%	62.2%	0.8%	0.8%	1.8%	81.7%
23	46.2%	6.7%	41.4%	3.3%	2.8%	2.5%	3.7%	53.8%
24	58.1%	4.9%	34.7%	1.6%	1.0%	1.7%	3.0%	41.9%
25	34.5%	4.2%	58.0%	1.8%	0.7%	1.8%	3.2%	65.5%
26	52.5%	8.4%	33.6%	5.1%	3.2%	2.8%	2.9%	47.5%
27	46.3%	3.1%	47.5%	0.8%	1.9%	0.7%	2.7%	53.7%
28	50.7%	3.5%	44.2%	0.7%	0.9%	0.7%	2.8%	49.3%
29	55.1%	5.4%	38.0%	2.1%	1.0%	0.7%	3.1%	44.9%

			Adult Non-Hispanic					
District	Adult Hispanic	Adult NA Any	White	Native American	Black	Asian	Other	Total
30	37.8%	37.5%	23.5%	34.5%	1.3%	0.6%	2.3%	62.2%
31	78.0%	2.8%	18.4%	0.6%	0.9%	0.6%	1.5%	22.0%
32	60.6%	3.1%	34.2%	0.7%	1.5%	0.6%	2.4%	39.4%
33	32.4%	10.5%	55.3%	7.2%	1.0%	1.1%	3.1%	67.6%
34	25.1%	3.8%	61.8%	0.9%	4.7%	2.2%	5.4%	74.9%
35	47.3%	4.7%	46.8%	1.2%	0.9%	0.9%	3.0%	52.7%
36	63.3%	4.5%	31.4%	0.9%	1.6%	0.6%	2.2%	36.7%
37	48.9%	4.0%	42.9%	0.8%	2.1%	2.3%	3.0%	51.1%
38	67.7%	3.6%	26.7%	0.7%	1.5%	1.4%	2.1%	32.3%
39	35.7%	4.6%	57.3%	1.3%	0.8%	0.9%	4.0%	64.3%
40	37.6%	6.3%	51.1%	2.9%	2.5%	1.8%	4.1%	62.4%
41	55.6%	3.1%	35.7%	0.7%	4.4%	1.1%	2.5%	44.4%
42	45.2%	3.5%	48.5%	0.8%	1.5%	1.0%	3.0%	54.8%
NM Total	**44.3%**	**11.5%**	**40.5%**	**8.4%**	**1.9%**	**1.8%**	**3.1%**	**55.7%**

Overview of Majority Minority Districts

Majority Minority Districts (VAP)	In This Plan
Adult Hispanic Districts	15
Adult Native American Districts	3
Adult Majority Minority Districts (All other Non-White)	12

Incumbent Pairings

Pairings	Instances	Districts Paired
# Districts paired D-D	1	10 and 13
# Districts paired R-R	3	29/30, 33/34, 41/42
# Districts paired D-R	0	0

VRA Compliance

Based on public input the Committee's recommended plans respect the Voting Rights Act without resorting to the use of race as a predominant factor. For Native Americans the focus is on the

Northwest corner of the State. For State Senate Native American VRA districts based on public input and prior court decisions are SD3, SD4 and SD22. The target threshold for these districts is a non-Hispanic Native American Voting Age Population (NHNAVAP) greater than 60%. In addition, SD30 with a NHNAVAP of 34.5% is considered an influence district because although Native Americans may not be able to elect a candidate of their choice in this district, they can play a substantial and perhaps decisive role in the election of a candidate in this district. *See Georgia v. Ashcroft, 539 U.S. 461, 482 (2003)*. Judge Hall in *Egolf v. Duran* D-101-CV-2011-02942 approved Senate Districts 3, 4 and 22 as VRA districts with the NAVAP more than 66%. Senate District 3 was 75.7%, SD 4 was 68.3%, and SD22 was 66.4%. *See Findings of Fact*, 33-45, 49, *Conclusions* 33, 36. This map, Concept A-1 has SD 3 at 71.9%, SD 4 at 60.5% and SD 22 at 68.1%.
Judge Hall in *Egolf v. Duran* D-101-CV-2011-02942 approved seventeen Senate Districts with a Hispanic VAP over 50%. *See Finding of Fact* 54. For Hispanics the VRA districts based on public input are SD32 and SD41 with a target threshold greater than equal to 55%. The HVAP is 60.7% and 55.4% respectively. In 2011 the HVAP for these districts were 55% and 51.5% respectively.

Partisan Fairness

This plan was within the expected ranges for the six partisan fairness metrics used by Professor Cottrell except the mean-median metric. See further analysis infra. In addition, the Princeton Gerrymandering Project gave this plan an A for partisan fairness. See https://gerrymander.princeton.edu.

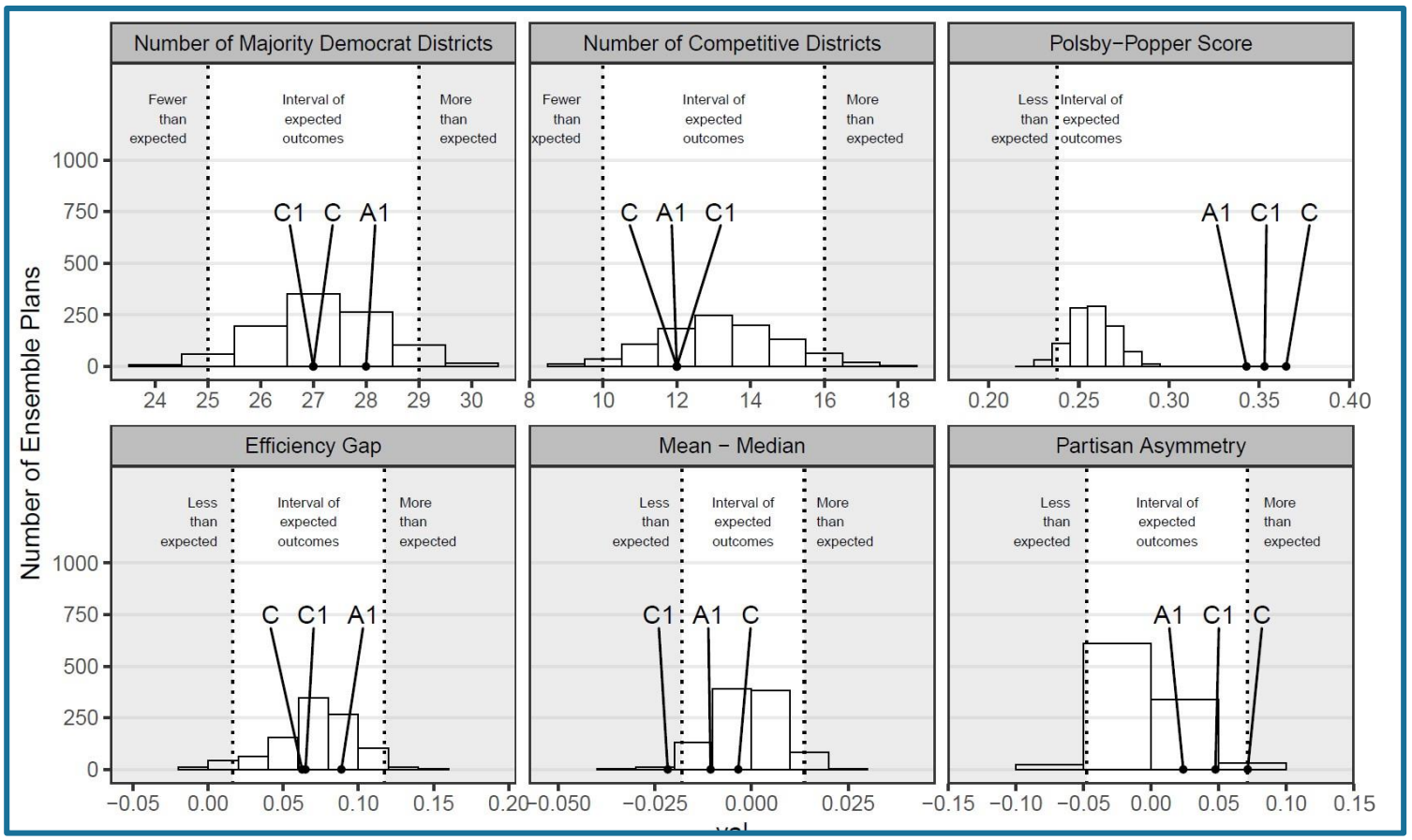
Description of Map Objectives and Development based on public input

- This map is based on Senate map concept C.
- Chaparral/Anthony district does not include Sunland Park, and Chaparral is not split. Sunland Park district goes into Las Cruces.
- Los Alamos County split (status quo) with Los Alamos with Rio Arriba (SD 5) and White Rock with Northern Santa Fe County in Taos District (SD 6).
- This Los Alamos split allows SD 7 and SD 8 (NE NM) to maintain a more status quo orientation, as compared to Concept B that was considered by the Committee.
- Eddy County has a district that stays within the county's boundaries.
- Maintains two majority Hispanic districts: Hobbs-based (55.4%) and Roswell-based (60.7%). Artesia and Hobbs are split. Carlsbad is whole.
- Two Westside Albuquerque districts take on a north/south configuration.

EVALUATIONS OF PARTISAN FAIRNESS OF CRC'S SENATE PLANS

The results for the concept maps for state Senate are plotted in Figure 3. Again, the concept maps tend to fall within expected ranges on each of the metrics. They produce similar numbers of Democratic seats and competitive seats. They are also more compact than all the ensemble plans. The only outcome in the shaded region is Senate plan C on the mean-median score. According to that measure, it has an unusually strong Democratic bias. However, it is well within the expected range for other measures, producing a similar number of Democratic seats as the ensemble plans.

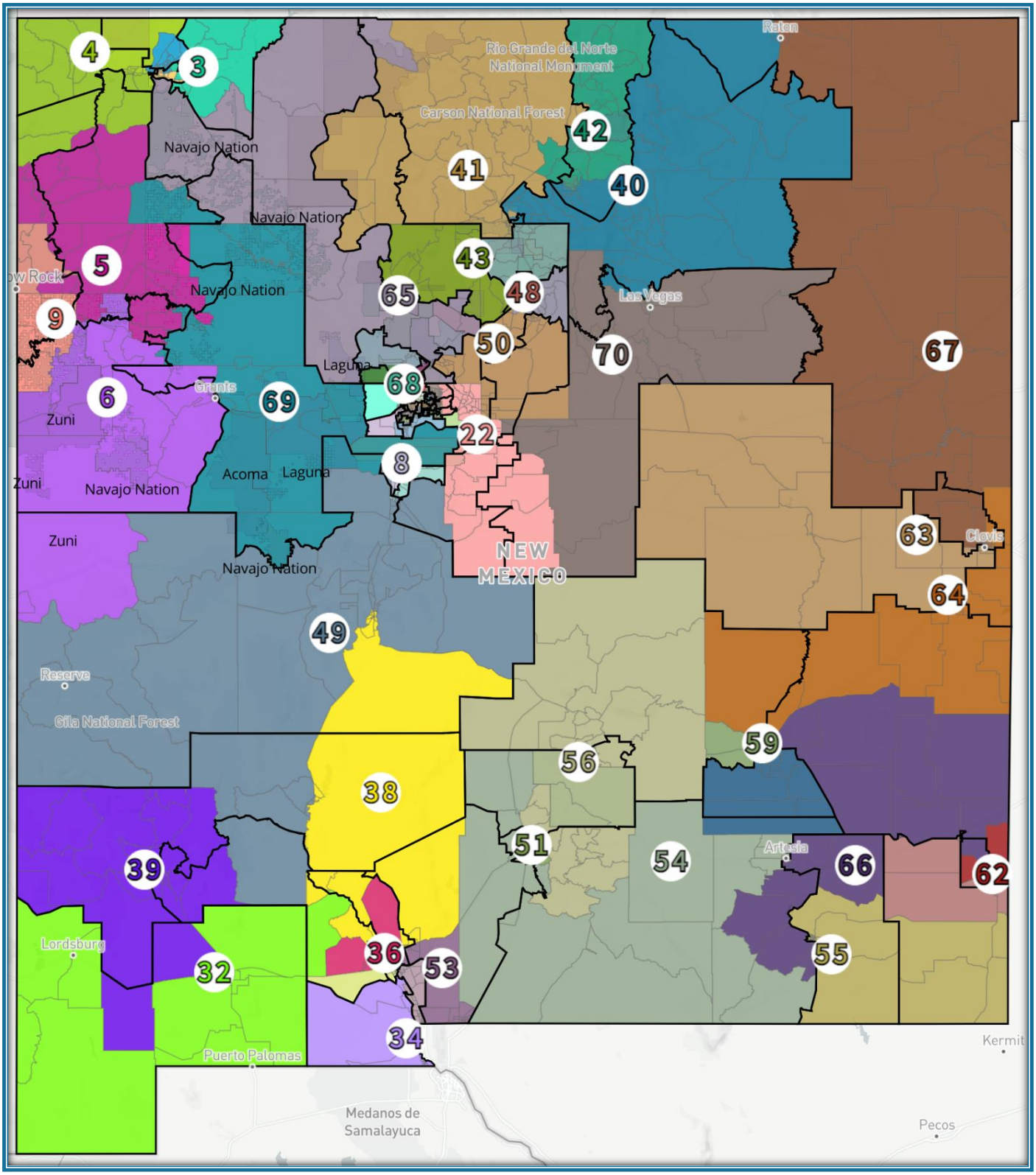
Figure 3



(Dr. Cottrell's ensemble analysis of the Committee's adopted Senate district plans)

STATE HOUSE DISTRICT PLANS

House Concept E-1 (Acequias Modification of Concept E, ID: p5656 in Districtr).



To view the map in full detail, see previous district boundaries, county boundaries, demographic data, and other data please click or search the following link: **https://districtr.org/plan/73819**

House Concept E-1 (Modified by NM Acequia Association)

Adoption

The following Committee members voted to adopt this map: Hon. Lisa Curtis, Robert Rhatigan, Joaquín Sanchez, Hon. Michael Sanchez, and Justice Edward Chávez. The following member(s) voted against the adoption of this map: Ryan Cangiolosi, and Christopher Saucedo.

Population and Deviations

Ideal Population Per District	30,250

District	Populations	Deviation	
1	28,336	-1,914	-6.3%
2	28,368	-1,882	-6.2%
3	28,323	-1,927	-6.4%
4	28,414	-1,836	-6.1%
5	28,339	-1,911	-6.3%
6	28,256	-1,994	-6.6%
7	29,884	-366	-1.2%
8	29,879	-371	-1.2%
9	28,293	-1,957	-6.5%
10	30,784	534	1.8%
11	30,889	639	2.1%
12	30,913	663	2.2%
13	31,134	884	2.9%
14	29,568	-682	-2.3%
15	31,025	775	2.6%
16	30,663	413	1.4%
17	30,908	658	2.2%
18	31,064	814	2.7%
19	30,681	431	1.4%
20	30,929	679	2.2%
21	30,064	-186	-0.6%
22	30,777	527	1.7%
23	30,538	288	1.0%
24	30,954	704	2.3%
25	29,618	-632	-2.1%
26	31,095	845	2.8%

District	Populations	Deviation	
27	30,863	613	2.0%
28	31,014	764	2.5%
29	30,902	652	2.2%
30	31,218	968	3.2%
31	30,286	36	0.1%
32	30,541	291	1.0%
33	30,955	705	2.3%
34	30,343	93	0.3%
35	30,440	190	0.6%
36	30,547	297	1.0%
37	29,783	-467	-1.5%
38	30,164	-86	-0.3%
39	29,677	-573	-1.9%
40	30,534	284	0.9%
41	30,835	585	1.9%
42	29,307	-943	-3.1%
43	29,547	-703	-2.3%
44	30,924	674	2.2%
45	29,916	-334	-1.1%
46	30,811	561	1.9%
47	29,895	-355	-1.2%
48	30,197	-53	-0.2%
49	29,367	-883	-2.9%
50	30,228	-22	-0.1%
51	31,056	806	2.7%
52	30,162	-88	-0.3%
53	31,043	793	2.6%
54	30,532	282	0.9%
55	30,586	336	1.1%
56	31,101	851	2.8%
57	30,541	291	1.0%
58	29,755	-495	-1.6%
59	30,586	336	1.1%
60	30,785	535	1.8%
61	30,783	533	1.8%

District	Populations	Deviation	
62	31,011	761	2.5%
63	30,617	367	1.2%
64	31,054	804	2.7%
65	29,264	-986	-3.3%
66	30,832	582	1.9%
67	31,028	778	2.6%
68	30,880	630	2.1%
69	28,309	-1,941	-6.4%
70	29,607	-643	-2.1%
NM Total:	**2,117,522**		

Overall Plan Evaluation

House Concept E-1 Overall	Mean
Total Deviation	9.8%
Largest Positive Deviation	3.2%
Largest Negative Deviation	-6.6%
Mean Deviation +/-	2.3%
Median Deviation	1.0%
Assigned Population	2,117,522
Unassigned Population	0

Compactness*

Measure of Compactness	Mean
Reock	0.42
Polsby-Popper	0.34

*By comparison the 2011 Court approved maps had the following compactness scores: Reock 0.39.7 Polsby-Popper 0.31.9

Split Counties, Split Cities, and Contiguity

House Concept E-1 splits 10 cities with a greater-than-ideal population, and 24 cities with a less-than-ideal population, and 24 Counties. House Concept E-1 has no contiguity issues.

Demographics

			Adult Non-Hispanic					
District	Adult Hispanic	Adult NA Any	White	Native American	Black	Asian	Other	Total
1	19.9%	23.0%	55.2%	19.2%	0.6%	1.0%	4.2%	80.1%
2	23.0%	31.7%	43.6%	27.8%	0.9%	1.0%	3.7%	77.0%
3	25.8%	16.6%	56.4%	13.4%	0.3%	0.5%	3.6%	74.2%
4	4.9%	80.7%	14.3%	77.8%	0.2%	0.6%	2.1%	95.1%

			Adult Non-Hispanic					
District	Adult Hispanic	Adult NA Any	White	Native American	Black	Asian	Other	Total
5	8.9%	81.7%	8.5%	78.9%	0.5%	1.5%	1.8%	91.1%
6	15.8%	63.3%	20.9%	60.4%	0.5%	0.6%	1.7%	84.2%
7	64.8%	4.9%	29.9%	1.6%	0.7%	0.3%	2.7%	35.2%
8	52.6%	6.1%	39.7%	2.8%	1.3%	0.6%	2.9%	47.4%
9	18.3%	70.9%	10.4%	66.3%	0.8%	1.8%	2.3%	81.7%
10	69.4%	4.4%	22.9%	1.6%	2.8%	0.9%	2.5%	30.6%
11	50.8%	9.4%	36.7%	5.4%	2.2%	1.3%	3.5%	49.2%
12	83.3%	4.5%	11.9%	1.7%	1.1%	0.5%	1.5%	16.7%
13	77.3%	6.6%	12.9%	3.5%	2.9%	1.5%	1.9%	22.7%
14	70.4%	6.6%	20.7%	2.9%	2.5%	0.9%	2.6%	29.6%
15	49.4%	6.7%	40.4%	3.5%	1.6%	2.0%	3.1%	50.6%
16	58.4%	7.1%	30.3%	3.9%	2.8%	1.9%	2.7%	41.6%
17	39.3%	9.0%	44.0%	5.8%	3.5%	3.7%	3.7%	60.7%
18	30.2%	8.7%	52.2%	5.0%	3.0%	4.9%	4.7%	69.8%
19	48.5%	11.7%	32.4%	7.8%	5.2%	2.3%	3.7%	51.5%
20	30.3%	6.8%	52.8%	3.9%	3.5%	5.5%	3.9%	69.7%
21	42.4%	8.1%	40.9%	4.8%	3.6%	4.3%	4.1%	57.6%
22	26.7%	4.1%	66.7%	1.1%	0.6%	0.9%	3.9%	73.3%
23	32.8%	5.8%	57.9%	2.6%	1.6%	1.6%	3.6%	67.2%
24	33.3%	7.3%	53.1%	3.8%	2.7%	3.0%	4.1%	66.7%
25	38.5%	9.3%	46.1%	5.3%	2.9%	3.0%	4.1%	61.5%
26	68.5%	8.3%	18.9%	5.0%	3.4%	1.9%	2.3%	31.5%
27	26.2%	5.4%	61.0%	3.0%	1.7%	4.3%	3.7%	73.8%
28	26.2%	5.9%	60.9%	2.8%	2.3%	3.5%	4.4%	73.8%
29	46.4%	6.7%	41.7%	3.5%	2.6%	2.2%	3.5%	53.6%
30	30.9%	9.3%	52.5%	5.9%	3.3%	3.4%	4.0%	69.1%
31	20.5%	2.8%	63.2%	0.9%	1.4%	10.0%	4.0%	79.5%
32	61.9%	3.0%	34.0%	0.5%	0.7%	0.6%	2.2%	38.1%
33	53.4%	4.4%	38.1%	1.1%	2.4%	2.0%	2.9%	46.6%
34	85.0%	2.6%	13.1%	0.2%	0.4%	0.3%	1.1%	15.0%

			Adult Non-Hispanic					
District	Adult Hispanic	Adult NA Any	White	Native American	Black	Asian	Other	Total
35	63.5%	4.9%	30.9%	1.0%	1.6%	0.7%	2.3%	36.5%
36	57.5%	4.0%	37.3%	0.6%	1.3%	0.9%	2.4%	42.5%
37	50.4%	4.0%	41.3%	0.8%	2.5%	2.3%	2.8%	49.6%
38	54.3%	5.1%	38.7%	1.7%	0.9%	1.4%	3.0%	45.7%
39	44.1%	4.1%	50.3%	0.9%	1.0%	0.7%	3.1%	55.9%
40	66.3%	4.8%	29.1%	1.7%	0.4%	0.5%	2.1%	33.7%
41	62.2%	12.7%	25.2%	9.2%	0.5%	0.6%	2.2%	37.8%
42	47.9%	9.1%	42.3%	5.7%	0.4%	0.6%	3.2%	52.1%
43	33.6%	3.6%	56.5%	1.1%	0.7%	4.5%	3.6%	66.4%
44	34.2%	5.9%	55.1%	2.7%	2.0%	2.1%	3.8%	65.8%
45	57.3%	4.9%	35.4%	1.7%	1.0%	2.1%	2.6%	42.7%
46	44.6%	9.3%	45.0%	6.0%	0.6%	1.0%	2.9%	55.4%
47	24.7%	3.6%	67.6%	1.0%	0.7%	2.3%	3.7%	75.3%
48	54.8%	4.9%	37.6%	1.7%	1.1%	1.5%	3.3%	45.2%
49	41.9%	5.2%	51.4%	1.7%	0.9%	0.6%	3.4%	58.1%
50	24.3%	4.0%	68.6%	1.2%	1.0%	0.8%	4.1%	75.7%
51	28.8%	3.9%	57.3%	0.9%	5.4%	2.5%	5.1%	71.2%
52	71.7%	2.7%	24.4%	0.4%	0.8%	1.1%	1.6%	28.3%
53	64.5%	3.1%	29.2%	0.8%	1.7%	1.5%	2.3%	35.5%
54	37.3%	4.0%	52.8%	1.1%	2.6%	1.4%	4.7%	62.7%
55	41.4%	3.2%	52.5%	0.7%	1.0%	1.1%	3.2%	58.6%
56	23.5%	14.5%	61.3%	10.8%	0.4%	0.5%	3.5%	76.5%
57	41.3%	7.2%	46.1%	3.8%	3.2%	1.9%	3.8%	58.7%
58	66.0%	2.8%	29.4%	0.6%	1.8%	0.4%	1.9%	34.0%
59	42.3%	3.5%	50.6%	0.8%	1.7%	1.7%	2.9%	57.7%
60	42.1%	6.3%	46.2%	2.9%	2.4%	2.4%	4.0%	57.9%
61	70.1%	2.7%	22.4%	0.6%	4.6%	0.6%	1.7%	29.9%
62	44.0%	3.4%	46.9%	1.0%	3.7%	1.6%	2.8%	56.0%
63	58.9%	3.2%	32.4%	0.7%	4.6%	0.8%	2.6%	41.1%
64	29.0%	3.1%	61.1%	0.7%	3.3%	1.8%	4.1%	71.0%

			Adult Non-Hispanic					
District	Adult Hispanic	Adult NA Any	White	Native American	Black	Asian	Other	Total
65	25.6%	67.9%	8.4%	63.9%	0.3%	0.4%	1.4%	74.4%
66	51.9%	3.6%	42.1%	0.9%	1.9%	0.5%	2.7%	48.1%
67	38.0%	3.9%	53.9%	0.7%	2.8%	1.0%	3.6%	62.0%
68	44.5%	7.1%	42.3%	3.7%	3.1%	2.6%	3.8%	55.5%
69	20.5%	65.4%	13.2%	62.4%	0.8%	0.7%	2.3%	79.5%
70	68.5%	4.1%	26.4%	1.2%	1.0%	0.5%	2.4%	31.5%
NM Total	**44.3%**	**8.0%**	**40.5%**	**8.4%**	**1.9%**	**1.8%**	**3.1%**	**55.7%**

Overview of Majority Minority Districts

Majority Minority Districts (VAP)	In This Plan
Adult Hispanic Districts	27
Adult Native American Districts	6
Adult Majority Minority Districts (All other Non-White)	13

Incumbent Pairings

Pairings	Instances	Districts Paired
# Districts paired D-D	0	0
# Districts paired R-R	2	38/49, 59/66
# Districts paired D-R	2	23/44, 15/31

VRA Compliance

The Committee's recommended plans respect the Voting Rights Act without resorting to the use of race as a predominant factor. For Native Americans the focus is on the Northwest corner of the State with House Districts, 4, 5, 6, 9, 65 and 69 being considered VRA districts based on public input and past court decisions. The target threshold is a NHNAVAP greater than 60% for HD4, HD5, HD6, HD9, HD65 and HD69 to give the Native American population a reasonable opportunity to elect a representative of their choice. The NHNAVAPs for these districts are 77.8%,78.9%, 60.4%, 66.3%, 63.9% and 62.4%, respectively. In 2011 the NHNAVAP for these districts were 70.2%, 73.8%, 63.0%, 66.3%, 63.7%, and 62.1%, respectively.
For Hispanics the House VRA Districts based on public input and R&P Ecological Inference tests are House Districts 53, 58, 61 and 63 in the southeastern New Mexico region. The target threshold for these districts was set at equal to or greater than 60%. House District 53 has a HVAP of 64.5%, HD 58 has a HVAP of 66.0%, HD 61 has a HVAP of 70.1% and HD63 has a HVAP of 58.9%. In 2011 the HVAPs were 55.1%, 62.2%, 57.6% and 57.0%, respectively.

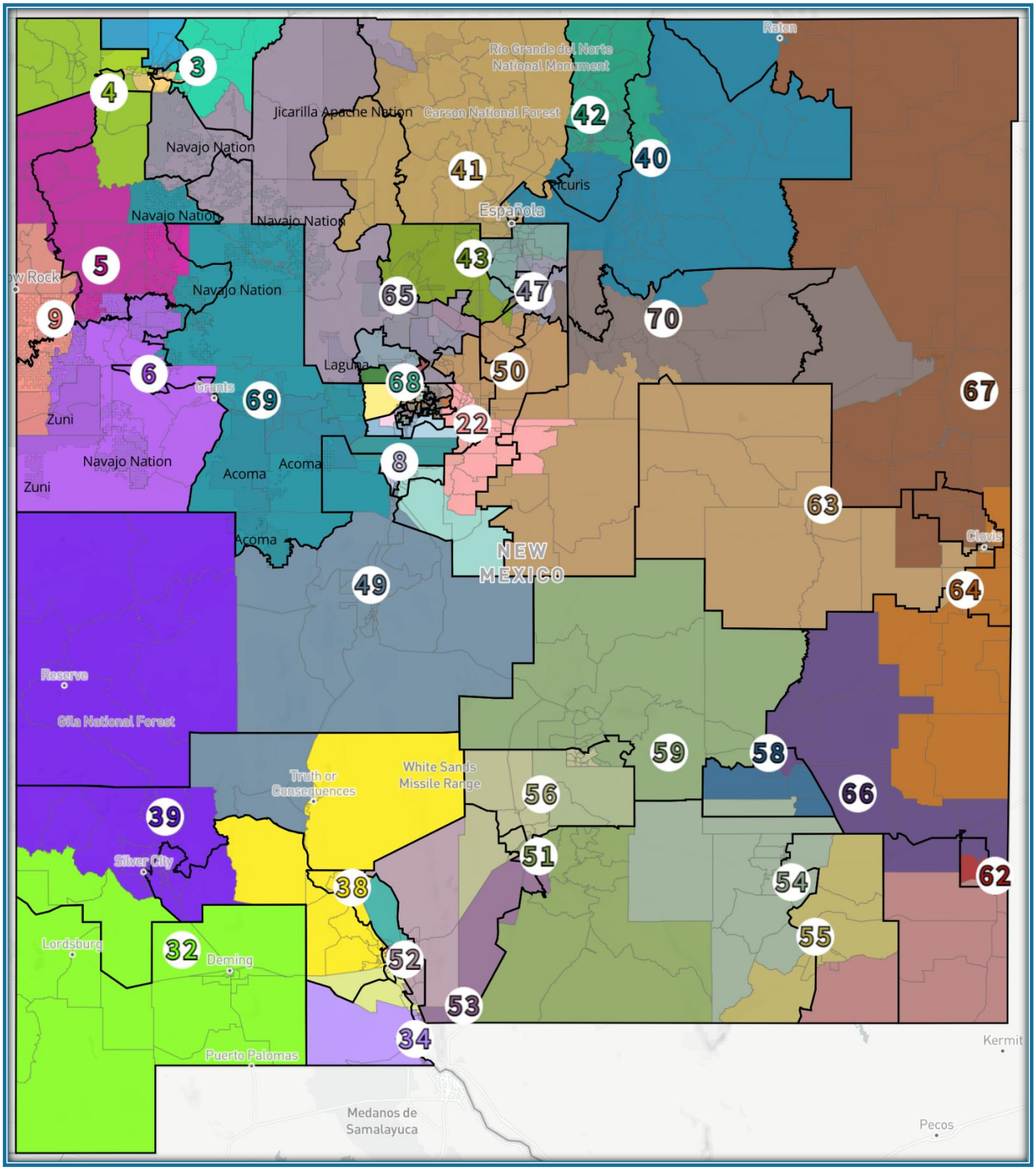
Partisan Fairness

This plan was within all the expected ranges for the six partisan fairness metrics used by Professor Cottrell. See further analysis infra. In addition, the Princeton Gerrymandering Project gave this plan an A for partisan fairness. See https://gerrymander.princeton.edu.

Description of Map Objectives and Development

- This map is based on version of house map concept E, that was modified by the NM Acequia Association.
- House District 70 is adjusted by keeping the east side of San Miguel County in District 70 (including the area of Las Vegas east of Grand Avenue).
- Returns some precincts in the Raton area to the northeastern/eastern House district.
- To offset that loss of population, this map picks up one precinct in Taos and puts three San Miguel precincts (which are currently in District 40) back into the district: Montezuma, Sapello, and Rociada.
- By restoring some precincts that are currently in District 40 and District 70, this map better retains the status quo while adjusting the districts to account for population loss in the area. This is accomplished with modest adjustments to precincts in neighboring districts on the west side of the district (Rio Arriba, Taos) and southern boundary (San Miguel).
- Chair, Justice Edward Chávez re-worked this map to include feedback from the New Mexico Acequia Association.
- They expressed the concern that Concept E changes the character of district 40 by adding a substantial population center from the northeastern plains to District 40. Doing so dilutes the influence of acequia/rural/mountain communities in District 40. The modification also avoids splitting the City of Las Vegas at Grand Avenue and putting the east side of Grand Avenue into the district dominated by Clovis. The modification keeps a substantial part of a small-town population in Las Vegas, thereby avoiding the weakening of District 70.

House Concept I-1
(Integrating Pueblo Consensus with CRC member request)



To view the map in full detail, see previous district boundaries, county boundaries, demographic data, and other data please click or search the following link: **https://districtr.org/plan/67300**

House Concept I-1 (Concept D integrating Pueblo Consensus NW region with CRC member request)

Adoption

The following Committee members voted to adopt this map: Hon. Lisa Curtis, Robert Rhatigan, Joaquín Sanchez, Hon. Michael Sanchez, and Justice Edward Chávez. The following member(s) voted against the adoption of this map: Ryan Cangiolosi, and Christopher Saucedo.

Population and Deviations

Ideal Population Per District	30,250

District	Populations	Deviation	
1	28,261	-1,989	-6.6%
2	28,138	-2,112	-7.0%
3	28,323	-1,927	-6.4%
4	28,168	-2,082	-6.9%
5	28,393	-1,857	-6.1%
6	28,889	-1,361	-4.5%
7	31,110	860	2.8%
8	30,331	81	0.3%
9	28,182	-2,068	-6.8%
10	31,080	830	2.7%
11	31,137	887	2.9%
12	30,900	650	2.1%
13	30,205	-45	-0.1%
14	30,711	461	1.5%
15	30,971	721	2.4%
16	29,264	-986	-3.3%
17	30,356	106	0.4%
18	30,717	467	1.5%
19	31,075	825	2.7%
20	30,967	717	2.4%
21	30,882	632	2.1%
22	30,619	369	1.2%
23	30,335	85	0.3%
24	31,066	816	2.7%
25	31,032	782	2.6%

District	Populations	Deviation	
26	30,799	549	1.8%
27	30,951	701	2.3%
28	31,015	765	2.5%
29	29,873	-377	-1.2%
30	30,625	375	1.2%
31	31,151	901	3.0%
32	30,368	118	0.4%
33	30,991	741	2.4%
34	31,001	751	2.5%
35	30,714	464	1.5%
36	30,908	658	2.2%
37	30,978	728	2.4%
38	31,004	754	2.5%
39	31,001	751	2.5%
40	29,130	-1,120	-3.7%
41	30,862	612	2.0%
42	30,879	629	2.1%
43	31,162	912	3.0%
44	30,329	79	0.3%
45	30,777	527	1.7%
46	30,783	533	1.8%
47	31,115	865	2.9%
48	30,908	658	2.2%
49	29,308	-942	-3.1%
50	30,260	10	0.0%
51	30,664	414	1.4%
52	30,701	451	1.5%
53	30,783	533	1.8%
54	30,713	463	1.5%
55	31,050	800	2.6%
56	30,972	722	2.4%
57	31,127	877	2.9%
58	30,415	165	0.5%
59	29,743	-507	-1.7%
60	31,105	855	2.8%

District	Populations	Deviation	
61	28,907	-1,343	-4.4%
62	30,277	27	0.1%
63	29,701	-549	-1.8%
64	29,241	-1,009	-3.3%
65	28,458	-1,792	-5.9%
66	29,076	-1,174	-3.9%
67	28,925	-1,325	-4.4%
68	29,069	-1,181	-3.9%
69	29,211	-1,039	-3.4%
70	29,380	-870	-2.9%
NM Total:	**2,117,522**		

Overall Plan Evaluation

House Concept I-1 Overall	Mean
Total Deviation	10.0%
Largest Positive Deviation	3.0%
Largest Negative Deviation	-7.0%
Mean Deviation +/-	2.6%
Median Deviation	1.5%
Assigned Population	2,117,522
Unassigned Population	0

Compactness*

Measure of Compactness	Mean
Reock	0.41
Polsby-Popper	0.35

*By comparison the 2011 Court approved maps had the following compactness scores: Reock 0.39.7 Polsby-Popper 0.31.9

Split Counties, Split Cities, and Contiguity

House Concept I-1 splits 10 cities with a greater-than-ideal population, and 24 cities with a less-than-ideal population, and 24 Counties. House Concept I-1 has no contiguity issues.

Demographics

District	Adult Hispanic	Adult NA Any	White	Native American	Black	Asian	Other	Total
1	18.9%	19.6%	59.6%	15.5%	0.5%	1.1%	4.3%	81.1%
2	21.7%	35.5%	41.8%	31.5%	0.7%	0.7%	3.7%	78.3%

			Adult Non-Hispanic					
District	Adult Hispanic	Adult NA Any	White	Native American	Black	Asian	Other	Total
3	25.8%	16.6%	56.4%	13.4%	0.3%	0.5%	3.6%	74.2%
4	7.5%	79.6%	12.1%	76.9%	0.6%	0.9%	2.0%	92.5%
5	13.4%	73.9%	11.5%	70.4%	0.7%	1.8%	2.3%	86.6%
6	16.2%	65.0%	18.7%	62.1%	0.6%	0.8%	1.7%	83.8%
7	58.1%	4.7%	36.0%	1.6%	1.0%	0.4%	2.9%	41.9%
8	53.0%	5.9%	39.3%	2.8%	1.3%	0.7%	2.8%	47.0%
9	13.5%	79.3%	7.3%	75.5%	0.6%	1.3%	1.8%	86.5%
10	74.3%	4.4%	20.0%	1.7%	1.5%	0.6%	2.0%	25.7%
11	52.8%	7.3%	37.5%	3.4%	1.7%	1.1%	3.6%	47.2%
12	84.4%	4.9%	10.4%	2.0%	1.4%	0.6%	1.2%	15.6%
13	76.8%	6.9%	13.3%	3.6%	2.9%	1.4%	2.0%	23.2%
14	63.3%	8.4%	23.9%	4.6%	3.3%	1.8%	3.0%	36.7%
15	47.4%	5.8%	43.1%	2.7%	1.2%	2.4%	3.1%	52.6%
16	53.5%	7.7%	32.6%	4.7%	3.7%	2.8%	2.7%	46.5%
17	41.7%	8.3%	43.8%	5.0%	2.9%	3.0%	3.5%	58.3%
18	28.8%	7.7%	54.4%	4.0%	3.6%	4.3%	5.0%	71.2%
19	48.9%	11.8%	31.9%	7.8%	5.1%	2.5%	3.7%	51.1%
20	29.7%	7.7%	53.5%	4.7%	3.6%	4.4%	4.1%	70.3%
21	42.8%	7.4%	40.4%	4.1%	3.5%	5.2%	3.9%	57.2%
22	28.5%	4.9%	63.9%	1.5%	0.9%	1.0%	4.3%	71.5%
23	35.4%	6.3%	53.8%	3.0%	2.0%	1.9%	3.9%	64.6%
24	33.1%	7.4%	53.1%	3.9%	2.9%	2.9%	4.1%	66.9%
25	40.1%	10.7%	43.2%	6.8%	3.1%	2.9%	4.0%	59.9%
26	76.6%	7.2%	13.6%	4.1%	2.6%	1.3%	1.9%	23.4%
27	28.6%	5.3%	58.6%	2.8%	2.0%	4.5%	3.6%	71.4%
28	26.9%	6.0%	60.2%	2.7%	2.1%	3.7%	4.5%	73.1%
29	47.2%	6.7%	40.7%	3.3%	2.8%	2.3%	3.7%	52.8%
30	29.3%	9.7%	53.6%	6.3%	3.3%	3.5%	4.1%	70.7%
31	18.5%	3.0%	65.9%	1.2%	1.4%	9.1%	3.9%	81.5%
32	58.2%	3.1%	37.4%	0.5%	0.8%	0.6%	2.4%	41.8%

			Adult Non-Hispanic					
District	Adult Hispanic	Adult NA Any	White	Native American	Black	Asian	Other	Total
33	58.2%	3.8%	36.1%	0.9%	1.5%	1.1%	2.2%	41.8%
34	87.5%	2.6%	10.7%	0.2%	0.4%	0.2%	0.9%	12.5%
35	62.9%	5.2%	28.5%	1.3%	2.7%	1.7%	2.8%	37.1%
36	59.7%	4.1%	34.8%	0.7%	1.5%	0.9%	2.4%	40.3%
37	51.4%	4.1%	40.4%	0.8%	2.3%	2.2%	3.0%	48.6%
38	46.9%	4.1%	48.4%	0.6%	0.7%	0.7%	2.6%	53.1%
39	41.0%	4.1%	53.2%	1.0%	0.9%	0.6%	3.2%	59.0%
40	67.8%	4.8%	27.8%	1.5%	0.4%	0.4%	2.0%	32.2%
41	65.8%	13.5%	21.3%	9.8%	0.5%	0.6%	2.0%	34.2%
42	43.1%	8.1%	47.5%	5.0%	0.4%	0.7%	3.3%	56.9%
43	33.6%	4.0%	56.2%	1.4%	0.9%	4.2%	3.7%	66.4%
44	31.5%	6.3%	57.3%	3.1%	2.1%	2.3%	3.8%	68.5%
45	56.4%	4.8%	36.1%	1.7%	0.9%	2.0%	2.9%	43.6%
46	53.6%	8.1%	37.7%	4.8%	0.5%	1.0%	2.4%	46.4%
47	26.3%	5.0%	64.6%	2.4%	0.8%	2.1%	3.8%	73.7%
48	50.0%	4.6%	42.7%	1.5%	1.1%	1.6%	3.2%	50.0%
49	55.2%	6.1%	37.2%	2.4%	0.7%	1.3%	3.2%	44.8%
50	19.4%	3.8%	73.9%	1.0%	0.7%	0.9%	4.2%	80.6%
51	26.9%	3.8%	60.5%	0.9%	4.6%	2.1%	5.0%	73.1%
52	52.3%	3.6%	40.4%	0.7%	1.7%	2.0%	2.8%	47.7%
53	73.8%	2.7%	21.6%	0.8%	1.3%	0.7%	1.8%	26.2%
54	50.5%	3.4%	43.9%	0.8%	1.1%	0.6%	3.1%	49.5%
55	41.7%	3.6%	51.2%	0.9%	1.7%	1.3%	3.1%	58.3%
56	25.5%	15.4%	54.8%	11.5%	2.3%	1.3%	4.6%	74.5%
57	42.4%	7.0%	45.4%	3.5%	3.0%	1.8%	3.9%	57.6%
58	66.1%	3.0%	28.8%	0.6%	2.0%	0.4%	2.0%	33.9%
59	35.5%	3.5%	58.3%	0.8%	1.1%	1.1%	3.2%	64.5%
60	38.6%	6.1%	49.7%	2.9%	2.6%	2.4%	3.8%	61.4%
61	66.6%	2.8%	25.7%	0.7%	4.6%	0.4%	2.1%	33.4%
62	44.1%	3.4%	46.8%	1.0%	3.8%	1.6%	2.8%	55.9%

			Adult Non-Hispanic					
District	Adult Hispanic	Adult NA Any	White	Native American	Black	Asian	Other	Total
63	60.9%	3.0%	31.9%	0.6%	3.3%	0.7%	2.6%	39.1%
64	29.6%	3.1%	60.1%	0.8%	3.5%	1.8%	4.2%	70.4%
65	26.2%	67.1%	8.5%	63.2%	0.3%	0.4%	1.3%	73.8%
66	51.3%	3.0%	43.6%	0.6%	1.4%	1.1%	2.1%	48.7%
67	35.3%	3.7%	54.9%	0.7%	4.2%	1.2%	3.7%	64.7%
68	43.4%	7.1%	43.3%	3.8%	3.1%	2.5%	3.9%	56.6%
69	20.6%	65.1%	13.6%	62.2%	0.7%	0.6%	2.3%	79.4%
70	68.9%	3.8%	26.3%	1.0%	1.1%	0.5%	2.3%	31.1%
NM Total	**44.3%**	**8.0%**	**40.5%**	**8.4%**	**1.9%**	**1.8%**	**3.1%**	**55.7%**

Overview of Majority Minority Districts

Majority Minority Districts (VAP)	In This Plan
Adult Hispanic Districts	28
Adult Native American Districts	6
Adult Majority Minority Districts (All other Non-White)	14

Incumbent Pairings

Pairings	Instances	Districts Paired
# Districts paired D-D	0	0
# Districts paired R-R	2	1/2, 61/66
# Districts paired D-R	2	15/31, 23/44

VRA Compliance

The Committee's recommended plans respect the Voting Rights Act without resorting to the use of race as a predominant factor. For Native Americans the focus is on the Northwest corner of the State with House Districts, 4, 5, 6, 9, 65 and 69 being considered VRA districts based on public input and past court decisions. The target threshold is a NHNAVAP greater than 60% for HD4, HD5, HD6, HD9, HD65 and HD69 to give the Native American population a reasonable opportunity to elect a representative of their choice. The NHNAVAPs for these districts are 76.9%,70.4%, 62.1%, 75.5%, 63.2% and 62.2%, respectively. In 2011 the NHNAVAP for these districts were 70.2%, 73.8%, 63.0%, 66.3%, 63.7%, and 62.1%, respectively.
For Hispanics the House VRA Districts based on public input and R&P Ecological Inference tests are House Districts 53, 58, 61 and 63 in the southeastern New Mexico region. The target threshold

for these districts was set at equal to or greater than 60%. House District 53 has a HVAP of 73.8%, HD 58 has a HVAP of 66.1%, HD 61 has a HVAP of 66.6% and HD63 has a HVAP of 60.9%. In 2011 the HVAPs were 55.1%, 62.2%, 57.6% and 57.0%, respectively.

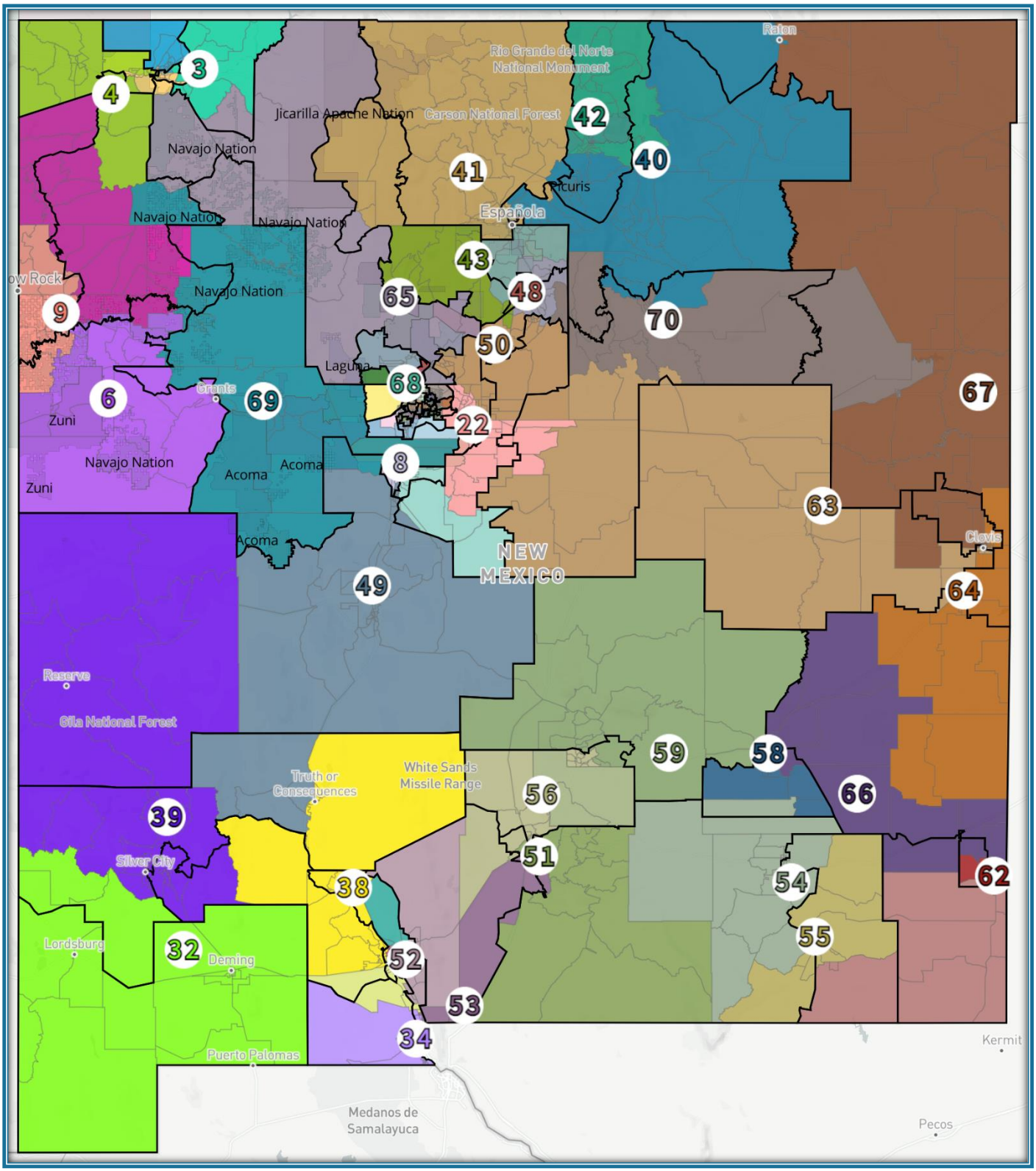
Partisan Fairness

This plan was within all the expected ranges for the six partisan fairness metrics used by Professor Cottrell. See further analysis infra. In addition, the Princeton Gerrymandering Project gave this plan an A for partisan fairness. See **https://gerrymander.princeton.edu**.

Description of Map Objectives and Development based on public input

- Based on concept I, with the added goals of integrating the Pueblo consensus map and CRC member request to unpair HD 21 and 24.
- Status quo oriented plan with fixes to account for population shifts in the current map and other improvements.
- Creates 6 strong Native American districts (62.1% or higher).
- HD 40 and HD 70 are maintained with HD 40 continuing to cross over the Sangre de Christos into Rio Arriba County.
- Westside Albuquerque districts move northward to absorb the excess population.
- Maintains the Rio Grande as a hard boundary north of I-40.
- Keeps Edgewood together.
- Silver City unified into one district.
- Chaparral is not split and is included in a district with Anthony.
- More Hispanic neighborhoods (communities of interest) are included in the Roswell and Hobbs minority districts.

House Concept J
(Integrating Navajo Nation NW Quadrant Districts)



To view the map in full detail, see previous district boundaries, county boundaries, demographic data, and other data please click or search the following link: **https://districtr.org/plan/64356**

House Concept J (Integrating Navajo Nation NW Quadrant)

Adoption

The following Committee members voted to adopt this map: Hon. Lisa Curtis, Robert Rhatigan, Hon. Michael Sanchez, and Justice Edward Chávez. The following member(s) voted against the adoption of this map: Ryan Cangiolosi, Joaquín Sanchez, and Christopher Saucedo.

Population and Deviations

Ideal Population Per District	30,250

District	Populations	Deviation	
1	28,261	-1,989	-6.6%
2	28,138	-2,112	-7.0%
3	28,323	-1,927	-6.4%
4	28,168	-2,082	-6.9%
5	28,354	-1,896	-6.3%
6	28,243	-2,007	-6.6%
7	31,110	860	2.8%
8	30,331	81	0.3%
9	28,205	-2,045	-6.8%
10	31,080	830	2.7%
11	31,137	887	2.9%
12	30,900	650	2.1%
13	30,205	-45	-0.1%
14	30,711	461	1.5%
15	30,971	721	2.4%
16	29,264	-986	-3.3%
17	30,356	106	0.4%
18	30,717	467	1.5%
19	31,075	825	2.7%
20	30,967	717	2.4%
21	30,829	579	1.9%
22	30,619	369	1.2%
23	30,335	85	0.3%
24	31,119	869	2.9%
25	31,032	782	2.6%
26	30,799	549	1.8%

District	Populations	Deviation	
27	30,951	701	2.3%
28	31,015	765	2.5%
29	29,873	-377	-1.2%
30	30,625	375	1.2%
31	31,151	901	3.0%
32	30,368	118	0.4%
33	30,991	741	2.4%
34	31,001	751	2.5%
35	30,714	464	1.5%
36	30,908	658	2.2%
37	30,978	728	2.4%
38	31,004	754	2.5%
39	31,001	751	2.5%
40	29,130	-1,120	-3.7%
41	30,460	210	0.7%
42	30,879	629	2.1%
43	31,162	912	3.0%
44	30,329	79	0.3%
45	30,777	527	1.7%
46	30,783	533	1.8%
47	31,115	865	2.9%
48	30,908	658	2.2%
49	30,766	516	1.7%
50	30,981	731	2.4%
51	30,664	414	1.4%
52	30,701	451	1.5%
53	30,783	533	1.8%
54	30,713	463	1.5%
55	31,050	800	2.6%
56	30,972	722	2.4%
57	31,127	877	2.9%
58	30,415	165	0.5%
59	29,743	-507	-1.7%
60	31,105	855	2.8%

District	Populations	Deviation	District
61	28,907	-1,343	-4.4%
62	30,277	27	0.1%
63	29,701	-549	-1.8%
64	29,241	-1,009	-3.3%
65	28,139	-2,111	-7.0%
66	29,076	-1,174	-3.9%
67	28,925	-1,325	-4.4%
68	29,069	-1,181	-3.9%
69	28,415	-1,835	-6.1%
70	29,380	-870	-2.9%
NM Total:	**2,117,522**	**Ideal:**	**30,250**

Overall Plan Evaluation

House Concept J Overall	Mean
Total Deviation	10.0%
Largest Positive Deviation	3.0%
Largest Negative Deviation	-7.0%
Mean Deviation +/-	2.7%
Median Deviation	1.5%
Assigned Population	2,117,522
Unassigned Population	0

Compactness*

Measure of Compactness	Mean
Reock	0.41
Polsby-Popper	0.35

*By comparison the 2011 Court approved maps had the following compactness scores: Reock 0.39.7 Polsby-Popper 0.31.9

Split Counties, Split Cities, and Contiguity

House Concept J splits 25 cities with a greater-than-ideal population, and 24 cities with a less-than-ideal population, and 24 Counties. House Concept J has no contiguity issues.

Demographics

District	Adult Hispanic	Adult NA Any	White	Native American	Black	Asian	Other	Total
1	18.9%	19.6%	59.6%	15.5%	0.5%	1.1%	4.3%	81.1%
2	21.7%	35.5%	41.8%	31.5%	0.7%	0.7%	3.7%	78.3%

			Adult Non-Hispanic					
District	Adult Hispanic	Adult NA Any	White	Native American	Black	Asian	Other	Total
3	25.8%	16.6%	56.4%	13.4%	0.3%	0.5%	3.6%	74.2%
4	7.5%	79.6%	12.1%	76.9%	0.6%	0.9%	2.0%	92.5%
5	10.9%	78.1%	10.0%	75.0%	0.6%	1.6%	2.0%	89.1%
6	16.1%	66.2%	17.7%	63.3%	0.6%	0.8%	1.6%	83.9%
7	58.1%	4.7%	36.0%	1.6%	1.0%	0.4%	2.9%	41.9%
8	53.0%	5.9%	39.3%	2.8%	1.3%	0.7%	2.8%	47.0%
9	16.1%	75.0%	8.8%	70.7%	0.7%	1.6%	2.1%	83.9%
10	74.3%	4.4%	20.0%	1.7%	1.5%	0.6%	2.0%	25.7%
11	52.8%	7.3%	37.5%	3.4%	1.7%	1.1%	3.6%	47.2%
12	84.4%	4.9%	10.4%	2.0%	1.4%	0.6%	1.2%	15.6%
13	76.8%	6.9%	13.3%	3.6%	2.9%	1.4%	2.0%	23.2%
14	63.3%	8.4%	23.9%	4.6%	3.3%	1.8%	3.0%	36.7%
15	47.4%	5.8%	43.1%	2.7%	1.2%	2.4%	3.1%	52.6%
16	53.5%	7.7%	32.6%	4.7%	3.7%	2.8%	2.7%	46.5%
17	41.7%	8.3%	43.8%	5.0%	2.9%	3.0%	3.5%	58.3%
18	28.8%	7.7%	54.4%	4.0%	3.6%	4.3%	5.0%	71.2%
19	48.9%	11.8%	31.9%	7.8%	5.1%	2.5%	3.7%	51.1%
20	29.7%	7.7%	53.5%	4.7%	3.6%	4.4%	4.1%	70.3%
21	42.6%	7.4%	40.7%	4.1%	3.5%	5.2%	3.9%	57.4%
22	28.5%	4.9%	63.9%	1.5%	0.9%	1.0%	4.3%	71.5%
23	35.4%	6.3%	53.8%	3.0%	2.0%	1.9%	3.9%	64.6%
24	33.3%	7.3%	52.8%	4.0%	2.9%	2.9%	4.1%	66.7%
25	40.1%	10.7%	43.2%	6.8%	3.1%	2.9%	4.0%	59.9%
26	76.6%	7.2%	13.6%	4.1%	2.6%	1.3%	1.9%	23.4%
27	28.6%	5.3%	58.6%	2.8%	2.0%	4.5%	3.6%	71.4%
28	26.9%	6.0%	60.2%	2.7%	2.1%	3.7%	4.5%	73.1%
29	47.2%	6.7%	40.7%	3.3%	2.8%	2.3%	3.7%	52.8%
30	29.3%	9.7%	53.6%	6.3%	3.3%	3.5%	4.1%	70.7%
31	18.5%	3.0%	65.9%	1.2%	1.4%	9.1%	3.9%	81.5%
32	58.2%	3.1%	37.4%	0.5%	0.8%	0.6%	2.4%	41.8%

			Adult Non-Hispanic					
District	Adult Hispanic	Adult NA Any	White	Native American	Black	Asian	Other	Total
33	58.2%	3.8%	36.1%	0.9%	1.5%	1.1%	2.2%	41.8%
34	87.5%	2.6%	10.7%	0.2%	0.4%	0.2%	0.9%	12.5%
35	62.9%	5.2%	28.5%	1.3%	2.7%	1.7%	2.8%	37.1%
36	59.7%	4.1%	34.8%	0.7%	1.5%	0.9%	2.4%	40.3%
37	51.4%	4.1%	40.4%	0.8%	2.3%	2.2%	3.0%	48.6%
38	46.9%	4.1%	48.4%	0.6%	0.7%	0.7%	2.6%	53.1%
39	41.0%	4.1%	53.2%	1.0%	0.9%	0.6%	3.2%	59.0%
40	67.8%	4.8%	27.8%	1.5%	0.4%	0.4%	2.0%	32.2%
41	65.8%	13.5%	21.4%	9.7%	0.4%	0.6%	2.0%	34.2%
42	43.1%	8.1%	47.5%	5.0%	0.4%	0.7%	3.3%	56.9%
43	33.6%	4.0%	56.2%	1.4%	0.9%	4.2%	3.7%	66.4%
44	31.5%	6.3%	57.3%	3.1%	2.1%	2.3%	3.8%	68.5%
45	56.4%	4.8%	36.1%	1.7%	0.9%	2.0%	2.9%	43.6%
46	53.6%	8.1%	37.7%	4.8%	0.5%	1.0%	2.4%	46.4%
47	26.3%	5.0%	64.6%	2.4%	0.8%	2.1%	3.8%	73.7%
48	50.0%	4.6%	42.7%	1.5%	1.1%	1.6%	3.2%	50.0%
49	54.6%	6.0%	37.9%	2.3%	0.7%	1.2%	3.2%	45.4%
50	20.4%	3.9%	72.9%	1.0%	0.7%	0.8%	4.2%	79.6%
51	26.9%	3.8%	60.5%	0.9%	4.6%	2.1%	5.0%	73.1%
52	52.3%	3.6%	40.4%	0.7%	1.7%	2.0%	2.8%	47.7%
53	73.8%	2.7%	21.6%	0.8%	1.3%	0.7%	1.8%	26.2%
54	50.5%	3.4%	43.9%	0.8%	1.1%	0.6%	3.1%	49.5%
55	41.7%	3.6%	51.2%	0.9%	1.7%	1.3%	3.1%	58.3%
56	25.5%	15.4%	54.8%	11.5%	2.3%	1.3%	4.6%	74.5%
57	42.4%	7.0%	45.4%	3.5%	3.0%	1.8%	3.9%	57.6%
58	66.1%	3.0%	28.8%	0.6%	2.0%	0.4%	2.0%	33.9%
59	35.5%	3.5%	58.3%	0.8%	1.1%	1.1%	3.2%	64.5%
60	38.6%	6.1%	49.7%	2.9%	2.6%	2.4%	3.8%	61.4%
61	66.6%	2.8%	25.7%	0.7%	4.6%	0.4%	2.1%	33.4%
62	44.1%	3.4%	46.8%	1.0%	3.8%	1.6%	2.8%	55.9%

			Adult Non-Hispanic					
District	Adult Hispanic	Adult NA Any	White	Native American	Black	Asian	Other	Total
63	60.9%	3.0%	31.9%	0.6%	3.3%	0.7%	2.6%	39.1%
64	29.6%	3.1%	60.1%	0.8%	3.5%	1.8%	4.2%	70.4%
65	25.8%	68.0%	8.0%	64.1%	0.3%	0.4%	1.3%	74.2%
66	51.3%	3.0%	43.6%	0.6%	1.4%	1.1%	2.1%	48.7%
67	35.3%	3.7%	54.9%	0.7%	4.2%	1.2%	3.7%	64.7%
68	43.4%	7.1%	43.3%	3.8%	3.1%	2.5%	3.9%	56.6%
69	19.6%	67.2%	12.8%	64.1%	0.7%	0.6%	2.3%	80.4%
70	68.9%	3.8%	26.3%	1.0%	1.1%	0.5%	2.3%	31.1%
NM Total	**44.3%**	**8.0%**	**40.5%**	**8.4%**	**1.9%**	**1.8%**	**3.1%**	**55.7%**

Overview of Majority Minority Districts

Majority Minority Districts (VAP)	In This Plan
Adult Hispanic Districts	28
Adult Native American Districts	6
Adult Majority Minority Districts (All other Non-White)	14

Incumbent Pairings

Pairings	Instances	Districts Paired
# Districts paired D-D	1	21/24
# Districts paired R-R	2	61/66, 1/2
# Districts paired D-R	2	23/44, 15/31

VRA Compliance

The Committee's recommended plans respect the Voting Rights Act without resorting to the use of race as a predominant factor. For Native Americans the focus is on the Northwest corner of the State with House Districts, 4, 5, 6, 9, 65 and 69 being considered VRA districts based on public input and past court decisions. The target threshold is a NHNAVAP greater than 60% for HD4, HD5, HD6, HD9, HD65 and HD69 to give the Native American population a reasonable opportunity to elect a representative of their choice. The NHNAVAPs for these districts are 76.9%,75.0%, 63.3%, 70.7%, 64.1% and 64.1%, respectively. In 2011 the NHNAVAP for these districts were 70.2%, 73.8%, 63.0%, 66.3%, 63.7%, and 62.1%, respectively.
For Hispanics the House VRA Districts based on public input and R&P Ecological Inference tests are House Districts 53, 58, 61 and 63 in the southeastern New Mexico region. The target threshold

for these districts was set at equal to or greater than 60%. House District 53 has a HVAP of 73.8%, HD 58 has a HVAP of 66.1%, HD 61 has a HVAP of 66.6% and HD63 has a HVAP of 60.9%. In 2011 the HVAPs were 55.1%, 62.2%, 57.6% and 57.0%, respectively.

Partisan Fairness

This plan was within all the expected ranges for the six partisan fairness metrics used by Professor Cottrell. See further analysis infra. In addition, the Princeton Gerrymandering Project gave this plan an A for partisan fairness. See https://gerrymander.princeton.edu.

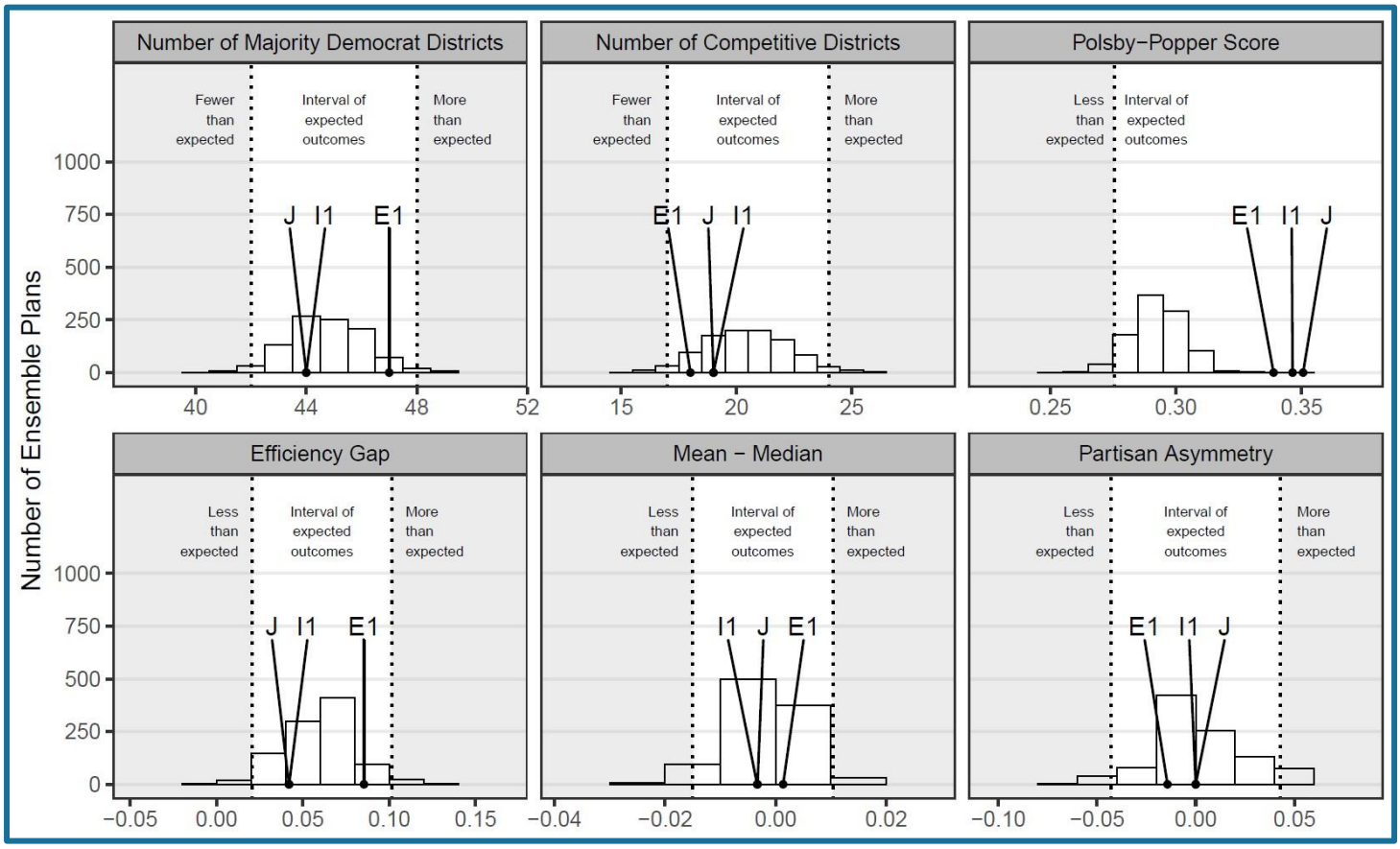
Description of Map Objectives and Development based on public input

- Based on Concept D with the added goal of integrating the Navajo Nation's proposed districts in the NW quadrant.
- Status quo oriented plan with fixes to account for population shifts in the current map and other improvements.
- Creates 6 strong Native American districts (63.3% or higher).
- HD 40 and HD 70 are maintained with HD 40 continuing to cross over the Sangre de Christos into Rio Arriba County.
- Westside Albuquerque districts move northward to absorb the excess population.
- Maintains the Rio Grande as a hard boundary north of I-40.
- Keeps Edgewood together.
- Silver City unified into one district.
- Chaparral is not split and is included in a district with Anthony.
- More Hispanic neighborhoods (communities of interest) are included in the Roswell and Hobbs minority districts.

EVALUATIONS OF PARTISAN FAIRNESS OF CRC'S HOUSE PLANS

The results for the concept maps for the House are plotted in Figure 4. Once again, each of the Concept plans for the House fall within expected ranges. None exhibit extreme partisan unfairness, and they correspond with the middle 95% of the ensemble plans. They produce similar numbers of Democratic districts and competitive districts, produce compact district scores, and produce similar partisan fairness scores. If anything stands out, is that plan E1 tends to produce more Democratic districts than the bulk of ensemble plans – although it is within the range of expectation.

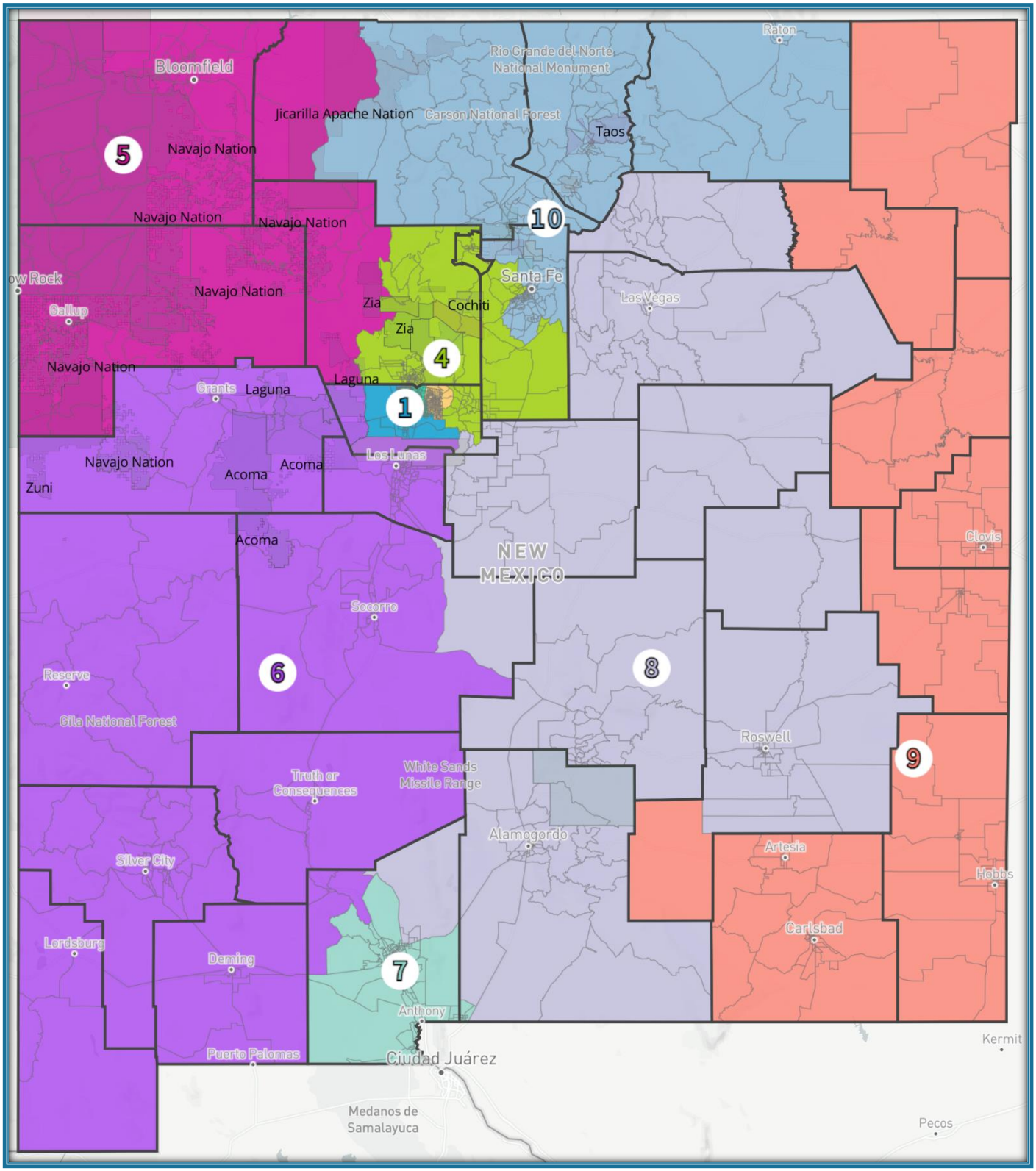
Figure 4



(Dr. Cottrell's ensemble analysis of the Committee's adopted House district plans)

PUBLIC EDUCATION COMMISSION DISTRICT PLANS

PEC Concept A
(Integrating Navajo Nation NW Quadrant Districts)



To view the map in full detail, see previous district boundaries, county boundaries, demographic data, and other data please click or search the following link: **https://districtr.org/plan/45565**

PEC Concept A

Adoption

The following Committee members voted to adopt this map: Ryan Cangiolosi, Hon. Lisa Curtis, Joaquin Sanchez, Hon. Michael Sanchez. Robert Rhatigan, Christopher Saucedo, and Justice Edward Chávez. No member voted against the adoption of this map.

Population and Deviations

Ideal Population Per District	211,752

District	Populations	Deviation	
1	220,164	8,412	4.0%
2	217,745	5,993	2.8%
3	215,415	3,663	1.7%
4	207,481	-4,271	-2.0%
5	202,238	-9,514	-4.5%
6	201,609	-10,143	-4.8%
7	219,271	7,519	3.6%
8	203,360	-8,392	-4.0%
9	218,036	6,284	3.0%
10	212,203	451	0.2%
NM Total:	**2,117,522**	**Ideal:**	**211,752**

Overall Plan Evaluation

PEC Concept A Overall	Mean
Total Deviation	8.8%
Largest Positive Deviation	4.0%
Largest Negative Deviation	-4.8%
Mean Deviation +/-	3.1%
Median Deviation	1.0%
Assigned Population	2,117,522
Unassigned Population	0

Compactness

Measure of Compactness	Mean
Reock	0.45
Polsby-Popper	0.36

Split Counties, Split Cities, and Contiguity

PEC Concept A splits 1 city with a greater-than-ideal population; and 5 cities with a less-than-ideal population, and 8 Counties. PEC Concept A has no contiguity issues.

Demographics

			Adult Non-Hispanic					
District	Adult Hispanic	Adult NA Any	White	Native American	Black	Asian	Other	Total
1	66.0%	6.3%	24.3%	3.2%	2.5%	1.6%	2.4%	34.0%
2	30.3%	6.6%	54.7%	3.6%	2.6%	4.8%	4.0%	69.7%
3	43.5%	8.8%	41.7%	5.1%	3.1%	2.7%	3.9%	56.5%
4	32.3%	9.8%	53.9%	6.7%	1.6%	1.9%	3.6%	67.7%
5	15.3%	56.2%	27.7%	52.8%	0.5%	1.0%	2.7%	84.7%
6	47.8%	12.7%	38.3%	9.4%	0.9%	0.7%	2.9%	52.2%
7	63.4%	3.7%	30.9%	0.7%	1.6%	1.2%	2.2%	36.6%
8	45.2%	5.5%	45.8%	2.5%	2.0%	1.1%	3.3%	54.8%
9	47.2%	3.3%	44.8%	0.8%	3.1%	1.1%	3.1%	52.8%
10	50.2%	7.0%	41.2%	3.8%	0.7%	1.2%	2.9%	49.8%
Totals:	**44.3%**	**11.5%**	**40.5%**	**8.4%**	**1.9%**	**1.8%**	**3.1%**	**55.7%**

Overview of Majority Minority Districts

Majority Minority Districts (VAP)	In This Plan
Adult Hispanic Districts	3
Adult Native American Districts	1
Adult Majority Minority Districts (All other Non-White)	4

Incumbent Pairings

Pairings	Instances	Districts Paired
# Districts paired D-D	0	0
# Districts paired R-R	0	0
# Districts paired D-R	0	0

VRA Compliance

A VRA analysis was not done for Public Education Commission Districts

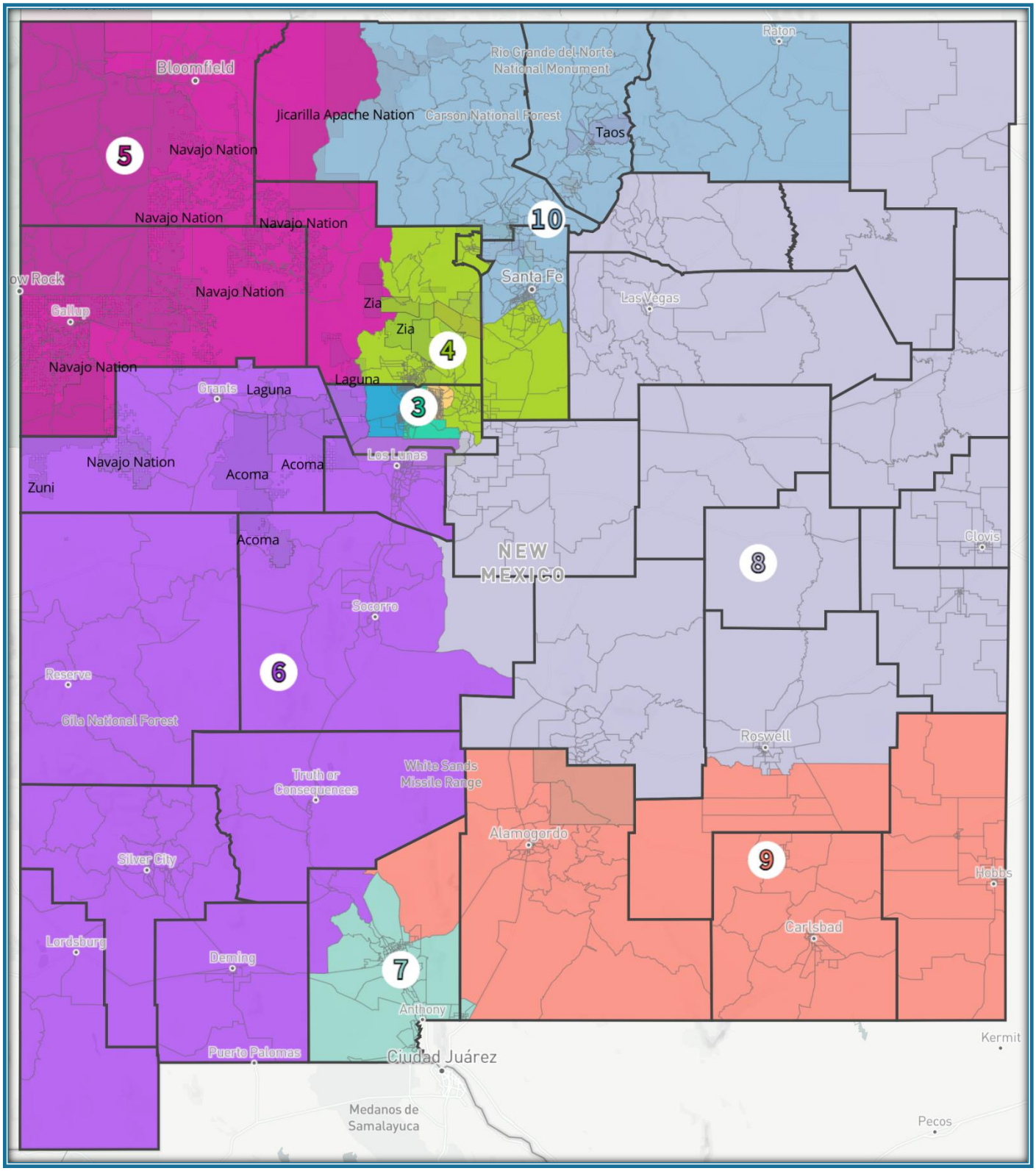
Partisan Fairness

This plan was within all the expected ranges for the six partisan fairness metrics used by Professor Cottrell. See further analysis infra.

Description of Map Objectives and Development

- Status quo plan that maintains the core of existing PEC districts and adjusts the district boundaries to account for population shifts.

PEC Concept C



To view the map in full detail, see previous district boundaries, county boundaries, demographic data, and other data please click or search the following link: **https://districtr.org/plan/45578**

PEC Concept C

Adoption

The following Committee members voted to adopt this map: Ryan Cangiolosi, Hon. Lisa Curtis, Hon. Michael Sanchez. Robert Rhatigan, Christopher Saucedo, and Justice Edward Chávez. No member voted against the adoption of this map. Joaquin Sanchez abstained.

Population and Deviations

Ideal Population Per District	211,752

District	Populations	Deviation	
1	215,417	3,665	1.7%
2	219,327	7,575	3.6%
3	218,580	6,828	3.2%
4	212,906	1,154	0.5%
5	202,238	-9,514	-4.5%
6	201,609	-10,143	-4.8%
7	220,939	9,187	4.3%
8	214,260	2,508	1.2%
9	205,468	-6,284	-3.0%
10	206,778	-4,974	-2.3%
NM Total:	**2,117,522**	**Ideal:**	**211,752**

Overall Plan Evaluation

PEC Concept C Overall	Mean
Total Deviation	9.1%
Largest Positive Deviation	4.3%
Largest Negative Deviation	-4.8%
Mean Deviation +/-	2.9%
Median Deviation	0.9%
Assigned Population	2,117,522
Unassigned Population	0

Compactness

Measure of Compactness	Mean
Reock	0.5
Polsby-Popper	0.43

Split Counties, Split Cities, and Contiguity

PEC Concept C splits 1 city with a greater-than-ideal population; and 4 cities with a less-than-ideal population, and 8 Counties. PEC Concept C has no contiguity issues.

Demographics

			Adult Non-Hispanic					
District	Adult Hispanic	Adult NA Any	White	Native American	Black	Asian	Other	Total
1	58.9%	7.2%	29.3%	4.0%	2.9%	2.1%	2.8%	41.1%
2	29.4%	6.7%	55.3%	3.8%	2.6%	4.8%	4.0%	70.6%
3	51.3%	7.8%	36.1%	4.3%	2.7%	2.1%	3.4%	48.7%
4	31.5%	9.7%	54.7%	6.6%	1.6%	1.9%	3.7%	68.5%
5	15.3%	56.2%	27.7%	52.8%	0.5%	1.0%	2.7%	84.7%
6	47.8%	12.7%	38.3%	9.4%	0.9%	0.7%	2.9%	52.2%
7	63.5%	3.7%	30.7%	0.7%	1.5%	1.2%	2.2%	36.5%
8	47.4%	3.7%	45.4%	0.9%	2.2%	1.0%	3.1%	52.6%
9	44.6%	5.1%	45.5%	2.4%	3.0%	1.2%	3.4%	55.4%
10	51.6%	7.0%	40.0%	3.9%	0.6%	1.2%	2.8%	48.4%
Totals:	**44.3%**	**11.5%**	**40.5%**	**8.4%**	**1.9%**	**1.8%**	**3.1%**	**55.7%**

Overview of Majority Minority Districts

Majority Minority Districts (VAP)	In This Plan
Adult Hispanic Districts	4
Adult Native American Districts	1
Adult Majority Minority Districts (All other Non-White)	3

Incumbent Pairings

Pairings	Instances	Districts Paired
# Districts paired D-D	0	0
# Districts paired R-R	0	0
# Districts paired D-R	0	0

VRA Compliance

A VRA analysis was not done for Public Education Commission Districts

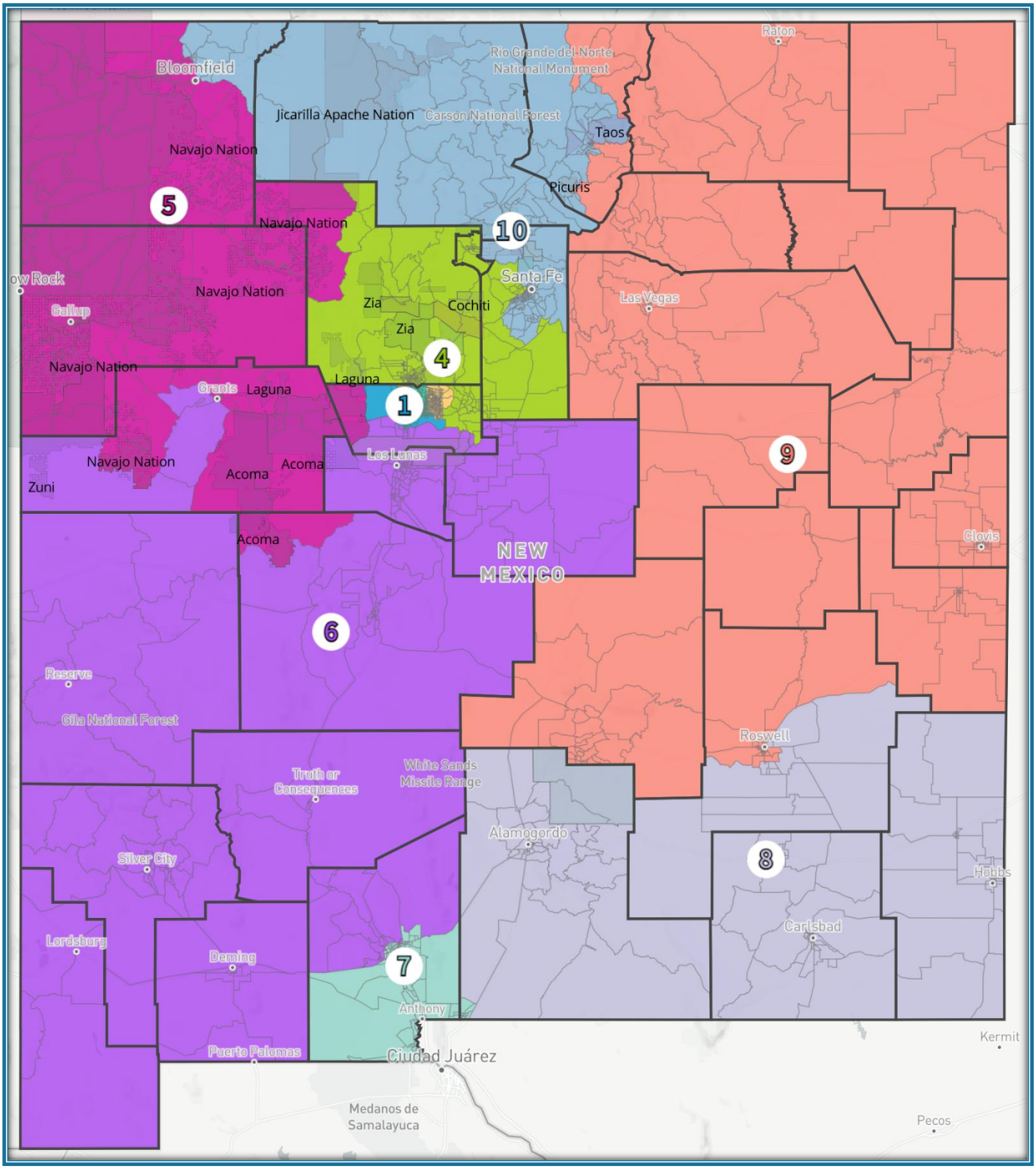
Partisan Fairness

This plan was within all the expected ranges for the six partisan fairness metrics used by Professor Cottrell. See further analysis infra.

Description of Map Objectives and Development

- Keeps Westside of Albuquerque wholly contained in one district. The South Valley (east of Coors Blvd.) is included with the North Valley and the International District.
- South of I-25 in Santa Fe County (including Eldorado) is included in a Los Alamos/East Mountains/Sandoval County district instead of a North Central NM district.

PEC Concept E (Navajo Nation Human Rights Commission)



To view the map in full detail, see previous district boundaries, county boundaries, demographic data, and other data please click or search the following link: **https://districtr.org/plan/64470**

PEC Concept E (Navajo Nation Human Rights Commission)

Adoption

The following Committee members voted to adopt this map: Ryan Cangiolosi, Hon. Lisa Curtis, Hon. Michael Sanchez. Robert Rhatigan, Christopher Saucedo, and Justice Edward Chávez. No member voted against the adoption of this map. Member Joaquin Sanchez abstained.

Population and Deviations

Ideal Population Per District	211,752

District	Populations	Deviation	
1	211,663	-89	0.0%
2	209,648	-2,104	-1.0%
3	209,803	-1,949	-0.9%
4	218,017	6,265	3.0%
5	209,812	-1,940	-0.9%
6	218,732	6,980	3.3%
7	212,088	336	0.2%
8	207,422	-4,330	-2.0%
9	206,036	-5,716	-2.7%
10	214,301	2,549	1.2%
NM Total:	**2,117,522**	**Ideal:**	**211,752**

Overall Plan Evaluation

PEC Concept E Overall	Mean
Total Deviation	6.0%
Largest Positive Deviation	3.3%
Largest Negative Deviation	-2.7%
Mean Deviation +/-	1.5%
Median Deviation	-0.5%
Assigned Population	2,117,522
Unassigned Population	0

Compactness

Measure of Compactness	Mean
Reock	0.45
Polsby-Popper	0.36

Split Counties, Split Cities, and Contiguity

PEC Concept E splits 1 city with a greater-than-ideal population; and 12 cities with a less-than-ideal population, and 10 Counties. PEC Concept E has no contiguity issues.

Demographics

District	Adult Hispanic	Adult NA Any	White	Adult Non-Hispanic Native American	Black	Asian	Other	Total
1	65.2%	6.4%	24.7%	3.3%	2.5%	1.7%	0.0%	32.2%
2	30.1%	6.4%	55.1%	3.4%	2.6%	4.9%	0.0%	65.9%
3	43.0%	9.0%	42.0%	5.3%	3.1%	2.7%	0.0%	53.1%
4	33.1%	9.7%	53.1%	6.6%	1.6%	1.9%	0.0%	63.3%
5	15.8%	59.0%	24.4%	55.7%	0.6%	1.0%	0.0%	81.6%
6	50.8%	6.1%	41.7%	2.9%	1.0%	0.7%	0.0%	46.3%
7	64.7%	3.7%	29.6%	0.7%	1.6%	1.2%	0.0%	33.1%
8	44.6%	5.1%	45.6%	2.4%	3.0%	1.2%	0.0%	52.1%
9	47.5%	3.7%	45.4%	0.9%	2.2%	1.0%	0.0%	49.5%
10	48.6%	8.7%	41.1%	5.4%	0.7%	1.2%	0.0%	48.4%
Totals:	**44.3%**	**11.5%**	**40.5%**	**8.4%**	**1.9%**	**1.8%**	**3.1%**	**55.7%**

Overview of Majority Minority Districts

Majority Minority Districts (VAP)	In This Plan
Adult Hispanic Districts	3
Adult Native American Districts	1
Adult Majority Minority Districts (All other Non-White)	4

Incumbent Pairings

Pairings	Instances	Districts Paired
# Districts paired D-D	0	0
# Districts paired R-R	0	0
# Districts paired D-R	0	0

VRA Compliance

A VRA analysis was not done for Public Education Commission Districts

Partisan Fairness

This plan was within all the expected ranges for the six partisan fairness metrics used by Professor Cottrell. See further analysis infra.

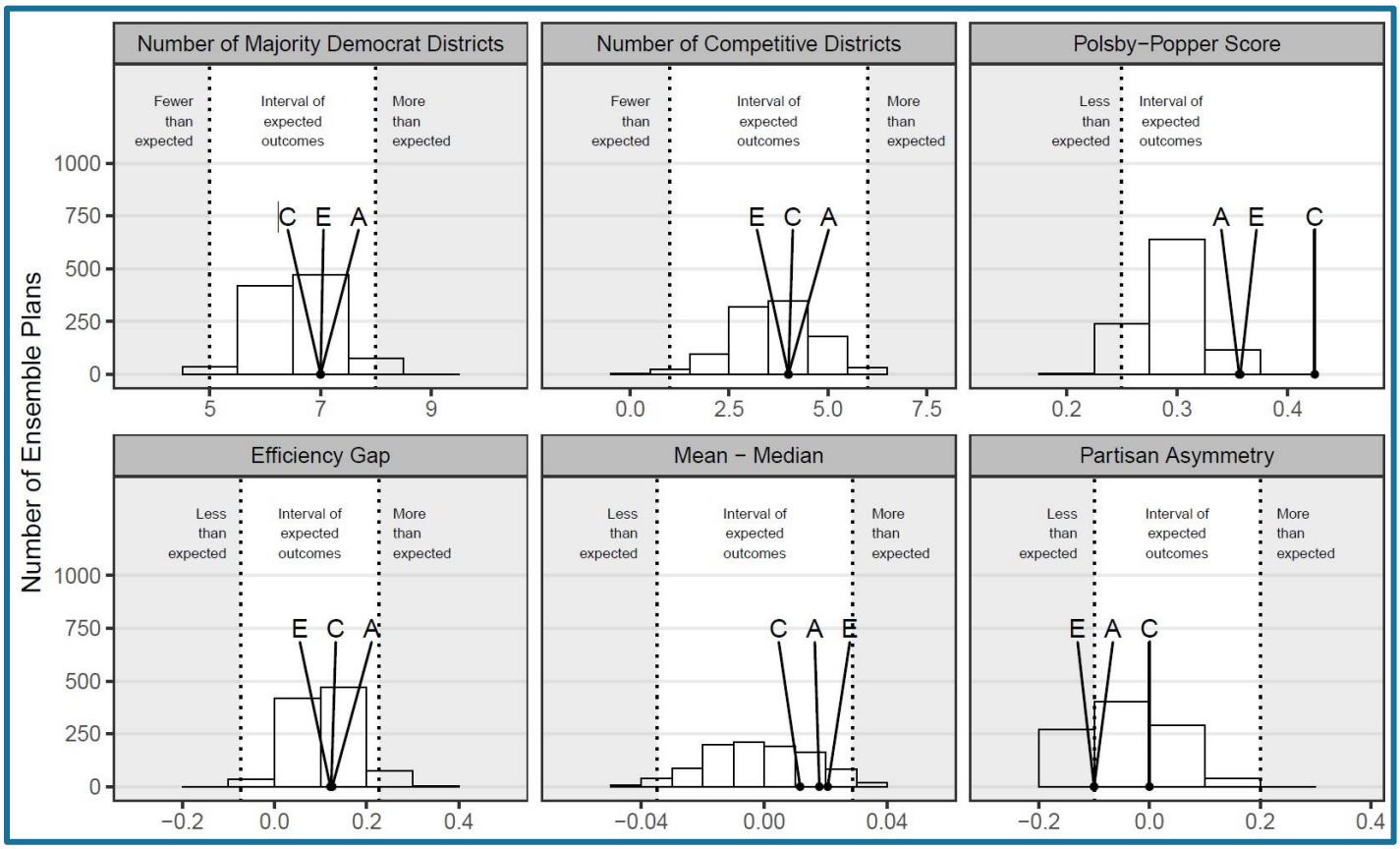
Description of Map Objectives and Development

- This map was drawn by the Navajo Nation Human Rights Commission for the purpose of creating a Native American District that took into consideration the principle of self-determination.

EVALUATIONS OF PARTISAN FAIRNESS OF CRC'S PUBLIC EDUCATION COMMISSION PLANS

Lastly, the results for the concept maps for Public Education Commission are plotted in Figure 2. Just like the plans for Congress, no plan scores outside the expected range. Not only do the plans seem to agree with each other, but they also conform very well with the ensemble plans. They produce similar numbers of Democratic seats and competitive seats. They are also more compact than most of the ensemble plans.

Figure 2



(Dr. Cottrell's ensemble analysis of the Committee's adopted PEC district plans)

APPENDIX TABLE OF CONTENTS

Appendix 1: Dr. Cottrell's report on Partisan Fairness of CRC District Plans

Evaluating the Partisan Fairness of the Concept Maps Proposed by New Mexico's Citizen Redistricting Committee

David Cottrell*

October 31, 2021

Abstract

This report evaluates the concept maps proposed by New Mexico's Citizen Redistricting Committee for the state's Congressional, House, Senate and Public Education Commission districts. I evaluate each proposed map using various metrics of partisan fairness that are commonly used to evaluate redistricting plans. This includes an evaluation of each concept map's expected partisan outcome, average district compactness, efficiency gap, mean-median difference, and partisan asymmetry. I compare each map's performance on these metrics to the performance of an ensemble of 1,000 alternative maps drawn using a computer-automated redistricting algorithm. The algorithm is instructed to build districts that are equally-populated, contiguous, compact, adhere to county boundaries, and establish districts required by the Voting Rights Act. Given that the algorithm uses only partisan-neutral criteria, the ensemble maps provide a baseline set of expectation for the types of partisan outcomes that one should expect under non-partisan redistricting. Using the computer-draw plans as a baseline, I test whether each of the proposed maps exhibit significant partisan bias. Ultimately, I find that all of the proposed concept maps tend to conform with expectations.

*Assistant Professor of Political Science, University of Georgia..

Introduction

I have been asked to evaluate the partisan fairness of each of the proposed concept maps produced by New Mexico's Citizen's Redistricting Committee (CRC). I received three distinct concept maps for the state's Congressional districts (referred to as Concepts A, E, and H), three distinct concept maps for the state's Public Education Commission (referred to as Concepts A, C, and E), three distinct concept maps for the state's Senate districts (referred to as Concepts A1, C, and C1), and three distinct concept maps for the state's House districts (referred to as Concepts E1, I, and J).[1] Each of these concept maps are displayed as figures in the appendix for reference.[2]

The goal of this report is to evaluate each of the maps with respect to a set of objective metrics commonly used by political scientists for assessing the partisan fairness of redistricting plans. These metrics include the expected partisan outcome, average district compactness, efficiency gap, mean-median difference, and partisan asymmetry.Each metric uses a different approach to measuring the extent to which a map advantages one party over another. Together, they can provide insight into how the maps ultimately translate votes into seats and bias representation.

The benefit of using objective metrics for evaluating redistricting plans is that they provide precise and transparent values for describing an abstract concept like partisan fairness. These metrics have the advantage of being easy to define, compute, and apply uniformly across redistricting plans. This is certainly an important feature for distinguishing one plan from another.

However, measuring partisan fairness is not easy. Just like any precise measure of an abstract concept, the metrics used in this report are unlikely to capture the full extent to which a plan is fair or unfair. Sometimes these metrics inadvertently measure concepts other than fairness itself.[3] And sometimes the measures will disagree with each other on what a fair plan looks like. Therefore, it is important to accept some degree of uncertainty in applying

[1] I received the maps for Congress, Public Education Commission, and state Senate on October 18, 2021 and I received the maps for the state House on October 21, 2021. The maps were sent to me by Research & Polling as Census block assignment files, which I subsequently merged with 2021 precincts.

[2] Figure A.1 presents the maps for Congress, Figure A.3 presents the maps for Public Education Commission, Figure A.5 presents the maps for the state Senate, and Figure A.7 presents the maps for the state House.

[3] Using measures of district compactness to identify unfairly drawn districts, for example, can lead one

such a precise measurement to an abstract concept like partisan fairness.

One major challenge with evaluating partisan fairness in redistricting plans is developing expectations for just *how fair* a plan should be. It is likely unreasonable to expect a plan that is perfectly fair to both parties. Even the most partisan-neutral map-makers can produce unfair outcomes without intending to do so. And if that is the case, then we should consider unfairness as a natural product of a neutral redistricting process. And we must account for these natural and random variations in fairness when establishing expectations for just how fair a plan ought to be.

Therefore, when evaluating the concept maps produced by the CRC, I first establish a baseline set of expectations regarding the types of partisan bias that might arise simply by chance alone. I do this by summarizing the outcomes produced by thousands of alternative redistricting plans that have been randomly generated by a computer algorithm. These computer-generated outcomes help to characterize the natural variation in fairness that one should expect in a neutral redistricting process. And with this baseline expectation, one should be able to distinguish between the partisan bias that is designed intentionally and the partisan bias that is a natural product of redistricting.

I proceed as follows. First, I discuss the partisan composition of the each of the concept maps proposed by the CRC. Then I describe the metrics of partisan fairness used to evaluate the maps. Then I describe the computer algorithm used to generate the computer ensemble. And, ultimately, I compare the scores of the concept maps to the scores generated by the computer ensemble to test whether each of the concept maps are unexpectedly unfair.

Evaluating the partisan composition of each of the concept plans.

In order to evaluate the partisan composition of the districts in each of the proposed redistricting plans, I rely on election data collected and sent to me by Research & Polling. The election data consists of votes cast for all major-party candidates across all contested

to falsely attribute oddly-shaped districts to gerrymandering when they are instead the result of boundaries conforming to a state's geographic features, like winding rivers and coastal regions.

Table 1: Votes Cast for Major Party Candidates in All Statewide Contests in New Mexcico from 2012 to 2020

Democrat	Republican	Percent Democrat
13,268,194	10,895,844	54.9

statewide elections in New Mexico from 2012 to 2020. These votes have been tabulated at the precinct-level for each election and merged to the most recent 2021 precinct boundaries. The 2021 precincts are the building blocks of each concept map proposed by the CRC, so the votes can then be aggregated to the level of each district in the map.

Unfortunately, no single contest in a given election is able to capture the full extent of partisanship in a specific district. Therefore, to assess district partisanship, I aggregate total votes cast for Democratic candidates and total votes cast for Republican candidates across all statewide contests for every election going back to 2012. By aggregating votes across a number of contests and elections, I am attempting to capture the consistent partisanship that underlies the vote rather than the election-specific or contest-specific variables that might temporarily swing partisanship in one-direction or another.

Table 1 displays the sum total of these votes for the entire state. New Mexico voters cast a total of 13.3 million votes for Democratic candidates and 10.9 million votes for Republican candidates in statewide contests from 2012 to 2020. Using these totals, we can estimate the partisan composition of the state overall. Dividing the Democratic votes by the total votes cast for Democrats and Republicans, we see that Democrats make up 54.9% of the two-party vote.

We can make the same calculation for every district in each concept plan. By aggregating the precinct-level votes to each district, I compute the Democratic share of the two-party vote in every district across every concept plan. This measure provides an indicator for the partisan composition of each district.

I then tabulate the number of districts that fall within various important intervals of Democratic vote share. The tabulations are displayed in Table 2. Every column of the table counts the number of districts that fall within the intervals defined in the first column on the left. Each of the twelve columns to the right of the intervals correspond with each of the

Table 2: Partisan Composition of All Proposed Plans

	Congress			Public Ed.			State Senate			State House		
Percent Dem	A	E	H	A	C	E	A1	C	C1	E1	I1	J
0% to 49.9%	1	1	0	3	3	3	14	15	15	23	26	26
50% to 100%	2	2	3	7	7	7	28	27	27	47	44	44
45% to 45.9%	1	0	0	0	0	0	2	2	2	1	3	3
46% to 46.9%	0	1	0	0	0	0	1	0	1	2	1	1
47% to 47.9%	0	0	0	1	1	0	0	1	0	0	3	3
48% to 48.9%	0	0	0	0	0	1	1	1	2	1	1	1
49% to 49.9%	0	0	0	0	0	0	1	1	1	1	2	2
50% to 50.9%	0	0	0	1	1	1	3	1	1	3	0	0
51% to 51.9%	0	0	0	1	1	1	1	0	0	4	4	4
52% to 52.9%	0	0	1	1	0	1	0	1	2	3	3	3
53% to 53.9%	0	0	0	0	1	0	2	1	2	1	2	2
54% to 54.9%	0	0	1	0	0	0	1	4	1	2	0	0
45% to 49.9%	1	1	0	1	1	1	5	5	6	5	10	10
50% to 54.9%	0	0	2	3	3	3	7	7	6	13	9	9

twelve concept plans proposed by the CRC.

The first row of the table tabulates the number of districts that fall below 49.99% Democrat. And the second row of the table tabulates the number of districts that fall above 50% Democrat. Hence, the first two rows display the expected number of Democrats and Republicans that will result from each map.

One common characteristic of each map is that they all produce Democratic supermajorities. In fact, many of the plans produce nearly twice the number of Democratic seats as they do Republican seats. Thus, Democrats can expect to receive a larger share of the seats than their share of the vote, which is under 55%.

This table also reveals a few important distinctions between the concept maps for each set of districts. For example, Congress Concept Map H produces Democratic districts for all three seats in Congress, whereas the other two concepts produce only two Democratic districts. The difference is just one seat, but it represents a third of the New Mexico Congressional delegation.

Another distinction that stands out is that House Concept Map E1 produces 3 additional Democratic districts compared to the alternative Maps I1 and J. Both Maps I1 and J produce

44 Democratic districts. And map E1 produces 47. However, an important caveat is that Maps E1 and J are nearly identical maps, with only small differences between them.

On the other hand, there is little distinction in terms of the partisan composition between the maps for Public Education Commission and State Senate.

In addition to partisan seats, the table also reveals tabulations for the number of competitive districts in each plan. These tallies are displayed in 1-point intervals as well as 5-point intervals. Notably, all concept maps produce similar numbers of competitive districts. And most tend to lean Democrat.

Measuring partisan fairness

While the partisan composition of each plan provides some insight into its partisan features, is not a complete picture. To better understand the partisan fairness of the plans, I have been asked to assess each plan according to a set metrics commonly leveraged for evaluating partisan fairness. The metrics include the expected number of Democratic seats, expected number of competitive seats, the average district compactness, efficiency gap, mean-median difference, and partisan asymmetry. The following provides a brief overview describing each of these six metrics.

Expected Number of Democratic Districts: To determine the expected number of Democratic districts for each plan, I first compute the Democratic share of the two-party vote in each district. I then compute the number of districts where the Democratic share of the two-party vote exceeds 50%. This value is computed for each plan and represents the number of districts that Democrats are expected to win.

Expected Number of Competitive Districts: I define a district to be competitive if its Democratic share of the two-party vote is between 45% and 55%. While I've defined these intervals arbitrarily, districts where candidates win by less than a ten point margin are conventionally accepted as being somewhat vulnerable.

Average Polsby-Popper Score: The Polsby-Popper score is a measure of district compactness. It is calculated by comparing the area of a district to the area of a circle that

has a circumference equal to the perimeter of the district. Higher scores indicate more compact districts. Lower scores indicate less compact districts. Oddly-shaped districts with winding perimeters will approach a low score of 0 according to this metric. Redistricting plans with a lower average Polsby-Popper score might imply a high degree of partisanship in the design. This assumes map-makers must deviate from designing compact shapes in order to bias their maps toward a particular party.

Efficiency Gap: The Efficiency Gap is a measure of how a plan disadvantages a party by wasting its votes (Stephanopoulos and McGhee, 2015). It does this by quantifying the number of wasted votes cast for each party, where a wasted vote is defined as any vote cast for a party that does not contribute to that party's victory in a given district. This includes every vote cast for the losing party. And it also includes every vote cast for the winning party in excess of the majority vote required to win. To compute the Efficiency Gap, one simply takes the difference between the number of wasted votes cast for Republicans and the number of wasted votes cast for Democrats and presents the net wasted Republican votes as a fraction of the total votes cast for both parties. Therefore, redistricting plans with larger positive values imply that the plan is more biased against Republicans (it wastes a larger fraction of the Republican votes). And redistricting plans with smaller negative values imply that the plan is biased against Democrats (it wastes a larger fraction of the Democratic vote).

Mean - Median: Just as the name suggests, the Mean-Median difference is calculated as the difference between the average Democratic vote share across the districts (the mean) and the Democratic vote share in the median district (the median). It attempts to measure the extent to which the average voter is represented by the median district (McDonald and Best, 2015). Positive values indicate that Democrats are underrepresented, whereas negative values indicate that Democrats are over-represented. Hence, higher values imply that a map is biased to favor Republicans and lower values imply that a map is biased to favor Democrats. So if the average Democratic vote share across the districts is .55 and the Democratic vote share in the median district is .60, the mean-median difference is $-.05$, implying that the redistricting plan over-represents

Democrats by 5 percentage points in the median district. On the other hand, if the Democratic vote share in the median district is .50, then the mean-median difference is +.05, implying that the redistricting plan over-represents Republicans by 5 percentage points in the median district. A measure of zero indicates that the median district and the average voter are aligned. Zero implies that the redistricting plan is unbiased.

Partisan Asymmetry: Partisan asymmetry is a measure of the extent to which parties are rewarded differently when receiving an identical share of the vote. In redistricting plans that are perfectly symmetric, both parties should expect the same reward in seat share for obtaining the same share of the vote. One way to measure asymmetry is "partisan bias." This is a special case of partisan asymmetry, looking at a hypothetical event where Democrats and Republicans are tied with 50% of the vote. According to the metric, a plan would reward each party with 50% of the seats if that plan were perfectly symmetric. Therefore asymmetry refers to the extent to which a party's seat share would deviate from 50% .King (1989) Higher positive values indicate greater asymmetry in favor of Democrats and lower negative values indicate greater asymmetry in favor of Republicans. For example, if a redistricting plan were expected to give Democrats 55% of the seats with only 50% of the vote, then the plan would be giving Democrats a 5 percentage point seat advantage in tossup elections. In this instance, the partisan asymmetry metric would be calculated as $.55 - .50 = .05$ indicating bias in favor of Democrats. However, if a redistricting plan were expected to give Democrats 45% of the seats with 50% of the vote, then *Republicans* would have a 5 percentage point seat advantage in tossup elections. In this instance, the partisan bias metric would be calculated as $.45 - .50 = -.05$, indicating bias in favor of Republicans.[4]

In addition to computing these six metrics for every Concept plan, I also compute the metrics for every map in the Computer-generated ensemble. Given that there are 6 metrics

[4]In order to determine what the Democratic seat share would be in a hypothetically tied election, Democratic vote share in each district is adjusted uniformly by the same amount that would be required to adjust average Democratic vote share across districts to .50. For instance, if the average Democratic vote share across the districts in New Mexico is .55, then every district would have its vote share reduced by .05 and the number of Democratic seats would be calculated as the number of districts where Democrats have a majority of this adjusted vote share.

and 1,000 ensemble plans generated separately for Congress, PEC, state Senate, and state House, this provides 24,000 distinct measurements of partisan fairness to be used as a baseline comparison for the proposed concept maps.

In the next section I provide a brief overview of the algorithm I used to draw the ensemble maps.

The computer-automated redistricting algorithm

Before evaluating each of the Concept maps on the 6 metrics discussed above, it is important to set a range of expectations for the type of unfairness that might result naturally in the maps, by chance alone. To establish this expectation, I use an ensemble of 1000 alternative redistricting maps, generated by a computer-automated redistricting algorithm, for Congress, PEC, state Senate, and state House. The algorithm has been instructed to build districts that are equally-populated, contiguous, compact and adhere to county boundaries. And for the state Senate and House maps, it has been instructed to search for districts required by the Voting Rights Act. To do this, the algorithm follows a series of steps, which I describe below.

Take the algorithm I use for the state Senate as an example. There are 42 districts in the Senate. The concept plans for the Senate have been designed to produce 42 contiguous districts that are roughly equally-populated, with a maximum population deviation of no more than 10% of the target population (the target population is defined as the total population divided by 42). The plans are required to be roughly compact, containing geographically-concentrated populations. They are to adhere to administrative boundaries. And they are to adhere to standards established by the Voting Rights Act.

Therefore, the goal of the algorithm is to design 1000 distinct Senate maps with 42 districts that comply with these same redistricting principles. The only difference would be that the algorithm is guaranteed to leave all other considerations for how to build districts up to chance. As a result, it produces an ensemble of maps that reflect the possible outcomes of a redistricting process that considers basic principles for redistricting, and nothing else. Partisanship is completely ignored in the design of the ensemble plans - which is ideal for fair redistricting.

For each redistricting plan generated for the Senate, the algorithm follows these six steps:

Step 1: Create a base map with 42 contiguous districts. To create a set of randomly generated maps for the Senate, the algorithm begins by randomly selecting 42 different precincts across the state. These 42 precincts become the "seeds" from which 42 contiguous districts will grow. Each precinct is now a district. The algorithm grows the districts in population by repeatedly adding to each district a randomly selected neighboring precinct that has not yet been assigned to another district. It stops when all precincts have been assigned to a district. The result is a map of 42 contiguous districts generated at random. However the districts are not necessarily equally-populated or compact in shape.

Step 2: Amend the base map so that the districts are equally populated. The districts generated in Step 1 may not be equally populated. Therefore, the algorithm proceeds to revise the map so that the maximum deviation in population between the districts is less than 10% of the target population.[5] It begins by computing the maximum population deviation of the base map. If it is less than 10%, it selects a district at random – but aims for districts that deviate the most from the target population – and merges it with one of its neighboring districts. Then the algorithm searches for ways to split the merged districts back into two contiguous districts, choosing the split that minimizes the districts' deviation from the target population.[6] Once a split is performed, the original two districts have been recombined into two districts that are distinct from their original form and the map is altered slightly. It does this repeatedly until the maximum population deviation between any two districts is less than 10% of the target population.

Step 3: Make 1000 random alterations to the map. To ensure that the map is a uniquely random map, the algorithm proceeds by selecting districts at random and

[5]For Congress I use the standard of designing districts with no more than 1% maximum population deviation. For all other maps, I use the standard of 10%.

[6]This merge-split method follow similar approaches adopted by Chen and Stephanopoulos (2020), DeFord, Duchin and Solomon (2019), and Carter et al. (2019). It uses a version of Prim's algorithm to find a Minimum Spanning Tree (MST) that connects the adjacent precincts within each county within each district. The result of cutting the MST creates two contiguous districts that conform with county boundaries.

proposing a merge-split for those districts. It executes a merge-split if the resulting map has a maximum population deviation less than the 10% threshold. And it stops after 1000 merge-splits have been executed. The resulting map is randomly-generated, contiguous, and equally-populated. But it is not necessarily compact.

Step 4: Make 1000 attempts to improve district compactness. Although the districts that result from Step 3 are mostly compact, the algorithm makes additional attempts to improve the compactness of the districts. It does this by repeatedly proposing 1000 merge-splits and executing the ones that improve the overall compactness of the districts – where compactness is defined by the degree of precinct dispersion in the districts. This alters the maps so that the districts contain precincts that are closer to the district center.

Step 5: Make 1000 attempts to improve Native representation in the Northwest. Given that VRA considerations are in important part of designing maps in the Senate, the algorithm makes 1000 attempts to create three VRA districts (Districts 3, 4, and 22) in the Northwest part of the state. VRA Districts are defined as having a non-Hispanic Native voting-age population of 60% of the total voting-age population. The algorithm targets the districts in the Northwest with the largest Native populations and performs merge-splits in those districts only if it improves the Native representation. The algorithm stops after it has made 1000 attempts to improve Native representation.

Step 6: Make 1000 attempts to improve Hispanic representation in the Southeast. Lastly the algorithm makes 1000 attempts to create three VRA districts (Districts 32 and 41) in the Southeast part of the state. VRA Districts are defined in this region as having a Hispanic voting-age population of 55% of the total voting-age population. The algorithm targets the districts in the Southeast with the largest Hispanic populations and performs merge-splits in those districts only if it improves the Hispanic representation. The algorithm stops after it has made 1000 attempts to improve Hispanic representation.

Step 7: Repeat steps 1-6 1,000 times. After Step 6 is executed, a single redistricting plan with 42 contiguous, equally-populated, roughly compact districts that attempts to comply with the VRA has been randomly generated. The algorithm then repeats steps 1 through 6 1,000 times to establish an ensemble of 1,000 computer generate maps for Senate.

I repeat this process to generate 1,000 ensemble maps for Congress, the Public Education Commission, state Senate, and state House. Figures A.2, A.4, A.6, and A.8 plot three different examples from each of the ensembles.

In the next section, I present the results of those tests for Congress, the PEC, the state Senate, and the State House.

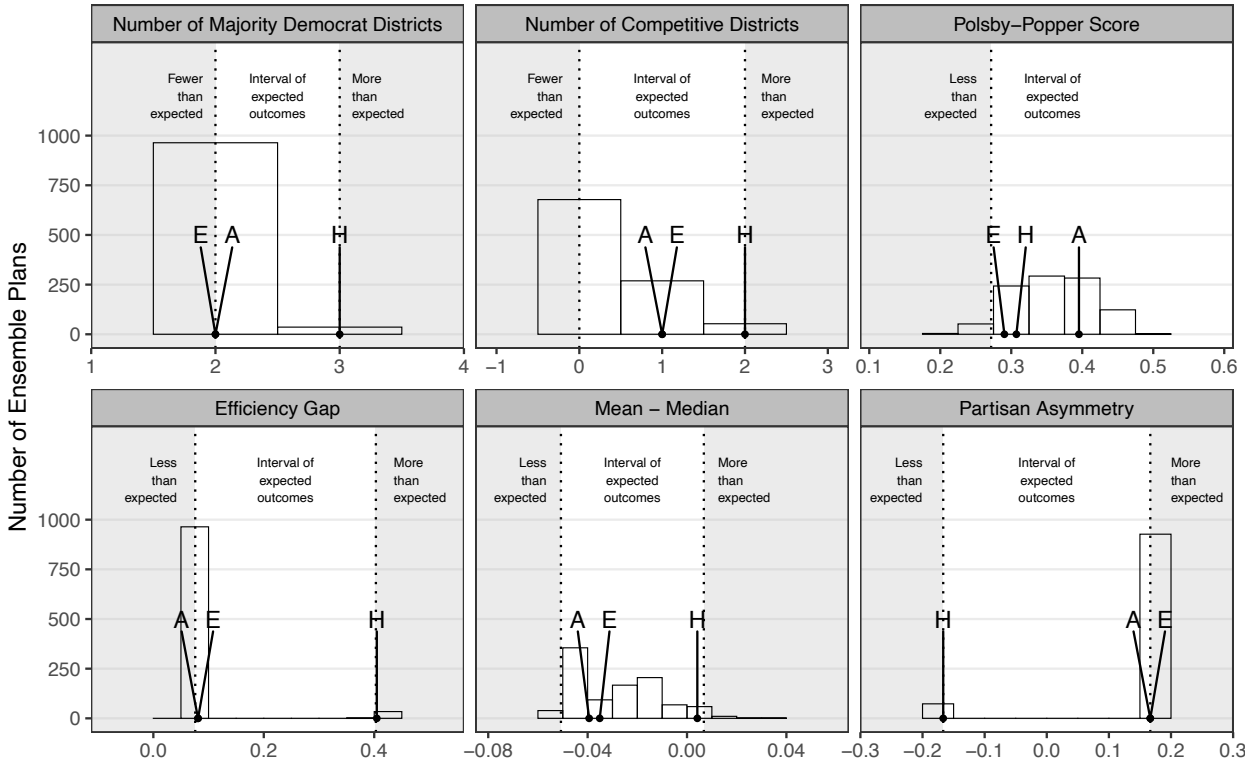
Results

For all 1,000 ensemble maps, I measure the number of majority-Democratic Districts, number of Competitive Districts, the Polsby-Popper Score, the Efficiency Gap, the Mean-Median difference, and Partisan asymmetry. I then take the range of the middle 95% of those scores to create an interval of expected outcomes for the Concept plans. Concept plans that score outside of that range are plans that are unexpectedly unfair, since they correspond with less than 5% of the of the ensemble maps. This provides a test of fairness that can be applied to all of the Concept maps.

The results for the concept maps for Congress are plotted in the Figure 1. For each of the six measures, scores of the three concept plans are arranged as points along the x-axis and their names listed above each point. The distribution of scores for the 1,000 corresponding ensemble maps are displayed in histograms in the background of each plot. The height of the histogram bar reflects the number of ensemble plans that scored values contained within the range of each bar. 95% of the computer-generated ensemble maps produced outcomes within the white region and 5% of the maps produced outcomes in the shaded region. This develops a range of outcomes that we can expect to occur under non-partisan redistricting and establishes a baseline for determining whether a concept map is significantly unfair.

As the figure displays, each of the concept maps for Congress fall within expected ranges

Figure 1: Results for Congress

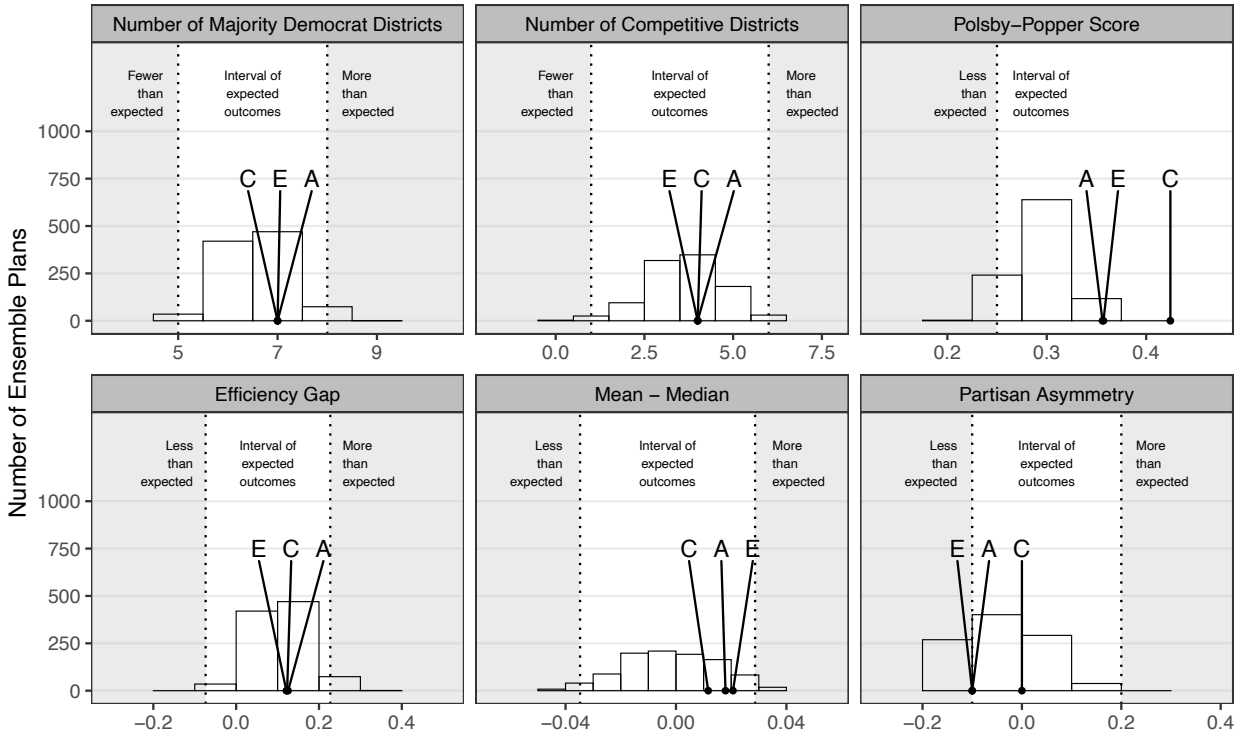


for all six measures. Maps A and E tend produce similar scores to each other, whereas Map H is distinct from the other two. Map H produces more Democratic districts than the others but its partisan symmetry favors Republicans. Map H has a higher Efficiency Gap that favors Democrats while maps A and E have a more extreme Mean-Median score that favors Democrats. None of the Concept maps for Congress produce scores that are unexpected.

The results for the concept maps for Public Education Commission are plotted in Figure 2. Just like the plans for Congress, no plan scores outside the expected range. Not only do the plans seem to agree with each other, but they also conform very well with the ensemble plans. They produce similar numbers of Democratic seats and competitive seats. They are also more compact than most of the ensemble plans. If anything is unusual, it is that plans E and A produce partisan symmetry scores that lean more Republican than the bulk of ensemble plans.

The results for the concept maps for state Senate are plotted in Figure 3. Again the concept maps tend to fall within expected ranges on each of the metrics. They produce

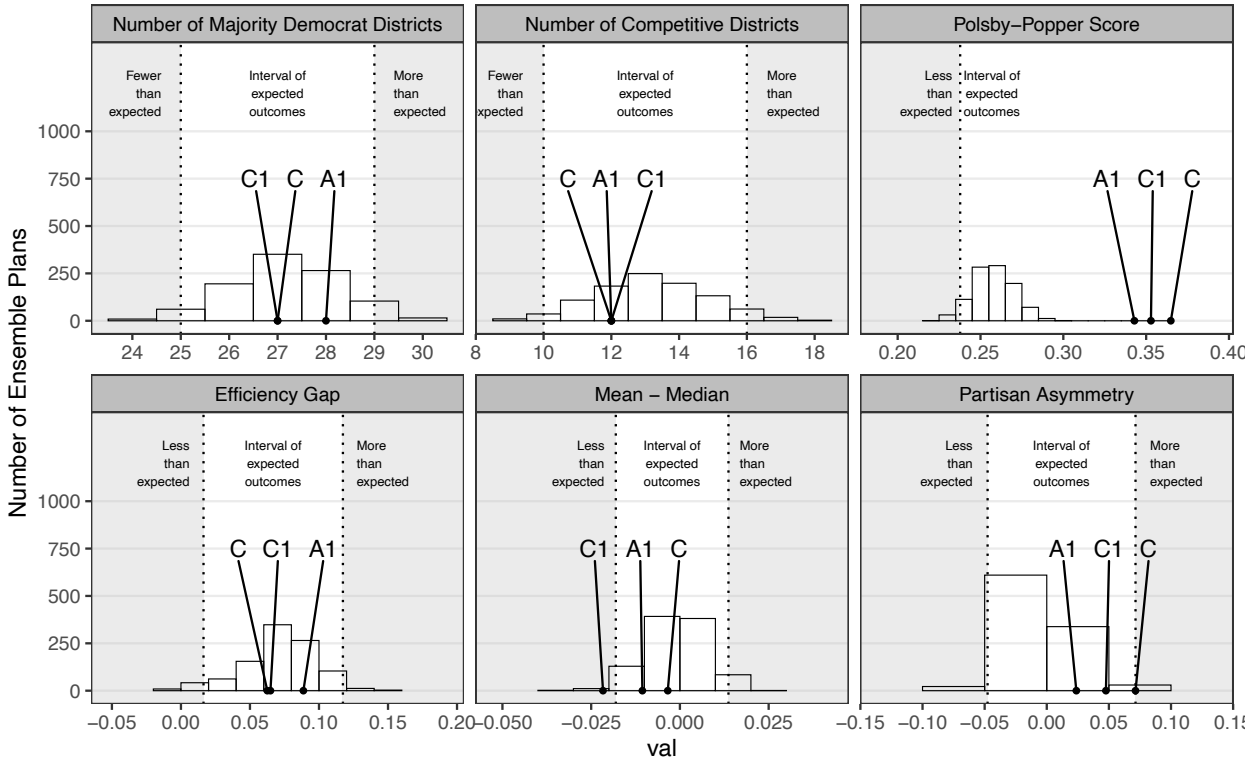
Figure 2: Results for Public Education Commission



similar numbers of Democratic seats and competitive seats. They are also more compact than all of the ensemble plans. The only outcome in the shaded region is Senate plan C on the mean-median score. According to that measure, it has an unusually strong Democratic bias. However, it is well within the expected range for other measures, producing a similar number of Democratic seats as the Ensemble plans.

Lastly, the results for the concept maps for the House are plotted in Figure 4. Once again, each of the Concept plans for the House fall within expected ranges. None exhibit extreme partisan unfairness and they correspond with the middle 95% of the ensemble plans. They produce similar numbers of Democratic districts and competitive districts, produce compact district scores, and produce similar partisan fairness scores. If anything stands out, is that plan E1 tends to produce more Democratic districts than the bulk of ensemble plans – although it is within the range of expectation.

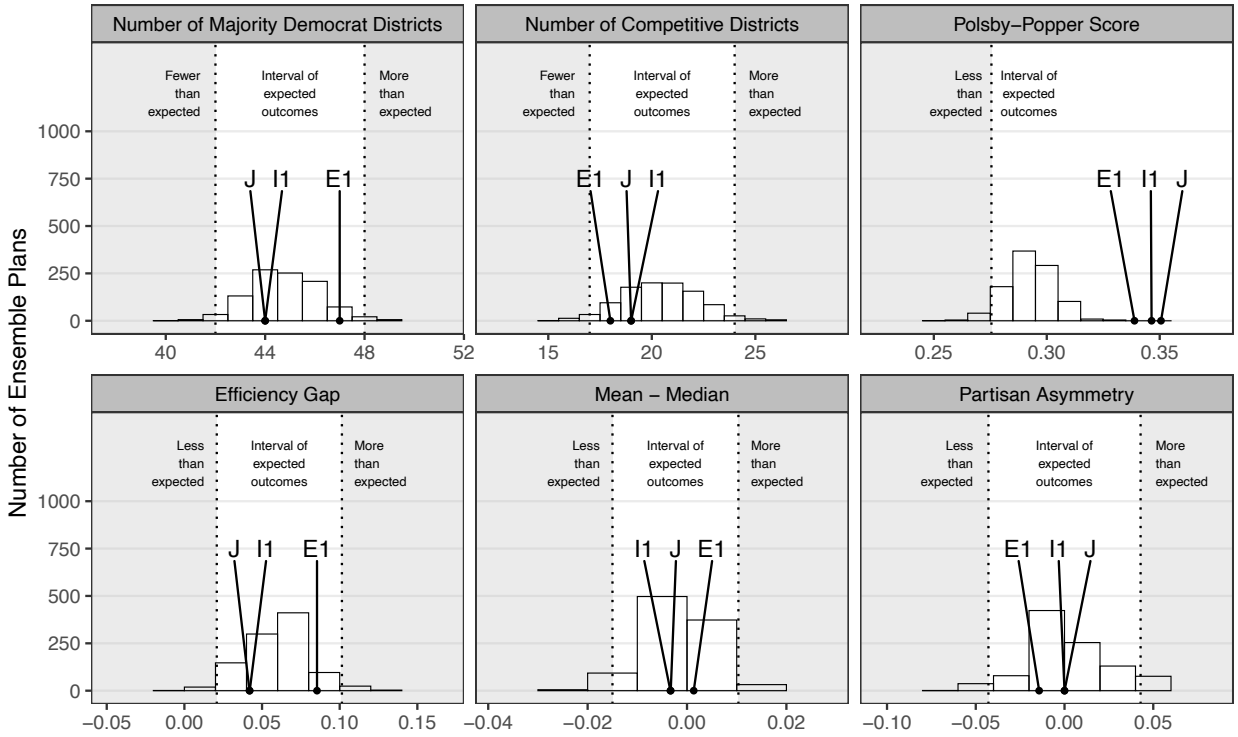
Figure 3: Results for State Senate



Conclusion

In this report I have evaluated each of the Concept maps proposed by the Citizen's Redistricting Committee with respect to 6 different metrics of partisan fairness, capturing each plan's expected partisan outcome, average district compactness, efficiency gap, mean-median difference, and partisan symmetry. I have also evaluated a computer-generated ensemble of 1,000 alternative plans using the same metrics of partisan fairness. In comparing the concept maps to the computer-generated ensemble maps, I find little evidence to suggest that the maps are unexpectedly unfair. Other than a minor exception, the concept maps fall within expected ranges of partisan fairness.

Figure 4: Results for State House



References

Carter, Daniel, Gregory Herschlag, Zach Hunter and Jonathan Mattingly. 2019. "A merge-split proposal for reversible Monte Carlo Markov chain sampling of redistricting plans." *arXiv preprint arXiv:1911.01503* .

Chen, Jowei and Nicholas O Stephanopoulos. 2020. "The Race-Blind Future of Voting Rights." *Yale LJ* 130:862.

DeFord, Daryl, Moon Duchin and Justin Solomon. 2019. "Recombination: A family of Markov chains for redistricting." *arXiv preprint arXiv:1911.05725* .

King, Gary. 1989. "Representation Through Legislative Redistricting: A Stochastic Model." *American Journal of Political Science* 33:787–824.

McDonald, Michael D and Robin E Best. 2015. "Unfair partisan gerrymanders in politics and law: A diagnostic applied to six cases." *Election Law Journal* 14(4):312–330.

Stephanopoulos, Nicholas O and Eric M McGhee. 2015. "Partisan gerrymandering and the efficiency gap." *U. Chi. L. Rev.* 82:831.

(Dr. Cottrell's appendix, separate from CRC appendix)

Appendix

Figure A.1: Concept Maps for Congressional Districts

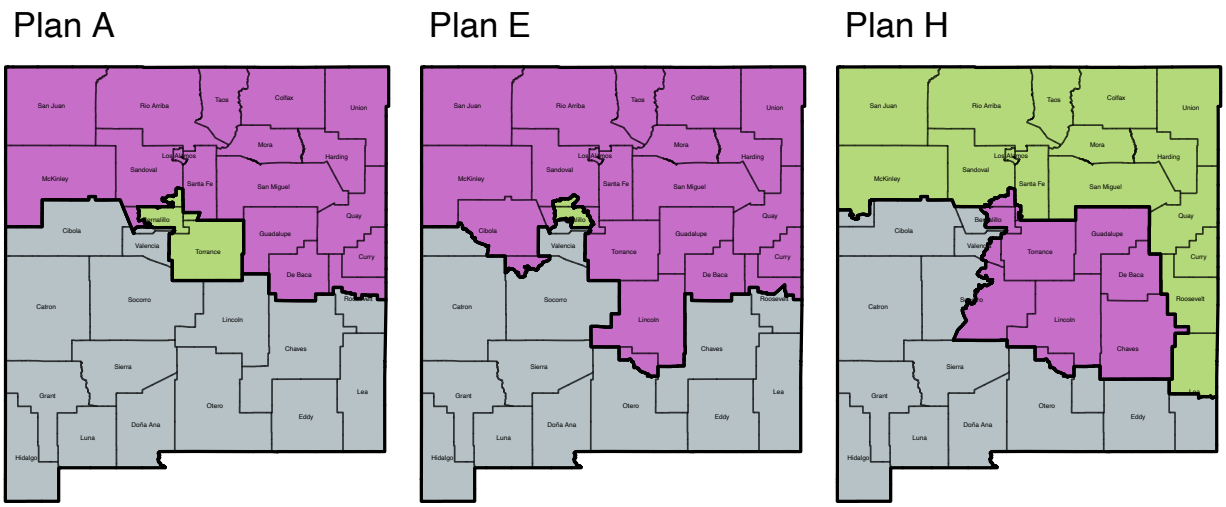


Figure A.2: Three Computer-Generated Ensemble Maps for Congressional Districts

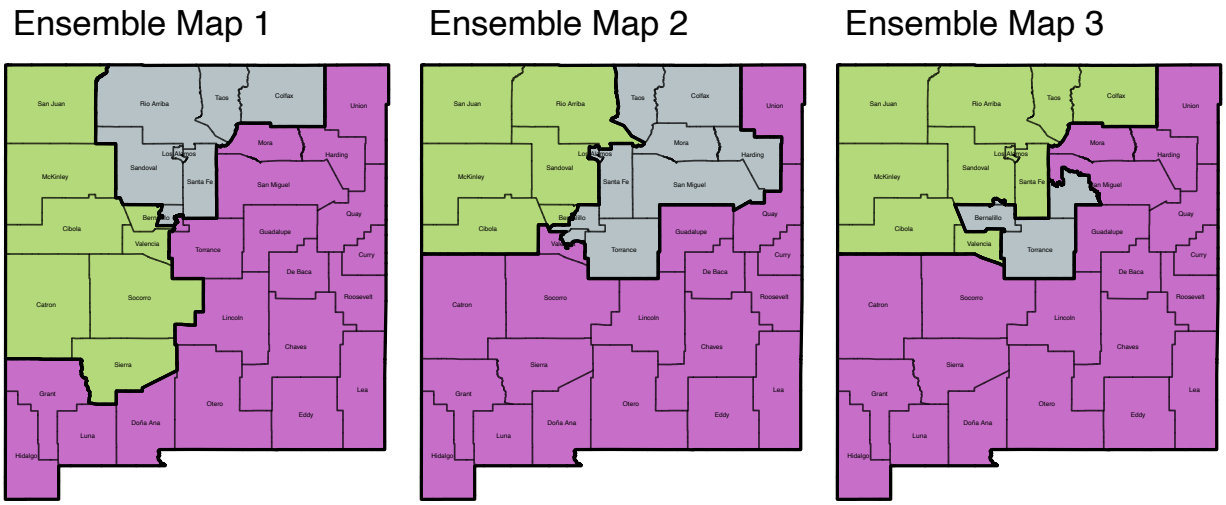


Figure A.3: Concept Maps for Public Ed. Commission Districts

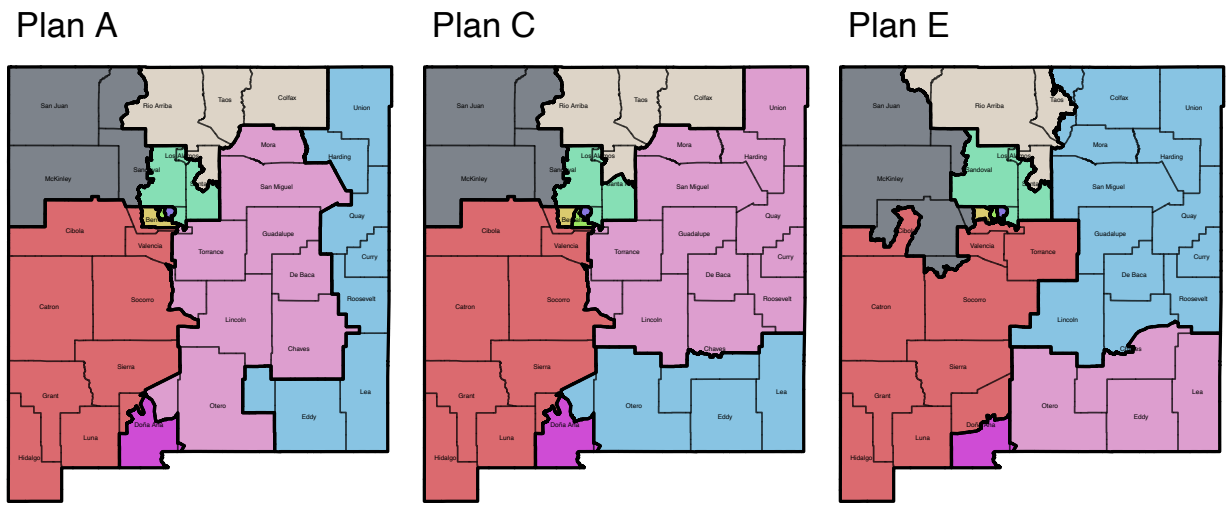


Figure A.4: Three Computer-Generated Ensemble Maps for Public Ed. Commission Districts

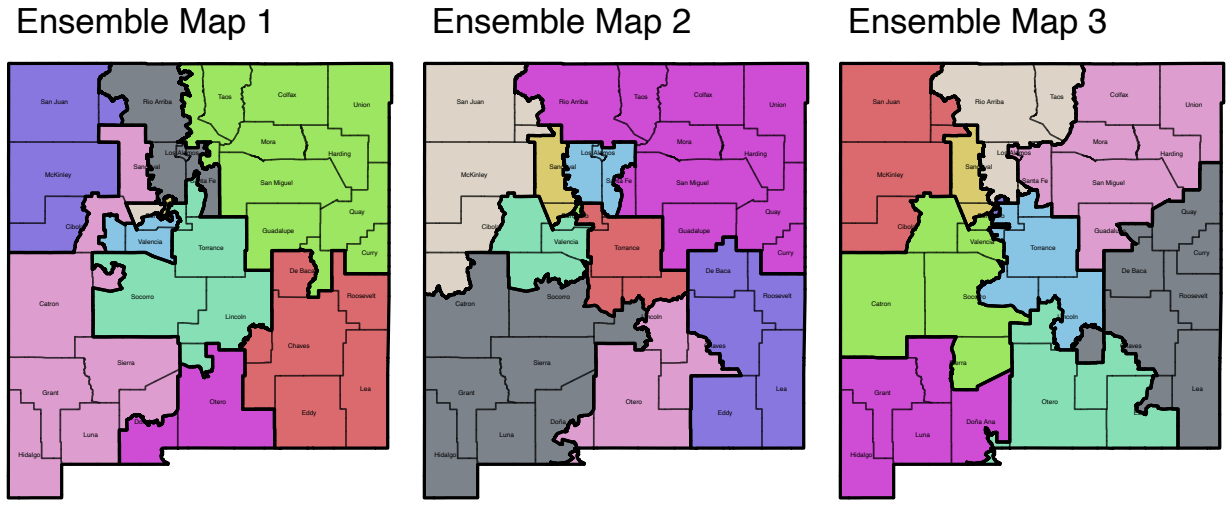


Figure A.5: Concept Maps for State Senate

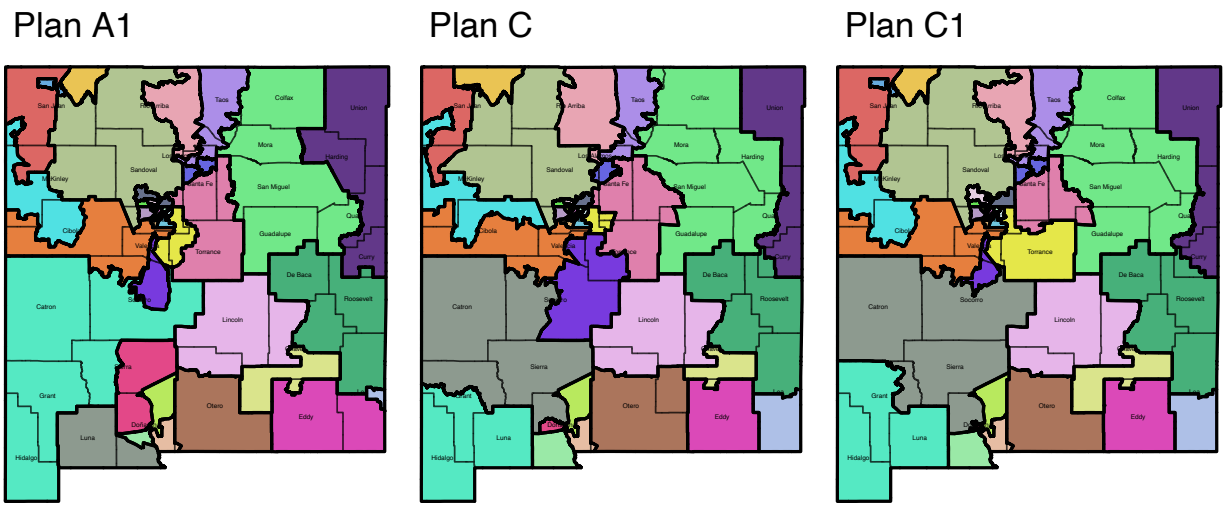


Figure A.6: Three Computer-Generated Ensemble Maps for State Senate

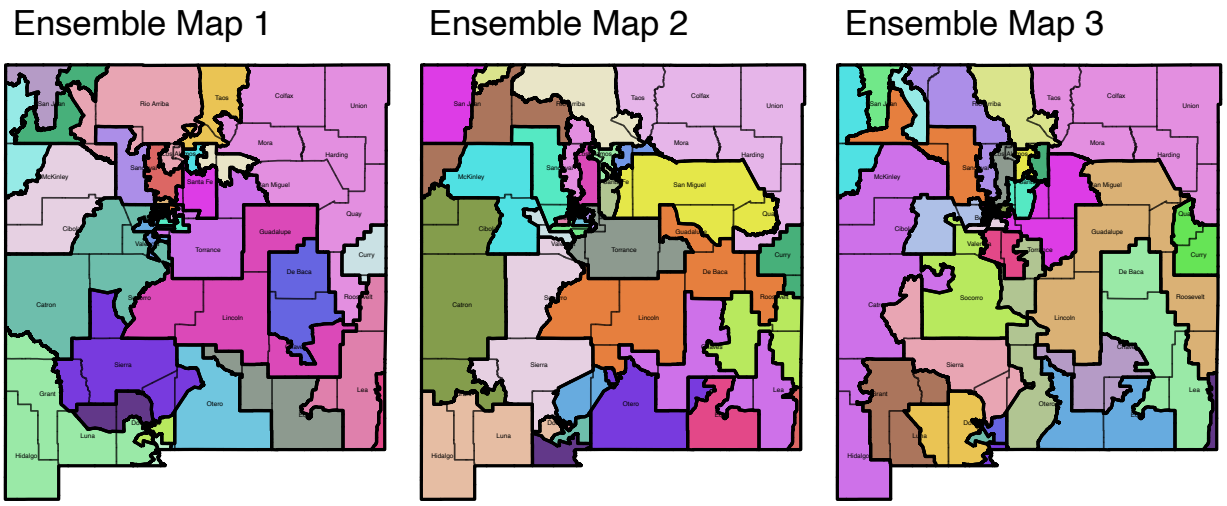


Figure A.7: Concept Maps for State House

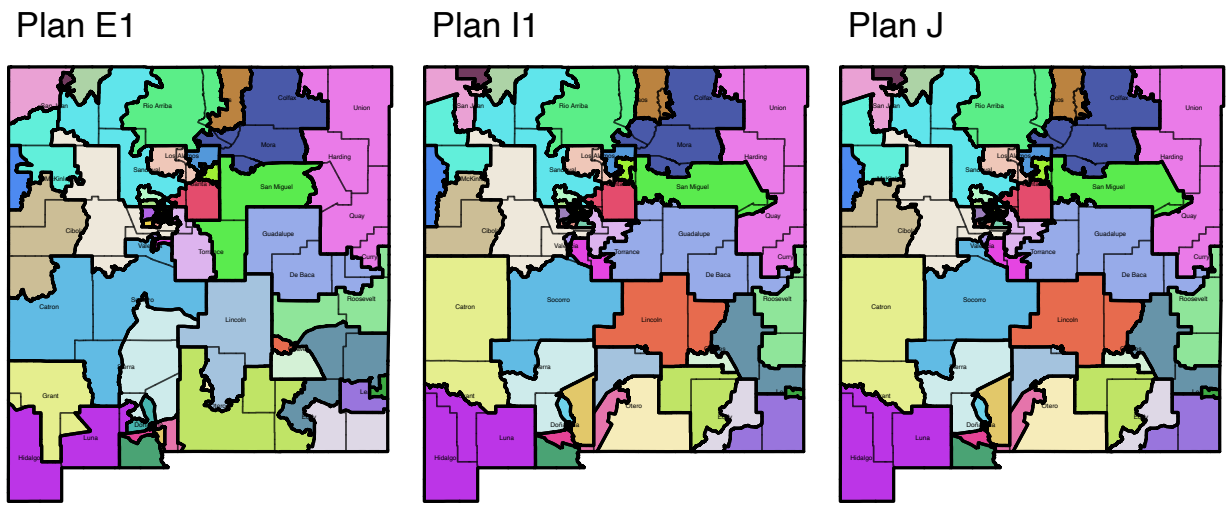
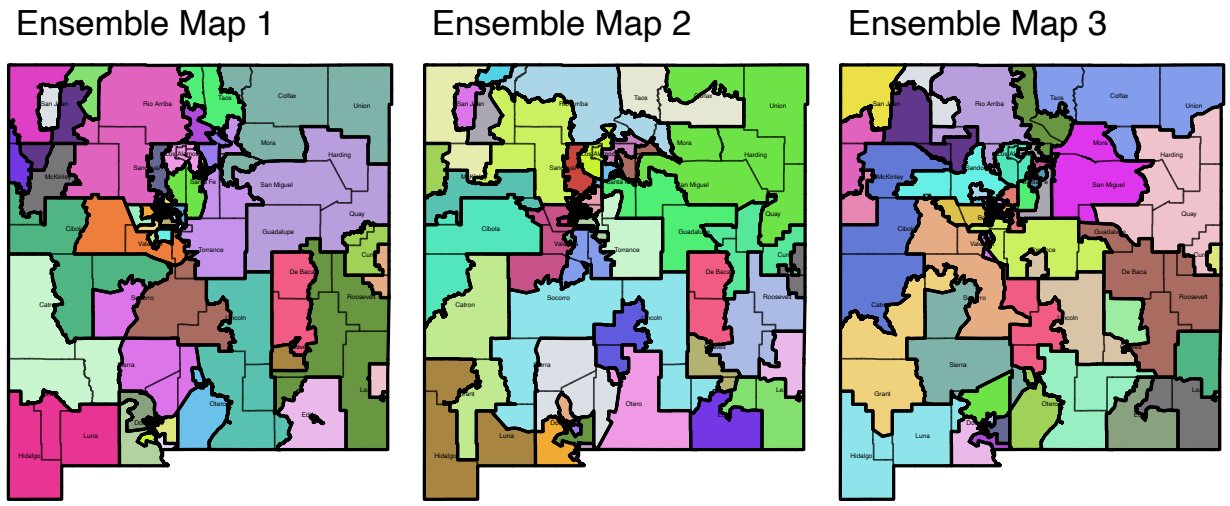


Figure A.8: Three Computer-Generated Ensemble Maps for State House



Appendix 2: VRA Supporting Documents

Appendix 2.1 Ecological Inference Report on SD 32 (Hispanic)

Ecological Inference Report

Candidate 1

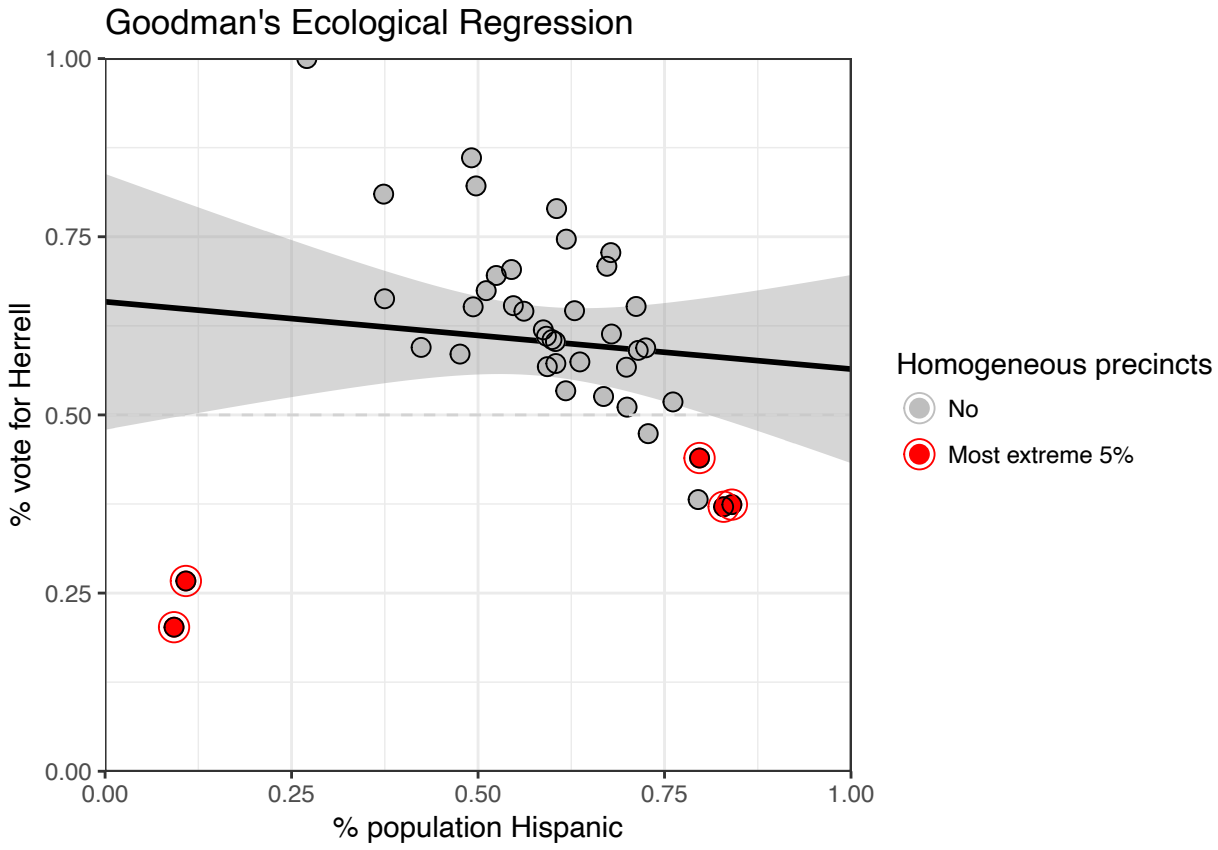
Table

First, we compare predictions from three different models for Herrell vote share given demographic and total vote data

	Herrell	Homogeneous precincts	Goodman ER	Ecol Inf
w	All but Hispanic support	0.2345480	0.6587633	0.7424293
m	Hispanic support	0.3949253	0.5643295	0.5429659

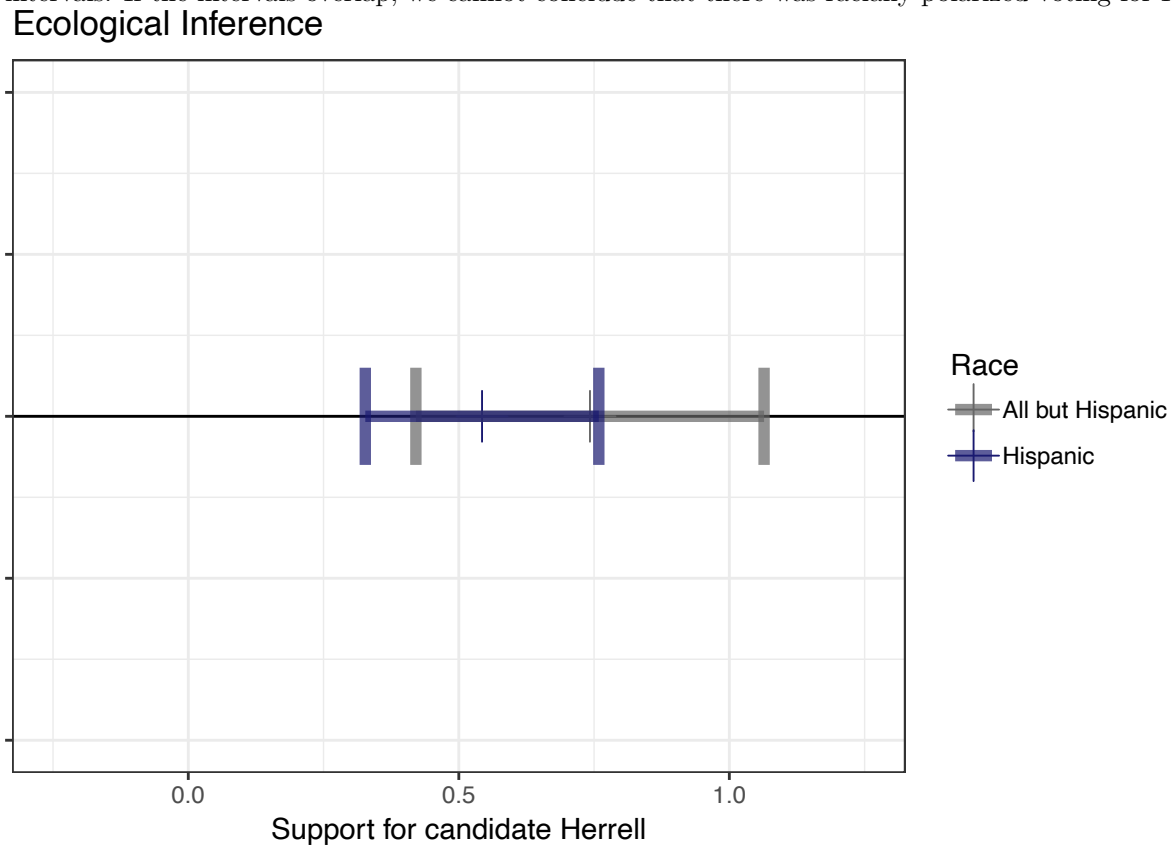
Goodman's Ecological Regression

Next, we plot votes for Herrell by the proportion of the population Hispanic according to Goodman's regression predictions We use the following equation:
Herrell $=\beta_0 + \beta_1$ PerHisp . Note that $\beta_0 = 0.659$ and $\beta_1 =$ -0.094 .



Ecological Inference

Finally, we calculate ecological inference predictions for Herrell 's vote share and plot them with credible intervals. If the intervals overlap, we cannot conclude that there was racially polarized voting for Herrell .



Candidate 2

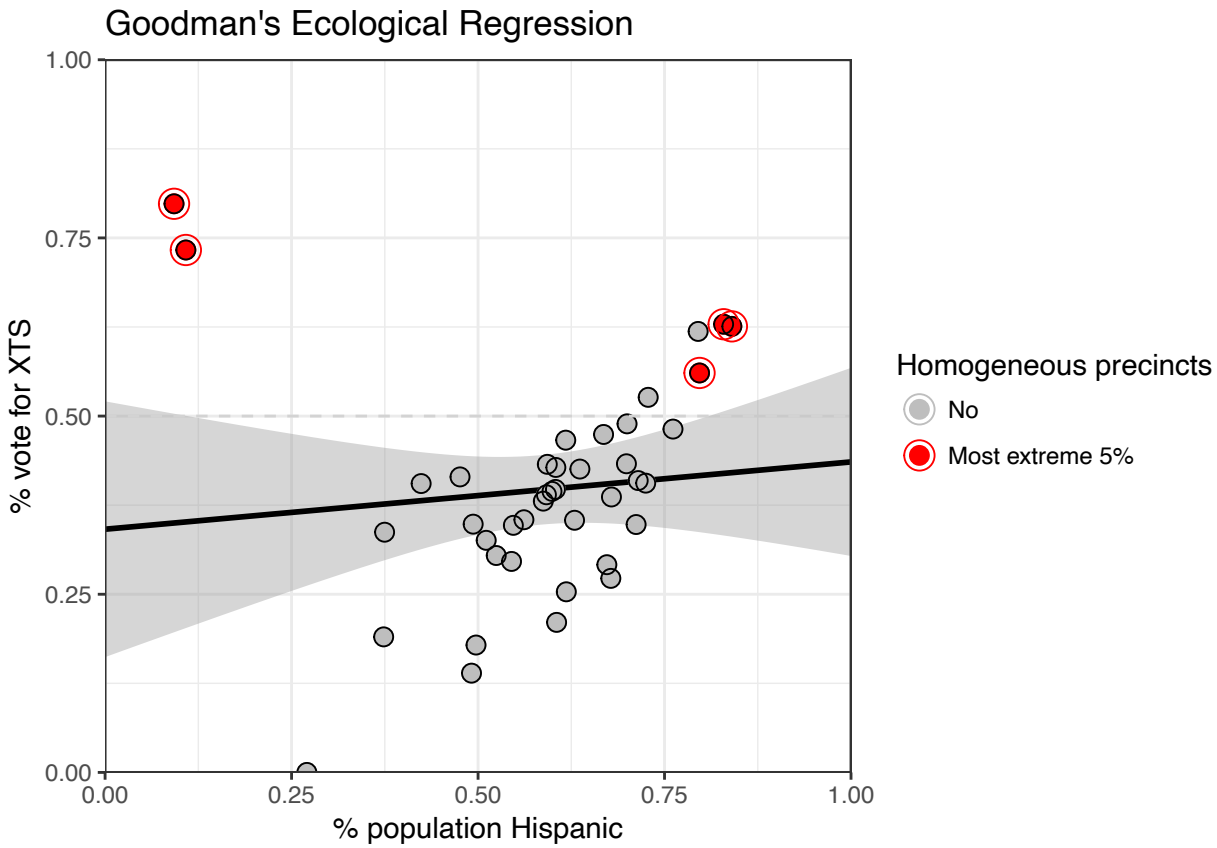
Table

First, we compare predictions from three different models for XTS vote share given demographic and total vote data

	XTS	Homogeneous precincts	Goodman ER	Ecol Inf
w	All but Hispanic support	0.7654520	0.3412367	0.2601927
m	Hispanic support	0.6050747	0.4356705	0.4545927

Goodman's Ecological Regression

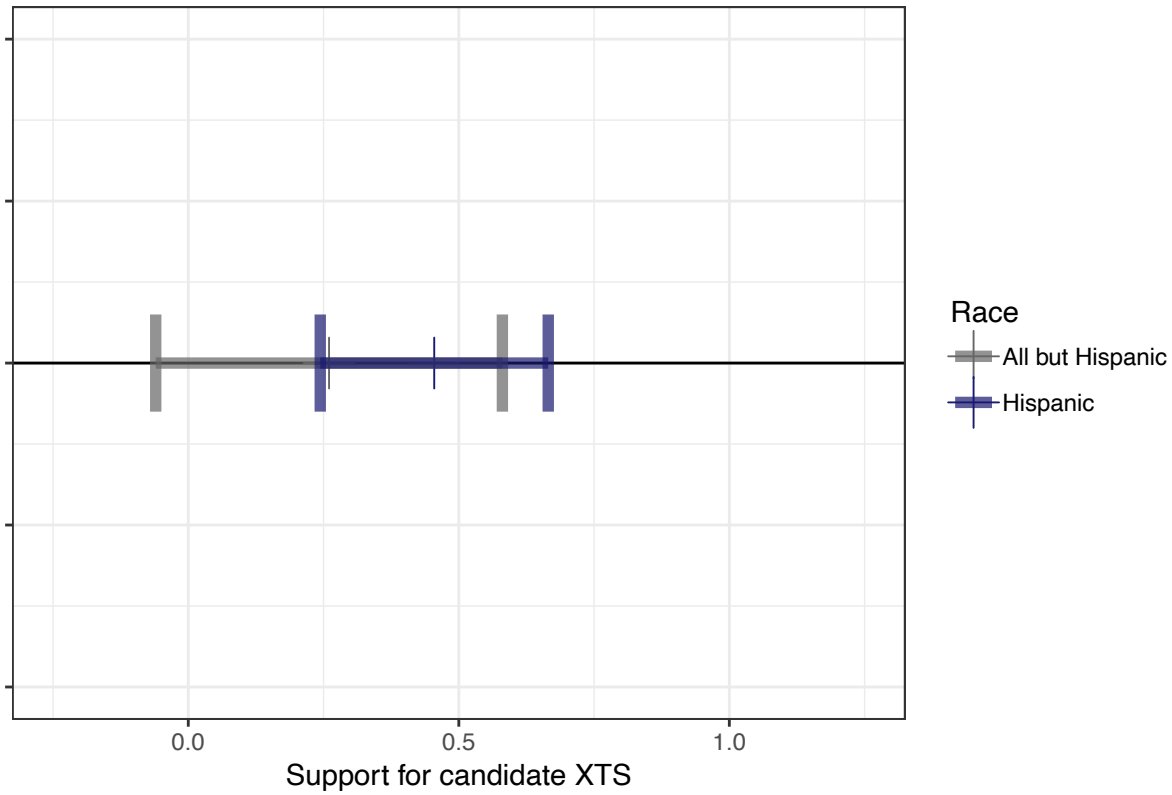
Next, we plot votes for XTS by the proportion of the population Hispanic according to Goodman's regression predictions We use the following equation:
XTS $=\beta_0 + \beta_1$ PerHisp . Note that $\beta_0 = 0.341$ and $\beta_1 = 0.094$.



Ecological Inference

Finally, we calculate ecological inference predictions for XTS 's vote share and plot them with credible intervals. If the intervals overlap, we cannot conclude that there was racially polarized voting for XTS .

Ecological Inference



Ecological Inference Report

Candidate 1

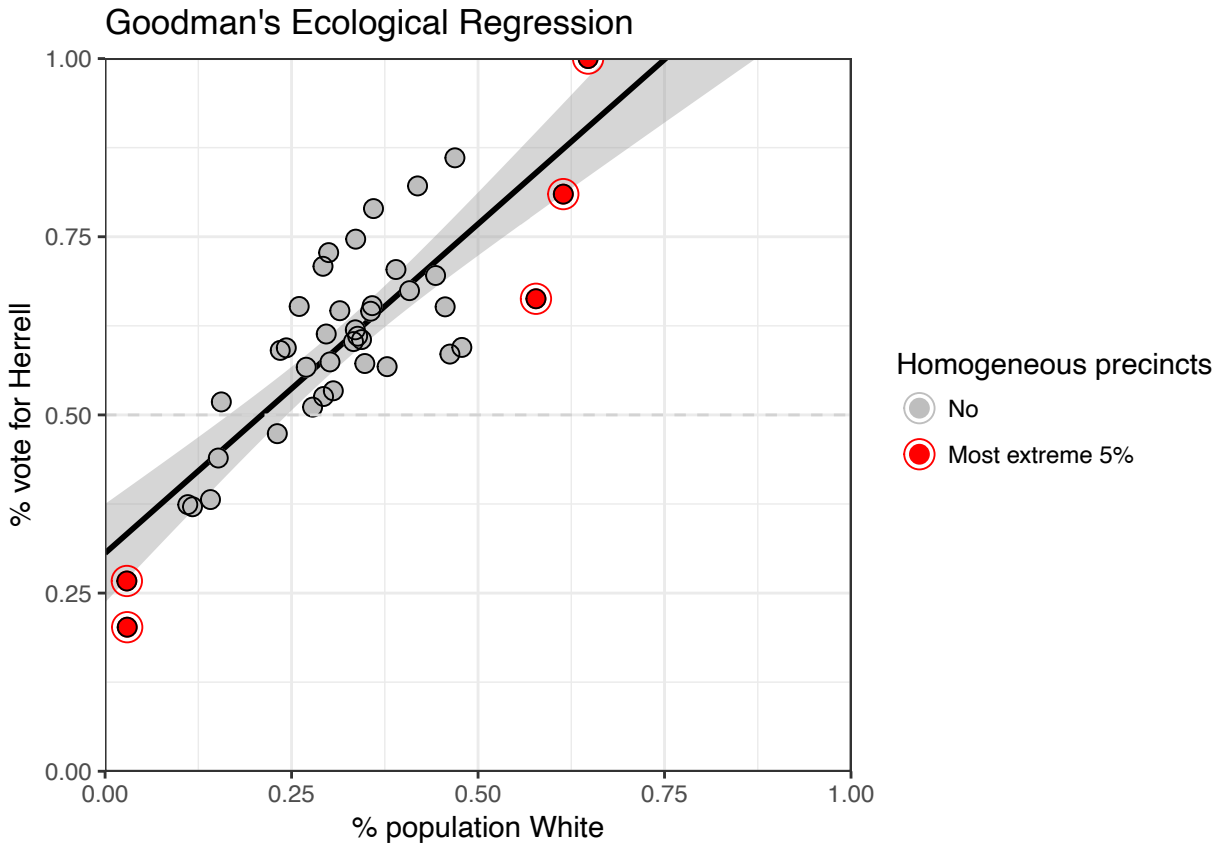
Table

First, we compare predictions from three different models for Herrell vote share given demographic and total vote data

	Herrell	Homogeneous precincts	Goodman ER	Ecol Inf
w	All but White support	0.2345480	0.3059474	0.4408561
m	White support	0.8242596	1.2297487	0.9775049

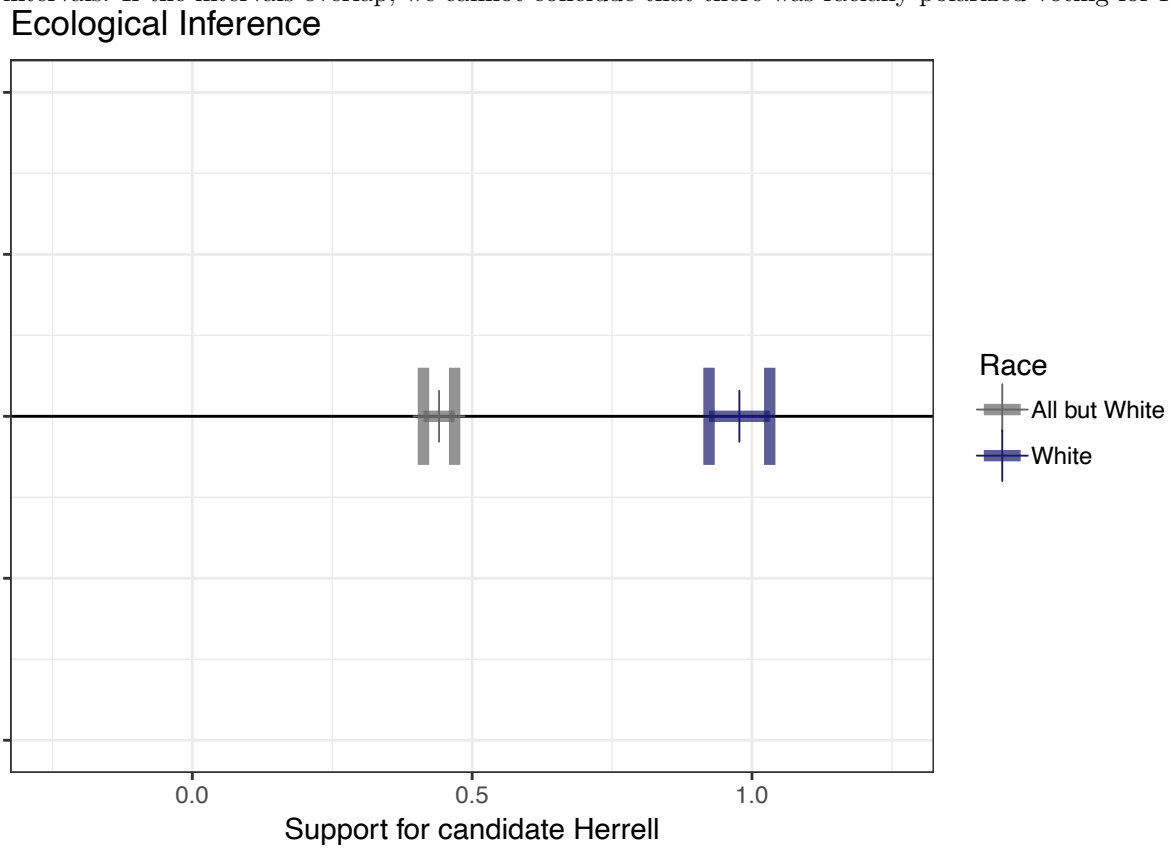
Goodman's Ecological Regression

Next, we plot votes for Herrell by the proportion of the population White according to Goodman's regression predictions We use the following equation:
Herrell $=\beta_0 + \beta_1$ PerWhite . Note that $\beta_0 = 0.306$ and $\beta_1 = 0.924$.



Ecological Inference

Finally, we calculate ecological inference predictions for Herrell 's vote share and plot them with credible intervals. If the intervals overlap, we cannot conclude that there was racially polarized voting for Herrell .



Candidate 2

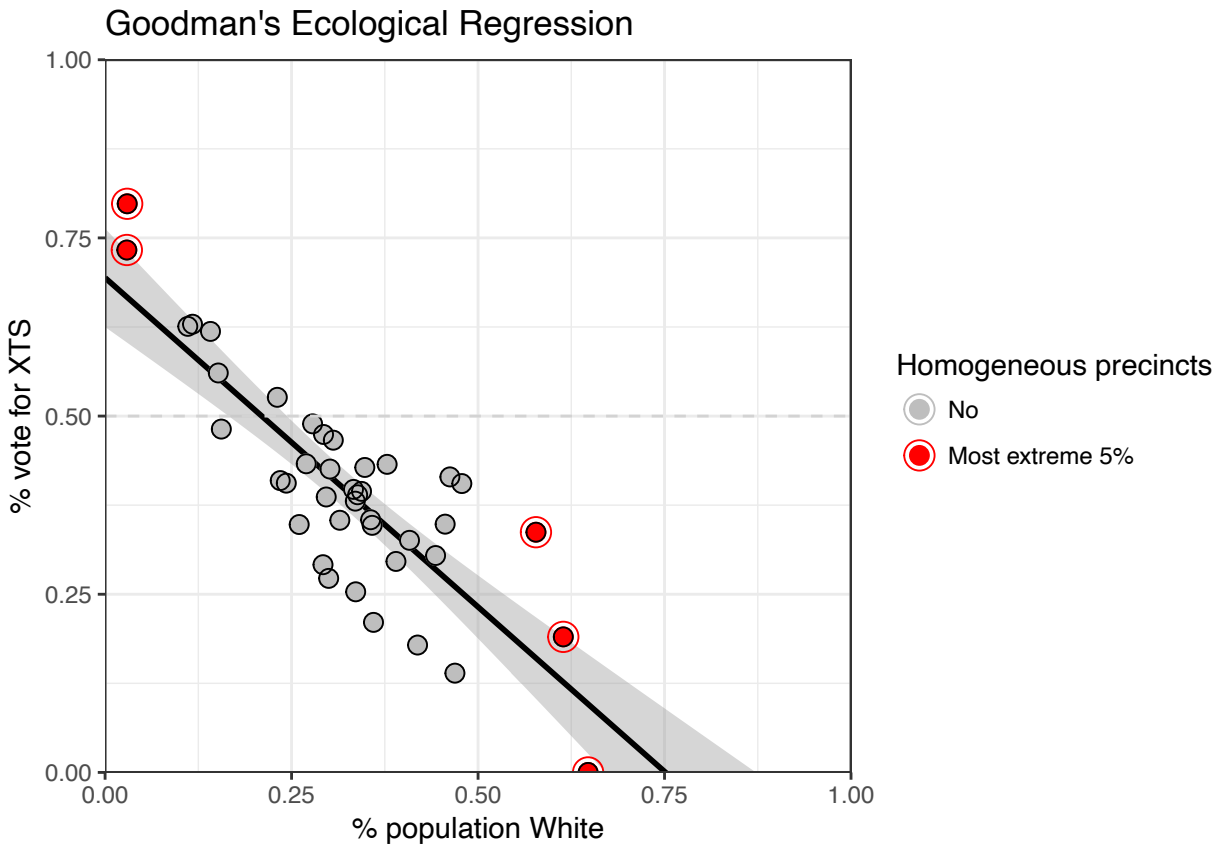
Table

First, we compare predictions from three different models for XTS vote share given demographic and total vote data

	XTS	Homogeneous precincts	Goodman ER	Ecol Inf
w	All but White support	0.7654520	0.6940526	0.5649415
m	White support	0.1757404	-0.2297487	0.0111805

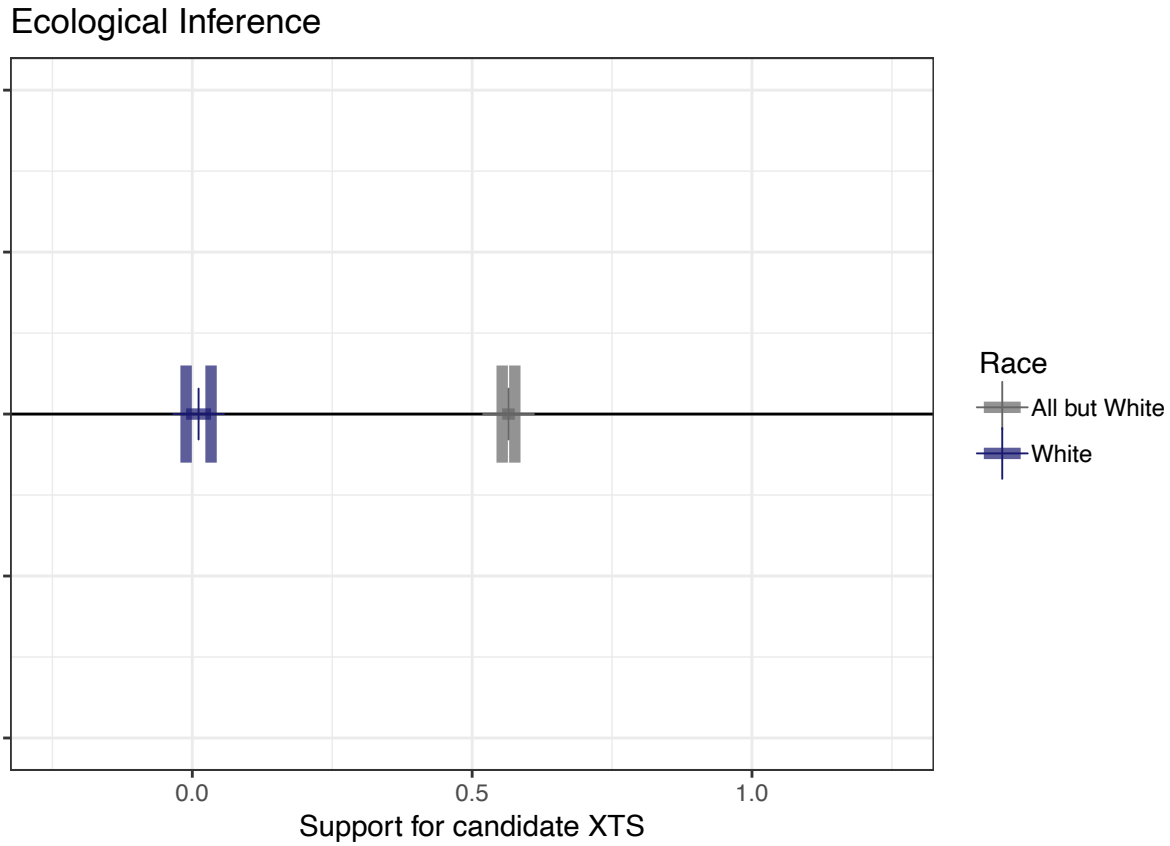
Goodman's Ecological Regression

Next, we plot votes for XTS by the proportion of the population White according to Goodman's regression predictions We use the following equation:
XTS $=\beta_0 + \beta_1$ PerWhite . Note that $\beta_0 = 0.694$ and $\beta_1 =$ -0.924 .



Ecological Inference

Finally, we calculate ecological inference predictions for XTS 's vote share and plot them with credible intervals. If the intervals overlap, we cannot conclude that there was racially polarized voting for XTS .


Ecological Inference
0.0
0.5
1.0
Support for candidate XTS
Race
All but White
White

Appendix 2.2.1

Summary Table for Ecological Inference Report on SD 32

SD 32

XTS	Homogeneous Precincts	Goodman's Regression	Weighted Goodman's Regression	Ecological Inference
Non-Hispanic Support	76.5%	34.1%	42.3%	26.0%
Hispanic Support	60.5%	43.6%	36.5%	45.5%

Herrell	Homogeneous Precincts	Goodman's Regression	Weighted Goodman's Regression	Ecological Inference
Non-Hispanic Support	23.5%	65.9%	57.7%	74.2%
Hispanic Support	39.5%	56.4%	51.9%	54.3%

XTS	Homogeneous Precincts	Goodman's Regression	Weighted Goodman's Regression	Ecological Inference
Non-White Support	76.5%	**69.4%**	**68.2%**	**56.5%**
White Support	17.6%	**-23.0%**	**-21.2%**	**1.1%**

Herrell	Homogeneous Precincts	Goodman's Regression	Weighted Goodman's Regression	Ecological Inference
Non-White Support	23.5%	**30.4%**	**31.9%**	**44.1%**
White Support	82.4%	**123.0%**	**121.3%**	**97.8%**

Bold = statistically significant

Ecological Inference Report

Candidate 1

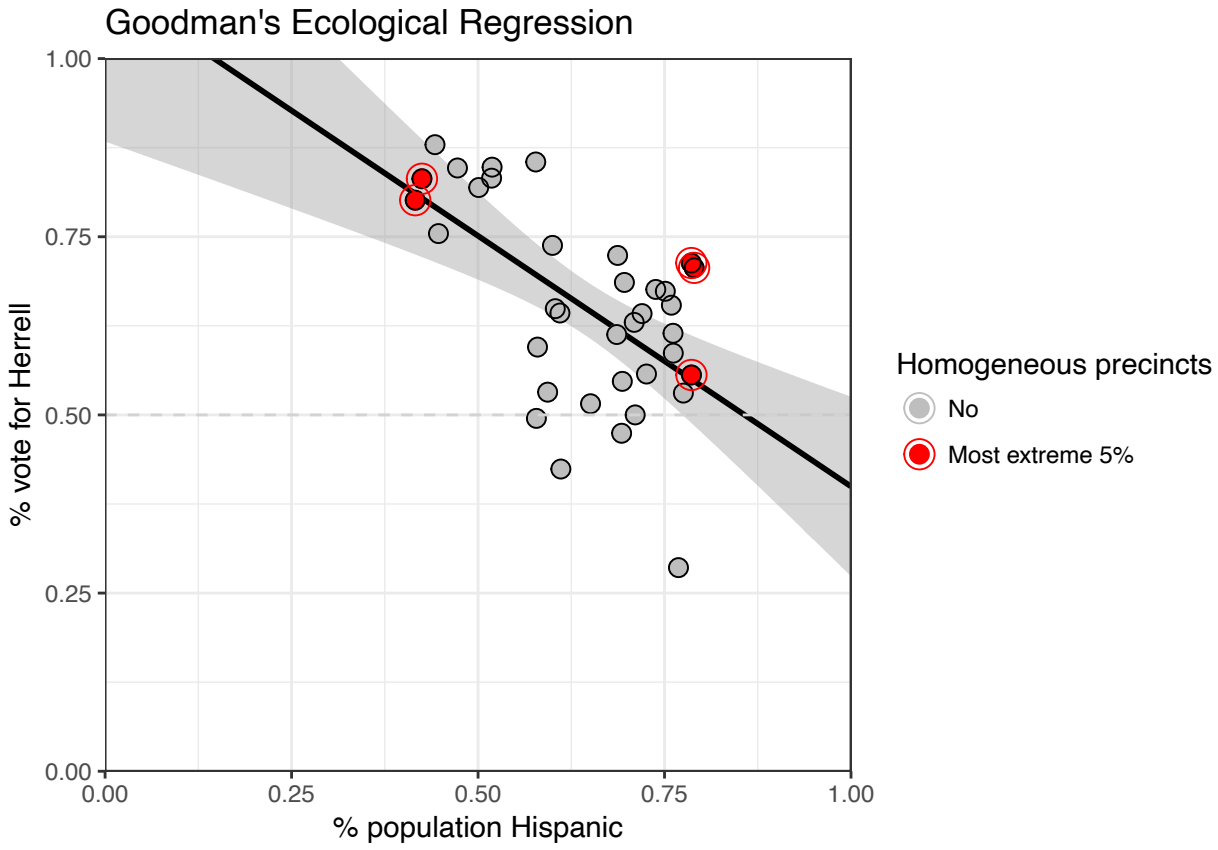
Table

First, we compare predictions from three different models for Herrell vote share given demographic and total vote data

	Herrell	Homogeneous precincts	Goodman ER	Ecol Inf
w	All but Hispanic support	0.8163139	1.1028370	0.9873667
m	Hispanic support	0.6585059	0.3995984	0.4720611

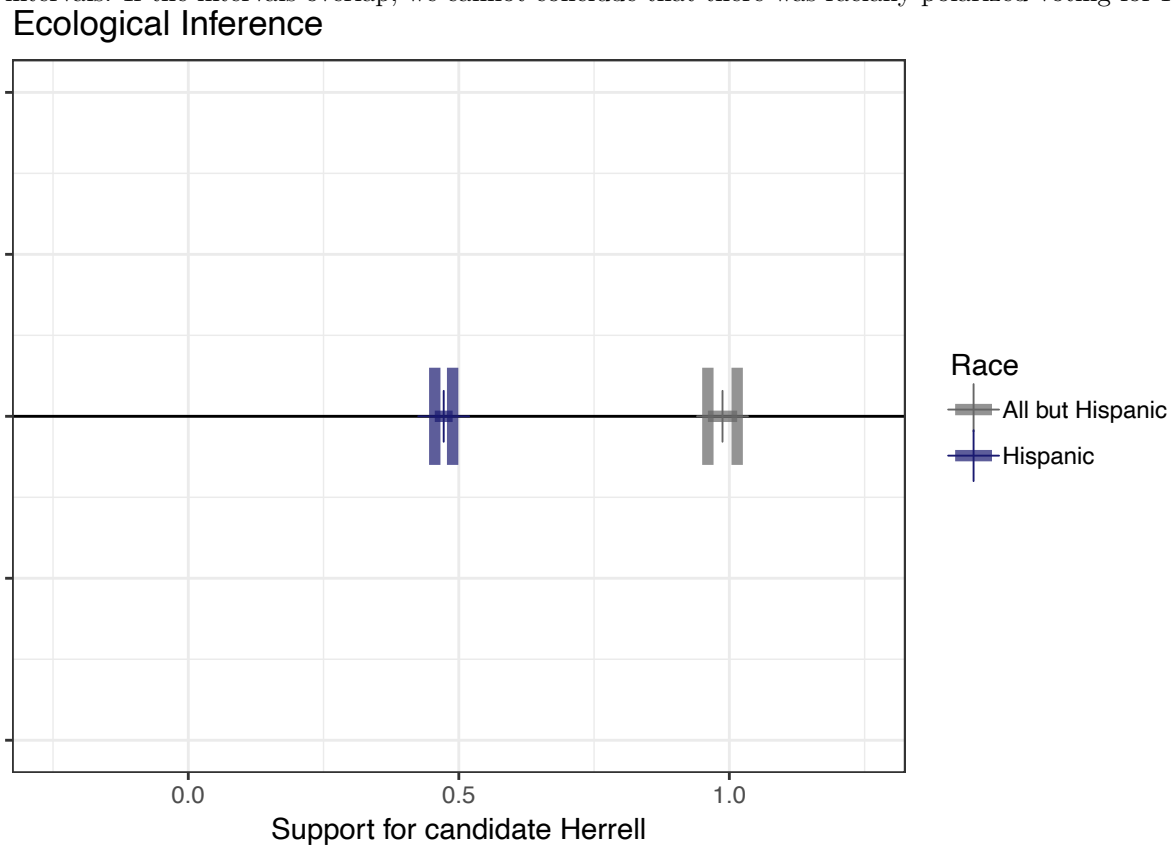
Goodman's Ecological Regression

Next, we plot votes for Herrell by the proportion of the population Hispanic according to Goodman's regression predictions We use the following equation:
Herrell $=\beta_0 + \beta_1$ PerHisp . Note that $\beta_0 = 1.103$ and $\beta_1 = -0.703$.



Ecological Inference

Finally, we calculate ecological inference predictions for Herrell 's vote share and plot them with credible intervals. If the intervals overlap, we cannot conclude that there was racially polarized voting for Herrell .



Candidate 2

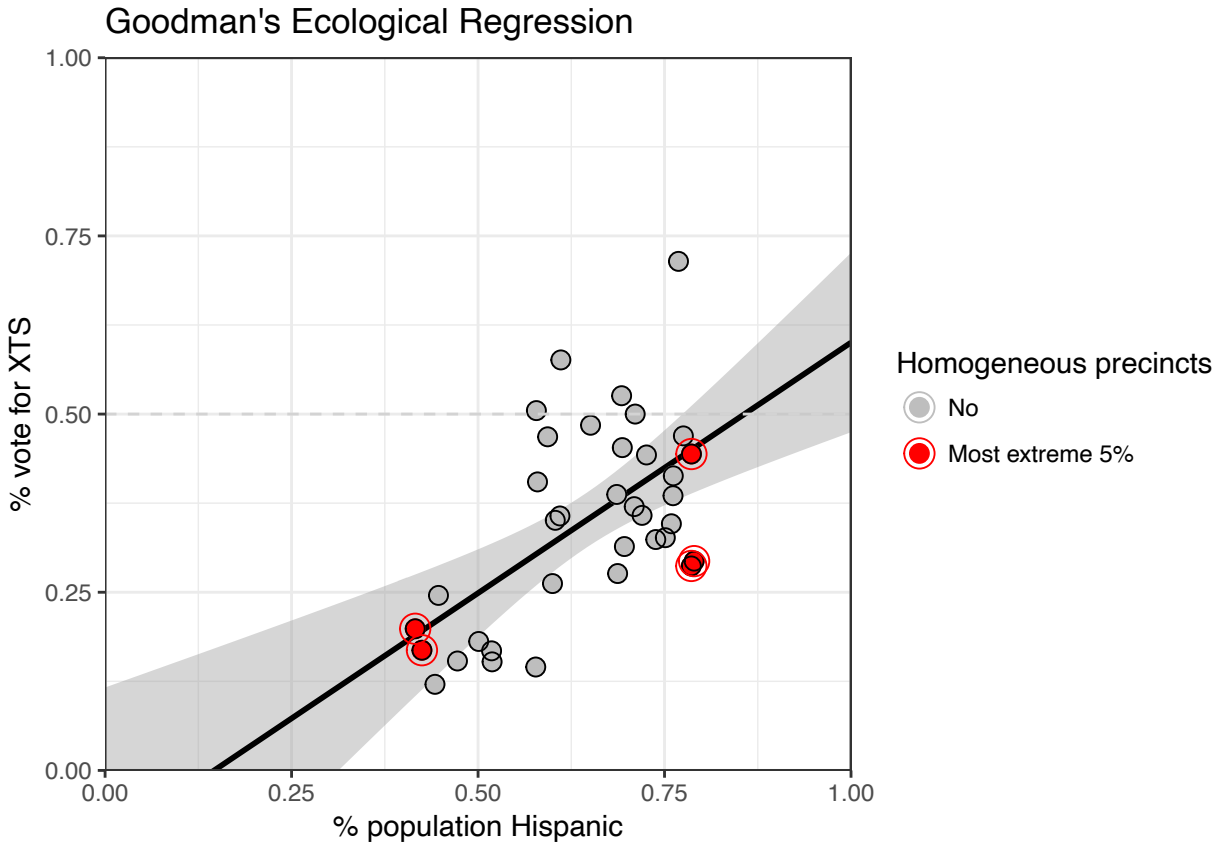
Table

First, we compare predictions from three different models for XTS vote share given demographic and total vote data

	XTS	Homogeneous precincts	Goodman ER	Ecol Inf
w	All but Hispanic support	0.1836861	-0.1028370	0.0345417
m	Hispanic support	0.3414941	0.6004016	0.5153361

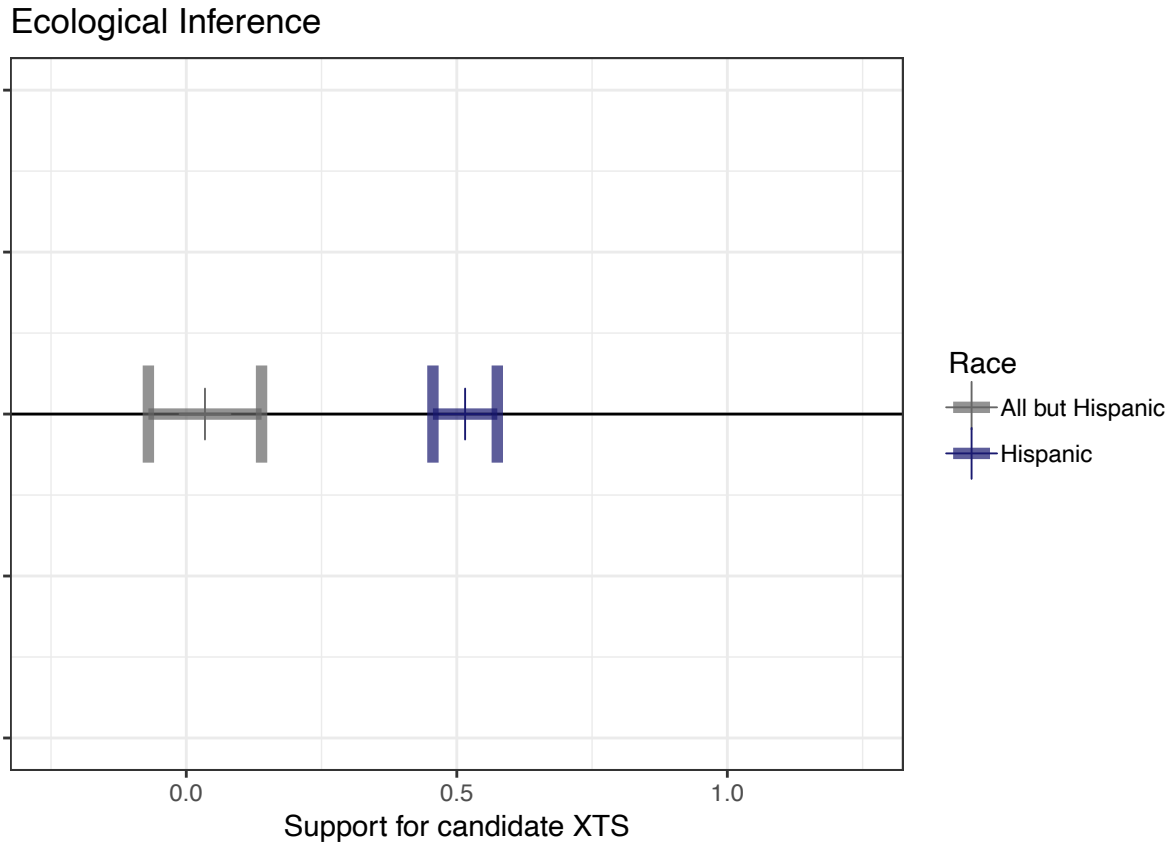
Goodman's Ecological Regression

Next, we plot votes for XTS by the proportion of the population Hispanic according to Goodman's regression predictions We use the following equation:
XTS $=\beta_0 + \beta_1$ PerHisp . Note that β_0 = -0.103 and β_1 = 0.703 .



Ecological Inference

Finally, we calculate ecological inference predictions for XTS 's vote share and plot them with credible intervals. If the intervals overlap, we cannot conclude that there was racially polarized voting for XTS .


Ecological Inference
0.0
0.5
1.0
Support for candidate XTS
Race
All but Hispanic
Hispanic

Appendix 2.3.1

Summary Table for Ecological Inference Report on SD 41

SD 41

XTS	Homogeneous Precincts	Goodman's Regression	Weighted Goodman's Regression	Ecological Inference
Non-Hispanic Support	18.4%	**-10.3%**	**-9.3%**	**3.5%**
Hispanic Support	34.1%	**60.0%**	**57.0%**	**51.5%**

Herrell	Homogeneous Precincts	Goodman's Regression	Weighted Goodman's Regression	Ecological Inference
Non-Hispanic Support	81.6%	**110.3%**	**109.3%**	**98.7%**
Hispanic Support	65.9%	**40.0%**	**43.0%**	**47.2%**

Bold = statistically significant

Ecological Inference Report

Candidate 1

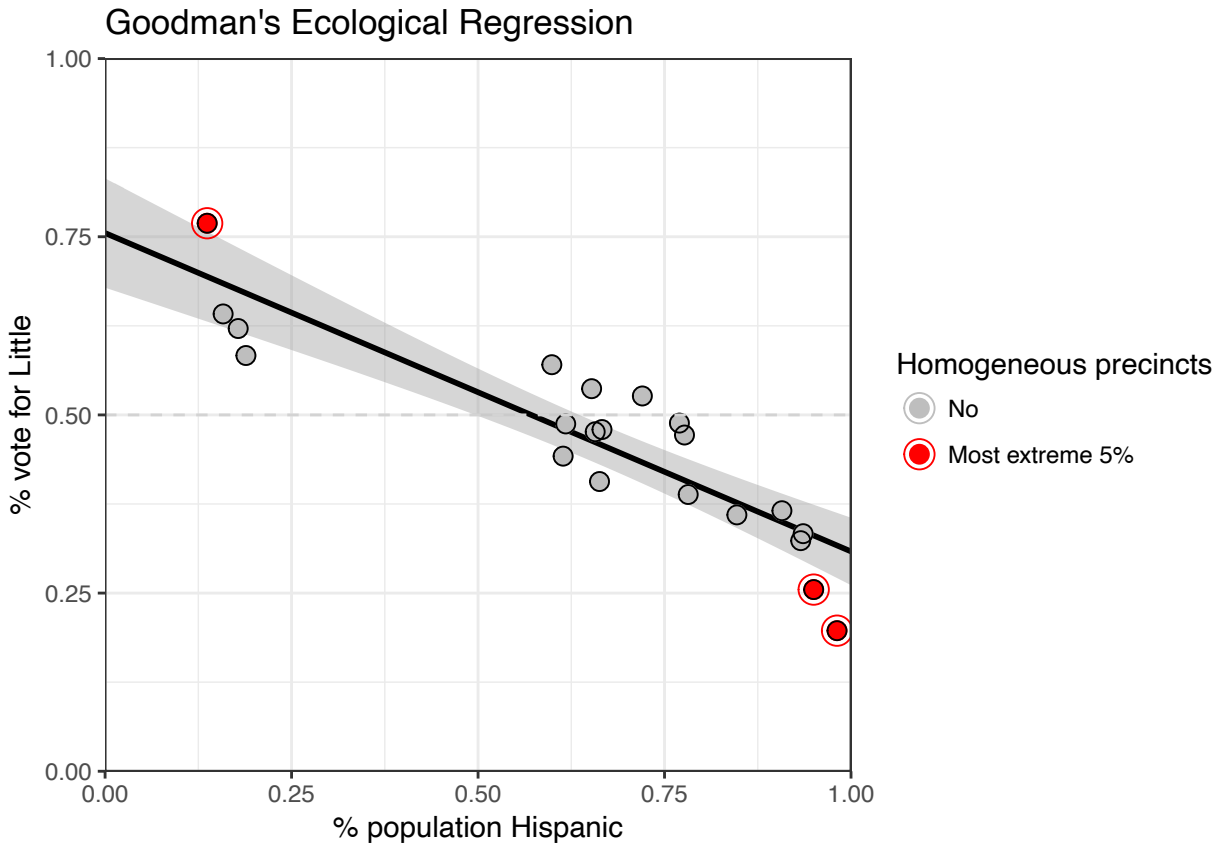
Table

First, we compare predictions from three different models for Little vote share given demographic and total vote data

	Little	Homogeneous precincts	Goodman ER	Ecol Inf
w	All but Hispanic support	0.7689295	0.7552163	0.7615667
m	Hispanic support	0.2260748	0.3084431	0.3153429

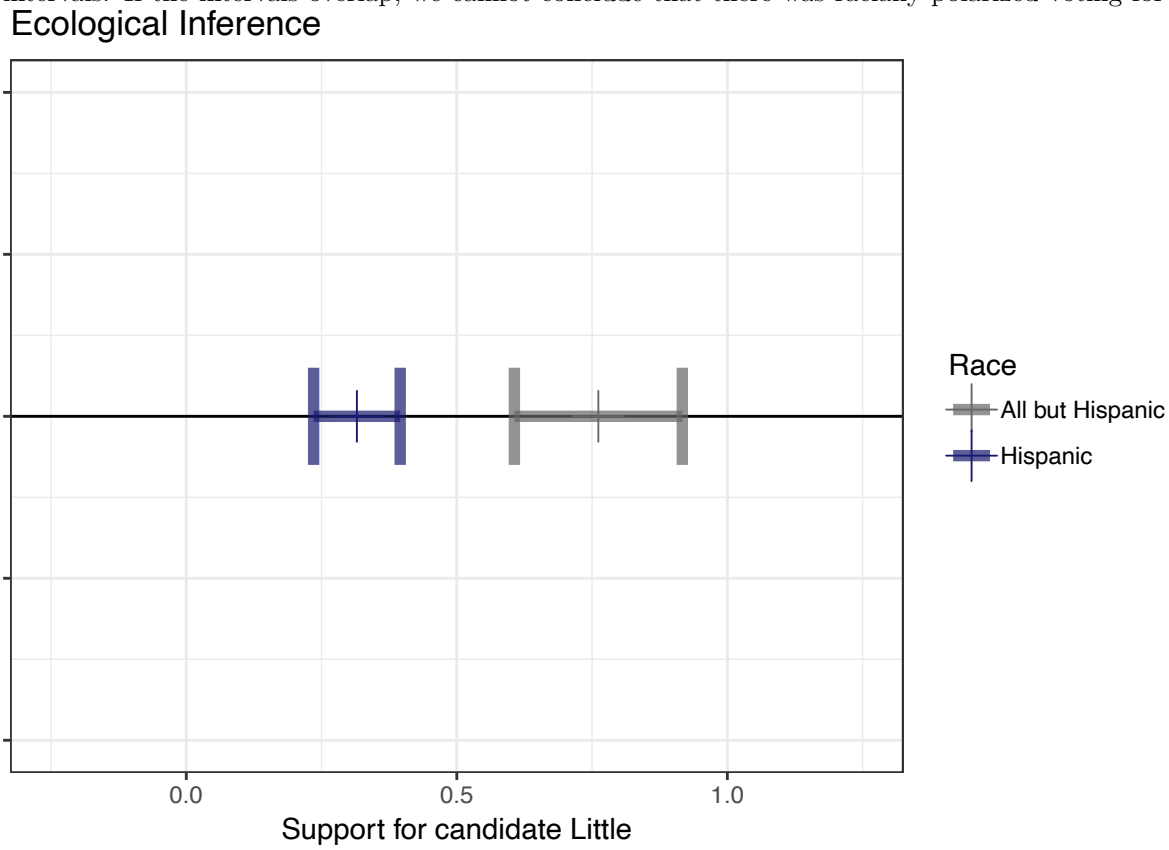
Goodman's Ecological Regression

Next, we plot votes for Little by the proportion of the population Hispanic according to Goodman's regression predictions We use the following equation:
Little $=\beta_0 + \beta_1$ PerHisp . Note that $\beta_0 = 0.755$ and $\beta_1 = -0.447$.



Ecological Inference

Finally, we calculate ecological inference predictions for Little 's vote share and plot them with credible intervals. If the intervals overlap, we cannot conclude that there was racially polarized voting for Little .



Candidate 2

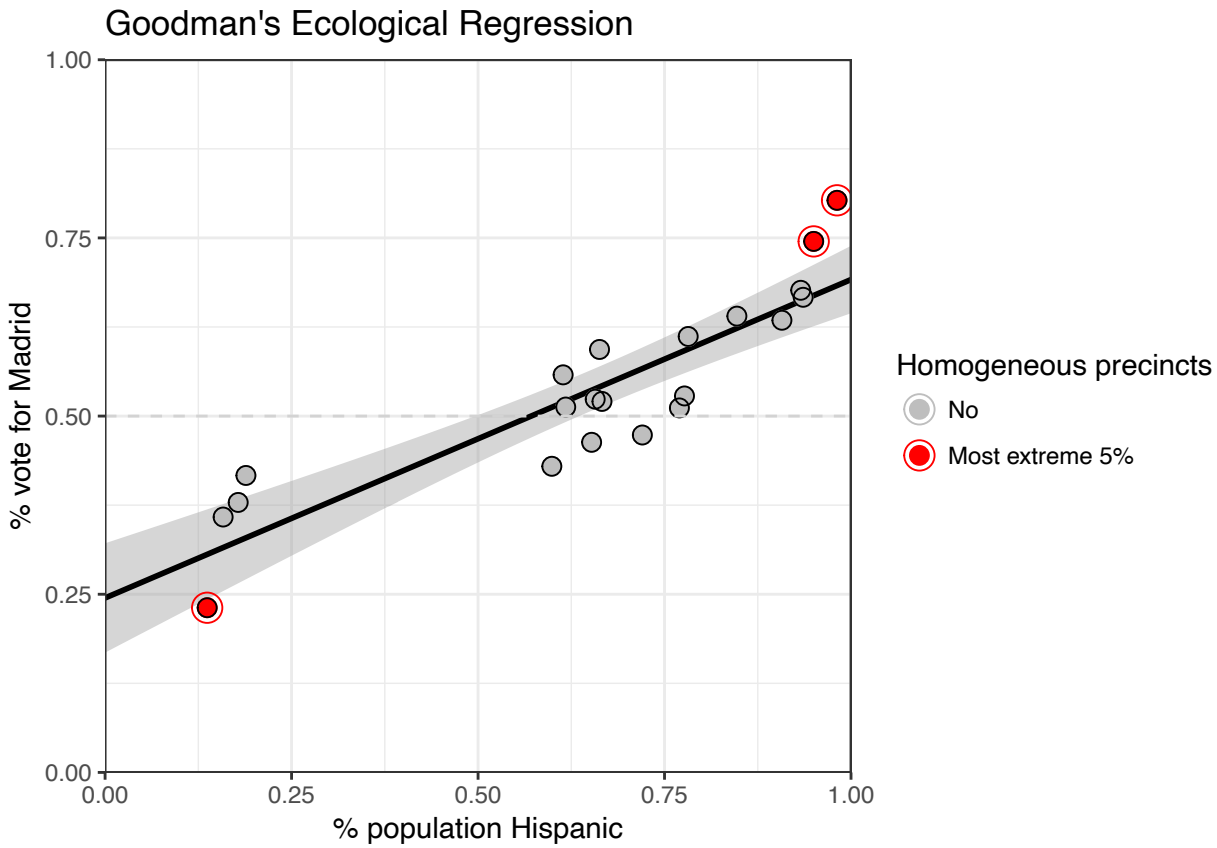
Table

First, we compare predictions from three different models for Madrid vote share given demographic and total vote data

	Madrid	Homogeneous precincts	Goodman ER	Ecol Inf
w	All but Hispanic support	0.2310705	0.2447837	0.2414381
m	Hispanic support	0.7739251	0.6915569	0.6820333

Goodman's Ecological Regression

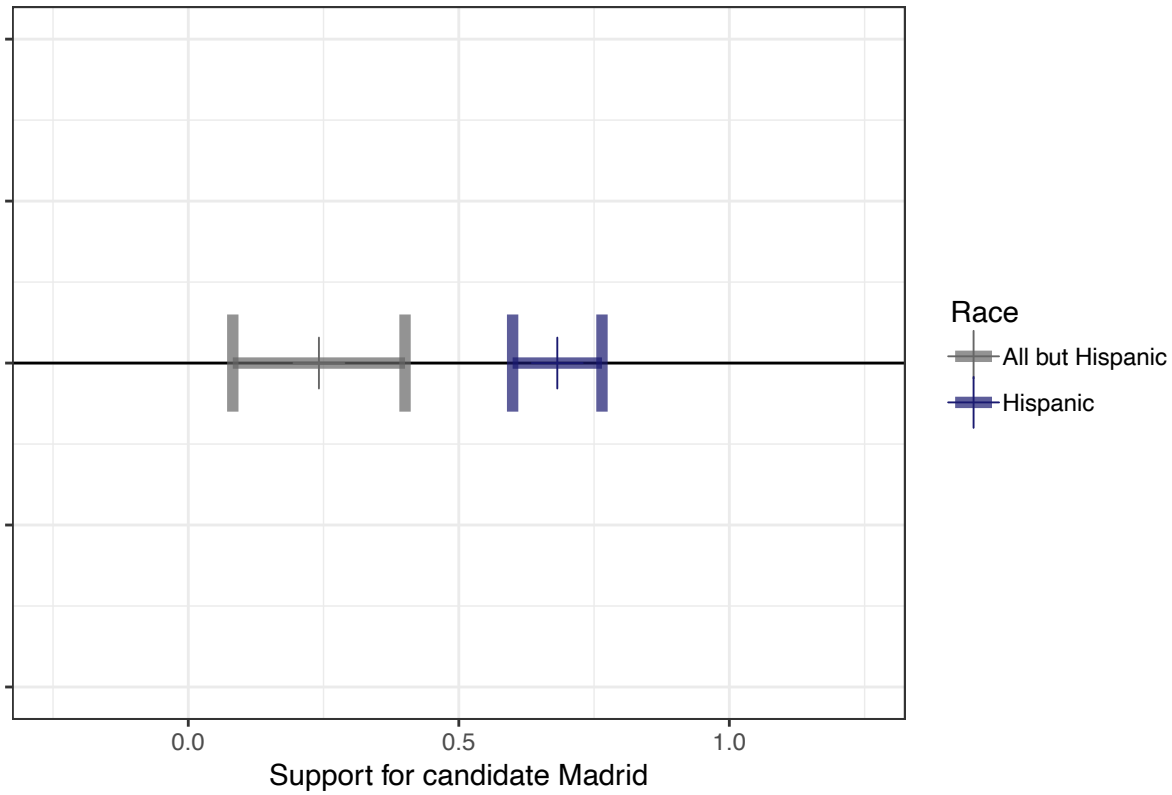
Next, we plot votes for Madrid by the proportion of the population Hispanic according to Goodman's regression predictions We use the following equation:
Madrid $=\beta_0 + \beta_1$ PerHisp . Note that $\beta_0 = 0.245$ and $\beta_1 = 0.447$.



Ecological Inference

Finally, we calculate ecological inference predictions for Madrid 's vote share and plot them with credible intervals. If the intervals overlap, we cannot conclude that there was racially polarized voting for Madrid .

Ecological Inference



Ecological Inference Report

Candidate 1

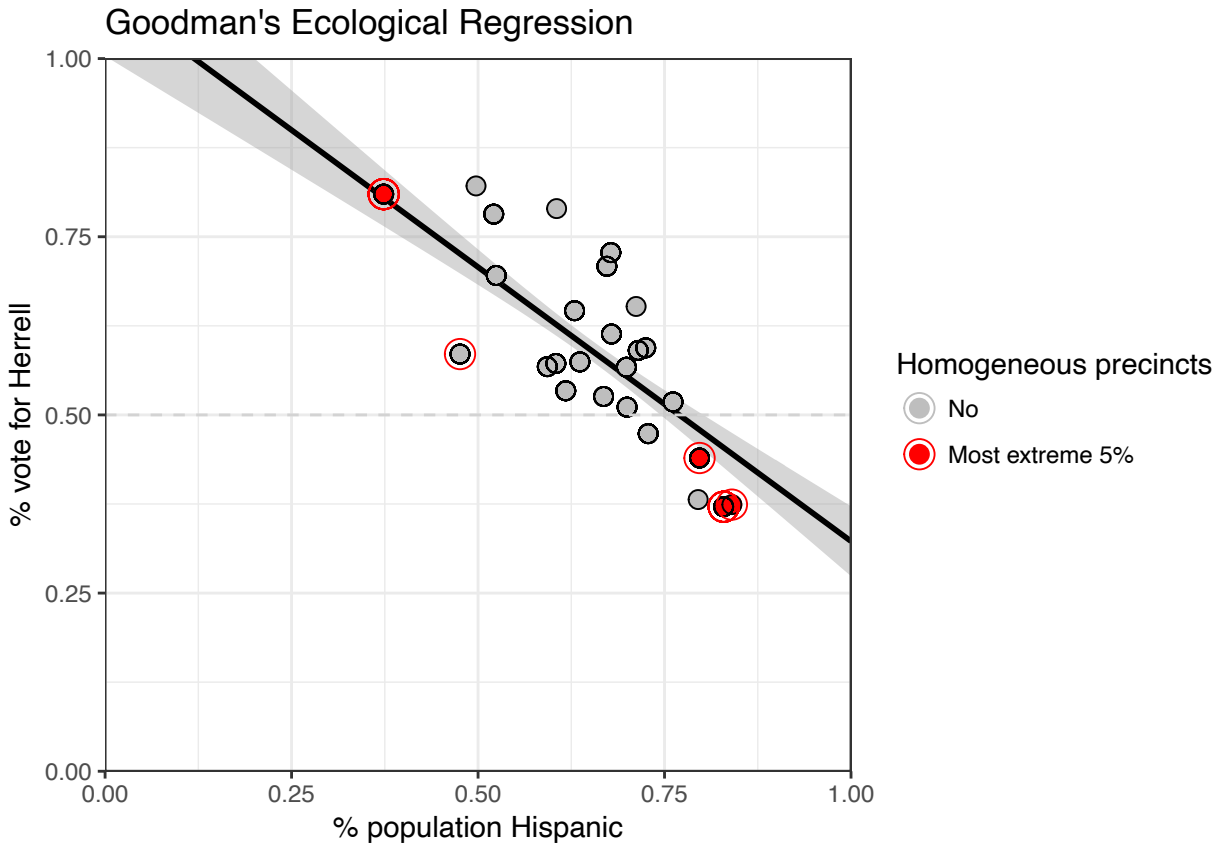
Table

First, we compare predictions from three different models for Herrell vote share given demographic and total vote data

	Herrell	Homogeneous precincts	Goodman ER	Ecol Inf
w	All but Hispanic support	0.7724076	1.091998	0.9834536
m	Hispanic support	0.3813303	0.322776	0.3855036

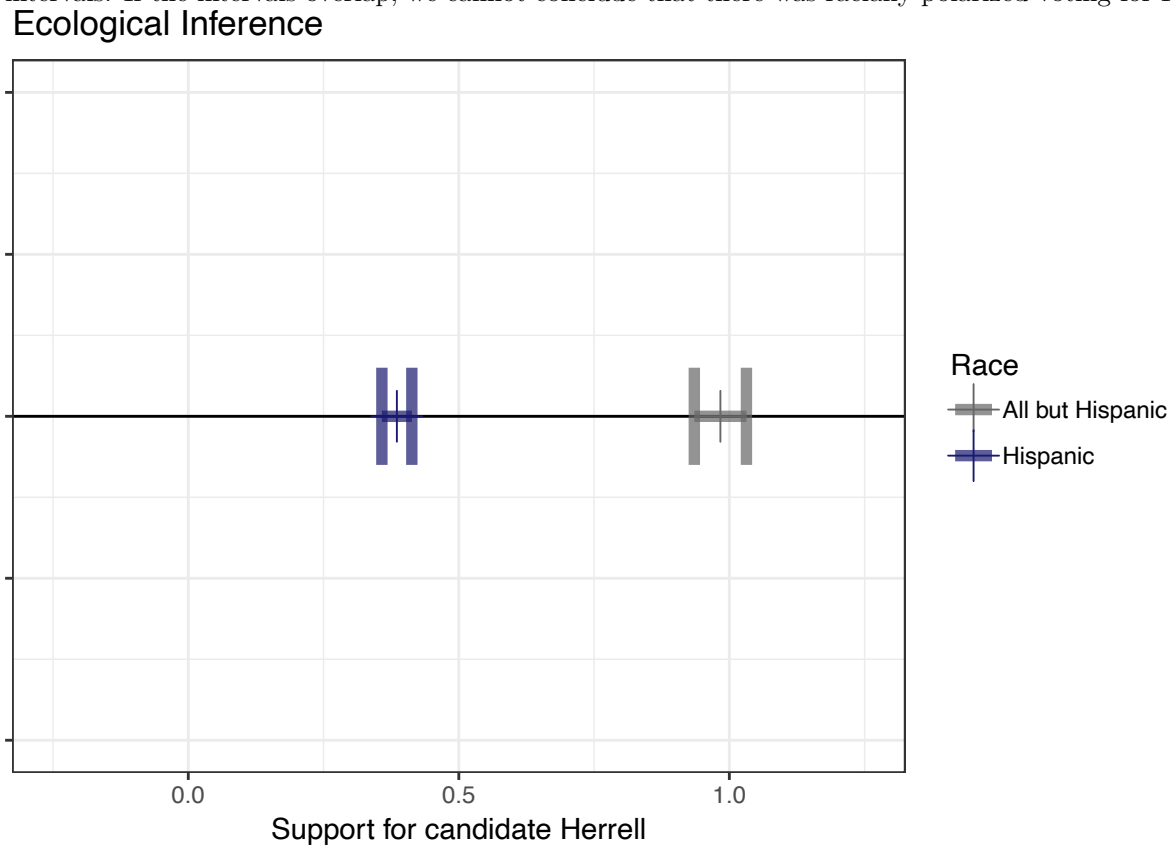
Goodman's Ecological Regression

Next, we plot votes for Herrell by the proportion of the population Hispanic according to Goodman's regression predictions We use the following equation:
Herrell $=\beta_0 + \beta_1$ PerHisp . Note that $\beta_0 = 1.092$ and $\beta_1 = -0.769$.



Ecological Inference

Finally, we calculate ecological inference predictions for Herrell 's vote share and plot them with credible intervals. If the intervals overlap, we cannot conclude that there was racially polarized voting for Herrell .



Candidate 2

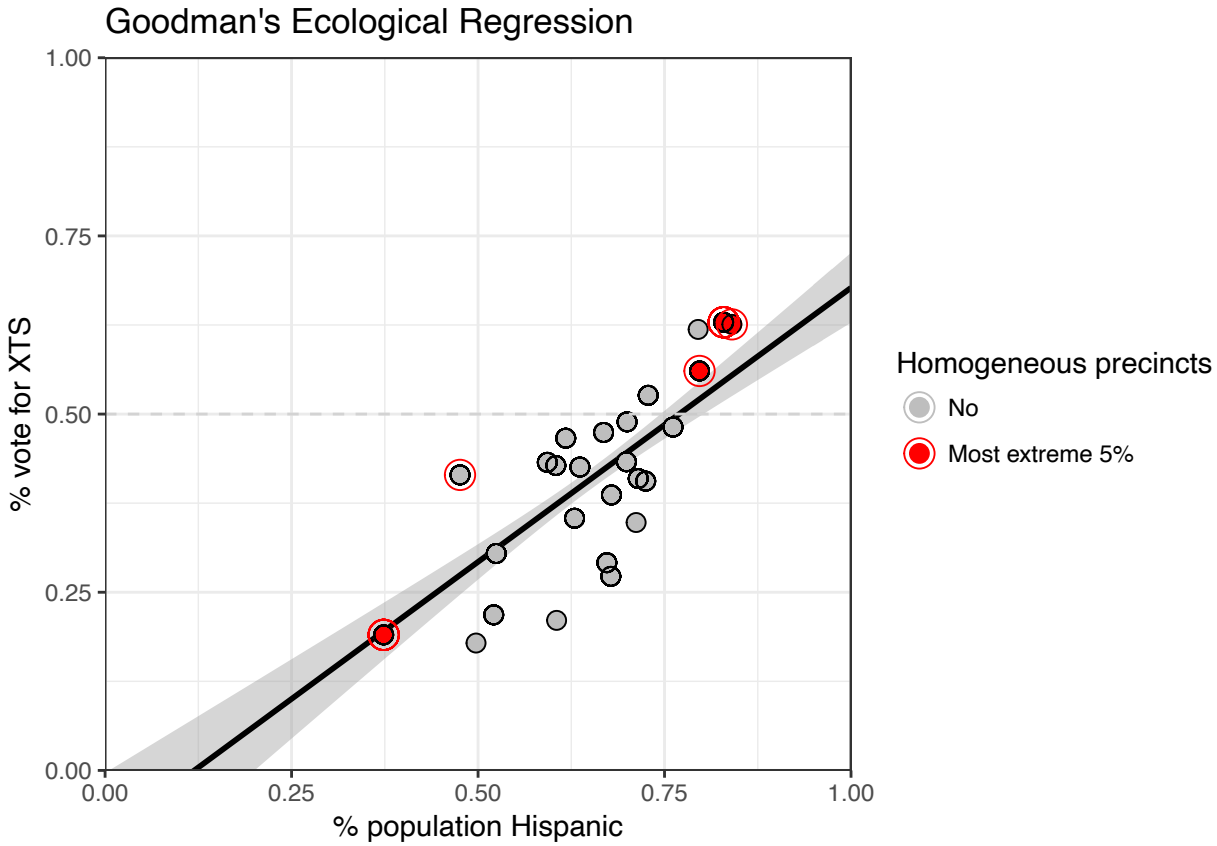
Table

First, we compare predictions from three different models for XTS vote share given demographic and total vote data

	XTS	Homogeneous precincts	Goodman ER	Ecol Inf
w	All but Hispanic support	0.2275924	-0.0919981	0.0119782
m	Hispanic support	0.6186697	0.6772240	0.6170373

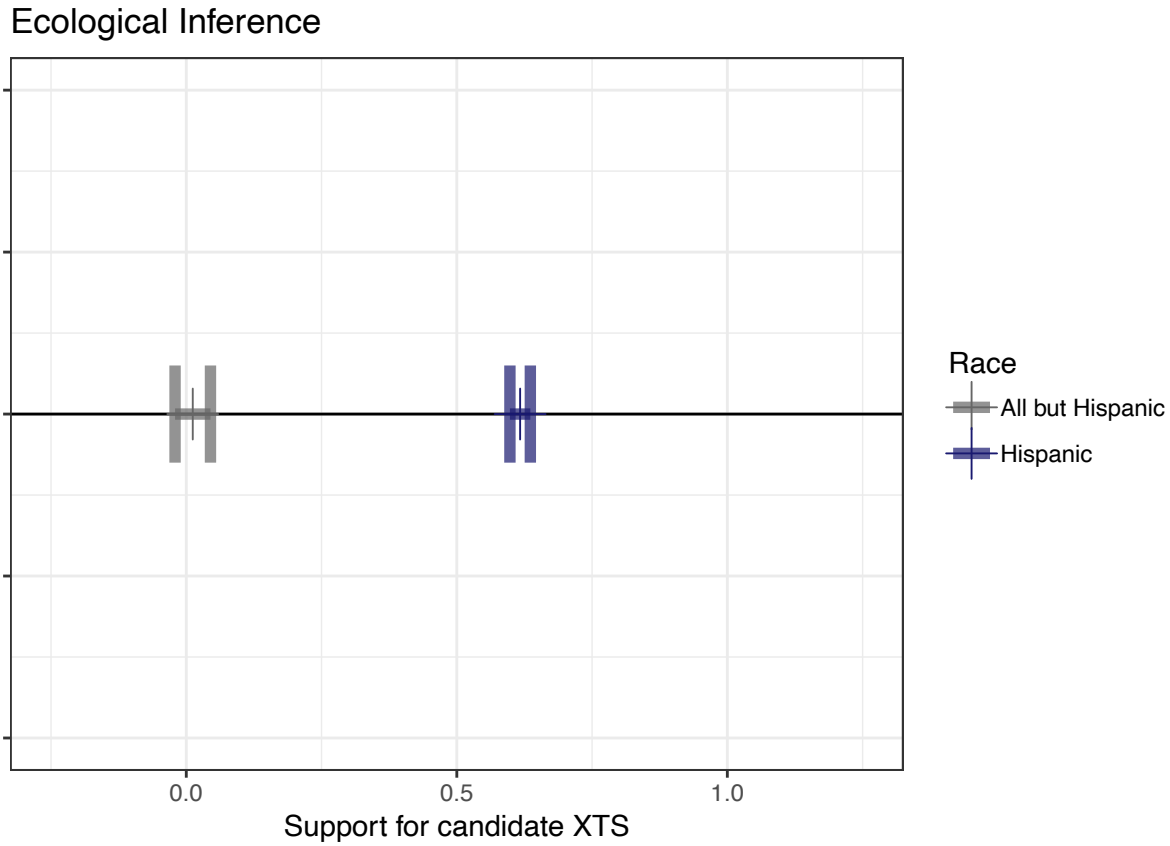
Goodman's Ecological Regression

Next, we plot votes for XTS by the proportion of the population Hispanic according to Goodman's regression predictions We use the following equation:
XTS $=\beta_0 + \beta_1$ PerHisp . Note that β_0 = -0.092 and β_1 = 0.769 .



Ecological Inference

Finally, we calculate ecological inference predictions for XTS 's vote share and plot them with credible intervals. If the intervals overlap, we cannot conclude that there was racially polarized voting for XTS .


Ecological Inference
0.0
0.5
1.0
Support for candidate XTS
Race
All but Hispanic
Hispanic

Ecological Inference Report

Candidate 1

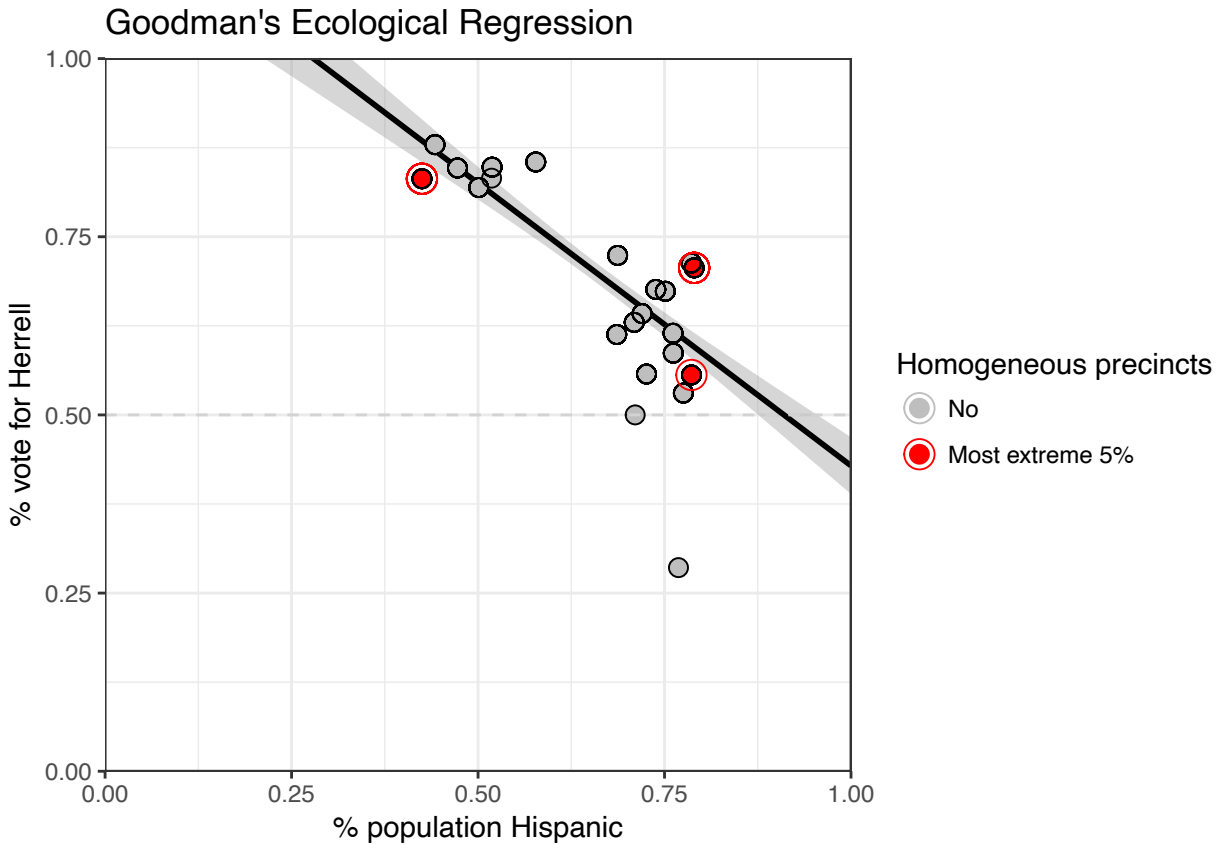
Table

First, we compare predictions from three different models for Herrell vote share given demographic and total vote data

	Herrell	Homogeneous precincts	Goodman ER	Ecol Inf
w	All but Hispanic support	0.8313725	1.2215201	0.9996582
m	Hispanic support	0.6813000	0.4287454	0.5553163

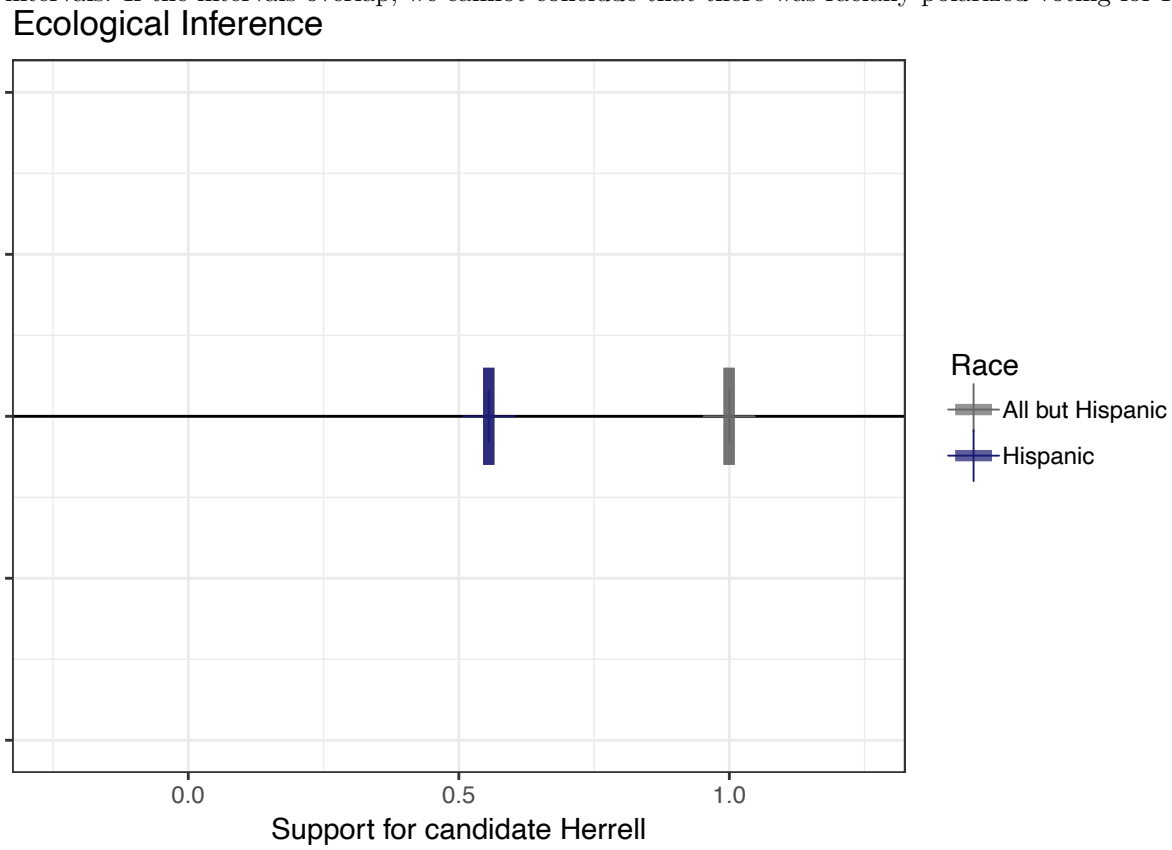
Goodman's Ecological Regression

Next, we plot votes for Herrell by the proportion of the population Hispanic according to Goodman's regression predictions We use the following equation:
Herrell $=\beta_0 + \beta_1$ PerHisp . Note that $\beta_0 = 1.222$ and $\beta_1 = -0.793$.



Ecological Inference

Finally, we calculate ecological inference predictions for Herrell 's vote share and plot them with credible intervals. If the intervals overlap, we cannot conclude that there was racially polarized voting for Herrell .



Candidate 2

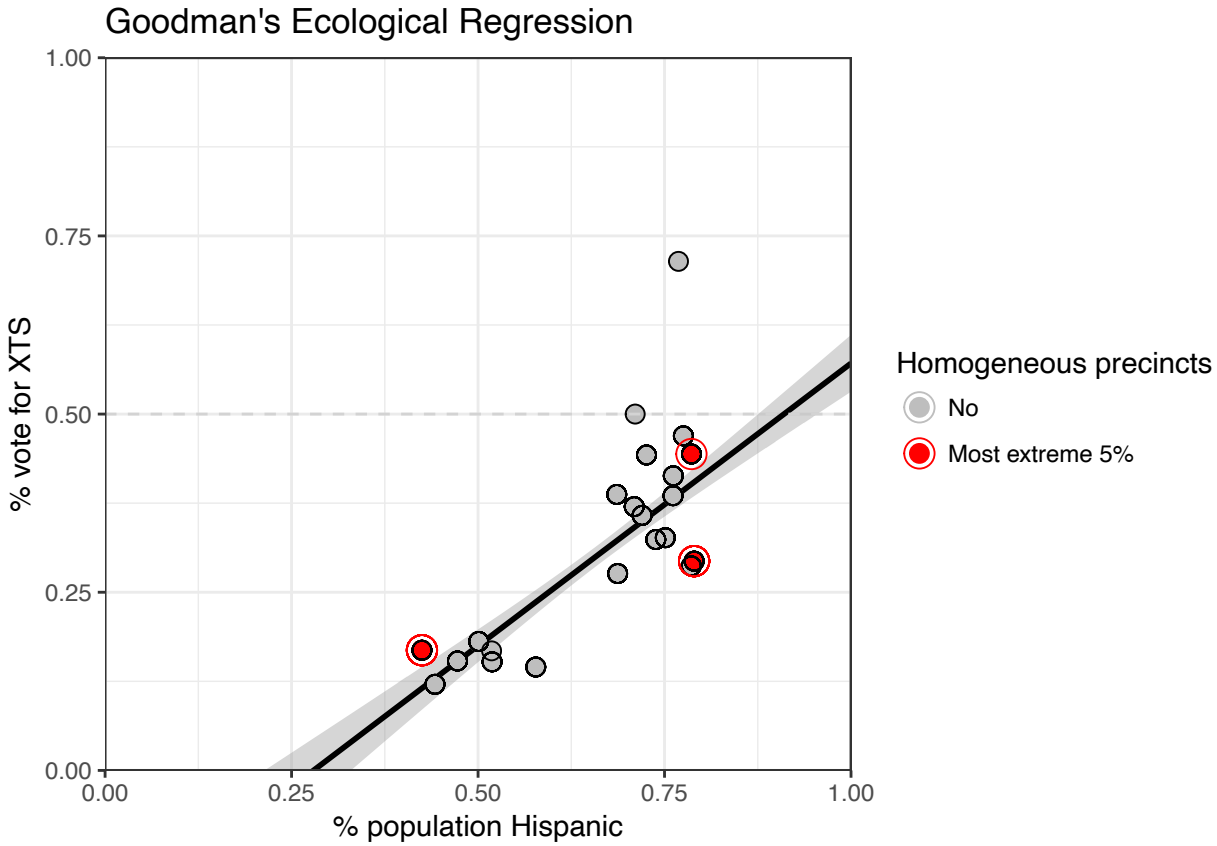
Table

First, we compare predictions from three different models for XTS vote share given demographic and total vote data

	XTS	Homogeneous precincts	Goodman ER	Ecol Inf
w	All but Hispanic support	0.1686275	-0.2215201	0.0001418
m	Hispanic support	0.3187000	0.5712546	0.4446439

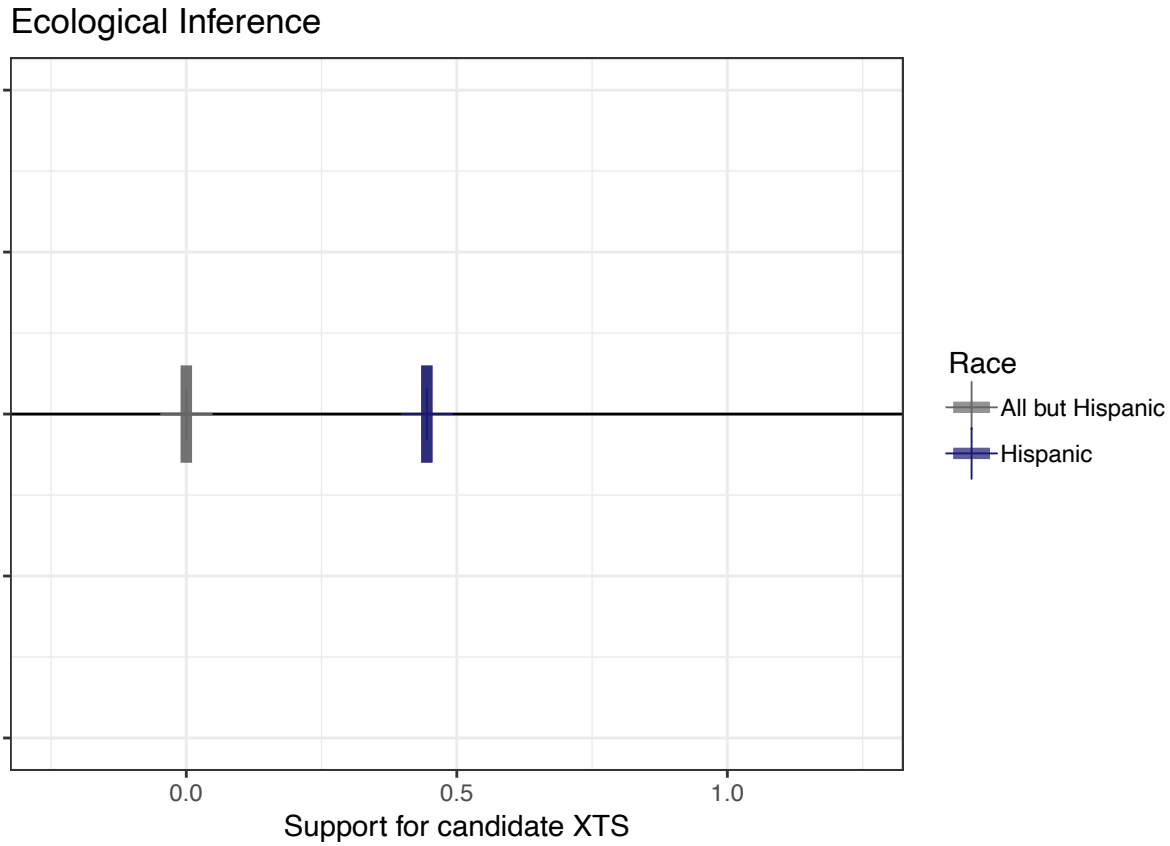
Goodman's Ecological Regression

Next, we plot votes for XTS by the proportion of the population Hispanic according to Goodman's regression predictions We use the following equation:
XTS $=\beta_0 + \beta_1$ PerHisp . Note that β_0 = -0.222 and β_1 = 0.793 .



Ecological Inference

Finally, we calculate ecological inference predictions for XTS 's vote share and plot them with credible intervals. If the intervals overlap, we cannot conclude that there was racially polarized voting for XTS .


Ecological Inference
0.0
0.5
1.0
Support for candidate XTS
Race
All but Hispanic
Hispanic

Ecological Inference Report

Candidate 1

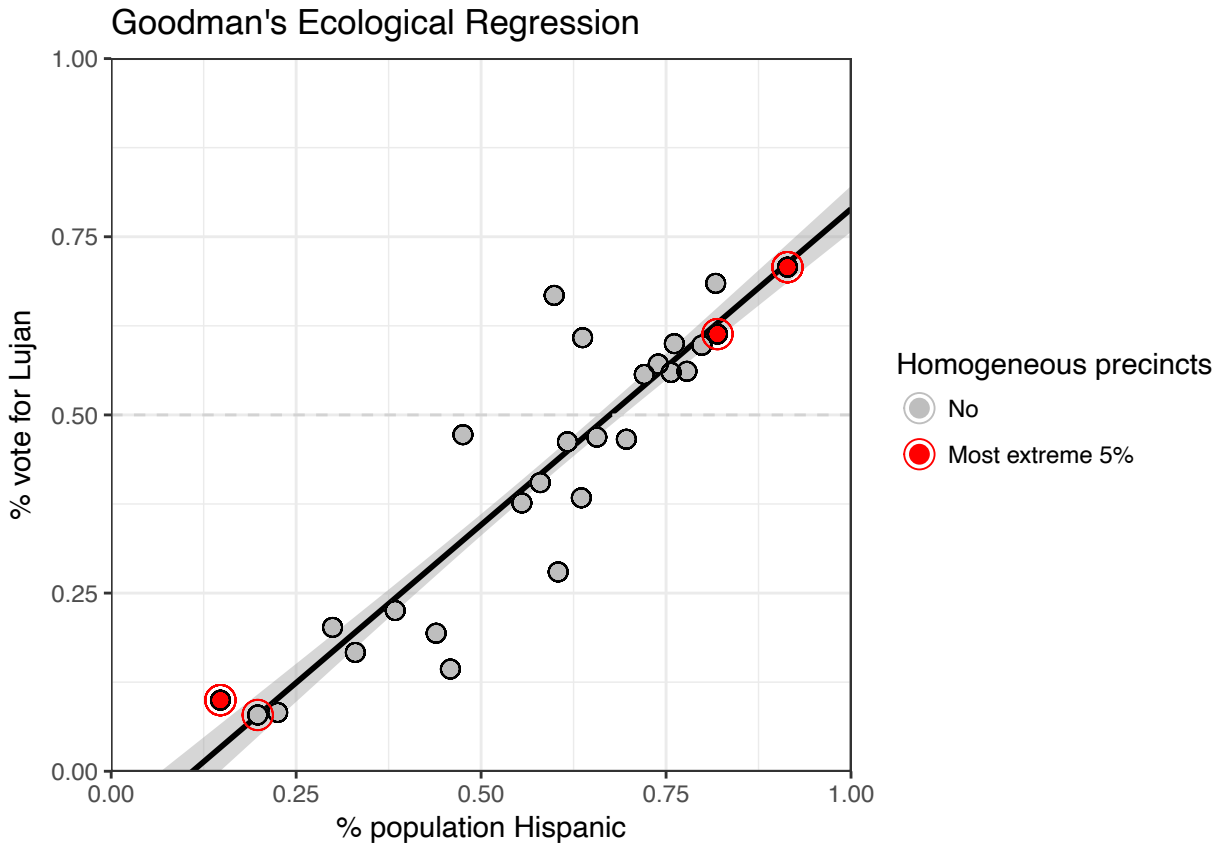
Table

First, we compare predictions from three different models for Lujan vote share given demographic and total vote data

	Lujan	Homogeneous precincts	Goodman ER	Ecol Inf
w	All but Hispanic support	0.0938192	-0.0974782	0.0580156
m	Hispanic support	0.6720989	0.7889735	0.6423793

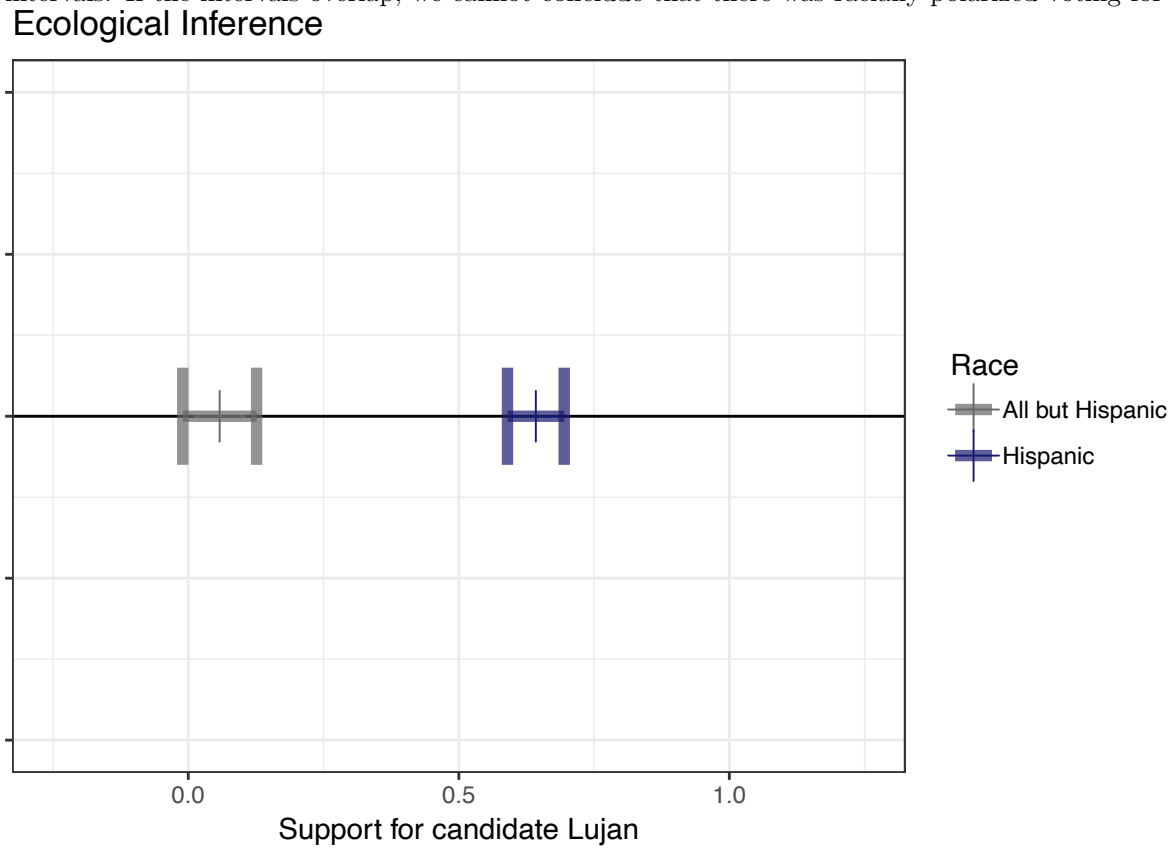
Goodman's Ecological Regression

Next, we plot votes for Lujan by the proportion of the population Hispanic according to Goodman's regression predictions We use the following equation:
Lujan $=\beta_0 + \beta_1$ PerHisp . Note that β_0 = -0.097 and β_1 = 0.886 .



Ecological Inference

Finally, we calculate ecological inference predictions for Lujan 's vote share and plot them with credible intervals. If the intervals overlap, we cannot conclude that there was racially polarized voting for Lujan .



Candidate 2

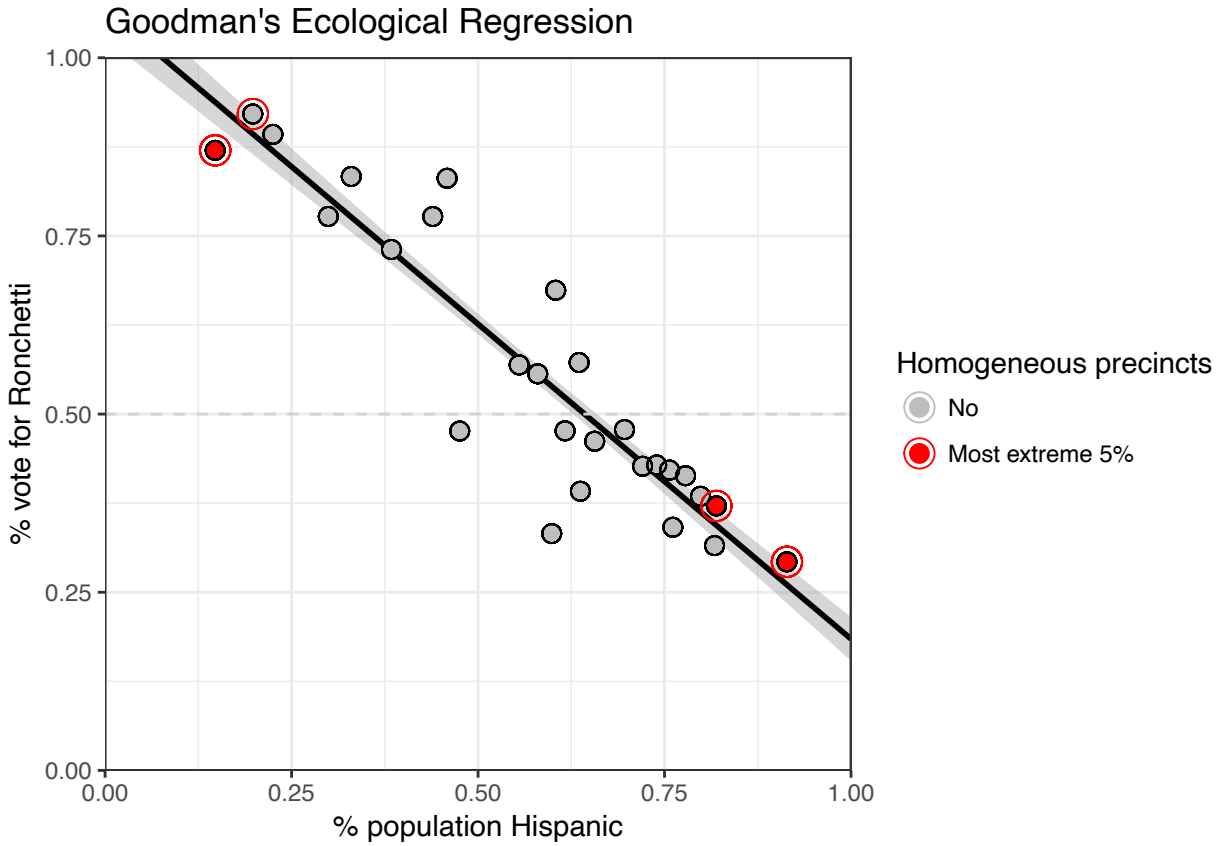
Table

First, we compare predictions from three different models for Ronchetti vote share given demographic and total vote data

	Ronchetti	Homogeneous precincts	Goodman ER	Ecol Inf
w	All but Hispanic support	0.8846362	1.0680255	0.9350430
m	Hispanic support	0.3221021	0.1845024	0.3087407

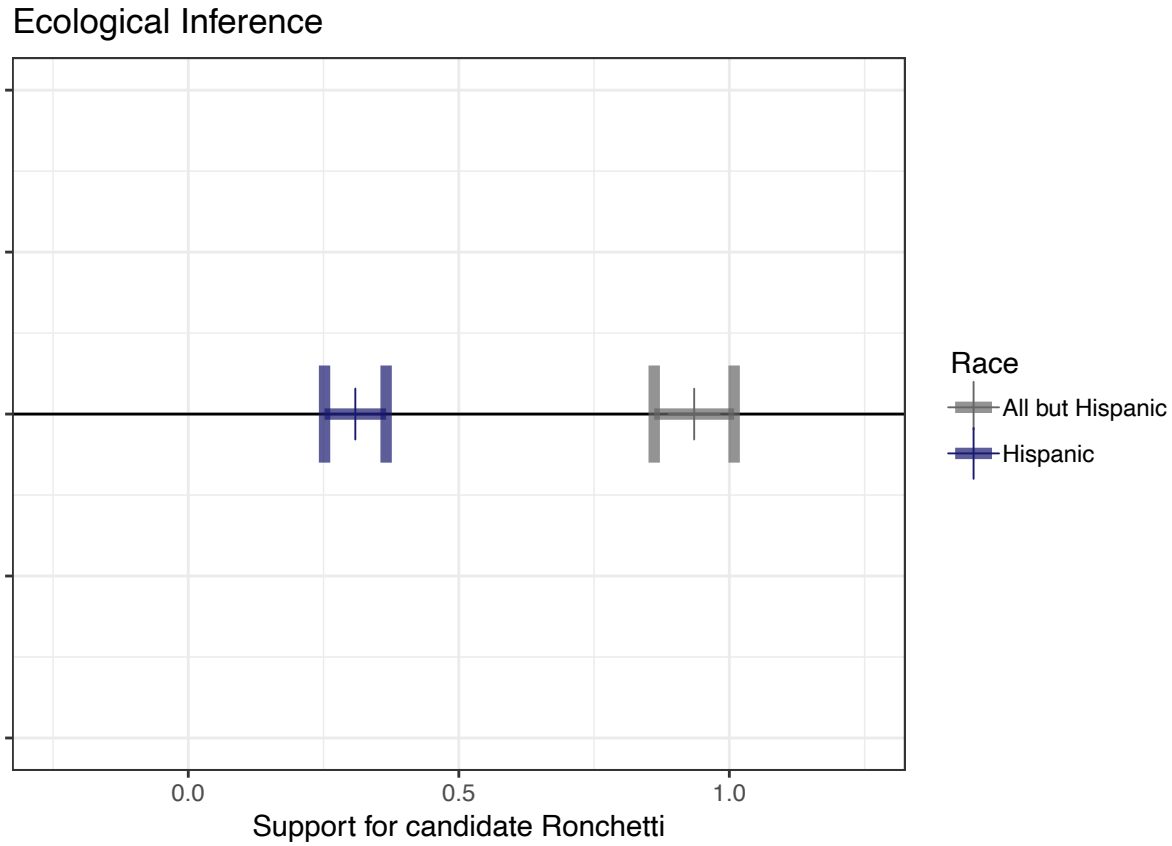
Goodman's Ecological Regression

Next, we plot votes for Ronchetti by the proportion of the population Hispanic according to Goodman's regression predictions We use the following equation:
Ronchetti $=\beta_0 + \beta_1$ PerHisp . Note that $\beta_0 = 1.068$ and $\beta_1 =$ -0.884 .



Ecological Inference

Finally, we calculate ecological inference predictions for Ronchetti 's vote share and plot them with credible intervals. If the intervals overlap, we cannot conclude that there was racially polarized voting for Ronchetti .



Candidate 3

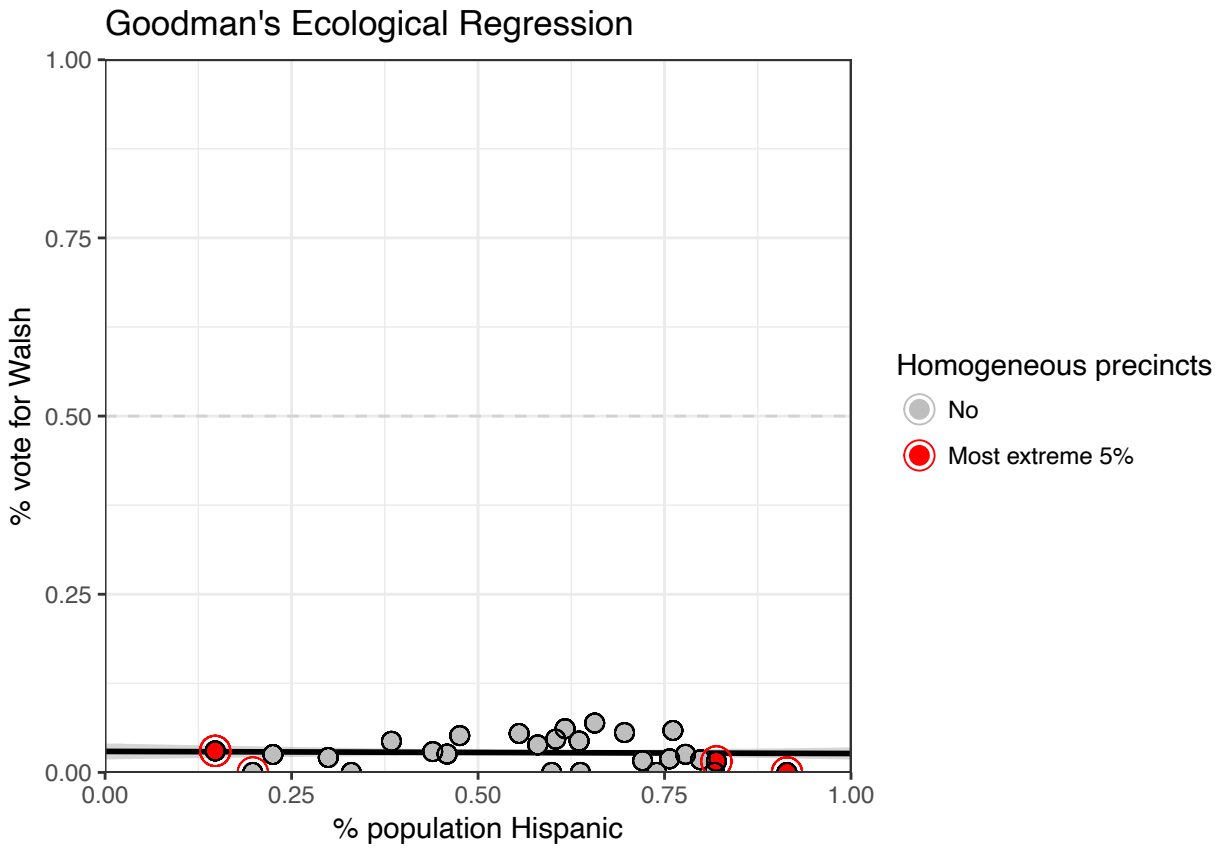
Table

First, we compare predictions from three different models for Walsh vote share given demographic and total vote data

	Walsh	Homogeneous precincts	Goodman ER	Ecol Inf
w	All but Hispanic support	0.0215446	0.0294527	0.0569963
m	Hispanic support	0.0057990	0.0265241	0.0092504

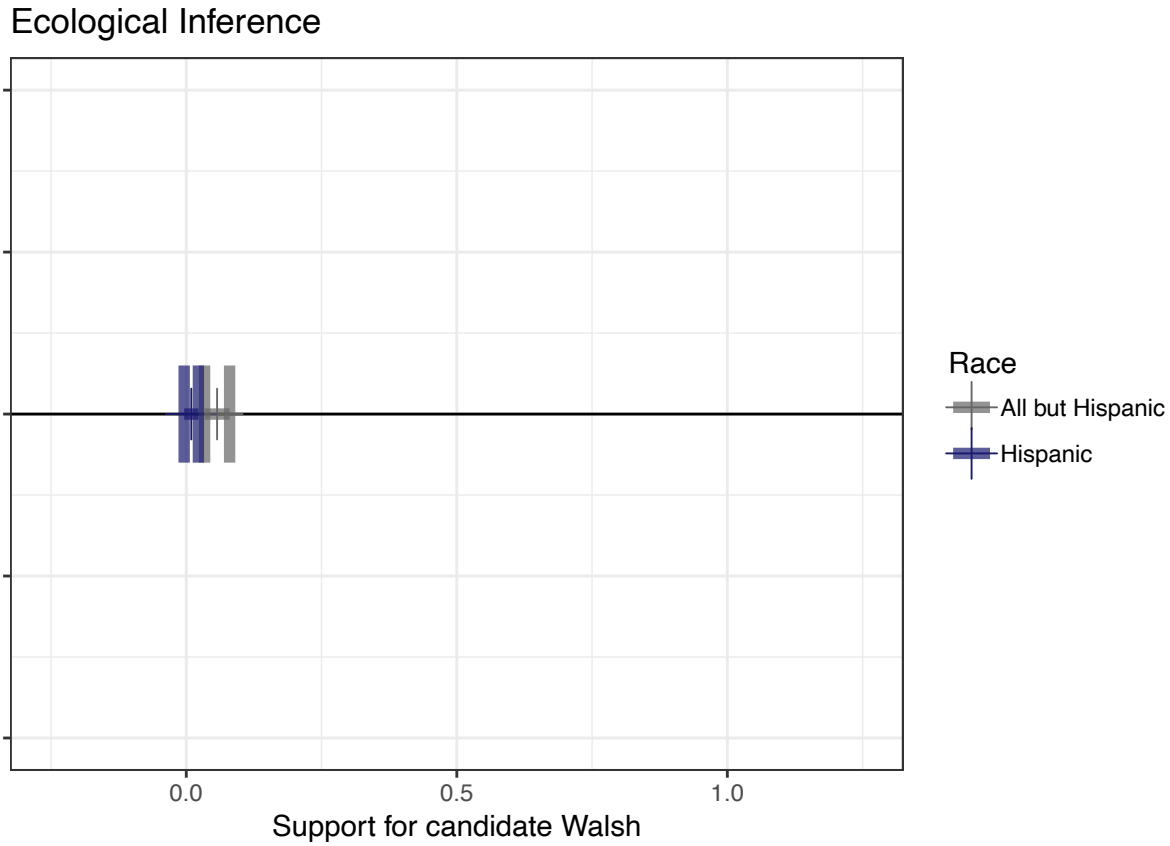
Goodman's Ecological Regression

Next, we plot votes for Walsh by the proportion of the population Hispanic according to Goodman's regression predictions We use the following equation:
Walsh $=\beta_0 + \beta_1$ PerHisp . Note that $\beta_0 = 0.029$ and $\beta_1 =$ -0.003 .



Ecological Inference

Finally, we calculate ecological inference predictions for Walsh 's vote share and plot them with credible intervals. If the intervals overlap, we cannot conclude that there was racially polarized voting for Walsh .


Ecological Inference
0.0
0.5
1.0
Support for candidate Walsh
Race
All but Hispanic
Hispanic

Appendix 3: County and Municipality Splits Breakdown

CRC District Plan County Splits by Entity

Number of County Split Over All Plans

Plan	Split Counties	Split Counties>Ideal Pop	Split Counties<Ideal Pop
HD Concept E-1	24	14	10
HD Concept I-1	24	14	10
HD Concept J	24	14	10
SD Concept A-1	21	11	10
SD Concept C	22	11	11
SD Concept C-1	22	11	11
CD Concept A	4	n/a	4
CD Concept JC (E modified)	6	n/a	9
CD Concept H (Peoples Map)	9	n/a	6
PEC Concept A	8	2	6
PEC Concept C	8	2	6
PEC Concept E	10	2	8

CRC District Plan Municipality Splits by Entity

Number of Municipalities Split Over All Plans

Plan	Split Municipalities	Split Municipalities>Ideal Pop	Split Municipalities<Ideal Pop	Split Counties
HD Concept E-1	34	10	24	24
HD Concept I-1	34	10	24	24
HD Concept J	35	10	25	24
SD Concept A-1	25	4	21	21
SD Concept C	25	4	21	22
SD Concept C-1	20	4	16	22
CD Concept A	4	n/a	4	4
CD Concept JC (E modified)	5	n/a	5	6
CD Concept H (Peoples Map)	7	n/a	7	9
PEC Concept A	6	1	5	8
PEC Concept C	5	1	4	8
PEC Concept E	13	1	12	10

Counties Always Split Under All Maps for a Given Entity:

HD	SD	PEC
Bernalillo	Bernalillo	Bernalillo
Chaves	Chaves	Dona Ana
Curry	Dona Ana	

Dona Ana	Eddy
Eddy	Lea
Lea	McKinley
McKinley	Otero
Otero	San Juan
Rio Arriba	Sandoval
San Juan	Santa Fe
Sandoval	Valencia
Santa Fe	
Taos	
Valencia	

Municipalities Always Split Under All Maps for a Given Entity:

HD	SD	PEC
Alamogordo	Albuquerque	Albuquerque
Albuquerque	Las Cruces	
Carlsbad	Rio Rancho	
Clovis	Santa Fe	
Farmington		
Hobbs		
Las Cruces		
Rio Rancho		
Roswell		
Santa Fe		

Counties Split Under Congressional Plans:

CD Concept A	CD Concept H	CD Concept E-Revised (JC)
Bernalillo	Bernalillo	Bernalillo
Roosevelt	Chaves	Cibola
Sandoval	Lea	Otero
Santa Fe	McKinley	Roosevelt
	Otero	Sandoval
	Sandoval	Socorro
	Santa Fe	
	Socorro	
	Valencia	

Counties Split Under Senate Plans:

SD Concept A-1	SD Concept C	SD Concept C-1
Cibola	Cibola	Cibola
Curry	Curry	Curry
Los Alamos	Grant	Grant

Quay	Guadalupe	Guadalupe
Rio Arriba	Los Alamos	Los Alamos
San Miguel	Quay	Quay
Sierra	Rio Arriba	Rio Arriba
Socorro	San Miguel	San Miguel
Taos	Socorro	Socorro
Torrance	Taos	Taos
	Torrance	Torrance

Counties Split Under House Plans:

HD Concept E-1	HD Concept I-1	HD Concept J
Catron	Cibola	Cibola
Cibola	Colfax	Colfax
Colfax	Grant	Grant
Hidalgo	Lincoln	Lincoln
Luna	Quay	Quay
Roosevelt	Roosevelt	Roosevelt
San Miguel	San Miguel	San Miguel
Sierra	Sierra	Sierra
Socorro	Socorro	Socorro
Torrance	Torrance	Torrance

Municipalities Split Under PEC Plans:

PEC Concept A	PEC Concept C	PEC Navajo Plan
Chaves	Chaves	Chaves
Otero	Otero	Cibola
Rio Arriba	Rio Arriba	Otero
Sandoval	Sandoval	San Juan
Santa Fe	Santa Fe	Sandoval
Socorro	Socorro	Santa Fe
		Socorro
		Taos

Municipalities Split Under Congressional Plans:

CD Concept A	CD Concept H	CD Concept E- Revised
Albuquerque	Hobbs	Albuquerque
Rio Rancho	Rio Rancho	Rio Rancho
Bernalillo	Bernalillo	Bernalillo
Edgewood	Edgewood	Tijeras
	Socorro	Portales
	Rio Communities	
	Albuquerque	

Municipalities Split Under Senate Plans:

SD Concept A-1	SD Concept C	SD Concept C-1
Farmington	Kirtland	Farmington
Gallup	Farmington	Gallup
Grants	Gallup	Grants
Taos	Grants	Taos
Clovis	Española	Bernalillo
Mosquero	Taos	Edgewood
Bernalillo	Bernalillo	Rio Communities
Mountainair	Moriarty	Roswell
Rio Communities	Edgewood	Hobbs
Estancia	Roswell	Santa Clara
Edgewood	Hobbs	Socorro
Roswell	Bayard	Belen
Elephant Butte	Santa Clara	Los Lunas
Williamsburg	Socorro	Artesia
Truth or Consequences	Belen	Tularosa
Socorro	Rio Communities	San Ysidro
Belen	Los Lunas	
Los Lunas	Bosque Farms	
Artesia	Peralta	
Tularosa	Artesia	
Hobbs	Tularosa	

Municipalities Split Under House Plans:

HD Concept E-1	HD Concept I-1	HD Concept J
Aztec	Aztec	Aztec
Bloomfield	Kirtland	Kirtland
Gallup	Bloomfield	Bloomfield
Grants	Gallup	Gallup
Belen	Grants	Grants
Rio Communities	Los Lunas	Los Lunas
Los Lunas	Peralta	Peralta
Los Ranchos de Albuquerque	Belen	Belen
Tijeras	Los Ranchos de Albuquerque	Los Ranchos de Albuquerque
Edgewood	Estancia	Estancia
Deming	Edgewood	Edgewood
Hatch	Bernalillo	Bernalillo
San Ysidro	Anthony	Anthony
Williamsburg	San Ysidro	San Ysidro
Truth or Consequences	Williamsburg	Williamsburg

Socorro	Truth or Consequences	Truth or Consequences
Española	Las Vegas	Las Vegas
Raton	Raton	Raton
Bernalillo	Española	Cuba
Anthony	Ruidoso	Española
Artesia	Ruidoso Downs	Ruidoso
Tularosa	Portales	Ruidoso Downs
Lovington	Tucumcari	Portales
Portales	Mosquero	Tucumcari
		Mosquero

Municipalities Split Under PEC Plans:

PEC Concept A	PEC Concept C	PEC Concept E
Rio Rancho	Rio Rancho	Rio Rancho
Santa Fe	Santa Fe	Santa Fe
San Ysidro	San Ysidro	Milan
Las Cruces	Las Cruces	Grants
Mosquero		Bloomfield
		Aztec
		San Ysidro
		Las Cruces
		Roswell
		Taos
		Taos Ski Valley
		Questa

_____ BILL

55TH LEGISLATURE - STATE OF NEW MEXICO - SECOND SESSION, 2022

INTRODUCED BY

DISCUSSION DRAFT

AN ACT

RELATING TO REDISTRICTING; REALLOCATING INMATE POPULATION DATA FOR PURPOSES OF REAPPORTIONMENT AND REDISTRICTING; DIRECTING THE ADJUSTMENT OF THE POPULATION COUNT RESULTS OF THE FEDERAL DECENNIAL CENSUS TO REFLECT INCLUSION OF AN INCARCERATED PERSON IN THE POPULATION COUNT FOR THE CENSUS BLOCK OF THE PERSON'S LAST KNOWN PLACE OF RESIDENCE RATHER THAN THE POPULATION COUNT FOR THE STATE CORRECTIONAL FACILITY IN WHICH THE PERSON IS INCARCERATED; DIRECTING THE CORRECTIONS DEPARTMENT TO PROVIDE INMATE RESIDENCY INFORMATION TO THE LEGISLATURE AND THE SECRETARY OF STATE; AMENDING THE REDISTRICTING ACT TO CONFORM TO THE ADJUSTMENTS TO POPULATION DATA.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF NEW MEXICO:

SECTION 1. [NEW MATERIAL] REAPPORTIONMENT AND REDISTRICTING--FEDERAL DECENNIAL CENSUS POPULATION DATA--INMATE

underscored material = new
[~~bracketed material~~] = delete

RESIDENCY REALLOCATION.--

A. The corrections department shall collect and maintain in an electronic format a record of the legal residence, presumptively outside of a state correctional facility, and other demographic data for any person entering the department's custody. At a minimum, this record shall contain the last known residential address of the inmate prior to incarceration, the inmate's ethnicity, as identified by the inmate, and the inmate's race, to the extent such information is maintained by the corrections department. To the degree possible, the department shall allow the legal residence of an inmate to be updated as appropriate.

B. No sooner than April 1 and no later than July 1 of each year in which the federal decennial census is taken and in which the United States census bureau counts incarcerated persons as residents of correctional facilities, the corrections department shall provide to the legislature and the secretary of state, in the form of a single electronic file for each database maintained by the department, the following information for each inmate incarcerated in a state correctional facility on census day:

(1) a unique identifier, other than the inmate's name or corrections department number;

(2) the last known address or addresses at which the inmate resided before the inmate's most current term

underscored material = new
[bracketed material] = delete

of incarceration, including any available information about the date on which each address was added to records maintained by the corrections department. If the corrections department does not have any residential address information for an inmate, the information furnished by the department shall state that fact;

(3) the inmate's ethnicity, as identified by the inmate, and the inmate's race, to the extent such information is maintained by the corrections department; and

(4) the address of the state correctional facility where the inmate is incarcerated on census day.

C. The information provided by the corrections department pursuant to this section shall be used to adjust the population count results of the federal decennial census to reflect:

(1) inclusion of an inmate incarcerated in a state correctional facility in the population count of the census block of the inmate's last known place of residence;

(2) exclusion of an inmate from the population count of the census block of the state correctional facility in which the inmate is incarcerated; and

(3) exclusion of an inmate from the population count of any census block if the inmate's last known place of residence is either outside New Mexico or cannot be determined or the person is an inmate in federal custody in a facility within New Mexico.

underscored material = new
[~~bracketed material~~] = delete

D. The population count results of the federal decennial census, as adjusted pursuant to Subsection C of this section, shall be used for purposes of reapportionment and redistricting and shall be the basis for congressional districts, the state house of representatives, the state senate and other state offices required to be redistricted. The adjusted population data shall not be used in the distribution of federal or state aid.

E. The information provided by the corrections department pursuant to this section shall not include the name of any incarcerated person and shall not allow for the identification of any person from the information, except to the department. The information shall be maintained as confidential and shall not be publicly disclosed except as redistricting data aggregated by district, precinct or census block.

F. For purposes of this section:

(1) "census day" means April 1 of a year ending in the number zero;

(2) "last known place of residence" means the most recent residential address of an inmate before the inmate's most current term of incarceration that is sufficiently specific to be assigned to a census block, as determined from information furnished by the corrections department in accordance with this section. In the case of an

underscored material = new
[bracketed material] = delete

inmate for whom residential address information is available but is not sufficiently specific to allow the address to be assigned to a census block, the "last known place of residence" means a randomly determined census block located within the smallest geographical area that can be identified based on the residential address information furnished by the corrections department; and

(3) "state correctional facility" means a facility controlled or operated by the state or any of its agencies or departments and supported wholly or in part by state funds for the correctional care of persons and includes a correctional facility in New Mexico operated by a private company pursuant to a contract with the corrections department.

SECTION 2. Section 1-3A-7 NMSA 1978 (being Laws 2021, Chapter 79, Section 8) is amended to read:

"1-3A-7. DISTRICT PLANS--REQUIREMENTS AND PROHIBITIONS.--

A. The committee shall develop district plans in accordance with the following provisions:

(1) congressional districts shall be as equal in population as practicable;

(2) state districts shall be substantially equal in population; no plans for state office will be considered that have a total deviation of more than ten percent;

(3) the committee shall use the most recent

underscored material = new
[~~bracketed material~~] = delete

federal decennial census data generated by the United States census bureau, as adjusted pursuant to Section 1 of this 2022 act, and may use other reliable sources of demographic data as determined by majority vote of the committee;

(4) proposed redistricting plans to be considered by the legislature shall not be composed of districts that split precincts;

(5) plans must comport with the provisions of the federal Voting Rights Act of 1965, as amended, and federal constitutional standards; plans that dilute a protected minority's voting strength are unacceptable; race may be considered in developing redistricting plans but shall not be the predominant consideration; traditional race-neutral districting principles shall not be subordinated to racial considerations;

(6) all redistricting plans shall use only single-member districts;

(7) districts shall be drawn consistent with traditional districting principles;

(8) districts shall be composed of contiguous precincts and shall be reasonably compact;

(9) to the extent feasible, districts shall be drawn in an attempt to preserve communities of interest and shall take into consideration political and geographic boundaries, including the boundaries of Indian nations, tribes

underscored material = new
[bracketed material] = delete

and pueblos; and

(10) in addition, and to the extent feasible, the committee may seek to preserve the core of existing districts.

B. The committee may incorporate suggested changes to its proposed district plans in accordance with public comments and testimony it receives, but shall not subordinate the requirements of Paragraphs (1) through (9) of Subsection A of this section in doing so.

C. When proposing or adopting district plans, the committee shall not:

(1) use, rely upon or reference partisan data, such as voting history or party registration data; provided that voting history in elections may be considered to ensure that the district plan complies with applicable federal law; or

(2) consider the voting address of candidates or incumbents, except to avoid the pairing of incumbents unless necessary to conform to other traditional districting principles."

underscored material = new
[bracketed material] = delete