IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
EL PASO DIVISION

LEAGUE OF UNITED LATIN AMERICAN CITIZENS (LULAC), et al., Plaintiffs, v. GREG ABBOTT, et al., Defendants.	Civil Action No. 3:21-cv-259 (DCG-JES-JVB) (consolidated cases)

UNITED STATES' OPPOSITION TO TEXAS'S MOTION TO DISMISS

Table 8. Socioeconomic disparities between whites, blacks, and Hispanics statewide and in major counties (American Community Survey 2015-2019)

		Mean household income	Income per capita	Below poverty line	Unemployed	Completed high school	English spoken very well	Has health insurance	Vehicle available
Texas	White	118,849	49,201	0.084	0.041	0.95	0.988	0.898	0.977
	Hispanic	71,749	24,356	0.209	0.053	0.687	0.703	0.723	0.966
	Black	74,146	30,181	0.193	0.077	0.918	0.98	0.841	0.923
Bexar	White	113,266	48,627	0.093	0.043	0.964	0.981	0.91	0.969
	Hispanic	73,694	26,486	0.187	0.055	0.78	0.829	0.813	0.95
	Black	77,691	31,954	0.165	0.064	0.943	0.989	0.877	0.918
Dallas	White	138,831	62,635	0.075	0.035	0.959	0.98	0.904	0.97
	Hispanic	67,754	22,334	0.19	0.042	0.566	0.564	0.656	0.972
	Black	67,036	30,173	0.197	0.074	0.916	0.971	0.839	0.897
Tarrant	White	124,826	49,973	0.067	0.038	0.958	0.988	0.904	0.981
	Hispanic	75,335	25,609	0.172	0.048	0.659	0.69	0.715	0.982
	Black	76,459	30,611	0.176	0.065	0.934	0.968	0.846	0.945
Harris	White	145,518	62,266	0.069	0.047	0.966	0.98	0.916	0.974
	Hispanic	71,459	24,344	0.211	0.054	0.652	0.602	0.676	0.965
	Black	72,923	29,806	0.201	0.091	0.923	0.98	0.842	0.916
El Paso	White	94,960	43,387	0.108	0.053	0.963	0.964	0.909	0.973
	Hispanic	64,849	22,852	0.222	0.057	0.769	0.622	0.771	0.959
	Black	76,670	35,194	0.115	0.051	0.965	0.983	0.882	0.942

37. Table 9 presents results on a similar set of variables for whites and Hispanics in the ten counties in the current enacted HD31. Estimated values for both whites and Hispanics vary considerably across counties, which is to be expected when data are based on limited sample sizes. As a result, it is difficult to draw conclusions based on any single county. To summarize the general pattern in this region, the table also presents the average (mean) values across all ten counties (weighting each county by its 2020 non-Hispanic white and Hispanic populations, respectively).

38. The table shows that Hispanics have considerably lower household income and income per capita than whites in all ten counties. Their poverty and share with no health insurance are higher in all counties except Brooks County. Their unemployment rate is higher on average, higher in six counties but lower in four counties. Their share of high school

graduates is considerably lower and their share of fluent English speakers is considerably lower in all ten counties.

Table 9. Indicators of socioeconomic status for non-Hispanic whites and Hispanics, for counties in enacted HD31 (ACS 2015-20

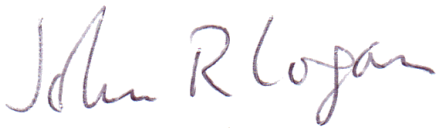
	Brooks County	Duval County	Jim Hogg County	Karnes County	La Salle County	Live Oak County	McMullen County	Starr County	Wilson County	Zapata County	Group-Weighted Mean
Median household income											
White	$31,058	$55,125	NA	$71,036	$56,732	$64,085	$104,583	$74,453	$84,474	$56,400	$66,438
Hispanic	$28,079	$38,188	$32,296	$46,953	$46,304	$36,467	$51,635	$30,309	$66,932	$32,566	$40,973
Income per capita											
White	$11,421	$20,854	$19,912	$50,849	$29,348	$32,603	$50,954	$21,714	$37,788	$35,632	$31,108
Hispanic	$14,784	$17,451	$16,534	$15,179	$20,176	$15,051	$12,061	$14,126	$25,108	$19,481	$16,995
Below poverty											
White	0.457	0.024	0.130	0.087	0.041	0.126	0.103	0.223	0.064	0.195	0.145
Hispanic	0.412	0.248	0.322	0.255	0.192	0.255	0.135	0.348	0.131	0.356	0.266
Civilian labor force unemployed (age 16-64)											
White	0.050	0.112	0.065	0.030	0.056	0.031	0.066	0.000	0.052	0.000	0.046
Hispanic	0.125	0.106	0.116	0.081	0.034	0.017	0.065	0.152	0.055	0.108	0.086
High school or more (age 25+)											
White	0.857	0.926	0.928	0.922	0.858	0.842	0.986	0.764	0.920	0.760	0.876
Hispanic	0.674	0.657	0.728	0.651	0.598	0.634	0.845	0.531	0.798	0.604	0.672
Speak English very well (age 5+)											
White	1.000	1.000	0.924	0.988	0.976	0.998	1.000	0.707	0.989	1.000	0.958
Hispanic	0.842	0.855	0.838	0.742	0.813	0.759	0.933	0.556	0.847	0.587	0.777
Has health insurance											
White	0.769	0.863	0.811	0.933	0.821	0.867	0.971	0.775	0.912	1.000	0.872
Hispanic	0.778	0.772	0.781	0.801	0.815	0.769	0.670	0.652	0.816	0.698	0.755

39. Whi W H V ¶ L Q F R P H V D U H O R Z H U HD31 than statewide, but W K H L U V W D Q G L Q J R Q R W K H U L Q G L F D W R U V L V V L P L O D U W R incomes are lower and their poverty and unemployment rates higher in this region than the statewide Hispanic average. But they are more similar to Hispanics statewide on education, English language fluency, and health insurance coverage.

40. The socioeconomic disparities described here are important as indicators of the overall disadvantages that Hispanics in these areas face in comparison to whites. In my own research and in the literature on political participation, they have also been found to be associated with lower likelihood for citizens to register to vote or to vote if registered (see especially my findings in Journal of Ethnic and Migration Studies [2009], Journal of Ethnic and Migration

Studies [2012], Social Forces [2012], and Sociological Perspectives [2021], and the citations to other research found in these articles).

Date: June 14, 2022



_____

John R. Logan

Appendix A. CVAP Estimation

I estimated CVAP at the 2020 block level for every racial/ethnic category and for the total population, and I aggregated the estimates for every block within an enacted or proposed district to yield that category's percentage of the district's CVAP.

The data sources I used are:

- Block-level population estimates by race/ethnicity and age in the Census 2020 Public Law 94-171 Summary File.
- Tract-level estimates of CVAP for a limited set of race and Hispanic origin categories in a "special file" of the 2016-2020 American Community Survey (ACS).
- Tract-level estimates of age for a limited set of race and Hispanic origin categories in the main 2016-2020 American Community Survey (ACS).

The ACS data are the only available estimate of CVAP. I rely on the five-year ACS 2016-2020 tabulations because tract data are only provided for five-year aggregations. A concern with relying on data for this cumulative sample is that a group's share of citizens in its voting-age population may have changed over time. If it were higher in 2020 than in 2016, the 2016-2020 estimate would underestimate it. In Step 3 below, I provide evidence that Hispanic citizen share was indeed rising in this period, so using the five-year series understates Hispanic citizen share and also the Hispanic CVAP percentage in legislative districts.

Relying on ACS data adds other complications to the estimation of CVAP in 2020. While the 2020 Census provides full-count estimates of the population age 18 and above for very detailed categories of race and Hispanic origin, the ACS data report voting age citizens and age for a more limited set of categories.

- CVAP should be estimated for African Americans, defined by OMB standards as persons who are "non-Hispanic black alone or in combination with any other race." The ACS does not report this category. It does report CVAP by three components (black alone, black and white, and black and American Indian/Alaska Native), but it does not report any other combinations.
- The ACS special tabulation of CVAP does not also report voting age population (VAP) by group (VAP) for census tracts. This tabulation is available separately from the main ACS, which reports the age distribution for Hispanics and several other race categories, but does not distinguish Hispanics from non-Hispanics within those race categories. Census 2020 data are a reliable source to estimate the non-Hispanic share of each race group for the 18+ population. I applied the 2020 "non-Hispanic share" to the ACS "race by age" tabulation to determine the estimated VAP by race and Hispanic origin that is needed as the denominator in calculating the CVAP percentage (CVAP/VAP) in 2016-2020. To do this requires the reasonable assumption that the non-Hispanic share of each group did not meaningfully change between 2016-2020 and 2020.

The following sections describe in some detail the steps taken to develop the CVAP estimates for 2020 blocks in Texas.

Estimation steps

1. CVAP in the ACS at the 2010 tract level

My first step in estimation uses the ACS estimates of CVAP by race and Hispanic origin. In these tabulations the Census Bureau rounds the estimates (estimates between 1 and 7 are rounded to 4 and estimates 8 and higher are rounded to the nearest 5). The published categories are:

Total
Not Hispanic or Latino (NH)
*NH White Alone (NHW)
*NH Black or African American Alone (NHB)
*NH Asian Alone (NHA)
*NH Native Hawaiian or Other Pacific Islander Alone (NHPI)
*NH American Indian or Alaska Native (AIAN) Alone
NH American Indian or Alaska Native and White
NH Asian and White
NH Black or African American and White
NH American Indian or Alaska Native and Black or African American
NH Remainder of Two or More Race Responses
*Hispanic or Latino

I used the categories marked with an asterisk (*)in the analysis. The remaining categories cannot be analyzed separately through the remaining steps, and I combined them in this analysis into a residual category ("NH Multiracial").

The ACS reports CVAP for persons who are "NH Black or African American Alone" but not for "NH Black or African American Alone or in Combination with Another Race." Fortunately, the citizen share for the "alone" category can also be applied to the "in combination" category. To test this approach, I analyzed microdata for the whole state of Texas from the 2019 ACS PUMS sample. As noted in my report, I did not use the 2020 ACS PUMS because the Census Bureau describes it as "experimental" due to the problems in sampling during the pandemic. The one-year sample for the whole state in 2019 is very large and it was designed to be representative at the state level, so I can rely on these most recent data rather than data for the whole 2015-2019 period. In this sample, in 2019 the "NH black alone" citizen share was .9520, compared to .9529 for "NH black alone or in combination," which makes me confident that I can use the former as an estimate of the latter.

Note that the 2020 census's "NH Other Race Alone" category also is not reported by the ACS, and it cannot be inferred as the difference between the "total" and the sum of all other categories because of the rounding of those categories' counts. This is a small category. My analysis of the 2019 ACS PUMS microdata shows that it was 1.2% of the population in Texas. Its citizen share in 2019 was .8577. In the absence of a tract-level estimate, I estimate the citizen share for "NH Other Race Alone" persons in every tract at the statewide value of .8577.

2. VAP estimation

For areas larger than census tracts, the ACS CVAP tables also include estimates of the full voting age population (VAP) that can be used as the denominator in computing CVAP

percentage (CVAP/VAP). For tract estimates one must turn to the main ACS 2015-2019 or 2016-2020 tract files.

It is essential to use the ACS sample data for this purpose because it is the same sample from which CVAP is drawn, so the VAP will correspond to exactly the same people as the CVAP. The ACS provides the number of persons age 18 and over for the following categories of race and Hispanic origin:

Hispanic or Latino
NH White Alone
White Alone
Black or African American Alone
Asian Alone
Native Hawaiian or Pacific Islander Alone (NHPI)
American Indian or Alaska Native Alone (AIAN)
Some Other Race Alone
Two or More Races

These categories mostly correspond to those for which CVAP is reported, noting that "Two or More Races" is the same as the "Multiracial" category created from the CVAP counts. There are two exceptions. The age distribution for Some Other Race Alone is reported, but it cannot be used because it is missing from the CVAP tabulation. More important, all the race categories except NH White Alone combine Hispanics and non-Hispanics. A further step is needed to estimate the non-Hispanic share of the 18+ population in the other five categories.

The age breakdown by race and Hispanic origin is not reported by the ACS. However, the 2020 block data include counts of persons age 18+ for 70 detailed combinations of race, separately for Hispanics and non-Hispanics. I aggregated these 2020 data into the race categories reported in the ACS race by age tabulation. Then I calculated the non-Hispanic counts of voting age population for each racial category as the product of its non-Hispanic share in the tract (from Census 2020) times its total 18+ population in the ACS (where Hispanics and non-Hispanics are combined).

3. CVAP percentage

Step 2 yields estimates of VAP in the same categories as CVAP in Step 1. The CVAP percentage for each race/ethnic category is the ratio of CVAP to VAP in the census tract. I computed this ratio for the following categories:

Hispanic or Latino
NH White Alone
NH Black or African American Alone
NH Asian Alone
NH Native Hawaiian or Pacific Islander Alone (NHPI)
NH American Indian or Alaska Native Alone (AIAN)
NH Multiracial

I set citizen share for NH Other Race Alone at .8577 for all tracts. Citizen share for multiracial persons includes those who are black and some other race, although in Step 4 this value is applied only to the count of multiracial persons who are not black.

As noted above, relying on ACS tract data for citizenship information requires the assumption that the citizen share of the 18+ population of every racial/ethnic category was unchanged between the ACS 2016-2020 estimates and the 2020 Census. However, it is possible to use the PUMS microdata from the ACS in 2015 and 2019 (a 1% sample of the population with weights intended to make it representative for large geographic units such as states) to examine this assumption. If the citizen share of a given group were rising in this period, I would conclude that the actual citizen share in 2020 was higher than the average for 2016-2020 as reported in the ACS tract data.

The PUMS microdata confirm that the citizen share among Hispanics age 18 and above was increasing in this period. It was .7072 in 2015 and rose to .7429 in 2019. This change is highly statistically significant, unlikely to be due to sampling variation. It is possible for rates to both rise and fall over time, depending in part on the volume of immigration by non-citizen adults. There are substantive reasons to interpret this rise as a natural tendency for a population group that is growing through fertility (as is the case for Hispanics), a point previously made by Chapa et al (2011). [1] First, many Hispanics who were age 14-17 at the time of ACS data collection had reached age 18 by 2020. Second, these young adults were more likely than older Hispanics to be citizens by virtue of being born in the U.S. Under these conditions, there would be a natural demographic trend toward increasing citizen share for Hispanics.

A similar smaller trend is observed for non-Hispanic Asians, whose citizen share statewide increased from .6408 in 2015 to .6502 in 2019.

Consequently, the CVAP percentages estimated for purposes of this report for 2020 blocks are a conservative estimate for Hispanics, possibly underestimating Hispanic CVAP percentage by 2-3%.

4. Block-level CVAP in 2020

The final step is to multiply the tract-level estimate of CVAP percentage by the count of persons 18+ (VAP) in every block for each race/ethnic category. This step yields the group's CVAP estimate for the block. This is the procedure recommended by Chapa et al (2011, pp. 11-13) to develop CVAP estimates at units smaller than the county level.

In some cases, particularly for the smallest racial categories, there is no CVAP information for a tract in the ACS but nevertheless there is a non-zero VAP in the 2020 block. In these cases, I used the mean value of citizen share across all Texas census tracts in this step.

As noted in step 1, the citizen share estimated for persons who are "NH black alone" is applied twice. It is applied to the number of voting age residents who are NH black alone to estimate the NH black alone CVAP. It is also applied to the full number of persons who are "NH black alone and in combination."

The final categories for which I estimated CVAP in 2020 blocks are as follows:

[1] Chapa, Jorge, Ana Henderson, Aggie Jooyoon Noah, Werner Schink, and Robert Kengle. 2011. "Redistricting: Estimating Citizen Voting Age Population." Research Brief of the Chief Justice Earl Warren Institute of Law and Social Policy, University of California, Berkeley Law School.

Hispanic or Latino
NH White Alone
NH Black Alone
NH Black or African American Alone or in Combination
NH Asian Alone
NH Native Hawaiian or Pacific Islander Alone (NHPI)
NH American Indian or Alaska Native Alone (AIAN)
NH Other Race Alone
NH Multiracial (non-black multiracial)

Alternative Estimation Using Texas Legislative Council Procedures

I have created estimates of district CVAP percentages for Hispanics and persons who are non-Hispanic black alone or in combination. These estimates are based on 2016-2020 ACS data on citizen share at the tract level, which are then applied to each group's PL-94 2020 voting age population (VAP) for every block in the tract.

I have also created alternative estimates using the procedures followed by the Texas Legislative Council (TLC) in 2021, applying the TLC procedures to the recently released 2016-2020 ACS.

The procedure has these steps, which notably make no use of the voting age population by race/ethnicity from Census 2020. 1) The estimate of CVAP is taken from the ACS block group counts, using the racial/ethnic categories found in ACS. 2) Hispanics are one category. The ACS does not report CVAP for persons who are non-Hispanic black alone or in combination, which is how TLC describes the "black" population for redistricting purposes. TLC instead uses a "similar" ACS estimate that includes non-Hispanics who are black alone, black in combination with white, and black in combination with American Indian and/or Alaska Native. This count omits non-Hispanics who are black in combination with any other race or with any two or more other races. 3) To estimate each group's CVAP percentage in a district, TLC allocates whole block groups to districts. A block group is allocated to a district if it is wholly within the district or 50% or more of its total population as enumerated in Census 2020 is within the district. The 50% criterion assumes that each group's CVAP is located within or outside a district in the same proportion as the total population of all ages, whether citizen or not. TLC notes in addition that in cases of split block groups, the procedure results in some citizen voting age persons being counted as living in a district where they do not reside.

I have estimated CVAP for Congressional Districts in the Houston area using the TLC approach as applied to 2016-2020 ACS data. This is the one case where the Hispanic CVAP is close to the 50% threshold to be a majority Latino CVAP district. This procedure requires identifying which whole block groups to assign to each proposed district. It is carried out in two steps. 1) First, I identify blocks where the entire block group is within the same district. 2) For those block groups that are split between two districts, I calculate the 2020 populations of blocks in each district and assign all blocks to the district with the larger population share. Then I aggregate the ACS reported CVAP for Hispanics and for a "black" category that includes non-Hispanics who are black alone, black in combination with white, and black in combination with American Indian and/or Alaska Native. As stated in my report (p. 12), the TLC methodology yields

estimated Hispanic CVAP shares in proposed CD29' and CD38' (the districts with a Hispanic majority CVAP) that were within a tenth of a percent of my block-based procedure.

Census 2020 Undercount

A concern with the PL94 data from Census 2020 is that the Census Bureau has reported results of its Post-Enumeration Survey that document systematic undercounting of African Americans, Hispanics, and American Indians or Alaska Natives (AIAN) and overcounting of non-Hispanic whites, Asians, and Native Hawaiians or Other Pacific Islanders (NHPI). Specifically, the Bureau's report concludes that the black population was undercounted by 3.30% (compared to 2.06% in 2010). The Hispanic population was undercounted by 4.99%, a statistically significant increase from the 2010 undercount of 1.54%. The AIAN undercount was 5.64%. In contrast, the overcount was 1.64% for non-Hispanic whites, 2.62% for Asians, and 1.28% for NHPI. The implications of the undercount are particularly relevant for Texas, due to its combination of large Hispanic and black populations.

I have calculated how my estimates of every group's CVAP percentages in each block are likely affected by the undercount. For example, if the Hispanic undercount in a given block were 4.99% (equal to the national average), the true Hispanic CVAP percentage in that block would be 5.25% higher than the undercounted value. Similarly, if the national estimate held for a given block, the true black CVAP percentage would be 3.41% higher than my estimate, and the true AIAN CVAP percentage would be 5.98% higher. Hence there is strong reason to conclude that the estimates of CVAP percentage in this report, where I make no undercount correction, are understated for these three groups.

Appendix B. Data for Socioeconomic Disparities Analysis

1. ACS 2015-2019 PUMS Microdata

My analysis of socioeconomic disparities Texas-wide and in major urban areas is based on the ACS 2015-2019 PUMS microdata. In this file the survey data for a 1% sample of persons in every year is aggregated across five years. The Census Bureau designs the samples for each year so that the cumulative sample will be maximally representative of the population of small areas.

In order to protect the confidentiality of the sampled persons and households, people's location is identified only at one geographic scale within states. This scale is termed the Public Use Microdata Area (PUMA). It is much larger than a census tract and larger than many counties, with an average population size of 100,000. For the purpose of describing group-specific socioeconomic status in the areas of the state examined here, it was necessary to create a crosswalk between those areas and the PUMAs contained within them. The analyses reported here define the areas as follows:

Harris County	PUMAs 4601-4638.	County 201
Dallas County.	PUMAs 2301-2322.	County 113
Tarrant County	PUMAs 2501-2516	County 439
Bexar County	PUMAs 5901-5916.	County 029
El Paso County	PUMAs 3301-3306	County 141

The PUMS microdata make it possible to define subgroups of the population as non-Hispanic white alone, non-Hispanic black alone or in combination with another race, and Hispanic.

2. ACS 2015-2019 county tabulations

I used county-level tabulations from ACS 2015-2019 to distinguish counties within HD31. The PUMS microdata cannot be used for this purpose because HD31 includes portions of three PUMAs, which involve numerous other counties. No combination of PUMAs can represent the residents of HD31.

Data are reported separately for each of ten counties:

Brooks	County 47
Duval	County 131
Jim Hogg	County 247
Karnes	County 255
LaSalle	County 283
Live Oak	County 297
McMullen	County 311
Starr	County 427
Wilson	County 493
Zapata	County 505

Separate tabulations are reported by the Census Bureau for non-Hispanic white alone, non-Hispanic black alone, and Hispanic. Some additional combinations of black with another race are also available, but others are omitted. The ACS samples in these counties have small numbers of black respondents, and data are not reported separately for black residents for a number of counties and key variables. For this reason, my analysis of disparities in HD31 is limited to a comparison of whites and Hispanics.

Appendix C. Compactness of Proposed Districts

This report refers to a variety of previous and currently enacted redistricting plans, and also to alternative illustrative plans that I developed.

A relevant quantitative measure to assess the maps I created is the ***Polsby-Popper*** measure of compactness. The Polsby-Popper measure is the isoperimetric ratio comparing a region's area to its perimeter. In the case where the district is a circle, this metric achieves its maximum value of 1. In real-world applications it tends to be much lower. I calculated the Polsby-Popper scores for Congressional Districts in Houston and West Texas and for State House Districts in West Texas, which I present below. For comparison I also calculated the Polsby-Popper scores for all of the enacted Congressional Districts and State House Districts in Texas (C2193 and H2361). The tables below show that the compactness of the districts I propose is well within the usual range for the State of Texas.

Appendix Table 1 reports these scores. The average enacted CD in Texas has a score of .189, with a wide range of values from .038 to .532. My illustrative CDs in Houston have a mean score of .185, and a range from .056 to .369. The three proposed CDs in West Texas range from .222 to .463. Enacted HDs in Texas have an average score of .251, with a range from .070 to .608. The proposed HDs in West Texas have a mean of .319, and a narrower range from.163 to .480. The proposed districts in these three areas have values of compactness that are within the usual distribution of values in Texas.

Appendix Table 1. Polsby-Popper scores for CDs and HDs					
38 Enacted CDs			**150 enacted HDs**		
Mean	0.189		**Mean**	0.251	
Minimum	0.038		**Minimum**	0.070	
Maximum	0.532		**Maximum**	0.608	
Proposed CDs in Houston			**Proposed HDs in West Texas**		
18'	0.056		**74'**	0.163	
10'	0.072		**81'**	0.171	
29'	0.083		**77'**	0.265	
17'	0.137		**79'**	0.365	
38'	0.138		**78'**	0.467	
7'	0.142		**75'**	0.480	
2'	0.150		**Mean**	0.319	
8'	0.203				
22'	0.232				
9'	0.252				
36'	0.275				
14'	0.297				
27'	0.369				
Mean	0.185				
Proposed CDs in West Texas					
20'	0.138				
23'	0.222				
16'	0.463				
Mean	0.275				

EXHIBIT

2

Supplement to Expert Report by Ryan D. Enos, PhD

1. In this supplement to my expert report, I conduct racially polarized voting and opportunity analysis for enacted Congressional Districts (CDs) 2, 8, 22, and 36, enacted Texas House of Representative Districts (HDs) 53 and 88, and illustrative CDs 9, 16, 18, 20, and 29; calculate opportunity analysis for enacted HD 43; calculate the Latino and Black citizen voting age populations (CVAP) for former and enacted CDs and HDs; identify the voting tabulation districts (VTDs) split by the creation of enacted CDs 23 and 24 and calculate the share of the Anglo, Latino, and Black voting-age population (VAP) in those VTDs retained and excluded from the district; and identify VTDs in former CD 24 with a majority Latino VAP that were retained in the enacted CD 24 and examine the electoral participation by Latinos in these VTDs.

2. I used the same data sources, analyzed the same elections, and, where applicable, used the same methodologies as in my main report.

Racially Polarized Voting Analysis

Enacted CDs

3. Analysis of racially polarized voting in enacted CDs 2, 8, 22, and 36 using CVAP is in Figure 1 and using November 2020 Spanish Surname Voter Registration (SSVR) is in Figure 2. These figures present analysis for each CD separately and for the four CDs pooled together. These results are also in Tables 8 to 15. Note that some of my opinions about racial bloc voting in these districts are sensitive to whether the data source is CVAP or SSVR. In contrast, in the main report I prepared, I also examined both CVAP and SSVR, but I found the results to be substantively similar in all districts that I analyzed.

4. Anglos are cohesive in CDs 2, 8, 22, and 36, regardless of the data source. Using CVAP, Latinos are not cohesive in CDs 2 and 22. CD 8 is a marginal case for cohesion, with cohesion increasing in recent elections. Latinos in CD 36 are cohesive in all elections except those in 2014. Anglos and Latinos are polarized in all CDs.

5. Using SSVR, Latinos are cohesive in CDs 2, 8, and 36, but not CD 22. Anglos and Latinos are polarized in CDs 2, 36, and 8, but not in CD 22.

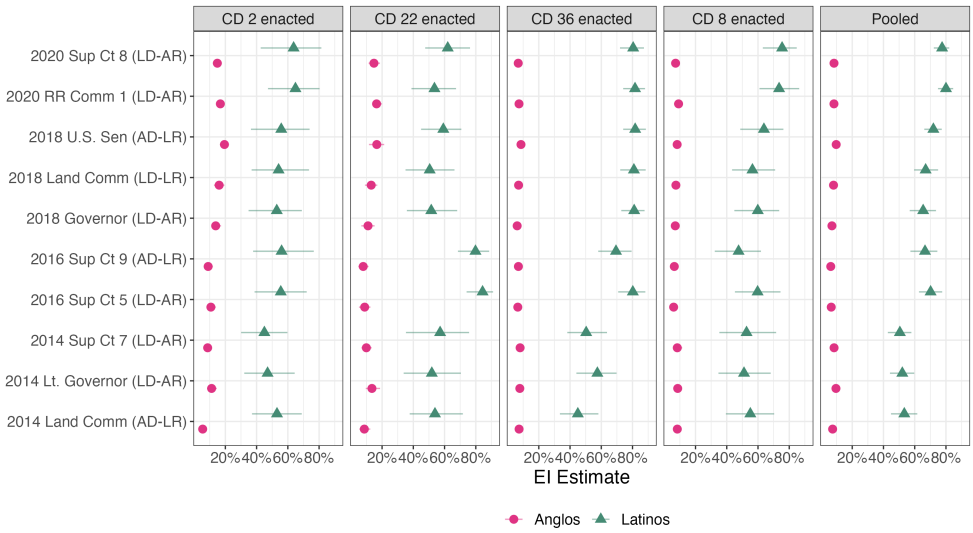


Figure 1: Enacted CDs 2, 8, 22, and 36 voting by race, CVAP

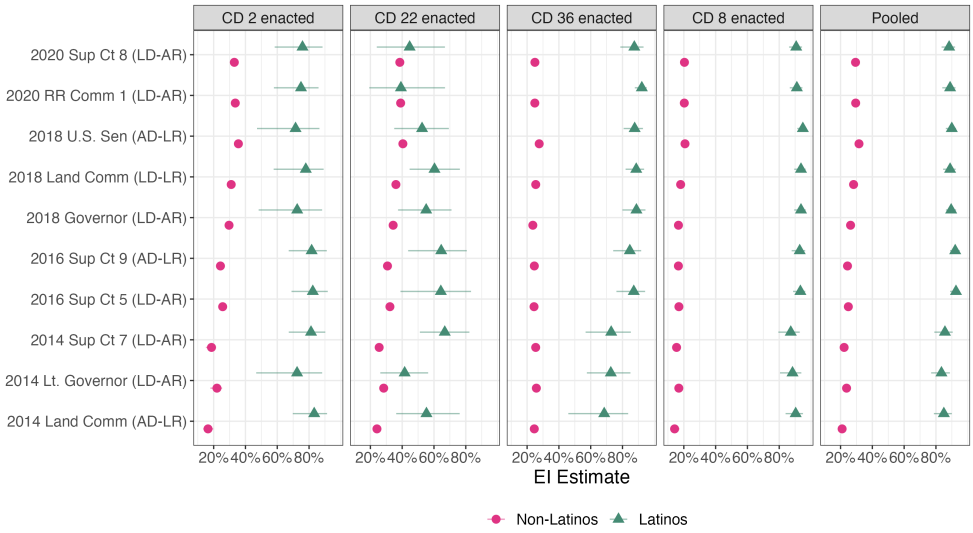


Figure 2: Enacted CDs 2, 8, 22, and 36 voting by race, SSVR

Enacted HDs

6. Analysis of racially polarized voting in enacted HDs 53 and 88 using CVAP is in Figure 3 and in Figure 4 using SSVR. These results are also in Tables 16 to 21. Note that, similar to the CDs above, some of my opinions about racial bloc voting in HDs 53 and 88 are sensitive to whether the data source is CVAP or SSVR.

7. Using CVAP, Anglos are cohesive in both HDs 53 and 88. Latinos are not cohesive in either HD 53 or 88. Latinos and Anglos are polarized in HD 88 but not HD 53.

8. Using SSVR, Anglos are cohesive in both HDs. In my opinion, Latinos are also cohesive in both HDs because they reach the 60% threshold in nearly all elections. Anglos and Latinos are polarized across groups in both HDs.

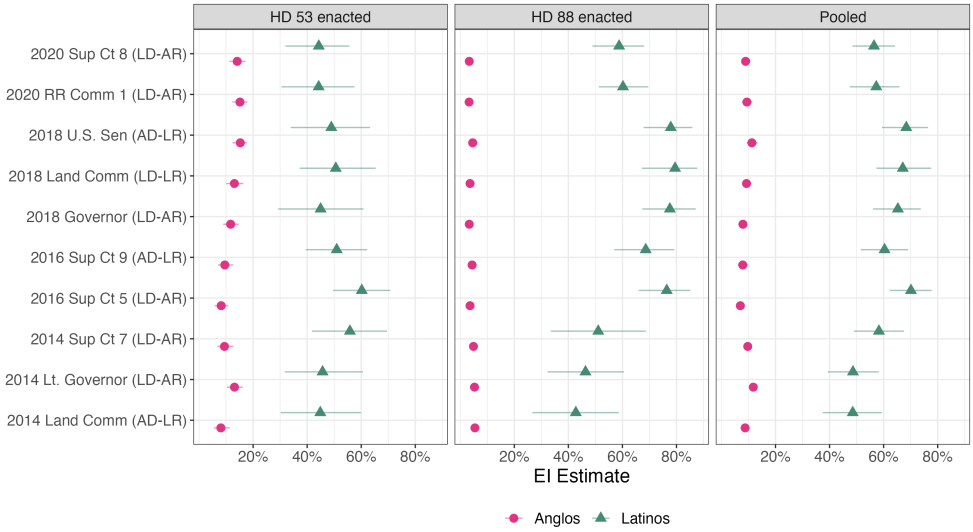


Figure 3: Enacted HDs 53 and 88 voting by race, CVAP

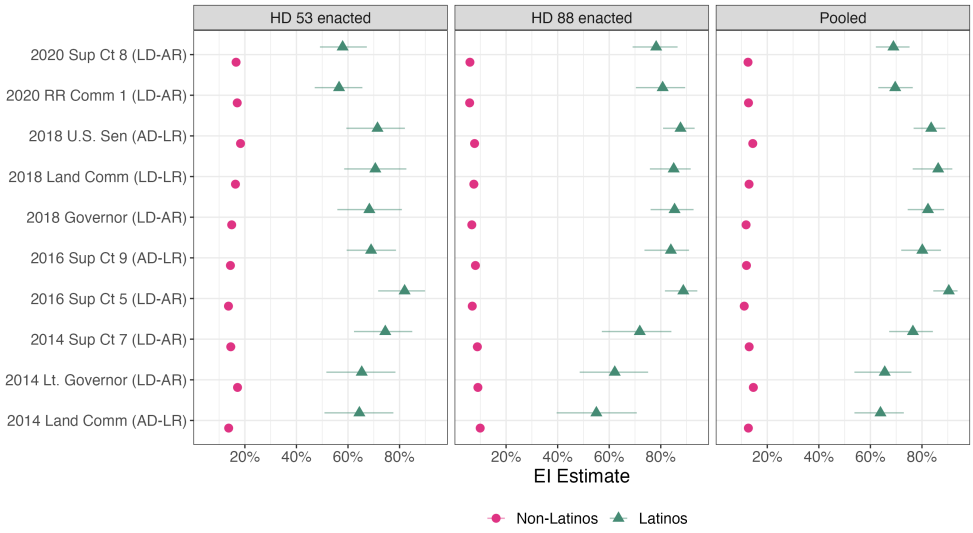


Figure 4: Enacted HDs 53 and 88 voting by race, SSVR

Illustrative CDs

9. Analysis of racially polarized voting using CVAP for illustrative CDs 9 and 18 is in Figure 5 and for illustrative CDs 16, 20, and 29 in Figure 6–8. These results are also in Tables 22–26. The analysis of CDs 16, 20, and 29 examines Latino voters and the analysis of CDs 9 and 18 examines Black voters, so these figures display different elections.

10. In CDs 9 and 18, Black voters are cohesive in all relevant elections. Anglos in CD 9 are cohesive in all elections except the 2020 Supreme Court election. While Anglos in CD 18 consistently vote as a majority against the minority candidate, they are not cohesive because they usually do not meet the 60% threshold of support for a candidate. Blacks and Anglos are polarized from each other in both CDs 9 and 18.

11. In CDs 16, 20, and 29, Latinos and Anglos are each cohesive within their own group and polarized from each other in all relevant elections.

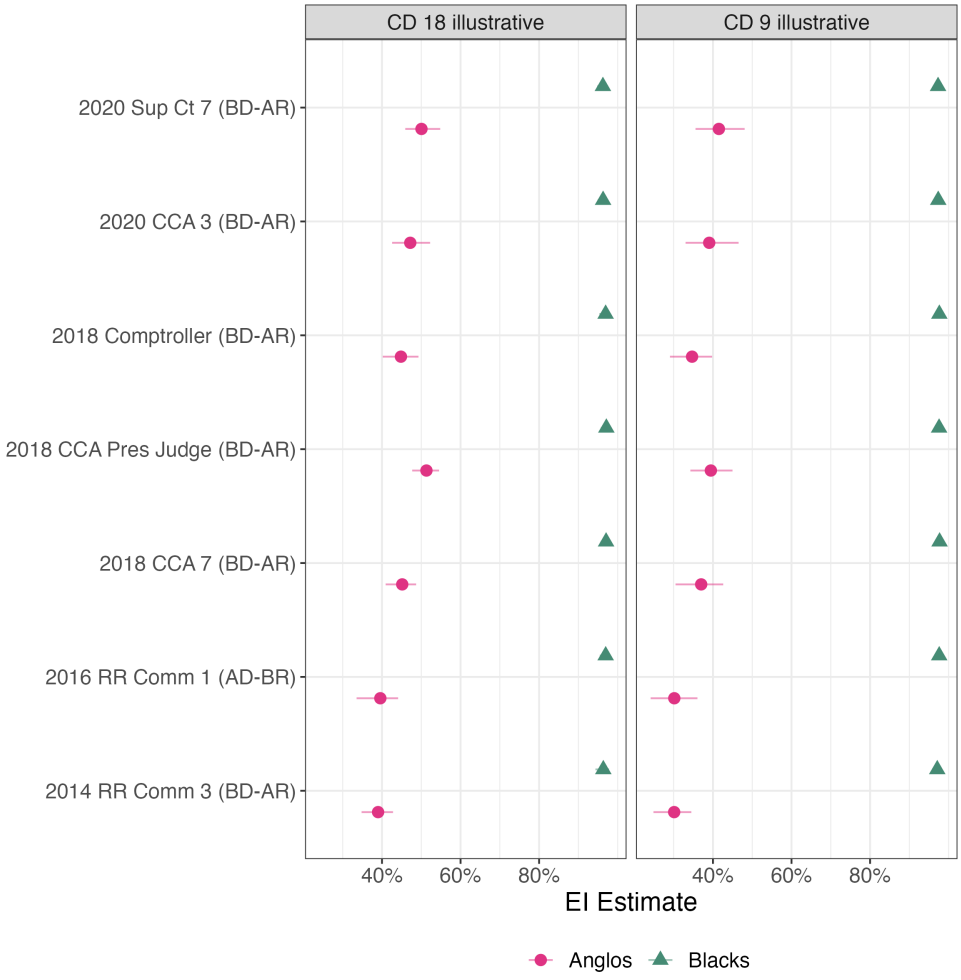


Figure 5: Illustrative CDs 9 and 18 voting by race, CVAP

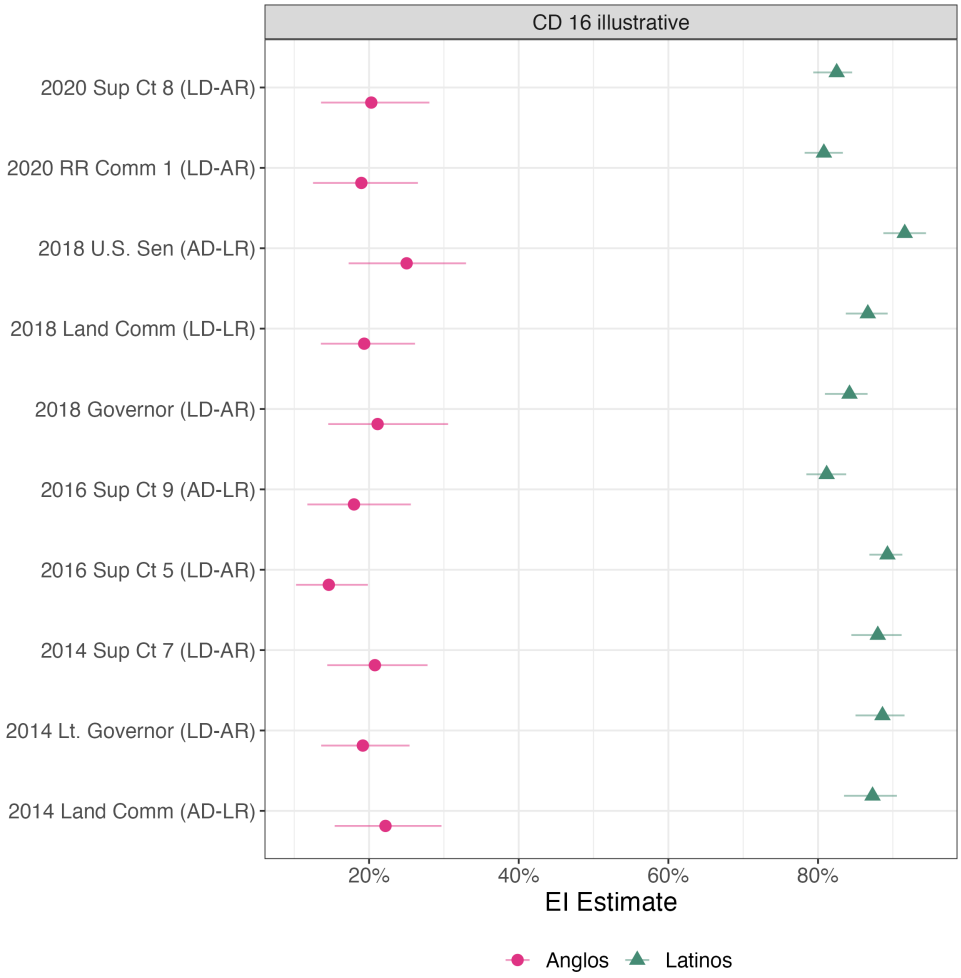


Figure 6: Illustrative CD 16 voting by race, CVAP

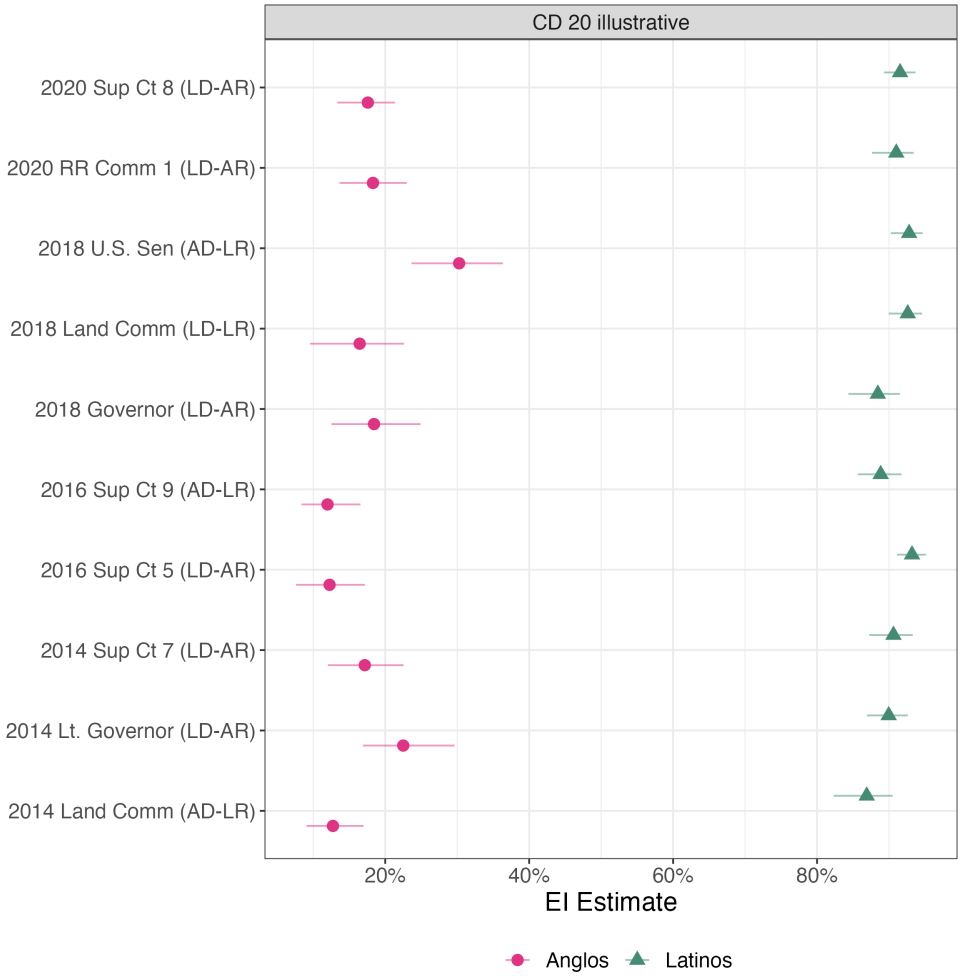


Figure 7: Illustrative CD 20 voting by race, CVAP

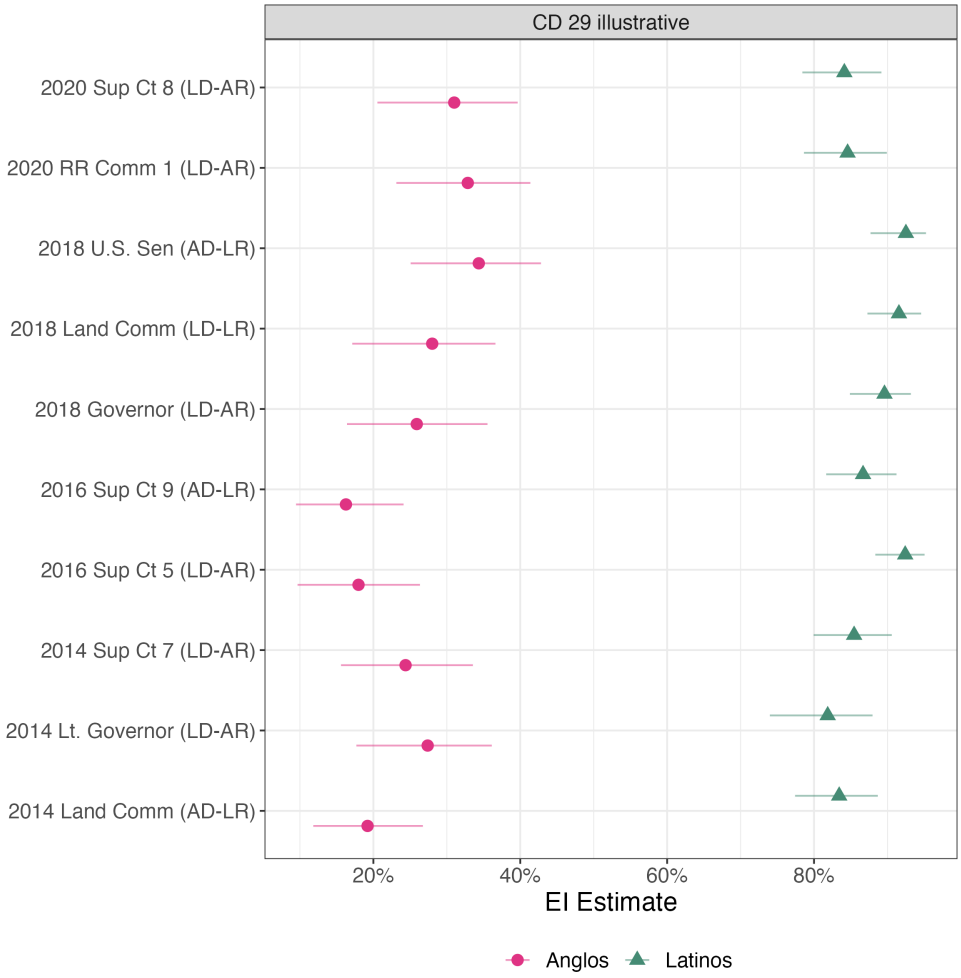


Figure 8: Illustrative CD 29 voting by race, CVAP

Opportunities for Minority Preferred Candidates

Enacted CDs

12. Opportunity analysis for enacted CDs 2, 8, 22, and 36 is in Table 1. These enacted CDs are not opportunity districts for Latino voters. Note that there were no Latino candidates contesting endogenous elections in any of the districts, except for a single election in CD 8. Latino preferred candidates lost badly in all exogenous elections in the former districts and would continue to do so in the enacted districts. In Figures 9–12, I compare the exogenous election results in the former and enacted districts.

	Former Districts						**Enacted Districts**	
	Endogenous Elections		Exogenous Elections		All Elections		Exogenous Elections	
District	Margin	Win %	Margin	Win %	Margin	Win %	Margin	Win %
2		0	-15.90	0	-15.90	0	-35.93	0
8	-47.04	0	-51.62	0	-51.05	0	-36.16	0
22		0	-15.59	0	-15.59	0	-30.32	0
36		0	-48.21	0	-48.21	0	-35.81	0

Table 1: Congressional Districts Opportunity District Analysis

Enacted HDs

13. Opportunity analysis for enacted HDs 43, 53, and 88 is in Table 2. These enacted HDs are not opportunity districts for Latino voters. Latino preferred candidates lost badly in all exogenous elections in the former districts and would continue to do so in the enacted districts. In Figures 13–15, I compare the exogenous election results in the former and enacted districts.

	Former Districts						**Enacted Districts**	
	Endogenous Elections		Exogenous Elections		All Elections		Exogenous Elections	
District	Margin	Win %	Margin	Win %	Margin	Win %	Margin	Win %
43	-22.43	0	-13.15	0	-15.93	0	-16.85	0
53	-56.40	0	-56.05	0	-56.10	0	-55.18	0
88		0	-68.14	0	-68.14	0	-67.91	0

Table 2: House Districts Opportunity District Analysis

Illustrative CDs

14. Opportunity analysis for illustrative CDs 9, 16, 18, 20, and 29 is in Table 3. Both the enacted and illustrative CDs 16, 18, and 20 are opportunity districts for Latino voters. Both the enacted and illustrative CDs 9 and 18 are opportunity districts for Black voters. In Figures 16–20, I compare the exogenous election results in the enacted and illustrative districts.

	Enacted Districts		**Illustrative Districts**	
	Exogenous Elections		Exogenous Elections	
District	Margin	Win %	Margin	Win %
9	50.31	100	36.12	100
16	31.80	100	30.57	100
18	45.17	100	41.40	100
20	28.44	100	9.37	100
29	40.36	100	26.78	100

Table 3: Illustrative Congressional Districts Opportunity District Analysis

Latino and Black CVAP in Former and Enacted CDs

Tables 4 and 5 are of the Latino and Black CVAP in the former and enacted CDs and HDs. These were calculated using Census Block-level CVAP.

Table 4: Former and Enacted Congressional Districts Percent Latino and Black CVAP

District	Latino Enacted	Latino Former	Black Enacted	Black Former
1	9.3	10.6	19.3	18.3
2	21.9	24.1	13.2	15.1
3	11.2	11.0	11.0	12.6
4	9.7	9.2	10.6	11.4
5	18.6	17.8	15.8	17.9
6	22.0	18.4	16.6	24.0
7	20.8	22.5	25.2	19.3
8	22.5	16.5	14.5	10.1
9	25.9	27.1	48.6	50.1
10	17.6	21.1	11.0	13.0
11	32.1	30.5	12.6	4.4
12	17.7	16.9	12.6	11.0
13	20.3	19.9	7.9	6.4
14	17.9	18.9	17.1	21.1
15	74.2	73.5	1.6	2.6
16	78.6	77.0	4.0	4.4
17	18.0	19.8	16.9	14.2
18	28.7	28.4	41.9	44.5
19	32.1	30.9	7.5	7.5
20	67.3	64.1	7.2	6.9
21	26.0	24.4	4.2	4.6
22	23.2	21.5	13.5	17.7
23	56.4	62.2	4.6	4.7
24	12.5	16.2	8.0	15.8
25	15.4	15.5	12.9	7.7
26	13.5	14.5	10.5	10.8
27	47.8	45.9	5.0	5.6
28	69.0	69.4	6.1	6.3
29	62.3	64.7	20.2	17.3
30	22.3	24.8	48.7	51.3
31	18.1	20.0	8.9	13.0
32	21.1	16.3	25.7	16.2
33	42.1	48.9	29.5	26.4
34	86.4	79.5	0.7	1.6
35	46.1	51.8	15.1	10.8
36	22.1	19.8	13.8	10.5
37	20.8		7.2	
38	18.9		11.6	

Table 5: Former and Enacted House Districts Percent Latino and Black CVAP

District	Latino Enacted	Latino Former	Black Enacted	Black Former
1	4.5	5.0	20.5	20.1
2	10.2	10.2	7.0	7.0
3	19.2	18.7	4.6	10.5
4	14.2	13.4	13.5	12.8
5	10.4	11.0	9.3	10.5
6	12.2	12.7	19.2	19.9
7	9.0	8.6	22.0	18.9
8	12.9	14.5	15.7	15.9
9	10.4	5.9	15.1	18.3
10	19.9	19.0	13.7	13.1

11	8.7	11.1	17.1	17.2
12	15.7	17.6	19.9	18.9
13	15.8	14.3	17.2	11.4
14	20.7	21.3	10.6	12.5
15	14.8	14.8	8.5	8.2
16	15.4	17.3	7.4	6.9
17	28.6	33.8	8.2	7.8
18	14.1	17.1	7.8	15.9
19	13.2	5.8	1.5	11.0
20	17.1	16.2	4.8	3.9
21	7.3	11.1	12.6	10.8
22	15.8	13.2	45.9	52.4
23	20.5	20.4	15.5	18.5
24	16.3	16.4	10.7	7.7
25	23.4	27.6	19.4	12.8
26	18.9	15.6	13.7	14.7
27	17.9	16.9	48.4	47.5
28	23.6	18.0	13.4	19.0
29	26.2	23.8	13.8	19.1
30	33.4	36.3	7.7	5.5
31	64.7	75.6	2.2	1.4
32	40.5	48.2	4.4	5.1
33	12.7	12.6	10.9	10.3
34	70.0	67.8	4.1	3.8
35	91.8	84.7	0.3	0.5
36	89.7	90.2	0.4	0.4
37	78.0	86.5	1.1	0.4
38	92.1	87.3	0.4	0.6
39	88.8	88.7	0.2	0.2
40	90.1	91.0	1.3	1.2
41	82.1	82.2	1.0	0.9
42	93.6	94.2	0.6	0.5
43	59.5	61.9	3.4	3.4
44	33.1	33.1	8.2	6.9
45	37.7	32.0	5.9	4.8
46	27.1	29.7	21.2	21.4
47	13.7	14.2	3.9	3.2
48	21.7	21.4	4.7	4.7
49	18.9	17.4	5.0	5.3
50	29.5	24.3	17.4	15.1
51	43.0	43.1	10.4	10.9
52	21.5	25.0	8.7	11.7
53	29.8	26.4	2.0	1.8
54	20.9	20.6	28.8	30.1
55	20.6	20.2	21.2	16.9
56	17.1	17.7	11.0	11.5
57	15.3	11.6	13.9	16.8
58	18.4	17.9	4.1	4.1
59	13.5	15.9	8.2	9.2
60	9.7	12.2	1.8	2.2
61	10.0	9.4	13.0	1.5
62	7.9	7.9	6.6	6.8
63	15.7	12.4	12.3	6.8
64	14.8	16.2	8.6	11.0
65	13.3	16.4	13.8	19.3
66	10.1	9.5	10.5	13.7
67	12.6	11.3	12.4	11.4
68	13.3	16.3	2.8	3.9
69	14.9	14.2	9.5	10.1
70	10.6	11.9	14.0	13.4
71	20.2	21.3	8.2	8.8
72	32.5	33.6	4.1	4.2

73	19.8	20.0	2.4	2.2
74	75.5	74.5	2.5	1.7
75	87.9	87.8	2.9	2.9
76	19.1	87.1	26.5	2.5
77	85.9	74.2	2.5	4.4
78	67.7	66.9	5.0	5.8
79	77.1	78.8	4.7	4.1
80	76.6	85.2	1.3	1.2
81	52.7	52.0	5.5	5.2
82	36.5	37.2	7.5	7.3
83	29.3	30.1	4.5	4.4
84	34.8	34.3	12.8	13.2
85	19.5	30.8	15.7	17.8
86	24.0	24.2	3.3	3.4
87	28.7	28.5	8.7	9.5
88	38.3	38.8	4.1	3.8
89	13.0	11.8	11.6	11.5
90	50.4	59.0	18.9	15.8
91	19.3	18.7	8.4	8.3
92	21.8	14.9	33.3	19.7
93	18.9	20.2	12.1	17.7
94	15.1	16.2	13.7	18.4
95	21.3	21.2	49.1	48.7
96	15.4	17.4	18.7	25.3
97	15.1	15.8	13.2	16.9
98	9.7	9.8	6.0	5.1
99	21.2	21.0	11.5	7.9
100	30.1	25.7	50.0	43.9
101	23.1	26.3	37.3	38.6
102	18.1	15.2	34.6	21.2
103	37.6	38.1	16.0	17.2
104	55.5	60.0	15.7	19.3
105	33.0	33.9	21.2	18.5
106	12.4	13.6	10.8	13.9
107	41.9	28.4	21.6	21.5
108	7.3	11.7	5.3	8.8
109	17.7	18.5	60.4	64.8
110	34.6	38.8	52.8	49.8
111	23.0	24.1	57.0	55.8
112	13.5	20.7	13.1	20.1
113	24.8	24.0	28.8	25.3
114	19.4	13.1	16.2	22.6
115	16.1	19.9	17.6	16.0
116	59.8	60.4	8.6	8.6
117	66.2	56.5	8.4	9.2
118	57.7	68.5	5.8	4.2
119	65.0	61.4	10.9	11.8
120	44.5	44.1	25.4	25.4
121	32.5	35.9	7.1	7.4
122	34.0	32.6	4.9	5.4
123	59.7	61.6	5.2	5.2
124	66.6	66.9	9.9	8.6
125	62.5	68.0	6.0	5.7
126	20.2	25.3	16.1	20.9
127	22.1	22.0	18.8	18.8
128	29.9	30.0	11.9	11.6
129	23.2	22.7	9.4	10.9
130	18.3	19.1	10.3	10.8
131	37.2	34.0	49.3	52.2
132	23.3	30.6	14.4	19.8
133	15.2	14.7	18.6	16.4
134	13.1	13.0	8.1	8.0

135	37.0	28.8	26.0	21.4
136	21.1	17.1	10.1	6.6
137	31.2	31.0	36.2	40.3
138	27.5	33.4	11.0	14.1
139	27.5	31.6	47.0	45.3
140	69.4	68.2	16.4	16.9
141	29.4	29.8	59.5	59.9
142	33.3	34.0	46.7	46.7
143	62.8	63.7	18.2	18.5
144	64.4	67.0	9.1	6.4
145	51.9	60.5	10.9	11.9
146	16.9	19.3	55.8	54.2
147	25.5	25.3	37.8	37.6
148	39.6	42.3	19.9	9.5
149	33.0	29.7	32.8	32.4
150	21.8	21.8	17.7	19.3

Split VTDs in Enacted CDs 23 and 24

15. In Table 6, I examine VTDs that are split between enacted CD 23 and adjacent CDs, including the percent of Anglo VAP and the percent of Latino VAP in these VTDs that is retained in CD 23 and the percent of each that is placed in adjacent CDs. I calculate this by examining the Census Blocks in the split VTDs. There are 15 VTDs split across CD 23 and adjacent CDs. 64.0% of the total Anglo VAP in these VTDs is retained in CD 23, and 36.0% of the total Anglo VAP in these VTDs is within adjacent CDs. 56.4% of the total Latino VAP in these VTDs is retained in CD 23, and 43.6% of the total Latino VAP in these VTDs is within in adjacent CDs.

	Anglo VAP %	Latino VAP %
In CDs Adjacent to CD 23	36.0	43.6
Retained in CD 23	64.0	56.4

Table 6: Anglo and Latino VAP in VTDs split by Enacted CD 23

16. The same analysis for enacted CD 24 is in Table 7. In this CD, I also analyze the percent of Black VAP that is retained in CD 24 and the percent that is placed in adjacent CDs. There are 27 VTDs that are split between CD 24 and adjacent CDs. 38.1% of the total Anglo VAP in these VTDs is retained in CD 24, and 61.9% of the total Anglo VAP in these VTDs is within adjacent CDs. 20.9% of total Latino VAP in these VTDs is retained in CD 24, and 79.1% of the total Latino VAP in these VTDs is within adjacent CDs. 15.2% of total Black VAP in these VTDs is retained in CD 24, and 84.8% of the total Black VAP in these VTDs is within adjacent CDs.

Retained	Anglo VAP %	Latino VAP %	Black VAP %
In CDs Adjacent to CD 24	61.9	79.1	84.8
Retained in CD 24	38.1	20.9	15.2

Table 7: Anglo, Latino, and Black VAP in VTDs split by Enacted CD 24

Latino Majority VAP VTDs in Former and Enacted CD 24

In the former CD 24, there were 253 VTDs. Of those 253 VTDs, 27 had a majority Latino VAP. Of those 27 VTDs, 3 are maintained in enacted CD 24, which has 255 total VTDs. In these three VTDs retained in enacted CD 24, voters with a Spanish surname were 30.5% of registered voters in 2020 (SSVR) and from 2014 to 2020, 24.9% of all voter turnout was by voters with a Spanish surname (SSTO). One of these VTDs only had 42 total registered voters in 2020 and only a single case of turnout by any voter with a Spanish surname between 2014 and 2020.

Tables of Ecological Inference Results for Racial Bloc Voting

		Enacted		
Office	Year	Latinos	Blacks	Anglos
Land Comm (AD-LR)	2014	53	75	5
		(37, 69)	(60, 86)	(4, 8)
Lt. Governor (LD-AR)	2014	47	78	11
		(32, 64)	(63, 88)	(8, 15)
Sup Ct 7 (LD-AR)	2014	45	79	9
		(30, 60)	(68, 88)	(6, 12)
Sup Ct 5 (LD-AR)	2016	55	90	11
		(39, 72)	(83, 95)	(8, 14)
Sup Ct 9 (AD-LR)	2016	56	90	9
		(38, 77)	(83, 95)	(7, 12)
Governor (LD-AR)	2018	53	91	14
		(35, 69)	(84, 96)	(11, 17)
Land Comm (LD-LR)	2018	54	91	16
		(37, 74)	(85, 95)	(13, 19)
U.S. Sen (AD-LR)	2018	56	91	19
		(36, 74)	(85, 95)	(16, 22)
RR Comm 1 (LD-AR)	2020	65	92	17
		(47, 80)	(86, 96)	(14, 19)
Sup Ct 8 (LD-AR)	2020	64	92	15
		(43, 81)	(87, 96)	(12, 18)
Avg.		55	87	13

Table 8: EI CVAP: Enacted CD 2

		Enacted		
Office	Year	Latinos	Blacks	Anglos
Land Comm (AD-LR)	2014	55	68	8
		(39, 70)	(51, 82)	(6, 11)
Lt. Governor (LD-AR)	2014	51	67	9
		(35, 68)	(48, 83)	(7, 11)
Sup Ct 7 (LD-AR)	2014	53	75	8
		(35, 72)	(59, 88)	(6, 11)
Sup Ct 5 (LD-AR)	2016	60	84	6
		(45, 74)	(70, 91)	(4, 8)
Sup Ct 9 (AD-LR)	2016	48	84	6
		(32, 62)	(75, 91)	(5, 8)
Governor (LD-AR)	2018	60	85	7
		(45, 74)	(76, 92)	(5, 9)
Land Comm (LD-LR)	2018	56	86	7
		(43, 71)	(78, 92)	(5, 10)
U.S. Sen (AD-LR)	2018	64	87	8
		(49, 76)	(79, 92)	(6, 10)
RR Comm 1 (LD-AR)	2020	74	88	9
		(61, 86)	(81, 93)	(6, 12)
Sup Ct 8 (LD-AR)	2020	75	86	7
		(63, 85)	(77, 92)	(5, 10)
Avg.		60	81	8

Table 9: EI CVAP: Enacted CD 8

		Enacted		
Office	Year	Latinos	Blacks	Anglos
Land Comm (AD-LR)	2014	54	80	9
		(38, 72)	(69, 89)	(5, 12)
Lt. Governor (LD-AR)	2014	52	77	14
		(34, 70)	(62, 87)	(10, 19)
Sup Ct 7 (LD-AR)	2014	57	80	10
		(35, 76)	(65, 90)	(7, 13)
Sup Ct 5 (LD-AR)	2016	84	86	9
		(74, 91)	(77, 93)	(5, 13)
Sup Ct 9 (AD-LR)	2016	80	87	8
		(69, 89)	(78, 93)	(5, 11)
Governor (LD-AR)	2018	51	83	11
		(36, 68)	(76, 90)	(7, 15)
Land Comm (LD-LR)	2018	50	86	13
		(35, 66)	(79, 91)	(9, 17)
U.S. Sen (AD-LR)	2018	59	83	17
		(45, 71)	(74, 90)	(12, 21)
RR Comm 1 (LD-AR)	2020	54	90	16
		(39, 67)	(85, 94)	(14, 20)
Sup Ct 8 (LD-AR)	2020	62	88	15
		(48, 76)	(82, 92)	(11, 19)
Avg.		60	84	12

Table 10: EI CVAP: Enacted CD 22

		Enacted		
Office	Year	Latinos	Blacks	Anglos
Land Comm (AD-LR)	2014	45	89	7
		(34, 58)	(85, 93)	(5, 9)
Lt. Governor (LD-AR)	2014	57	91	8
		(44, 70)	(86, 94)	(6, 10)
Sup Ct 7 (LD-AR)	2014	50	90	8
		(38, 64)	(85, 93)	(6, 10)
Sup Ct 5 (LD-AR)	2016	80	93	7
		(71, 88)	(89, 95)	(5, 8)
Sup Ct 9 (AD-LR)	2016	69	92	7
		(58, 79)	(89, 95)	(5, 9)
Governor (LD-AR)	2018	81	92	6
		(73, 88)	(88, 95)	(5, 8)
Land Comm (LD-LR)	2018	81	92	7
		(72, 88)	(88, 95)	(6, 9)
U.S. Sen (AD-LR)	2018	82	93	9
		(74, 89)	(90, 95)	(7, 10)
RR Comm 1 (LD-AR)	2020	82	92	7
		(74, 88)	(88, 95)	(6, 9)
Sup Ct 8 (LD-AR)	2020	80	92	7
		(72, 87)	(88, 95)	(6, 8)
Avg.		71	91	7

Table 11: EI CVAP: Enacted CD 36

		Enacted	
Office	Year	Latinos	Non-Latinos
Land Comm (AD-LR)	2014	83	16
		(70, 91)	(13, 20)
Lt. Governor (LD-AR)	2014	72	22
		(47, 88)	(18, 25)
Sup Ct 7 (LD-AR)	2014	81	19
		(67, 90)	(15, 21)
Sup Ct 5 (LD-AR)	2016	82	26
		(69, 92)	(23, 28)
Sup Ct 9 (AD-LR)	2016	82	24
		(67, 91)	(22, 26)
Governor (LD-AR)	2018	73	30
		(48, 88)	(27, 32)
Land Comm (LD-LR)	2018	78	31
		(58, 89)	(29, 33)
U.S. Sen (AD-LR)	2018	72	36
		(47, 87)	(34, 37)
RR Comm 1 (LD-AR)	2020	75	34
		(58, 86)	(32, 35)
Sup Ct 8 (LD-AR)	2020	76	33
		(58, 88)	(31, 35)
Avg.		77	27

Table 12: EI SSVR: Enacted CD 2

		Enacted	
Office	Year	Latinos	Non-Latinos
Land Comm (AD-LR)	2014	90	14
		(84, 95)	(12, 17)
Lt. Governor (LD-AR)	2014	88	17
		(80, 94)	(14, 19)
Sup Ct 7 (LD-AR)	2014	87	15
		(79, 93)	(13, 18)
Sup Ct 5 (LD-AR)	2016	93	17
		(89, 96)	(15, 19)
Sup Ct 9 (AD-LR)	2016	93	17
		(88, 96)	(15, 19)
Governor (LD-AR)	2018	94	17
		(89, 97)	(14, 19)
Land Comm (LD-LR)	2018	94	18
		(89, 97)	(16, 20)
U.S. Sen (AD-LR)	2018	95	21
		(91, 97)	(18, 23)
RR Comm 1 (LD-AR)	2020	91	20
		(87, 95)	(18, 23)
Sup Ct 8 (LD-AR)	2020	91	20
		(86, 94)	(19, 22)
Avg.		92	18

Table 13: EI SSVR: Enacted CD 8

		Enacted	
Office	Year	Latinos	Non-Latinos
Land Comm (AD-LR)	2014	55	24
		(36, 76)	(22, 25)
Lt. Governor (LD-AR)	2014	42	28
		(26, 56)	(28, 29)
Sup Ct 7 (LD-AR)	2014	67	26
		(51, 82)	(24, 27)
Sup Ct 5 (LD-AR)	2016	64	32
		(39, 83)	(31, 34)
Sup Ct 9 (AD-LR)	2016	65	31
		(44, 81)	(29, 32)
Governor (LD-AR)	2018	55	34
		(37, 71)	(33, 35)
Land Comm (LD-LR)	2018	60	36
		(45, 76)	(35, 37)
U.S. Sen (AD-LR)	2018	53	40
		(35, 69)	(39, 41)
RR Comm 1 (LD-AR)	2020	39	39
		(19, 67)	(37, 40)
Sup Ct 8 (LD-AR)	2020	45	39
		(24, 67)	(37, 40)
Avg.		54	33

Table 14: EI SSVR: Enacted CD 22

		Enacted	
Office	Year	Latinos	Non-Latinos
Land Comm (AD-LR)	2014	68	25
		(46, 84)	(23, 27)
Lt. Governor (LD-AR)	2014	73	26
		(58, 85)	(24, 28)
Sup Ct 7 (LD-AR)	2014	73	25
		(57, 85)	(24, 27)
Sup Ct 5 (LD-AR)	2016	87	24
		(76, 94)	(23, 26)
Sup Ct 9 (AD-LR)	2016	85	25
		(74, 92)	(23, 26)
Governor (LD-AR)	2018	89	24
		(80, 94)	(22, 25)
Land Comm (LD-LR)	2018	89	25
		(82, 94)	(24, 27)
U.S. Sen (AD-LR)	2018	88	28
		(81, 93)	(26, 29)
RR Comm 1 (LD-AR)	2020	92	25
		(88, 95)	(24, 26)
Sup Ct 8 (LD-AR)	2020	87	25
		(79, 93)	(24, 26)
Avg.		83	25

Table 15: EI SSVR: Enacted CD 36

		Enacted	
Office	Year	Latinos	Anglos
Land Comm (AD-LR)	2014	45	8
		(30, 60)	(5, 11)
Lt. Governor (LD-AR)	2014	46	13
		(32, 61)	(10, 16)
Sup Ct 7 (LD-AR)	2014	56	9
		(42, 70)	(7, 13)
Sup Ct 5 (LD-AR)	2016	60	8
		(50, 71)	(6, 11)
Sup Ct 9 (AD-LR)	2016	51	10
		(39, 62)	(7, 13)
Governor (LD-AR)	2018	45	12
		(29, 61)	(9, 15)
Land Comm (LD-LR)	2018	51	13
		(37, 65)	(10, 16)
U.S. Sen (AD-LR)	2018	49	15
		(34, 63)	(12, 18)
RR Comm 1 (LD-AR)	2020	44	15
		(30, 57)	(12, 18)
Sup Ct 8 (LD-AR)	2020	44	14
		(32, 56)	(11, 17)
Avg.		49	12

Table 16: EI CVAP: Enacted HD 53

		Enacted	
Office	Year	Latinos	Anglos
Land Comm (AD-LR)	2014	43	5
		(27, 59)	(4, 7)
Lt. Governor (LD-AR)	2014	46	5
		(32, 61)	(4, 7)
Sup Ct 7 (LD-AR)	2014	51	5
		(34, 69)	(4, 7)
Sup Ct 5 (LD-AR)	2016	76	4
		(66, 85)	(2, 5)
Sup Ct 9 (AD-LR)	2016	69	4
		(57, 79)	(3, 6)
Governor (LD-AR)	2018	78	3
		(67, 87)	(2, 5)
Land Comm (LD-LR)	2018	79	4
		(67, 88)	(2, 5)
U.S. Sen (AD-LR)	2018	78	5
		(68, 86)	(3, 6)
RR Comm 1 (LD-AR)	2020	60	3
		(51, 70)	(2, 5)
Sup Ct 8 (LD-AR)	2020	59	3
		(49, 68)	(2, 5)
Avg.		64	4

Table 17: EI CVAP: Enacted HD 88

		Enacted	
Office	Year	Latinos	Anglos
Land Comm (AD-LR)	2014	49	9
		(37, 59)	(7, 10)
Lt. Governor (LD-AR)	2014	49	12
		(39, 58)	(10, 13)
Sup Ct 7 (LD-AR)	2014	58	10
		(49, 68)	(8, 11)
Sup Ct 5 (LD-AR)	2016	70	7
		(62, 78)	(6, 8)
Sup Ct 9 (AD-LR)	2016	60	8
		(52, 69)	(6, 10)
Governor (LD-AR)	2018	65	8
		(56, 74)	(6, 9)
Land Comm (LD-LR)	2018	67	9
		(57, 78)	(8, 11)
U.S. Sen (AD-LR)	2018	68	11
		(59, 76)	(9, 13)
RR Comm 1 (LD-AR)	2020	57	9
		(48, 66)	(8, 11)
Sup Ct 8 (LD-AR)	2020	56	9
		(48, 64)	(7, 11)
Avg.		60	9

Table 18: EI CVAP: Enacted HDs 53 and 88 pooled

		Enacted	
Office	Year	Latinos	Non-Latinos
Land Comm (AD-LR)	2014	64	14
		(51, 78)	(12, 15)
Lt. Governor (LD-AR)	2014	65	17
		(52, 78)	(15, 19)
Sup Ct 7 (LD-AR)	2014	74	15
		(62, 85)	(13, 16)
Sup Ct 5 (LD-AR)	2016	82	14
		(72, 90)	(12, 15)
Sup Ct 9 (AD-LR)	2016	69	14
		(59, 79)	(13, 16)
Governor (LD-AR)	2018	68	15
		(56, 81)	(13, 16)
Land Comm (LD-LR)	2018	71	16
		(59, 83)	(15, 18)
U.S. Sen (AD-LR)	2018	71	18
		(59, 82)	(17, 20)
RR Comm 1 (LD-AR)	2020	57	17
		(47, 66)	(16, 18)
Sup Ct 8 (LD-AR)	2020	58	17
		(49, 67)	(15, 18)
Avg.		68	16

Table 19: EI SSVR: Enacted HD 53

		Enacted	
Office	Year	Latinos	Non-Latinos
Land Comm (AD-LR)	2014	55	10
		(40, 71)	(8, 11)
Lt. Governor (LD-AR)	2014	62	9
		(49, 75)	(7, 10)
Sup Ct 7 (LD-AR)	2014	72	9
		(57, 84)	(7, 10)
Sup Ct 5 (LD-AR)	2016	89	7
		(82, 94)	(5, 8)
Sup Ct 9 (AD-LR)	2016	84	8
		(74, 91)	(7, 10)
Governor (LD-AR)	2018	85	7
		(76, 93)	(5, 8)
Land Comm (LD-LR)	2018	85	7
		(76, 92)	(6, 9)
U.S. Sen (AD-LR)	2018	88	8
		(81, 93)	(6, 10)
RR Comm 1 (LD-AR)	2020	81	6
		(70, 89)	(5, 7)
Sup Ct 8 (LD-AR)	2020	78	6
		(69, 87)	(5, 7)
Avg.		78	8

Table 20: EI SSVR: Enacted HD 88

		Enacted	
Office	Year	Latinos	Non-Latinos
Land Comm (AD-LR)	2014	64	13
		(54, 73)	(12, 14)
Lt. Governor (LD-AR)	2014	66	15
		(54, 76)	(13, 16)
Sup Ct 7 (LD-AR)	2014	76	13
		(67, 84)	(12, 14)
Sup Ct 5 (LD-AR)	2016	90	11
		(84, 94)	(10, 12)
Sup Ct 9 (AD-LR)	2016	80	12
		(72, 87)	(11, 13)
Governor (LD-AR)	2018	82	12
		(74, 89)	(11, 13)
Land Comm (LD-LR)	2018	86	13
		(76, 92)	(12, 14)
U.S. Sen (AD-LR)	2018	84	14
		(77, 89)	(13, 15)
RR Comm 1 (LD-AR)	2020	70	13
		(63, 76)	(12, 14)
Sup Ct 8 (LD-AR)	2020	69	13
		(62, 75)	(12, 13)
Avg.		77	13

Table 21: EI SSVR: Enacted HDs 53 and 88 pooled

Office	Year	Blacks	Anglos
RR Comm 3 (BD-AR)	2014	97	30
		(96, 98)	(25, 34)
RR Comm 1 (AD-BR)	2016	98	30
		(96, 98)	(24, 36)
CCA 7 (BD-AR)	2018	98	37
		(97, 99)	(30, 43)
CCA Pres Judge (BD-AR)	2018	98	39
		(96, 98)	(34, 45)
Comptroller (BD-AR)	2018	98	35
		(97, 98)	(29, 40)
CCA 3 (BD-AR)	2020	97	39
		(96, 98)	(33, 47)
Sup Ct 7 (BD-AR)	2020	97	42
		(96, 98)	(36, 48)
Avg.		97	36

Table 22: EI CVAP: Illustrative CD 9

Office	Year	Latinos	Anglos
Land Comm (AD-LR)	2014	87	22
		(83, 91)	(15, 30)
Lt. Governor (LD-AR)	2014	89	19
		(85, 92)	(14, 25)
Sup Ct 7 (LD-AR)	2014	88	21
		(84, 91)	(14, 28)
Sup Ct 5 (LD-AR)	2016	89	15
		(87, 91)	(10, 20)
Sup Ct 9 (AD-LR)	2016	81	18
		(78, 84)	(12, 26)
Governor (LD-AR)	2018	84	21
		(81, 87)	(15, 31)
Land Comm (LD-LR)	2018	87	19
		(84, 89)	(14, 26)
U.S. Sen (AD-LR)	2018	92	25
		(89, 94)	(17, 33)
RR Comm 1 (LD-AR)	2020	81	19
		(78, 83)	(13, 27)
Sup Ct 8 (LD-AR)	2020	82	20
		(79, 85)	(14, 28)
Avg.		86	20

Table 23: EI CVAP: Illustrative CD 16

Office	Year	Blacks	Anglos
RR Comm 3 (BD-AR)	2014	96	39
		(94, 98)	(35, 43)
RR Comm 1 (AD-BR)	2016	97	40
		(95, 98)	(34, 44)
CCA 7 (BD-AR)	2018	97	45
		(96, 98)	(41, 49)
CCA Pres Judge (BD-AR)	2018	97	51
		(96, 98)	(48, 55)
Comptroller (BD-AR)	2018	97	45
		(95, 98)	(40, 49)
CCA 3 (BD-AR)	2020	96	47
		(95, 98)	(43, 52)
Sup Ct 7 (BD-AR)	2020	96	50
		(95, 98)	(46, 55)
Avg.		97	45

Table 24: EI CVAP: Illustrative CD 18

Office	Year	Latinos	Anglos
Land Comm (AD-LR)	2014	87	13
		(82, 91)	(9, 17)
Lt. Governor (LD-AR)	2014	90	23
		(87, 93)	(17, 30)
Sup Ct 7 (LD-AR)	2014	91	17
		(87, 93)	(12, 23)
Sup Ct 5 (LD-AR)	2016	93	12
		(91, 95)	(8, 17)
Sup Ct 9 (AD-LR)	2016	89	12
		(86, 92)	(8, 17)
Governor (LD-AR)	2018	88	18
		(84, 92)	(13, 25)
Land Comm (LD-LR)	2018	93	16
		(90, 95)	(10, 23)
U.S. Sen (AD-LR)	2018	93	30
		(90, 95)	(24, 36)
RR Comm 1 (LD-AR)	2020	91	18
		(88, 93)	(14, 23)
Sup Ct 8 (LD-AR)	2020	92	18
		(89, 94)	(13, 21)
Avg.		91	18

Table 25: EI CVAP: Illustrative CD 20

Office	Year	Latinos	Anglos
Land Comm (AD-LR)	2014	83	19
		(77, 89)	(12, 27)
Lt. Governor (LD-AR)	2014	82	27
		(74, 88)	(18, 36)
Sup Ct 7 (LD-AR)	2014	85	24
		(80, 91)	(16, 34)
Sup Ct 5 (LD-AR)	2016	92	18
		(88, 95)	(10, 26)
Sup Ct 9 (AD-LR)	2016	87	16
		(82, 91)	(9, 24)
Governor (LD-AR)	2018	90	26
		(85, 93)	(16, 36)
Land Comm (LD-LR)	2018	92	28
		(87, 95)	(17, 37)
U.S. Sen (AD-LR)	2018	93	34
		(88, 95)	(25, 43)
RR Comm 1 (LD-AR)	2020	85	33
		(79, 90)	(23, 41)
Sup Ct 8 (LD-AR)	2020	84	31
		(78, 89)	(21, 40)
Avg.		87	26

Table 26: EI CVAP: Illustrative CD 29

Additional Figures for Opportunity District Analysis

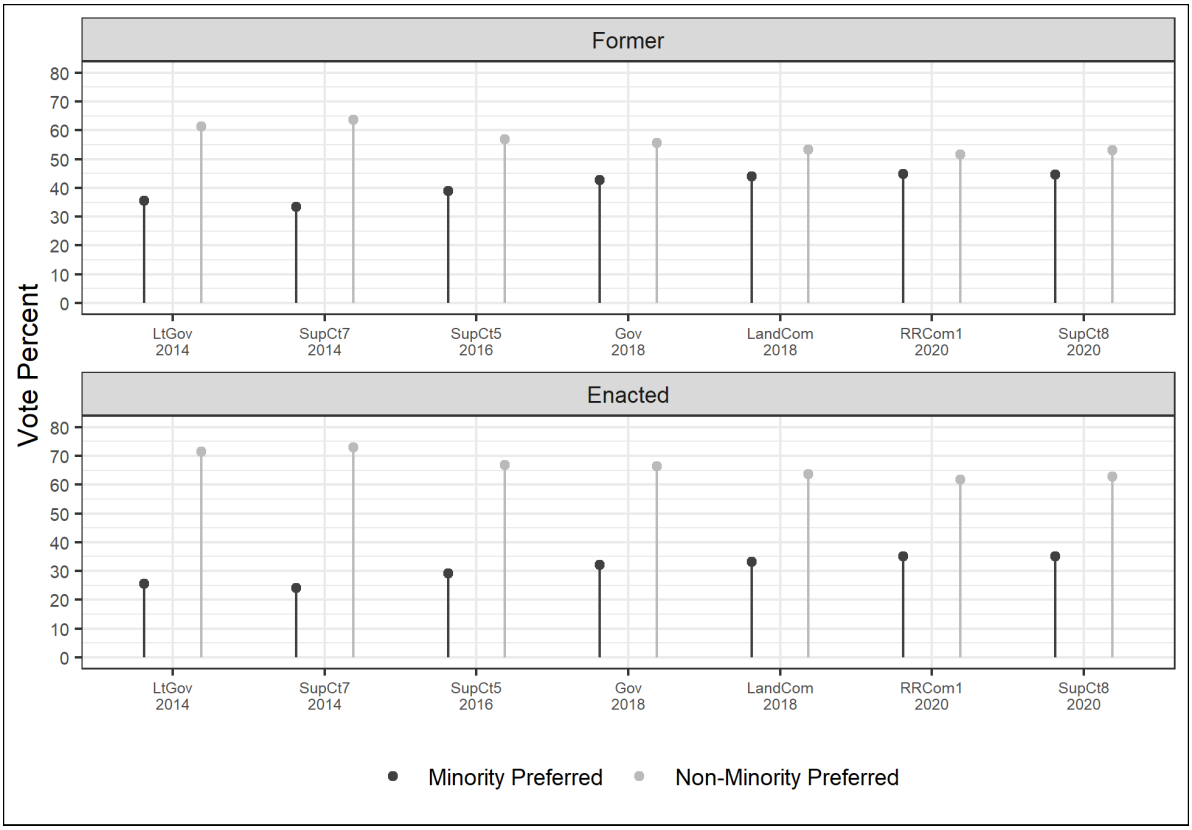


Figure 9: Congressional District 2

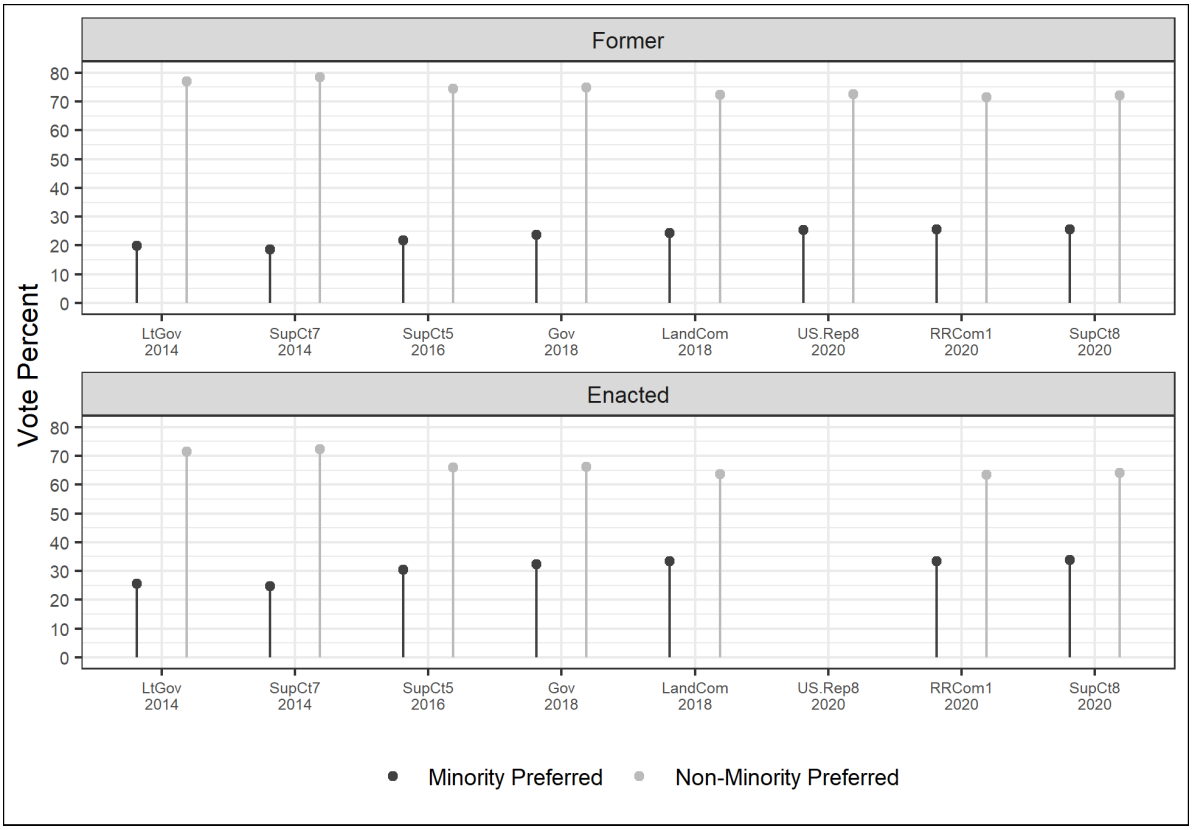


Figure 10: Congressional District 8

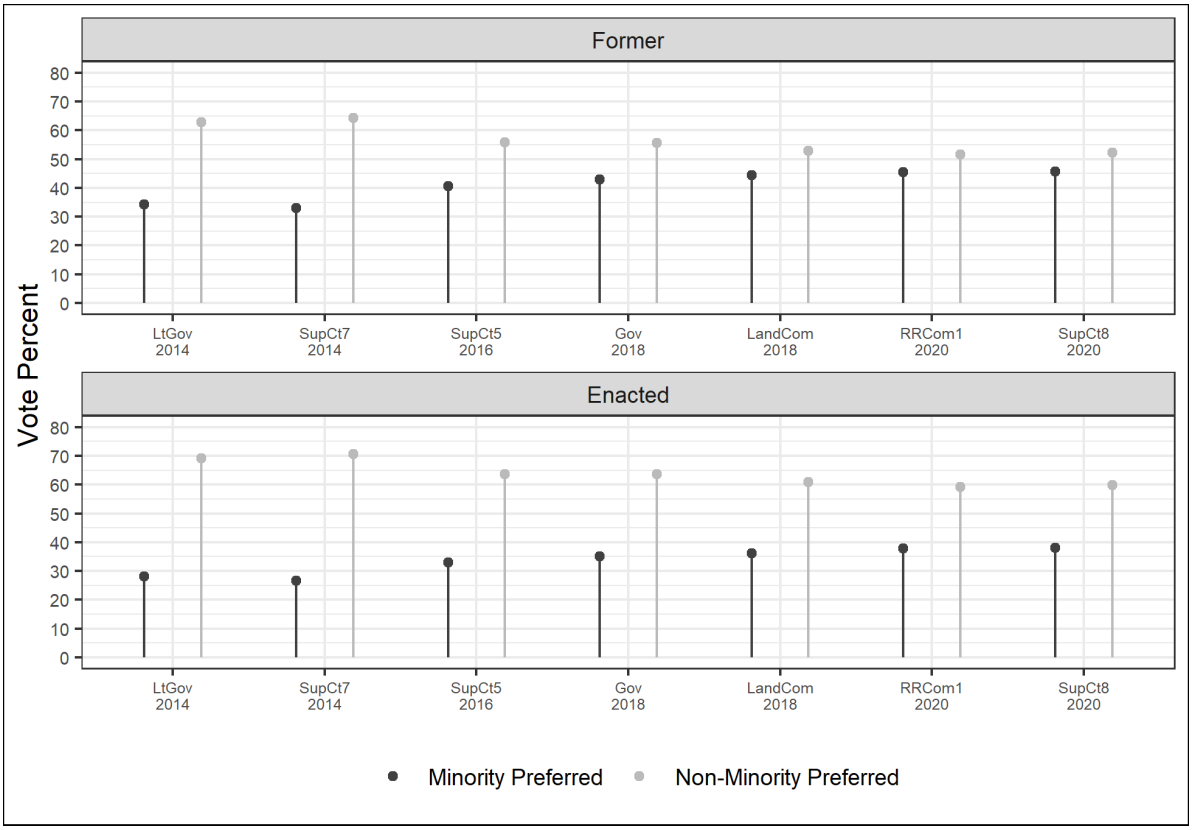


Figure 11: Congressional District 22

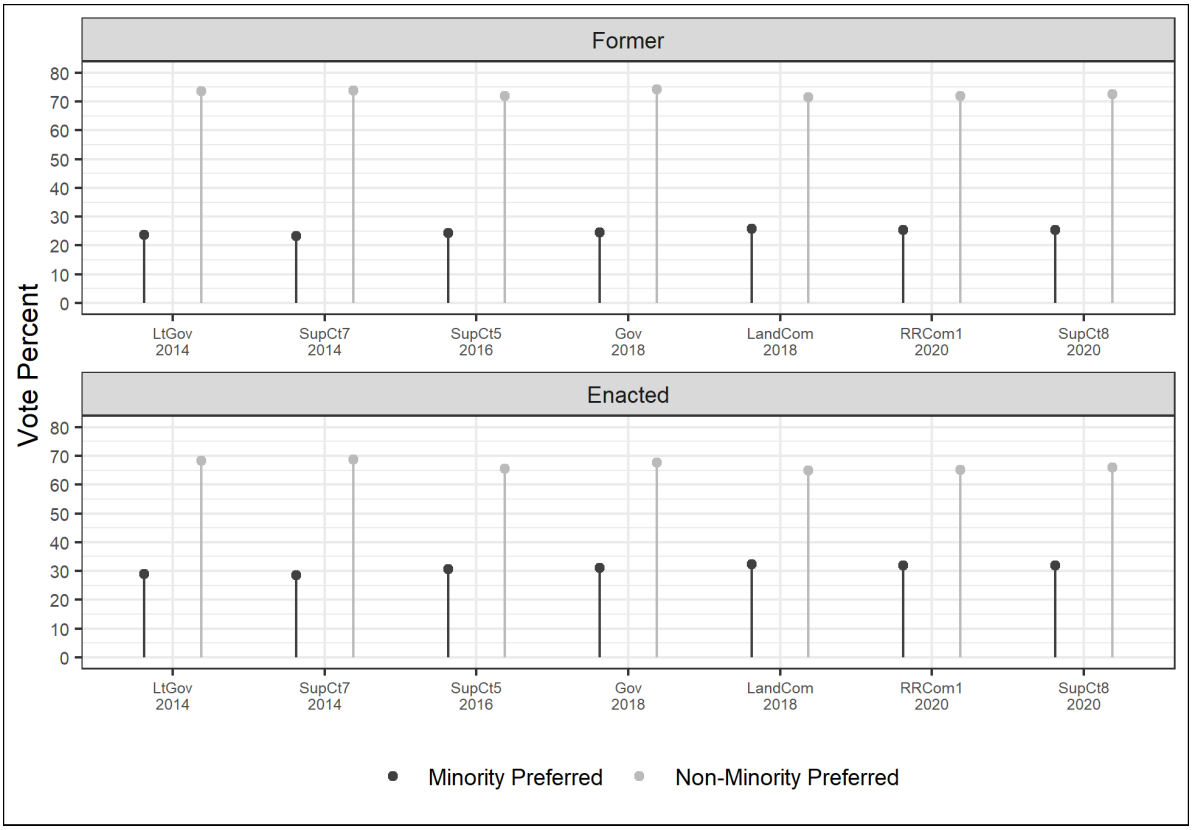


Figure 12: Congressional District 36

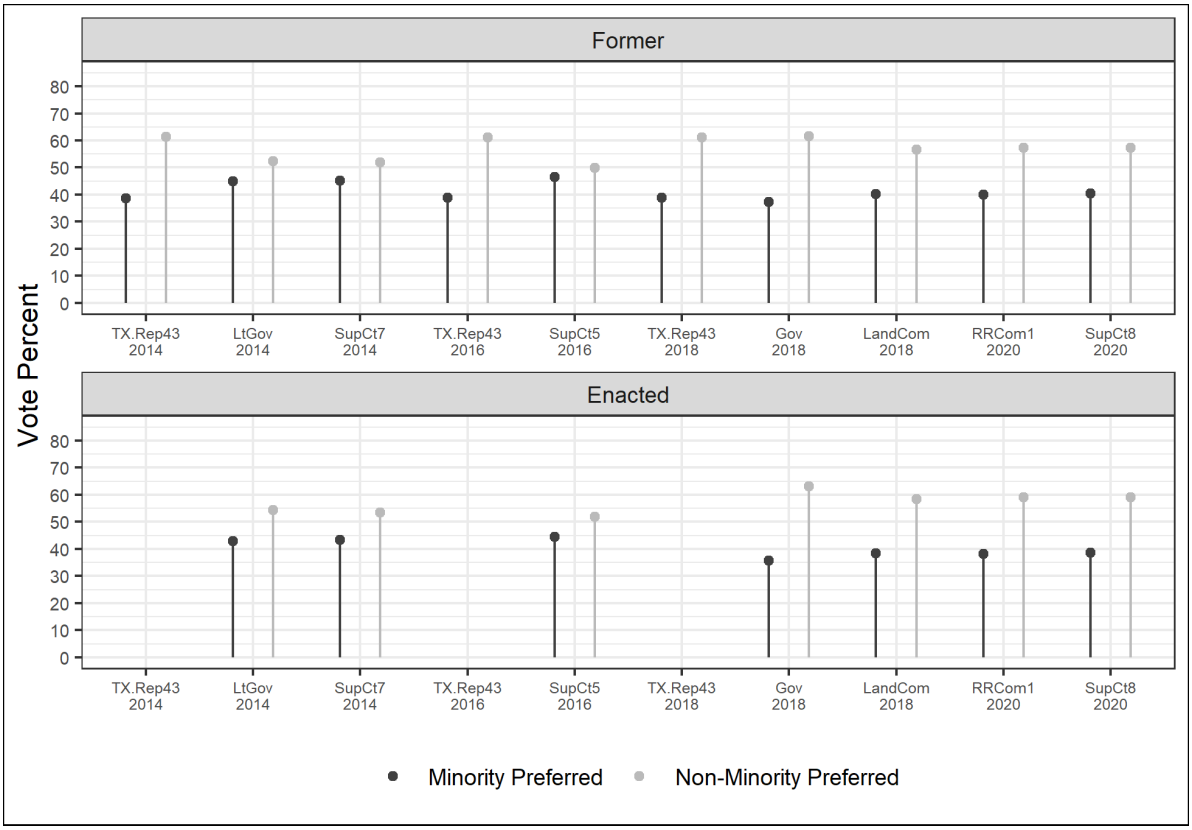


Figure 13: House District 43

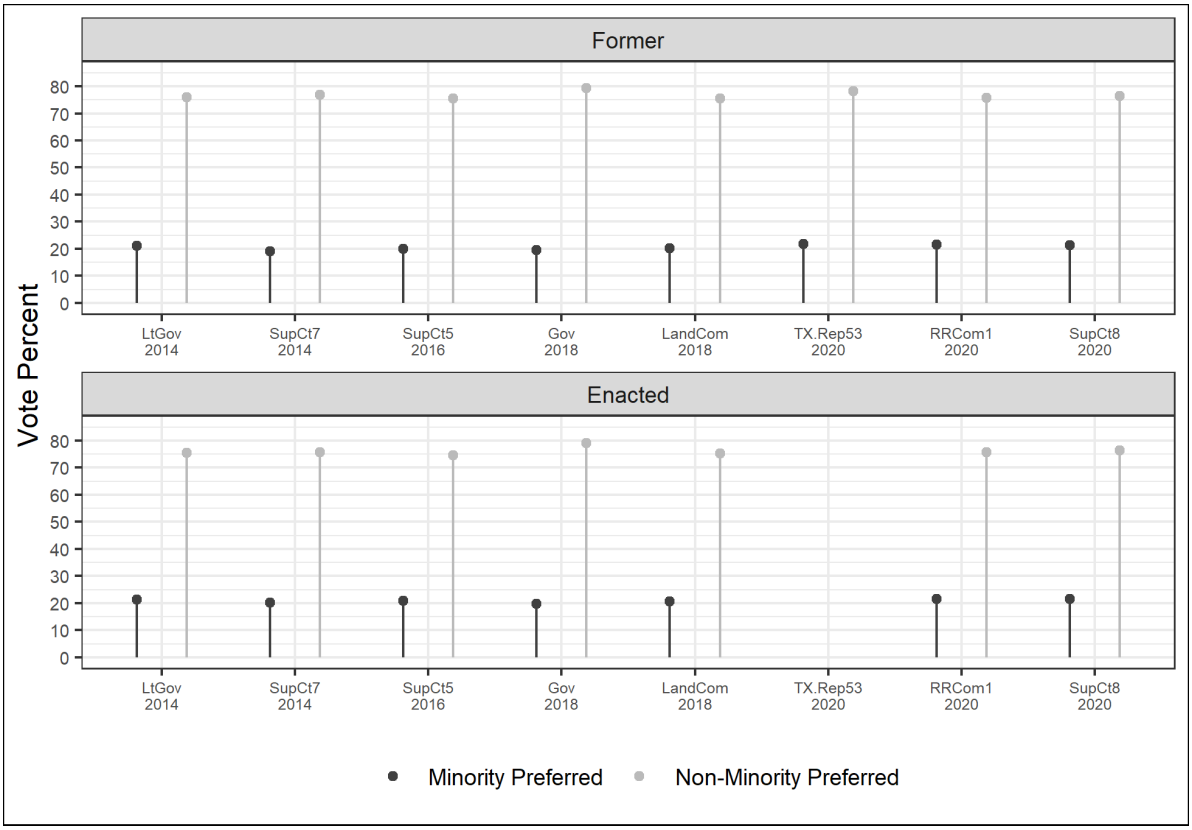


Figure 14: House District 53

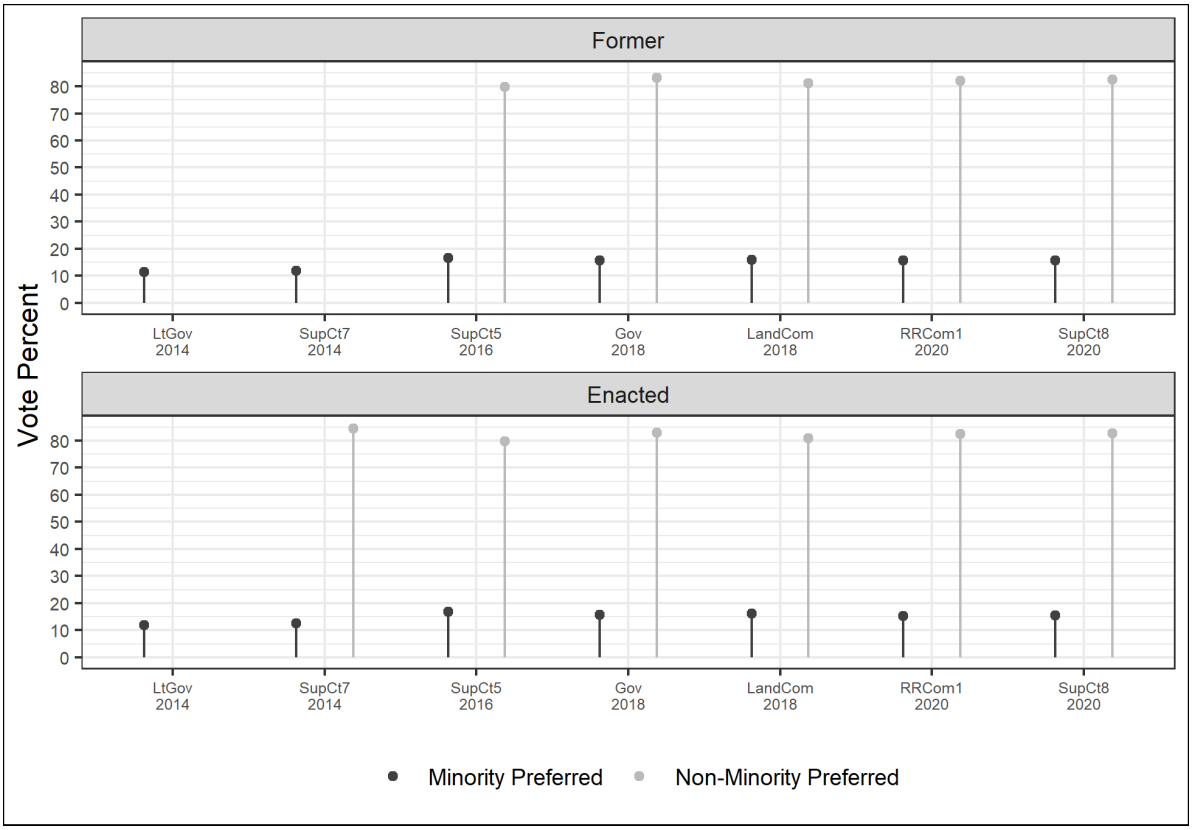


Figure 15: House District 88

Figure 16: Illustrative Congressional District 9

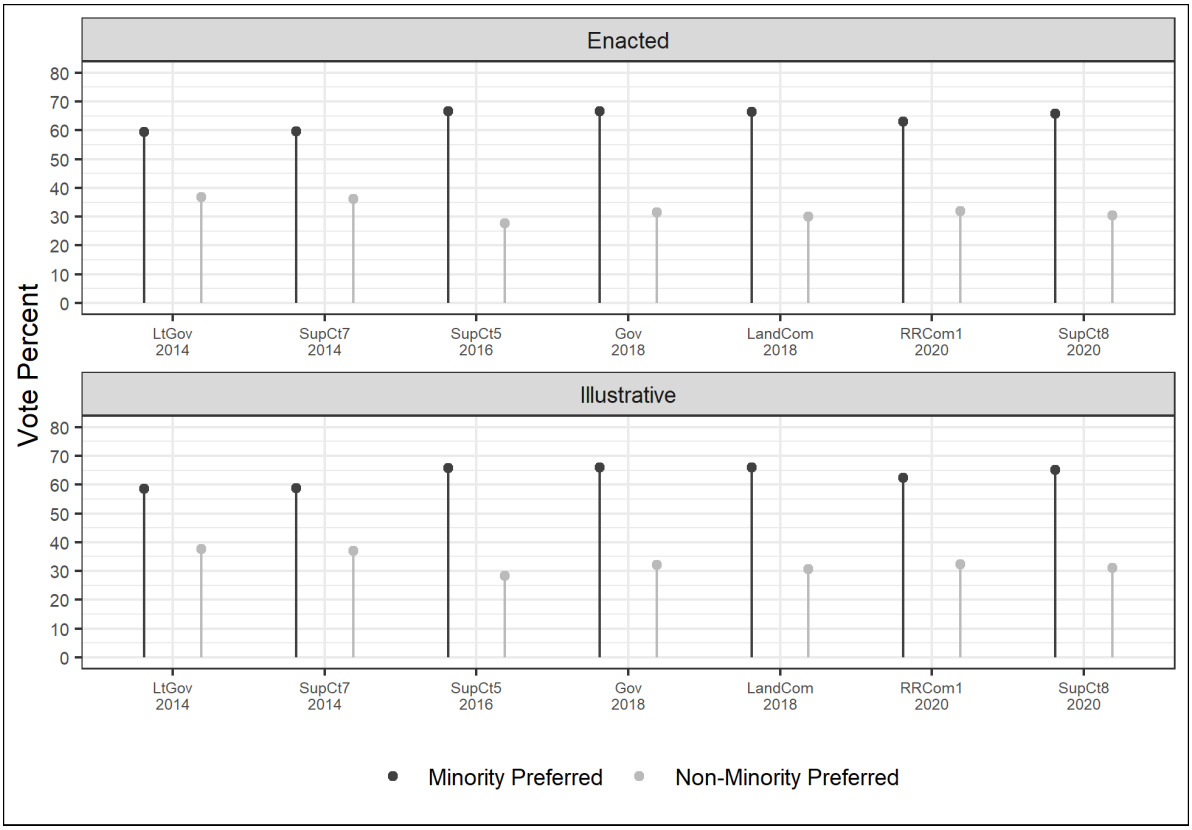


Figure 17: Illustrative Congressional District 16

Figure 18: Illustrative Congressional District 18

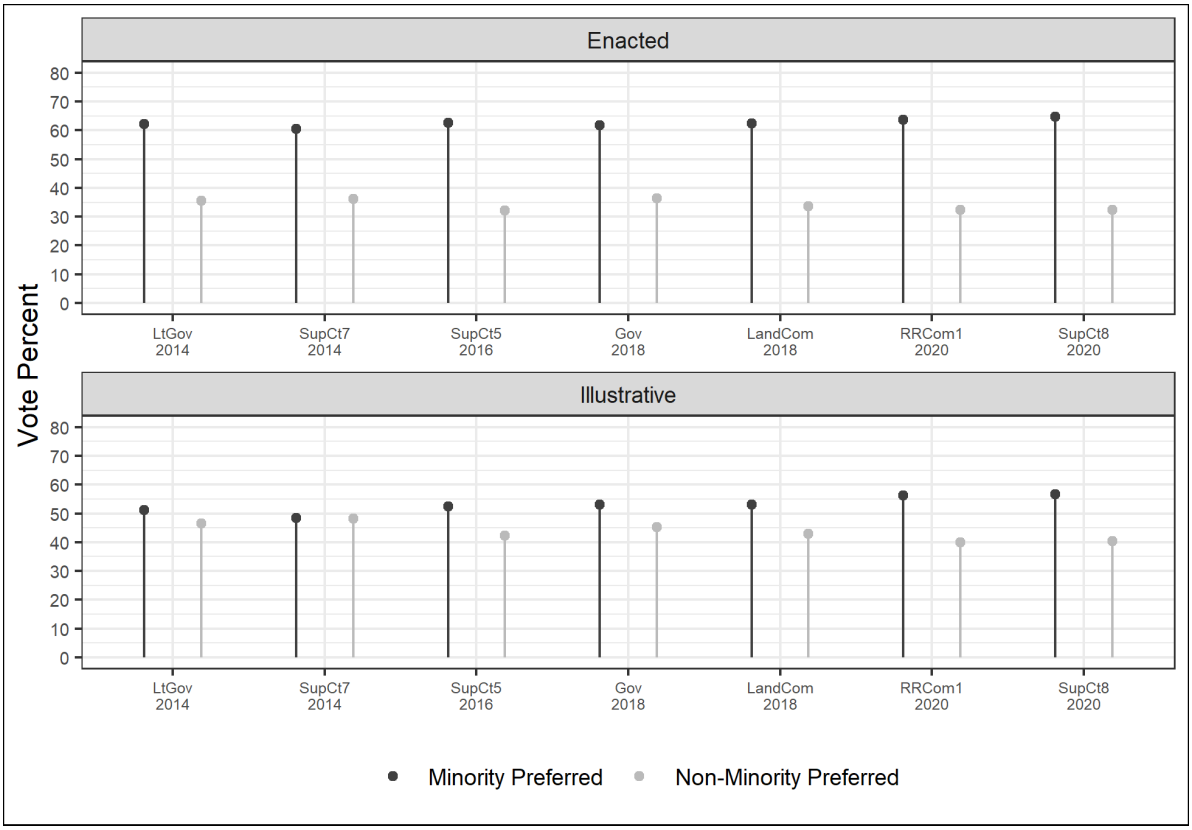


Figure 19: Illustrative Congressional District 20

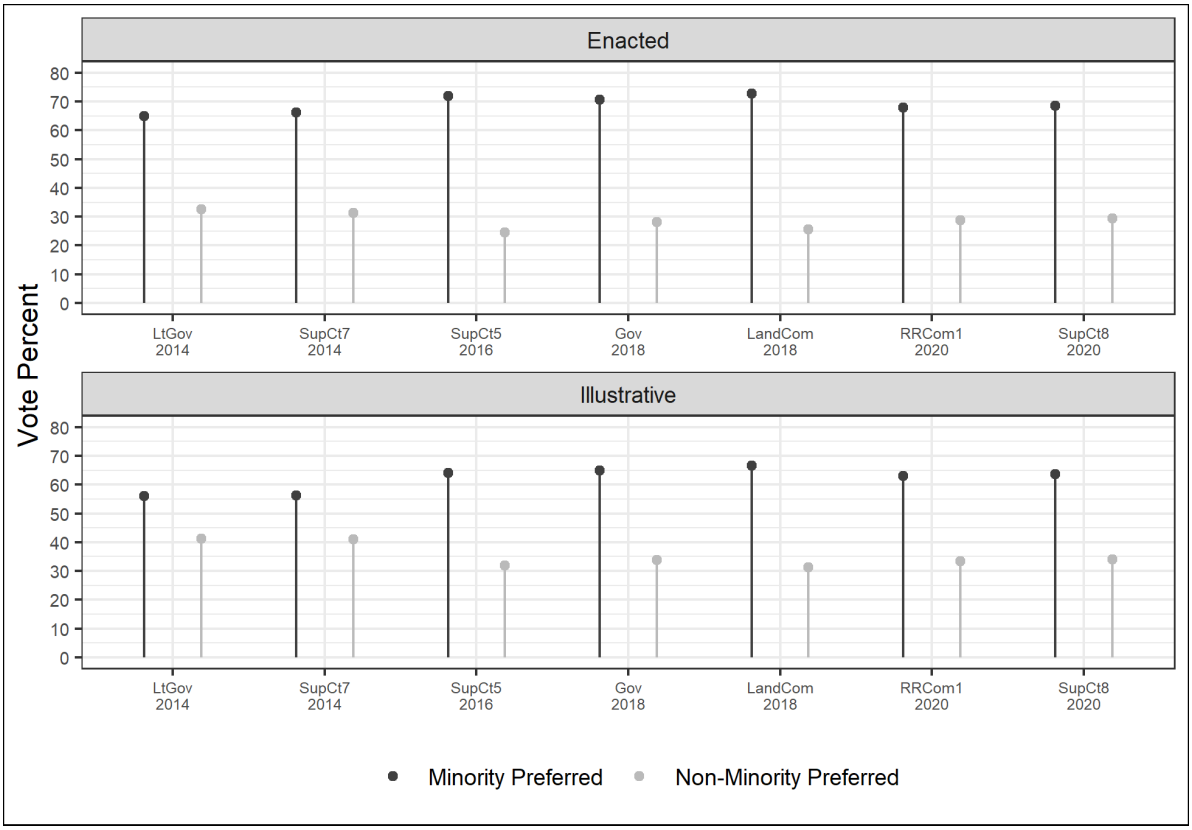


Figure 20: Illustrative Congressional District 29

Ryan D. Enos 9 June 2022

EXHIBIT

3

Expert Report by Ryan D. Enos, PhD

1. My name is Ryan Enos. I am a Professor of Government at Harvard University. I am also the Director of the Center for American Political Studies and an affiliate of the Institute for Quantitative Social Science. I have been on faculty at Harvard since 2010 and was promoted to Professor with tenure in 2018. I received my PhD in Political Science from UCLA in 2010 and my BA in Political Science and History from the University of California, Berkeley in 2001. At Harvard, I teach both undergraduate and graduate-level courses and I have taught courses on the analysis of elections, political geography, political behavior and psychology, and American politics.

2. My professional research focuses on voting behavior, the politics of race and ethnicity, social and electoral geography, and campaigns and elections. I have published articles on these and other topics in peer-reviewed scholarly journals, including the *American Political Science Review*, *American Journal of Political Science*, *Election Law Journal*, *Journal of Empirical Legal Studies*, *Political Analysis*, *Proceedings of the National Academy of Sciences*, *Nature Human Behavior*, *Science Advances*, and other journals. I am the author of *The Space Between Us: Social Geography and Politics* (2017 Cambridge University Press). My published research has used statistical analysis, geographic methods (including the use of Geographic Information Systems (GIS)), and other methods of analysis and has used data from the U.S. Census, election returns, voters lists, and other records of voter behavior.

3. My compensation is $450 per hour. No part of my compensation is dependent upon the conclusions that I reach or the opinions that I offer.

4. I have been retained by the United States to evaluate whether voting is racially cohesive and polarized in certain Congressional Districts (CDs) and State House Districts (HDs) and whether minority voters have opportunities to elect their preferred candidates under the former district boundaries, whether minority voters would be able to elect their preferred candidates in these districts under the state enacted redistricting plans, and whether minority voters would be able to elect their preferred candidates in these districts under the illustrative plans provided by the United States. I also report on relative proportionality for Latino voters under the former and enacted plans and, finally, whether there is evidence in social science research that socio-economic factors are related to voter turnout.

Summary of Findings

5. In CD 23 and in the newly created CD 38, Anglo and Latino voters vote cohesively within their own group and are polarized between groups, with each group voting cohesively for different candidates. The same pattern is present in HDs 31, 43, 74, 75, 76, 77, 78, 79, 81, and 118. Anglos, Latinos, and Blacks in CDs 6 and 24 each vote cohesively within their own group and are polarized, with Latinos and Blacks voting cohesively for the same candidates and Anglos voting cohesively for different candidates.

6. Under the enacted plan, minority voters in CDs 6, 23, 24, and 38 do not have an opportunity to elect their preferred candidates.

7. Under the enacted plan, minority voters in HDs 31 and 118 do not have an opportunity to elect their preferred candidates.

8. Under the former plan, HDs 74, 75, 76, 77, 78, and 79 were Latino opportunity districts in West Texas. The removal of HD 76 reduces the number of opportunity districts in West Texas from six to five.

9. Under the enacted plan, minority voters in HD 81 do not have an opportunity to elect their preferred candidate.

10. Under the enacted plan, representation for Latino voters has become less proportional for both the Texas Congressional delegation and the Texas House of Representatives. While the Latino Citizens Voting Age Population (CVAP) in Texas has significantly increased between 2010 and 2020, the proportion of seats in which Latinos have an opportunity to elect their preferred candidate has slightly decreased.

11. Illustrative CDs 23 and 38 provide an opportunity for minority voters to elect their preferred candidate.

12. Illustrative HDs 31, 74, 75, 77, 78, 79, 81, and 118 provide an opportunity for minority voters to elect their preferred candidate.

13. There is strong evidence from social science research that low socio-economic status is correlated with low voter turnout.

Elections Analyzed and Data Sources

14. For the examination of racially polarized voting, I examined CD 23 in West Texas, CDs 6 and 24 in the Dallas-Fort Worth area, and the newly created CD 38 in Harris County, HDs 31 and 43 in South Texas, HDs 74, 75, 76, 77, 78, 79, and 81 in West Texas and El Paso, and HD 118 in Bexar County. I also analyzed the counties surrounding these districts.

15. I examined the opportunity for minority voters to elect their preferred candidates in these same districts.

16. I examined conditions under the district boundaries in place since 2013,[1] which I will call the "former plan", the boundaries enacted by the state after the 2020 Census, which I will call the "enacted plan," and the illustrative plan from the United States.

17. Election returns came from data at the Voting Tabulation District (VTD) level provided by the state[2] and data on CVAP at the VTD-level created by merging data from the 2016–2020 American Community Survey (ACS) and 2020 Decennial Census with VTDs. The CVAP data was compiled by the United States at my request. I verified the quality of their data after it was provided to me. I also verified my analysis using Voting Age Population (VAP) and Spanish Surname Voter Registration (SSVR), also obtained from the state. The results were substantively unchanged using these different data sources.

18. I examined "endogenous" and "exogenous" elections in which a minority candidate was running for one or both of the two major parties (Republican or Democrat). Endogenous elections are elections for U.S. Representative in CDs and State Representatives in HDs. Exogenous elections are state-wide elections. For the racial bloc voting analysis, I only used elections which were contested by both of the major parties. To select elections, I examined every statewide General election from 2014 to 2020[3] and every Congressional and State House election in the districts in question from 2014 to 2020 and determined whether a racial minority candidate was running for one of two major parties. In the CDs in the Dallas-Fort Worth Metroplex, where I was asked to examine the cohesiveness and opportunity for Black and Latino voters, I used elections that included either a Black or a Latino candidate. In all other analysis, I used elections that included a Latino candidate.[4] I chose to start the analysis in 2014 because this gives the longest series of elections since the former Congressional Districts were enacted in 2013. Having a large number of elections means that no single election carries too much weight in the analysis and, thus, the analysis is not overly influenced by a particular year or candidate who may not be representative of larger trends. With this data, I am able to examine, at least, seven exogenous elections in each district.[5]

[1] There were minor changes to this plan in 2019, limited to Tarrant County. Plan H411 was a remedy for a finding of racial gerrymandering in HD 90. All the districts I analyze were unaffected by these changes.

[2] https://redistricting.capitol.texas.gov/

[3] Possible elections to use were President, U.S. Senate, Governor, Lieutenant Governor, Attorney General, Comptroller, Commissioner of Land Use, Commissioner of Agriculture, Railroad Commissioner, Justice of Supreme Court of Texas, and Judge for Court of Criminal Appeals (CCA).

[4] In the analysis of CD 23, I also include two endogenous elections with a Filipino-American candidate with a Spanish surname.

[5] Another strategy could be to use only a single election in a given year, but the advantage of using multiple elections in a year, when available, is that it more accurately captures the average preferences of voters and avoids putting too much weight on a single candidate, who may be more or less popular for idiosyncratic reasons.

One might consider also starting the analysis in 2016 because the election of Donald Trump is sometimes considered an important inflection point in American politics and so earlier elections might be less relevant for understanding more recent elections and how voters are expected to behave in the future. I examined how my conclusions would be changed by only including elections from 2016–2020 and found that my substantive conclusions would be unchanged. Notably, in nearly every district examined for this report, the opportunity for the election of minority-preferred candidates actually became stronger after 2016.

Racially Polarized Voting Analysis

19. In analyzing racially polarized voting, I am examining whether a racial minority group systematically prefers one candidate, while a majority group prefers another candidate, with particular attention to cohesiveness when groups are voting for a candidate of their own racial group. There is no universally accepted threshold for determining if a group votes cohesively, but a threshold of 60% is reasonable because it signals a clear preference by the racial group. So, if at least 60% of the voters from one group vote for one candidate, I will call the voters cohesive in their preference for this candidate. A smaller threshold, say a simple majority, is less clearly cohesive and would give me less confidence in my determination.[6] If another racial group cohesively supports a different candidate, then I say the election is racially polarized between the groups.

20. To examine this, in each election, I used a statistical procedure called ecological inference (EI). EI estimates group-level preferences based on aggregate data.[7] I analyzed the results for four racial demographic groups: Non-Hispanic Black, Latino, Anglo, and Other, based on CVAP.[8] The results of this analysis are estimates of the percentage of each group that voted for each candidate in each election. For each election, I produce the mean estimate of vote share and a 95% confidence interval.[9] Full results of this analysis for the former and enacted districts are in Appendix A and I include figures below for certain areas of interest. I discuss the analysis of illustrative districts later in the report.

Congressional District 23 (West Texas)

21. Both Latino and Anglo voters in CD 23 are cohesive within their own group and polarized from each other in all relevant elections. The results are shown in Figure 1. In this and similar figures, Latinos are represented by green and Anglos by pink. Each election is on a different horizontal line and the points represent the vote for the Democratic candidate. Triangles for Latinos and circles for Anglos represent the mean estimate for each group and the 95% confidence intervals are represented by the horizontal lines. Examining how far a group is to the right of 60% gives a sense of how cohesive the group is in support of the Democratic candidate. Values below 40% represent cohesive voting for the Republican candidate.[10] The distance between the groups gives a sense of the level of racial polarization. The party and race for the two major-party candidates are listed next to the office (D = Democrat, R = Republican, A = Anglo, L = Latino, B = Black). The estimates using the boundaries of the district in the former plan are shown in the left panel and in the enacted plan in the right panel.

Congressional Districts in the Dallas-Fort Worth Metroplex

22. Voting in CD 24 is represented in Figure 2. This figure is the same as Figure 1, but Black voters are represented by purple squares. Latino, Black, and Anglo voters are each cohesive within their own group in nearly all elections.[11] Notice that, based on the 95% confidence intervals, there is more uncertainty in the level of cohesiveness for Blacks. This greater uncertainty, compared to CD 23, is expected because of

[6] Due to statistical uncertainty (see footnote below) the closer a threshold is set to 50%, the more difficult it is to clearly understand which candidate a majority of the group supports. A threshold of 60% has also been used in previous academic treatments of the subject, see A.J. Lichtman, F. Hebert, "A general theory of vote dilution," *La Raza Law Journal, 6* (1993), pp. 1-25.

[7] The analysis is performed using the package eiPack in the statistical software R: `https://cran.r-project.org/web/packages/eiPack/index.html`

[8] To define these groups, I used the same methodology as the state, where Latino includes anyone of Spanish-speaking heritage, regardless of race, Black includes anyone with any Black ancestry, Anglo includes Caucasians not of Hispanic heritage, and anyone else is defined as Other. In discussing the results, I use the word "race" and "ethnicity" interchangeably, even though they are not the same thing.

[9] The 95% confidence interval is a measure of uncertainty in the estimates from the model. For example, the model might estimate that 90% of one group voted for a candidate, with a 95% confidence interval of 87-93%. This means that 95% of the simulated estimates for this group fall in the range of 87-93%, with 90% being the mean estimate.

[10] In some cases, the election was also contested by a candidate from a party other than Democratic or Republican, so non-Democratic votes may represent a mix of votes for Republicans and other candidates. In practice, nearly all votes in these elections not going to the Democratic candidate went to the Republican candidate.

[11] Latinos are cohesive in all 19 exogenous and endogenous elections. Anglos are cohesive in 18 of 19. Blacks are cohesive in all of the 19 elections.

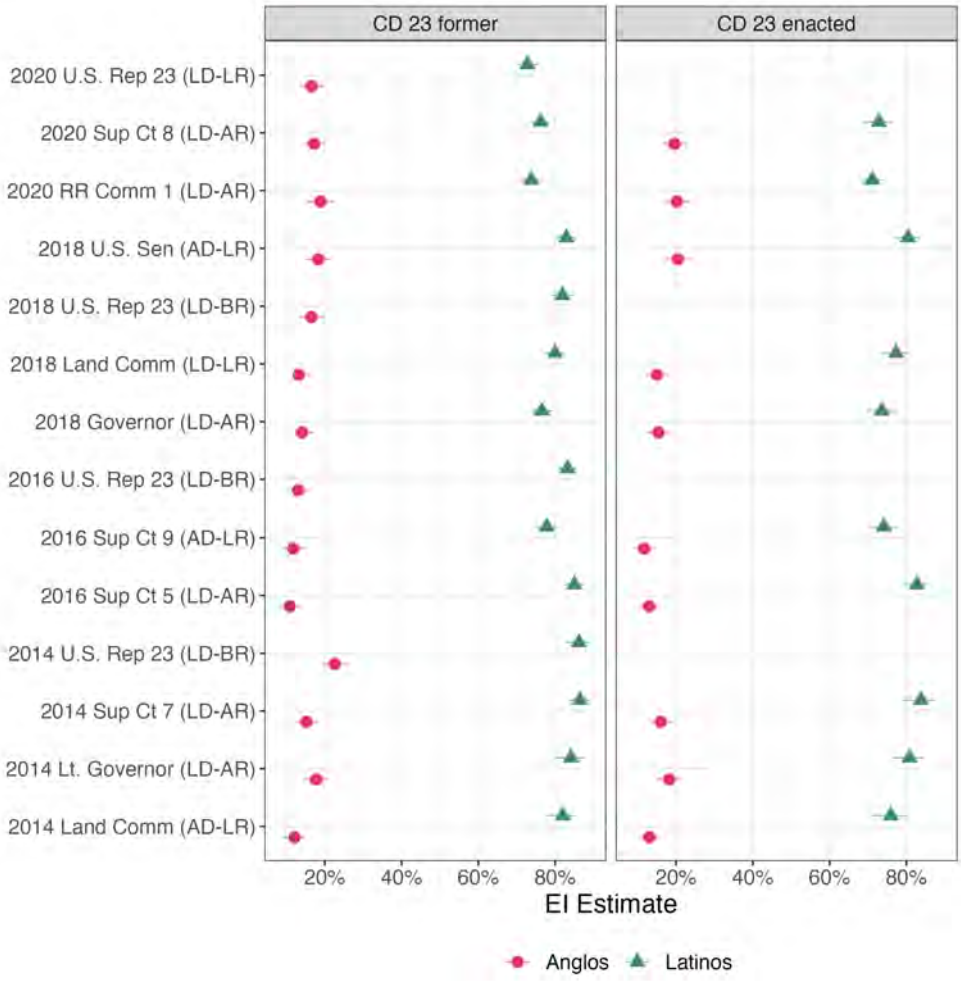


Figure 1: CD 23 voting by race

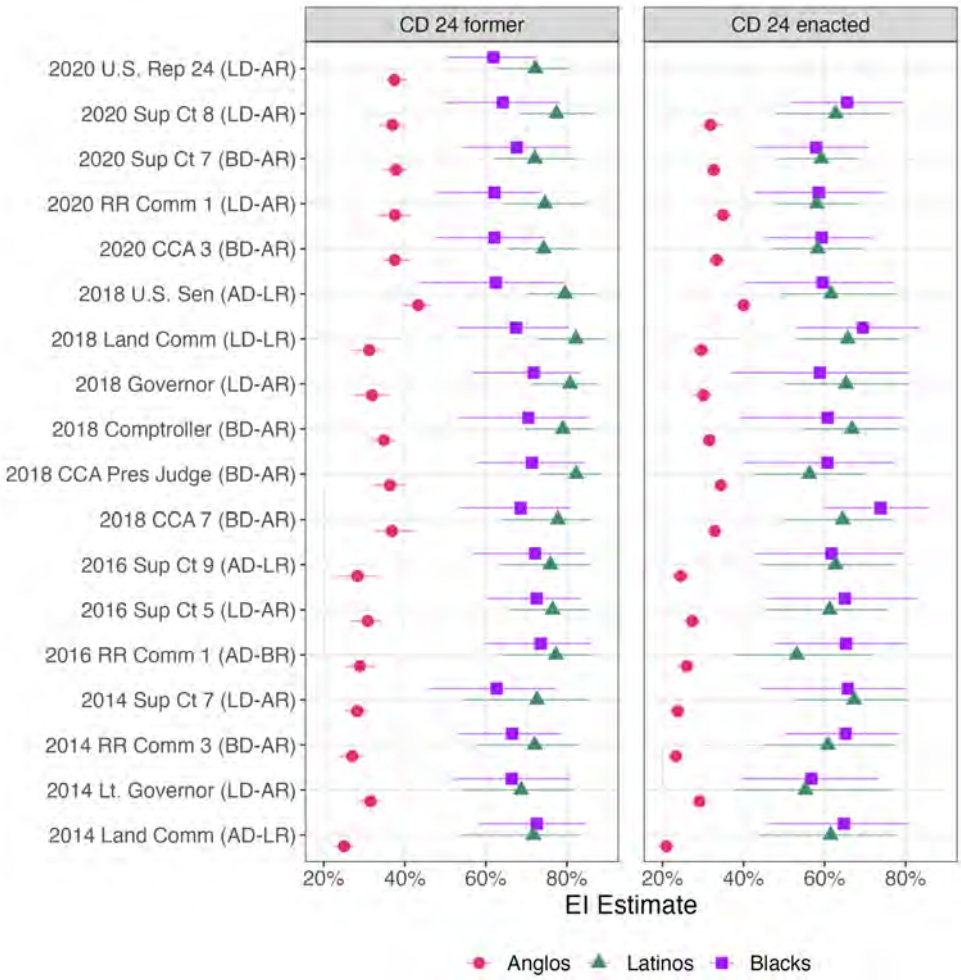


Figure 2: CD 24 voting by race

the relatively smaller populations of minority voters in CD 24. However, because of the consistency across all elections — the mean estimate for Black vote is greater than 60% in every election — the group is cohesive in my opinion.[12] Across all elections under the former plan, Blacks and Latinos vote cohesively for the Democratic candidate, while Anglos vote cohesively for the Republican candidate (except for the 2018 election for U.S. Senate), meaning that Blacks and Latinos are both polarized from Anglos.

23. A similar pattern can be found in CD 6 (see Figure 3), with Latino, Black, and Anglo voters each cohesive within their own group in every election. In contrast to CD 24, in CD 6 there is, based on the 95% confidence intervals, more uncertainty in the level of cohesiveness of Latinos, while there is greater certainly the cohesiveness of Blacks. However, because of the consistent pattern of Latino voting, the group is cohesive in my opinion. Across all elections, Blacks and Latinos vote cohesively for the Democratic candidate, while Anglos vote cohesively for the Republican candidate, meaning that Blacks and Latinos are both polarized from Anglos.

24. Looking at results from the CDs 24 and 6 pooled together (Table A5) and across all of Dallas and Tarrant Counties (Table A4), there is cohesion within each of the racial groups and clear polarization between Latinos

[12]In every election, the mean estimate is that Blacks support a candidate at greater than 60%, while the 95% confidence intervals also cross 60% in 17 of the 19 elections. This means that for each individual election, the best guess is that the support was greater than 60% but I cannot say with 95% confidence that the group voted more than 60% cohesively in that single election.

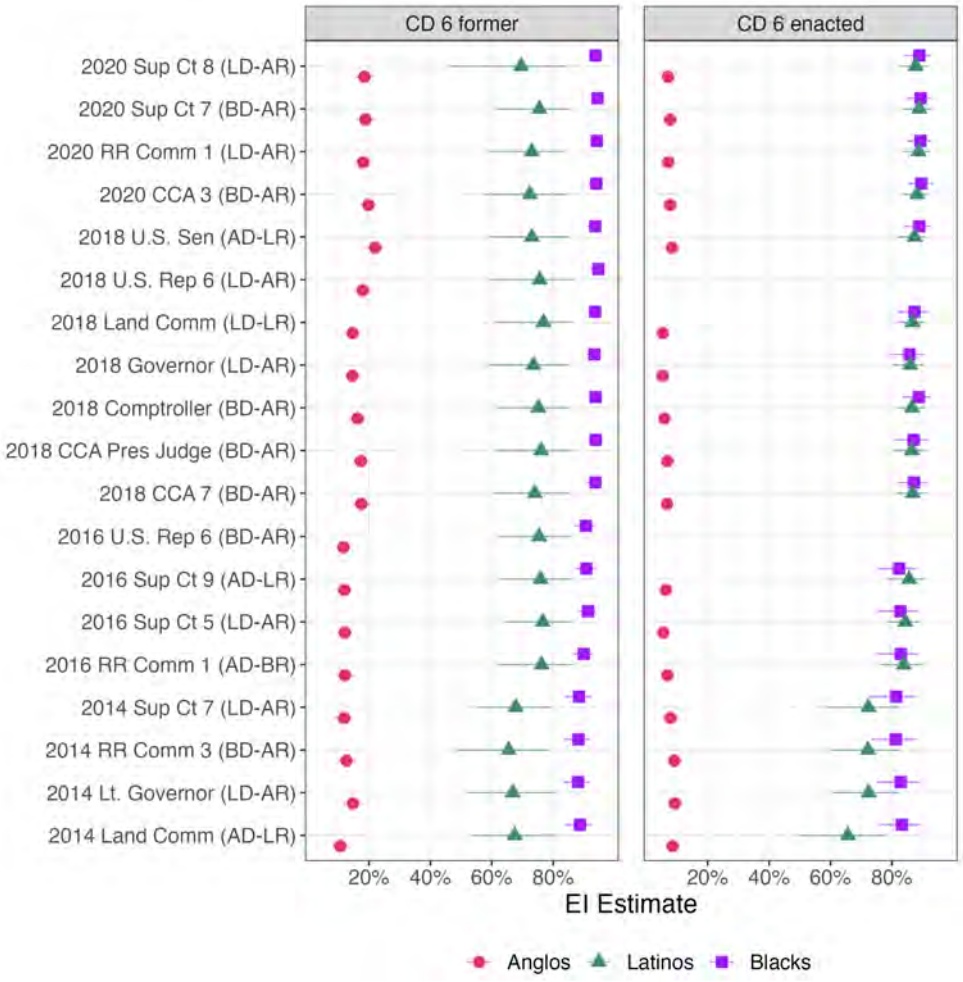


Figure 3: CD 6 voting by race

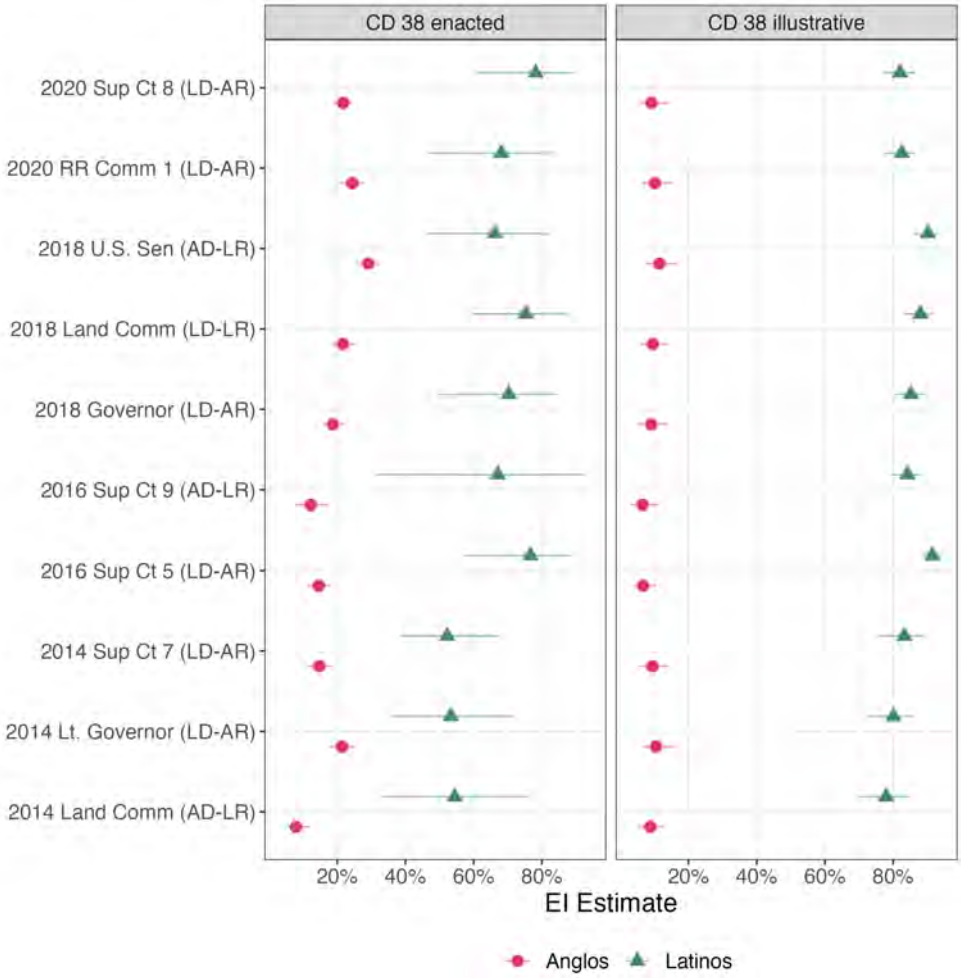


Figure 4: CD 38 voting by race

and Anglos and between Blacks and Anglos. Compared to the results in individual districts, there is also less uncertainty in the estimates, reflected in the narrower 95% confidence intervals.[13]

Congressional District 38 (Harris County)

25. Anglo voters in enacted CD 38 are cohesive in every relevant election. Latino voters are cohesive in 7 of the 10 elections analyzed with an average of 66% cohesion across all the elections. Latinos and Anglos are polarized from each other in all relevant elections. See Figure 4.

26. In Harris County as a whole (see Table A7), Latinos and Anglos are each cohesive within their group and are polarized from each other in all relevant elections.

State House Districts 31 and 43 (South Texas)

27. In both HDs 31 and 43, Latino and Anglo voters are cohesive within their own group and polarized from each other in all relevant elections.[14] See Figures 5 and 6.

[13]The smaller 95% confidence intervals in the pooled and county-level analysis are because there are more VTDs to use in the estimation, which makes for a larger sample and more statistical precision.

[14]Note that the 95% confidence interval for Latinos crosses in HD 43 60% in two elections, but the overall pattern is clear.

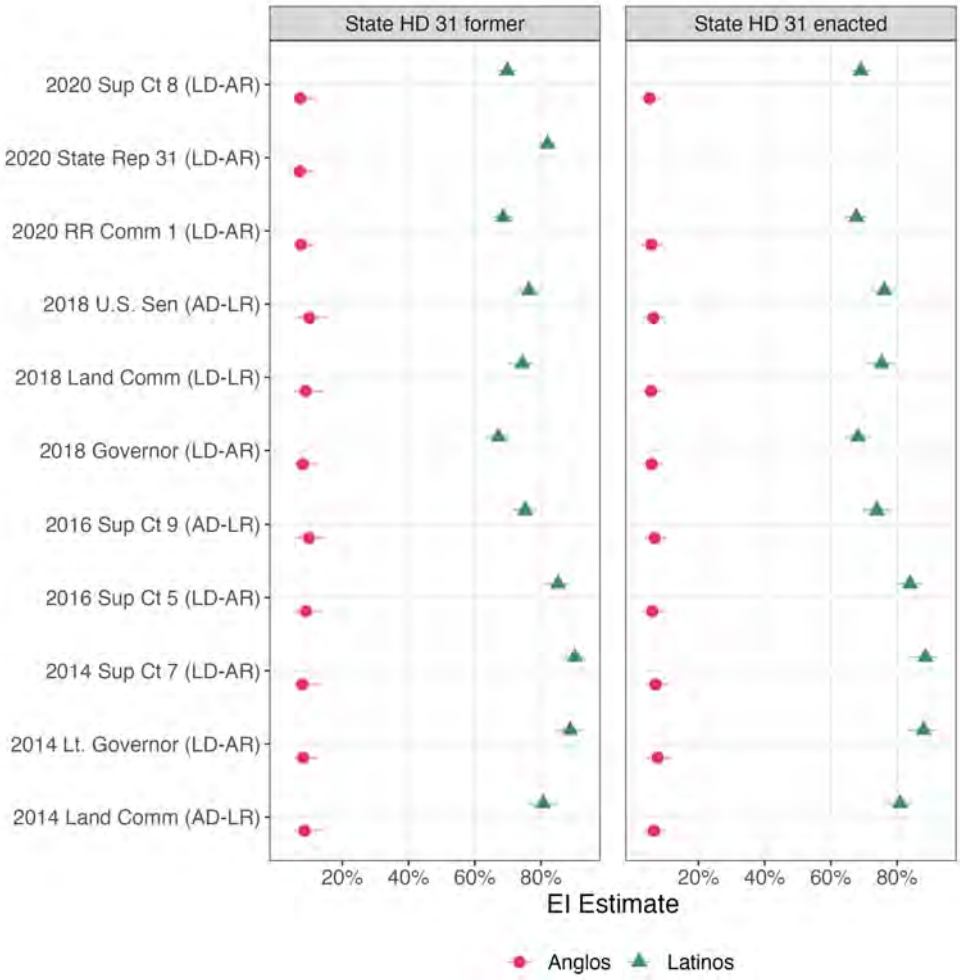


Figure 5: HD 31 voting by race

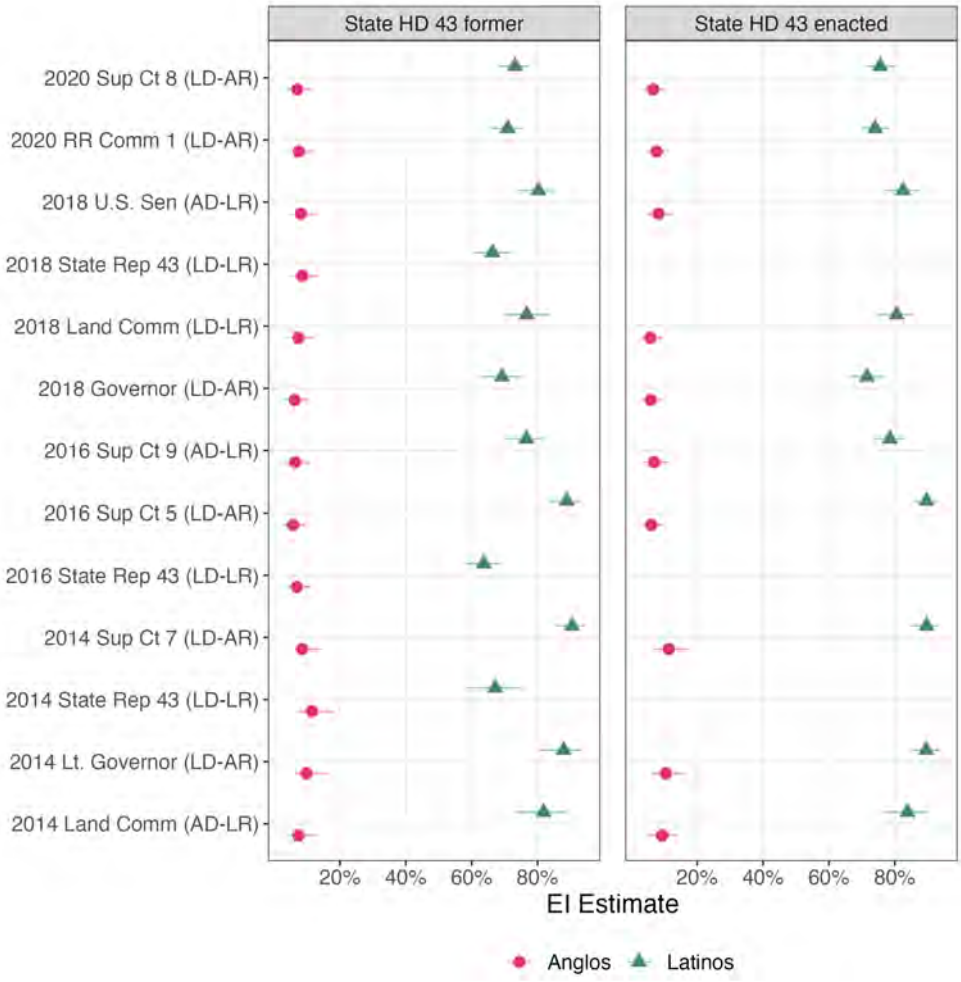


Figure 6: HD 43 voting by race

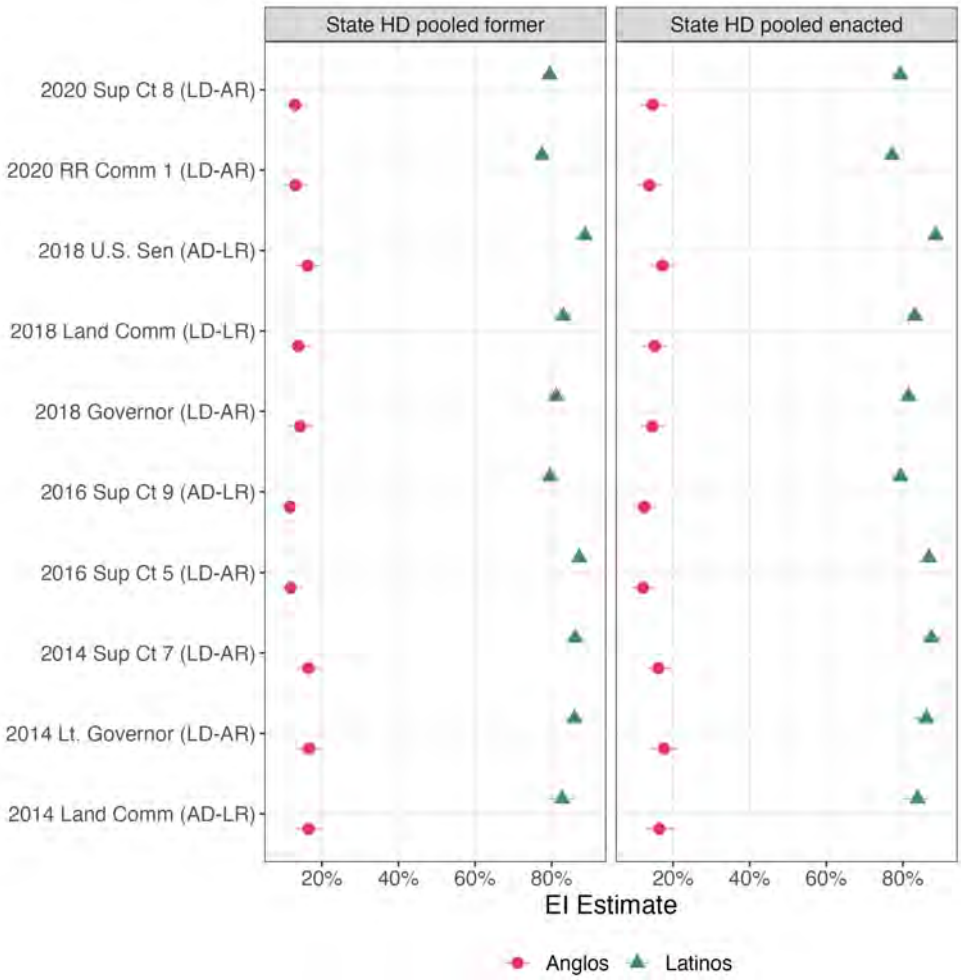


Figure 7: West Texas House Districts voting by race

State House Districts in El Paso and West Texas

28. Latino and Anglo voters in HDs 74, 75, 76, 77, 78, 79, and 81 are cohesive within their group and polarized from each other in nearly all elections (see Tables A11–A17).[15]

29. Looking at all of the West Texas districts pooled in Figure 7 and Table A18, Latinos and Anglos across the region are each cohesive within their group and polarized from each other.

State House District 118 (Bexar County)

30. Latino and Anglo voters in HD 118 are each cohesive within their group and polarized from each other in all relevant elections. See Figure 8.

[15]The only exceptions are all 2014 elections in HD 81. Note that when using SSVR analysis, Latino voters do appear cohesive in these elections.

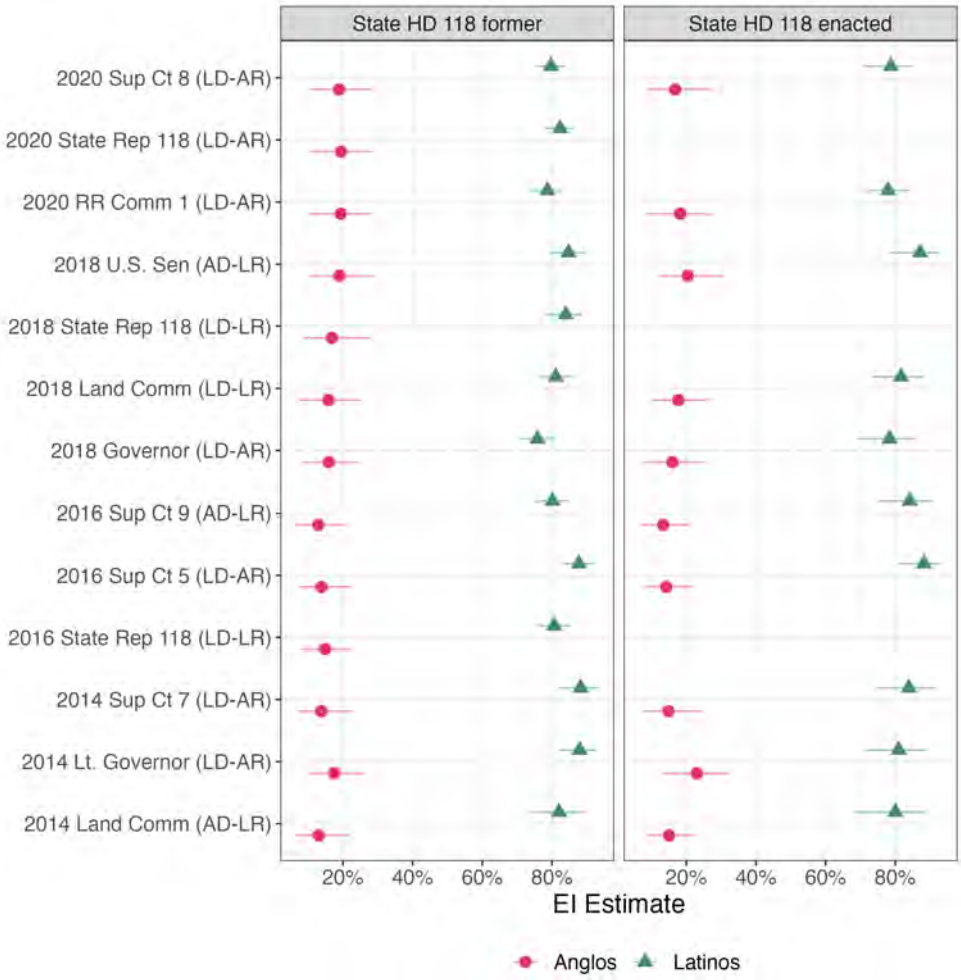


Figure 8: HD 118 voting by race

Opportunities for Minority Preferred Candidates in Former and Enacted Plans

31. Having concluded that there is strong evidence for cohesive and polarized voting in the districts in question in nearly all elections, I examined the opportunity for minority voters to elect candidates of their choice. I limit my analysis to those elections where a minority-candidate is preferred by minority voters, which is determined by the analysis of cohesive voting above.[16] A list of the statewide elections and candidates that I used is in Table B1 in Appendix B. For each contested endogenous and exogenous election in each district, I examine the average vote margin for the minority candidate under the former and enacted plans in contested elections.[17] The margin is the vote percent won by the minority preferred candidate compared to the next closest opponent, so a positive number means the minority candidate won the plurality of the vote and would have been the winner of the election. A negative number means the minority candidate would have lost.[18] I also examine the proportion of elections that the minority preferred candidate would be expected to win under the former and enacted plans. Comparing the proportion of elections won in the former and enacted plans will indicate if minority voters were able to elect their preferred candidate under the former plan and if that opportunity is expected to change under the enacted plan. Note that in the enacted districts, there are no endogenous elections to examine because the newly added voters to the district did not vote in the district prior to the redistricting.

32. To determine if a district is an opportunity district, I examine whether the minority-preferred candidate is expected to win a typical election. This does not mean that the minority-preferred candidate will win in every election because variation in the quality of candidate and other factors, such as variation in voter turnout, may affect the outcome of any particular election. However, even with idiosyncratic variation in outcomes due to these factors, a minority-preferred candidate should win most elections if the district provides opportunity for minority voters to elect their preferred candidate. As a rule of thumb, I set a threshold for opportunity of the minority-preferred candidate winning more than 50% of elections.[19] In each district, I also examine the margin for the minority candidate because that allows me to see if the district, due to demographic changes or other factors, is becoming more competitive for minority-preferred candidates over time. The margin also gives a sense of the magnitude of the change in the district from the former to the enacted plan.

33. The summary of these findings are in Table 1 for CDs and Table 4 for HDs. In these tables, I show the average margin and for the minority-preferred candidate for all contested elections and the proportion of all elections (contested or uncontested) won by the minority-preferred candidate under the former and enacted plans. For each district, I also produce a figure showing the vote across each election for the minority preferred and non-preferred candidate in the former and enacted district in each contested election (see Figure 9 as an example). The former plan is in the top panel and the enacted plan in the bottom panel.

[16] I limit to those elections where minority voters vote cohesively for the minority candidate because the presence of cohesive voting indicates that there is a clear preference among minority voters. In the absence of this cohesion, say if only 50% of minority voters have voted for a candidate, then there is no clear preference for a candidate. Another approach would be to simply use all the elections that were used in the analysis of racially polarized voting for the opportunity analysis. If I do this, my substantive conclusions are unchanged. Appendix D shows the results of the opportunity analysis using all the elections used for the racially polarized voting analysis.

[17] In non-contested elections, the candidate receives 100% of the vote, so including these elections severely distorts the averages.

I conduct the analysis in the enacted plan in two ways to account for the fact that the enacted districts were drawn with 2020 Census data and so may be based on VTDs with slightly different boundaries than the VTDs based on 2010 Census Data. This can result in imperfect overlap between the VTDs in place after 2010 and the VTDs used to create the new district. The first way is overlaying the VTDs onto the enacted district and assigning each VTD to the district in which the majority of that VTD falls. The second way is to use a process of spatial interpolation in which I assign votes to the district based on the proportion of the area of the VTD that falls into that district. In practice, because only a very small portion of VTDs are not completely contained within the boundaries of single enacted district, the results of my analysis with these two different methods is nearly identical and so I report the results from the first method.

[18] In calculating these average margins, I average across all elections in question in each year, so some years have more elections than others. Another approach would be to take average margin in each year or a single election in each year (say the highest office on the ballot) and average those. I checked for how my results would be changed with this approach and found that it made no substantive difference for the conclusions of the report.

[19] When considering whether a district provides opportunity, if the proportion of elections won is close to this threshold so that the case for opportunity is less clear-cut, then it is useful to also consider whether minority-preferred candidates have consistently won endogenous elections in the district.

		Former Districts						Enacted Districts	
		Endogenous Elections		Exogenous Elections		All Elections		Exogenous Elections	
	District	Margin	Win %	Margin	Win %	Margin	Win %	Margin	Win %
West Texas:									
	23	-1.96	0	-4.44	14	-3.54	9	-11.28	0
Dallas-Fort Worth Metroplex:									
	6	-13.49	0	-11.90	0	-12.11	0	-31.02	0
	24	-1.33	0	-10.85	0	-10.17	0	-29.16	0
Harris County:									
	38							-34.42	0

Table 1: Congressional Districts Opportunity District Analysis

The non-minority-preferred candidate is represented by gray lines and the minority-preferred by black lines. Each election is listed on the horizontal axis and the vote percent received on the vertical axis. Comparing the black and gray lines shows the support for minority-preferred candidate compared to the non-minority preferred candidate and comparing the top and bottom panel shows how this changes across the former and enacted plans.

34. For select districts I have added maps of the changes to the district in Appendix E. In each of the maps, each shape is a VTD, shaded either by the average vote in exogenous elections for minority-preferred candidates or the percent Latino CVAP, with darker colors representing higher average vote for the minority-preferred candidate or higher percent CVAP, respectively.[20] The orange-bordered VTDs represent VTDs removed from the district in the enacted plan and the green borders represent VTDs that were added to the district in the enacted plan. Examining the shading of the green-bordered VTDs and comparing to the shading of the orange-bordered VTDs gives a sense of how the opportunity for minority-preferred candidates changes across the former and enacted plan or how the demographic make-up of the district changes across the former and enacted plans.

Congressional District 23 (West Texas)

35. CD 23 is represented by the first line of Table 1 and in Figure 9. Under the former plan, this was not an opportunity district for Latino voters because the Latino-preferred candidate won only one of the eleven contested elections. However, looking at the margins for the minority-preferred candidate over time, it is clear that minority-preferred candidates were more competitive in recent elections. William Hurd (Black Republican) defeated minority-preferred incumbent Pete Gallego (Latino Democrat) in 2014. Gallego lost to Hurd again in 2016. Minority-preferred candidate Gina Ortiz Jones[21] was the Democratic candidate in 2018 and 2020, losing to William Hurd in 2018 and to Tony Gonzales (Latino Republican) in 2020. These elections were decided by less than 2 percentage points (1.96) on average. The five exogenous elections were not as close, with the minority preferred candidate having a margin -4.44 percentage points on average, although the results have been closer since 2016 (-2.71 percentage points on average) and the minority preferred candidate (Dori Garza, Latina Democrat) did capture a plurality in 2016 Texas Supreme Court election. Under the enacted plan, the average margin for the non-minority preferred candidate would grow to more than 11 percentage points.

36. To illustrate the change in the district from the former to the enacted plan, I have included the map in Figure E1 that is shaded by the average vote in exogenous elections for minority-preferred candidates, with darker colors representing higher average vote for the minority-preferred candidate. The orange bordered VTDs represent VTDs removed from the district in the enacted plan and the green borders represent VTDs that were added to the district in the enacted plan. In this map, because the changes were concentrated in the El Paso and San Antonio regions, I have included inset versions focusing on these areas in the lower left corer (El Paso on the left, San Antonio on the right). In Table 2, I summarize these changes. This table shows the average vote for the minority preferred candidate in the VTDs that were added, removed, and kept across

[20]The average vote share is constructed by summing the number of votes in the VTD for the preferred candidate in all the elections in question and dividing by the sum of the total votes cast in the VTD in these elections.

[21]Ortiz Jones' is Filipino-American.

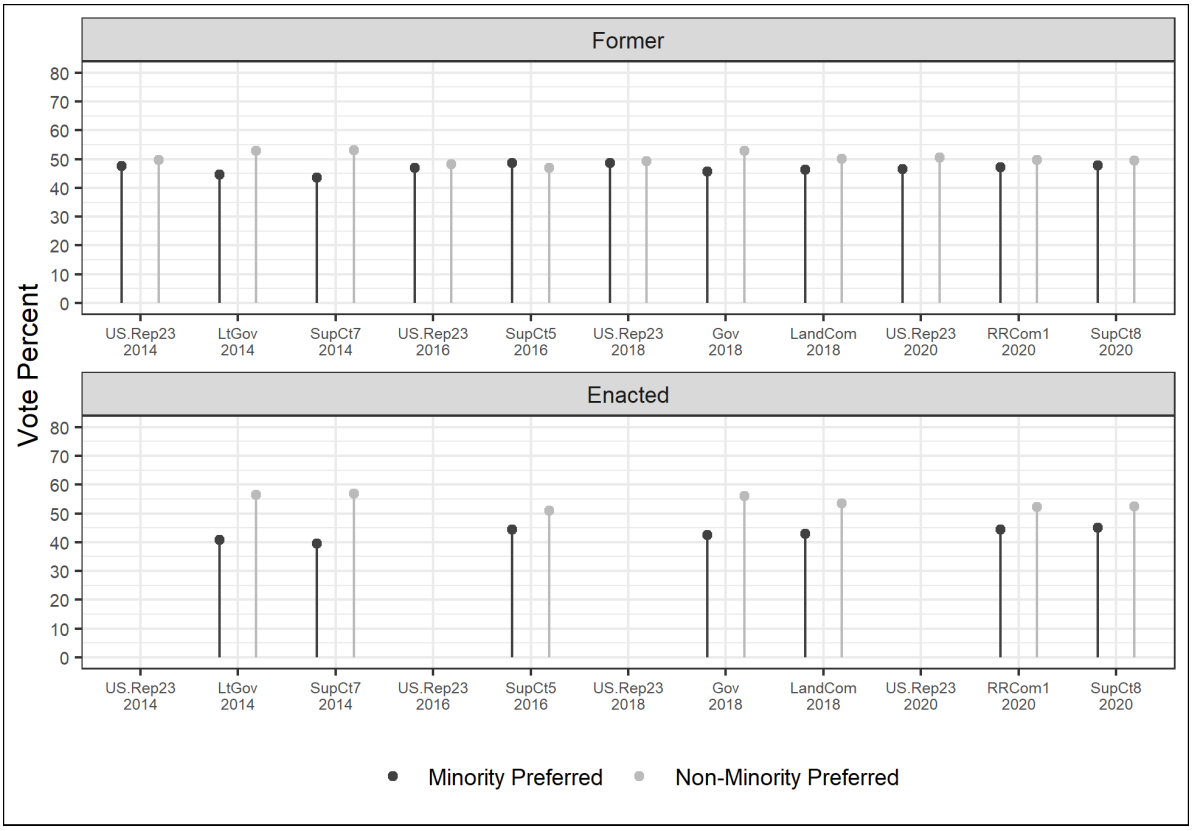


Figure 9: Congressional District 23

VTD Status	Minority Preferred Vote %	Latino CVAP %	SSVR %	SSTO %
Added	48.74	50.69	42.02	38.64
Kept	42.73	58.28	51.00	43.15
Removed	65.21	74.90	65.28	62.30

Table 2: VTD reallocation: Congressional District 23

the former and enacted plans. The removed VTDs voted, on average 65 percent for the minority-preferred candidate, the added VTDs voted, on average, 49 percent for the minority preferred candidate. Table 2 also shows the changes in percent Latino CVAP, percent SSVR, and percent Spanish Surname Turnout (SSTO), in the added, removed, and kept districts. SSVR represents the percent of all registered voters who had a Spanish surname in 2020. SSTO represents the percent of voter turnout, across all elections, that was by voters with Spanish surnames. In the added VTDs, Latino CVAP is 51%, SSVR 42%, and SSTO 39%. In the removed VTDs, Latino CVAP is 75%, SSVR 65%, and SSTO 62%. To understand the geographic correspondence between the changes in support for the minority-preferred candidate and the racial composition of the district, the map in Figure E1, which shades the VTDs by percent vote for the minority-preferred candidate, can be compared to the map in Figure E2, which shades the VTDs by percent Latino CVAP.

Congressional Districts in the Dallas-Fort Worth Metroplex

37. I have included maps of the changes to the CDs in the Dallas-Fort Worth Metroplex in Figures E3 (former plan) and E4 (enacted plan) in Appendix E. These maps are shaded by the combined percent Black and Latino CVAP by VTD, with darker colors representing a higher proportion of combined Black and Latino CVAP. Each CD is represented by a different color border and diagonal cross-hatching. CD 33 is

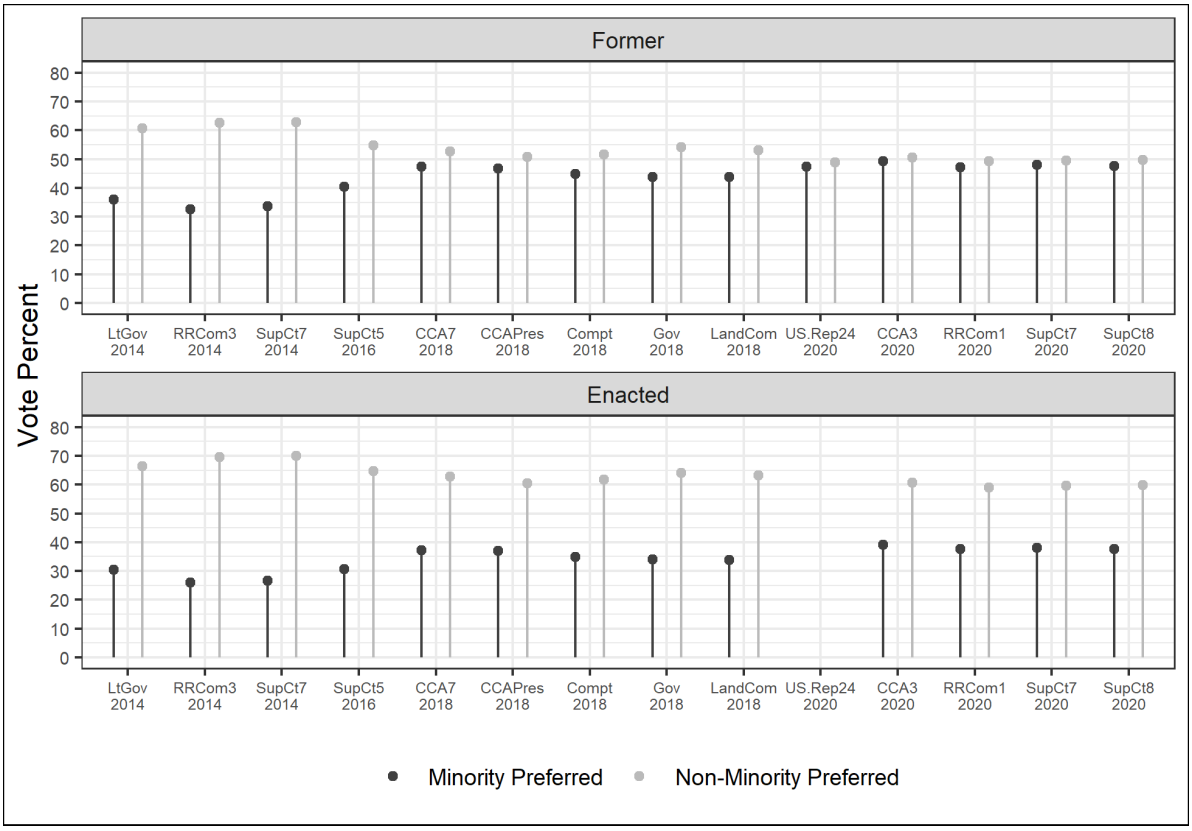


Figure 10: Congressional District 24

yellow and is in the center of both maps. To the north of CD 33 is CD 24 in light blue. To the south of CD 33 is CD 6 in green. Note that in the enacted plan, an arm of CD 6 juts far the north, squeezing between CDs 25 and 30 and causing CD 33 to be wrapped around this north-jutting arm.

38. CD 24 is represented by the third row in Table 1 and in Figure 10. Under the former plan, this district was not a Latino opportunity district because the minority-preferred candidate lost all elections. However, similar to CD 23, examining the margins over time makes it clear that minority-preferred candidates were more competitive in recent elections: 2020 was the first time in the past decade that a Black or Latino candidate had run for a major party and Candace Valenzuela (Black-Latino Democrat) finished only 1.33 percentage points behind Beth Van Duyne (Anglo Republican). Comparing the results of thirteen exogenous elections since 2014 that featured a Black or Latino candidate, the average margin of those results for the minority-preferred candidate is -10.85 percentage points, but there is a clear trend of this margin for all minority-preferred candidates getting closer: the average margin for the minority-preferred candidate goes from -28.0 in 2014 to -14.5 in 2016 to -7.1 in 2018 to -1.7 in 2020. Under the enacted plan, the average vote in exogenous elections would become -30.46 points, an 18 point average drop in expected vote for the minority-preferred candidate.

39. To illustrate the change in the district from the former to the enacted plan, I have included the map in Figure E5, which again is shaded by average vote for minority-preferred candidates and has orange borders for VTDs removed from the district and green borders around VTDs added to the district in the enacted plan (the geographic continuity of the newly enacted district linking the west to the east is achieved by the slice of VTDs just below the label for the city of Carrollton). Figure E6 is shaded by the percent Latino CVAP. In Table 3, I summarize these changes and list the change in percent Black CVAP. The removed VTDs voted, on average 53 percent for the minority-preferred candidate, the added VTDs voted, on average, 32 percent for the minority preferred candidate.

VTD Status	Minority Preferred Vote %	Black CVAP %	Latino CVAP %	SSVR %	SSTO %
Added	31.79	6.95	11.86	7.89	6.44
Kept	36.32	9.40	13.17	8.95	7.44
Removed	53.25	21.98	19.13	14.05	12.25

Table 3: Congressional District 24: VTD reallocation

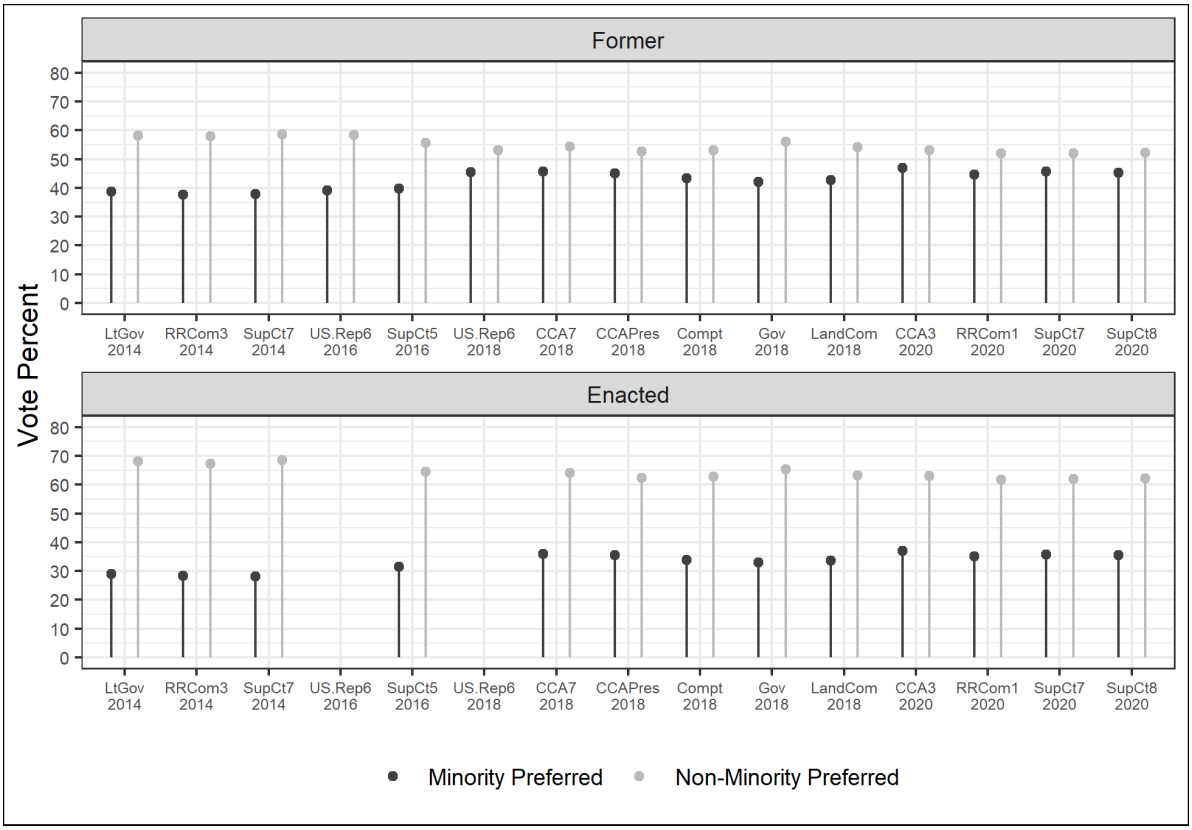


Figure 11: Congressional District 6

40. CD 6 is represented by the second row in Table 1 and Figure 11. In this district there was no opportunity for minority-preferred candidates in the former plan. Endogenous and exogenous elections there have not been competitive and the minority preferred candidates have not won any these elections. However, elections have trended toward competitiveness since 2014, with the average margin for all minority-preferred candidates decreasing from -20.1 in 2014 to -17.8 in 2016 to -9.85 in 2018 to -6.74 in 2020 (see Figure 11). Under the enacted plan, the margin in these elections would have been -31 percentage points. The changes to CD 6 are represented by the maps in Figures E7 (minority-preferred vote) and E8 (percent Latino). In these maps, I have added an inset map in the upper right with detail on the Fort-Worth, Arlington, and west Dallas area. The continuity of the enacted district is maintained by the inclusion of the narrow strip of VTDs to the west of Joe Pool Lake in the city of Cedar Hill.

Congressional District 38 (Harris County)

41. New CD 38 in the enacted plan is represented in the last row in Table 1 and in Figure 12. Because this is a new district, there are no elections under the former plan. The newly created district provides no opportunity for minority voters to elect their preferred candidate. Based on the results in the eight exogenous elections with a minority preferred candidate, had the candidate been running in this district, the candidate would have lost all elections and by an average of over 36 percentage points.

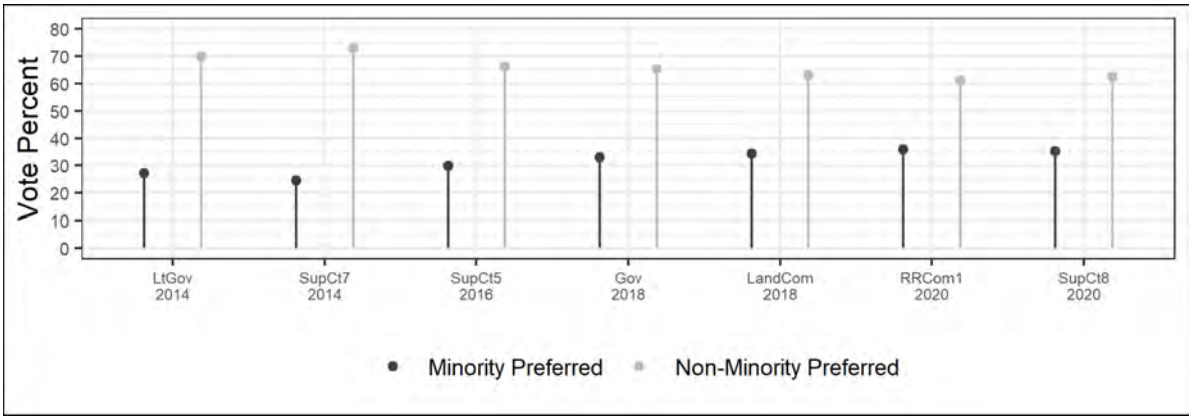


Figure 12: Congressional District 38

		Former Districts						Enacted Districts	
		Endogenous Elections		Exogenous Elections		All Elections		Exogenous Elections	
	District	Margin	Win %	Margin	Win %	Margin	Win %	Margin	Win %
South Texas:									
	31	16.83	100	6.30	57	7.62	73	-9.22	29
	43	-22.43	0	-13.15	0	-15.93	9	-16.85	0
El Paso and West Texas:									
	74	8.79	100	7.02	86	7.24	91	15.30	100
	75		100	40.17	100	40.17	100	42.09	100
	76		100	52.28	100	52.28	100		
	77		100	32.75	100	32.75	91	52.42	100
	78	26.84	100	12.95	71	17.11	82	13.23	71
	79		100	31.82	100	31.82	100	30.96	100
	81	-49.98	0	-52.33	0	-52.04	0	-50.36	0
Bexar County:									
	118	14.42	100	11.96	100	12.70	100	-3.64	29

Table 4: State House Districts Opportunity District Analysis

State House Districts 31 and 43 (South Texas)

42. HD 31 is represented by the first line of Table 4 and in Figure 13. Under the former plan, this was a minority opportunity district. Across all elections, the minority-preferred candidate won 73% of elections, including all endogenous elections. Ryan Guillen (Latino Democrat) ran opposed for the seat in 2014, 2016, and 2018. In 2020, he defeated his Anglo opponent by nearly 17 percentage points.[22] In exogenous contests with a Latino candidate, the minority preferred candidate won four of seven elections, with the minority-preferred candidate finishing a close second in the contests in 2018 for Governor, 2020 for Railroad Commissioner, and 2020 for Supreme Court. On average, the minority-preferred candidate won exogenous contests by just over 6 percentage points. Under the enacted plan, this is no longer a minority opportunity district: the average margin for the minority-preferred candidate would have been -9.2 percentage points and minority preferred candidates would have lost five of the seven exogenous elections.

43. The changes to HD 31 in the enacted plan are represented by the maps in Figures E9 (minority-preferred vote) and E10 (percent Latino). These average voting margins of the added and removed VTDs are summarized in Table 5. Average vote for the minority-preferred candidate in the added VTDs was 28%, in the removed VTDs, average vote for the minority preferred candidate was 42%.

44. HD 43 is represented by the second row of Table 4. A figure representing the election outcomes is in Appendix C. This district was not an opportunity district under the previous plan and remains not an opportunity district under the enacted plan.

State House Districts in El Paso and West Texas

45. Lines 3–9 in Table 4 represent HDs 74, 75, 76, 77, 78, 79, and 81. The Figures representing these districts are in the Appendix C.[23]

[22] Guillen changed his affiliation to the Republican Party in 2021.

[23] As noted above, in the 2014 U.S. Senate election in HD 78 and all 2014 elections in HD 81, Latino voters were not cohesive. Because Latino voters in all other districts were cohesive in these elections, I keep them in the analysis for HDs 78 and 81. Excluding these elections makes no difference for the substance of my analysis.

VTD Status	Minority Preferred Vote %	Latino CVAP %	SSVR %	SSTO %
Added	28.35	43.97	41.17	31.96
Kept	59.68	83.01	82.00	77.79
Removed	41.50	65.92	62.01	52.03

Table 5: VTD reallocation: State House District 31

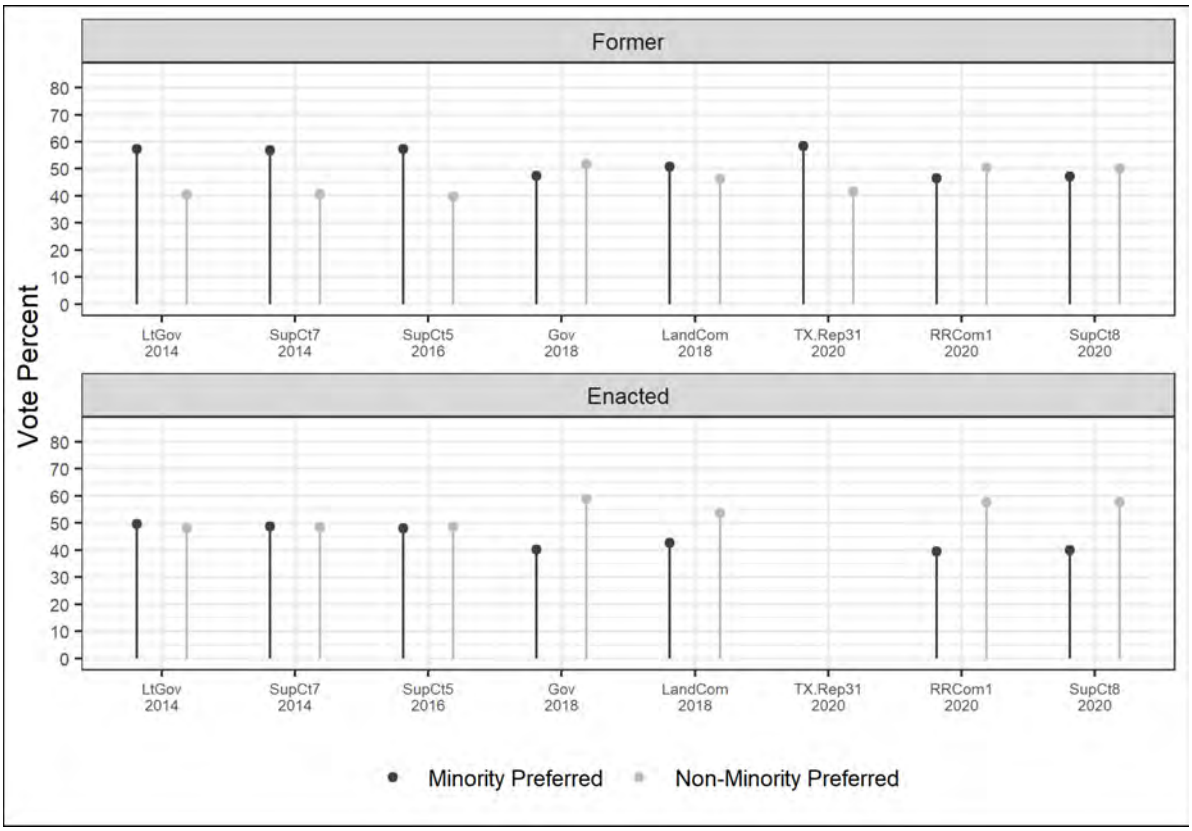


Figure 13: State House District 31

VTD Status	Minority Preferred Vote %	Latino CVAP %	SSVR %	SSTO %
Added	41.35	45.52	34.62	28.26
Kept	51.37	62.85	53.00	47.71
Removed	74.86	89.29	82.74	83.41

Table 6: VTD reallocation: State House District 118

46. Under the former plan HDs 74, 75, 76 77, 78 and 79 are minority opportunity districts. In the years in question, endogenous elections were only contested in HDs 74 and 78 and those contested elections were not close, with the minority preferred candidate winning by a margin of nearly 9 and 27 percentage points, respectively. In all these districts, minority-preferred candidates won more than 70% of exogenous elections. The opportunity is maintained in HDs 74, 75, 77, 78, and 79 in the enacted plan. HD 76 has been moved out of West Texas, reducing the number of opportunity districts in West Texas from six to five.

47. HD 81 was not an opportunity district under the former or enacted plans.

State House District 118 (Bexar County)

48. HD 118 is represented by the bottom line of Table 4 and in Figure 14. Under the former plan, HD 118 was an opportunity district, with minority-preferred candidates winning 100% of the endogenous general elections, by an average margin of 14 percentage points in contested elections. Incumbent Joe Farias (Latino Democrat) was unopposed for election in 2014. He resigned in 2015. John Lujan (Latino Republican) won a special election to replace him (this election is not included in the analysis because I only examine general elections). Tomas Uresti (Latino Democrat) defeated Lujan in the general election in 2016. Leo Pacheco (Latino Democrat) won the general election in 2018 and was unopposed in 2020. Minority preferred candidates won all seven exogenous elections under the former plan by an average margin of 12 percentage points. Under the enacted plan, HD 118 is no longer an opportunity district: minority preferred candidates are expected to lose by 3.6 percentage points and minority-preferred candidates would have lost five of seven exogenous elections.

49. The changes to HD 118 in the enacted plan are represented by the maps in Figures E11 (minority-preferred vote) and E12 (percent Latino). In Table 6, I summarize the average vote for the minority preferred candidate in the VTDs that were added, removed, and kept across the previous and enacted plans. On average, 75 percent of voters in the removed VTDs voted for the minority-preferred candidate. On average, 41 percent of voters in the added VTDs voted for the minority preferred candidate. Notably, the removed VTDs have nearly twice the Latino CVAP, more than twice the SSVR, and nearly three-times the SSTO of the added VTDs.

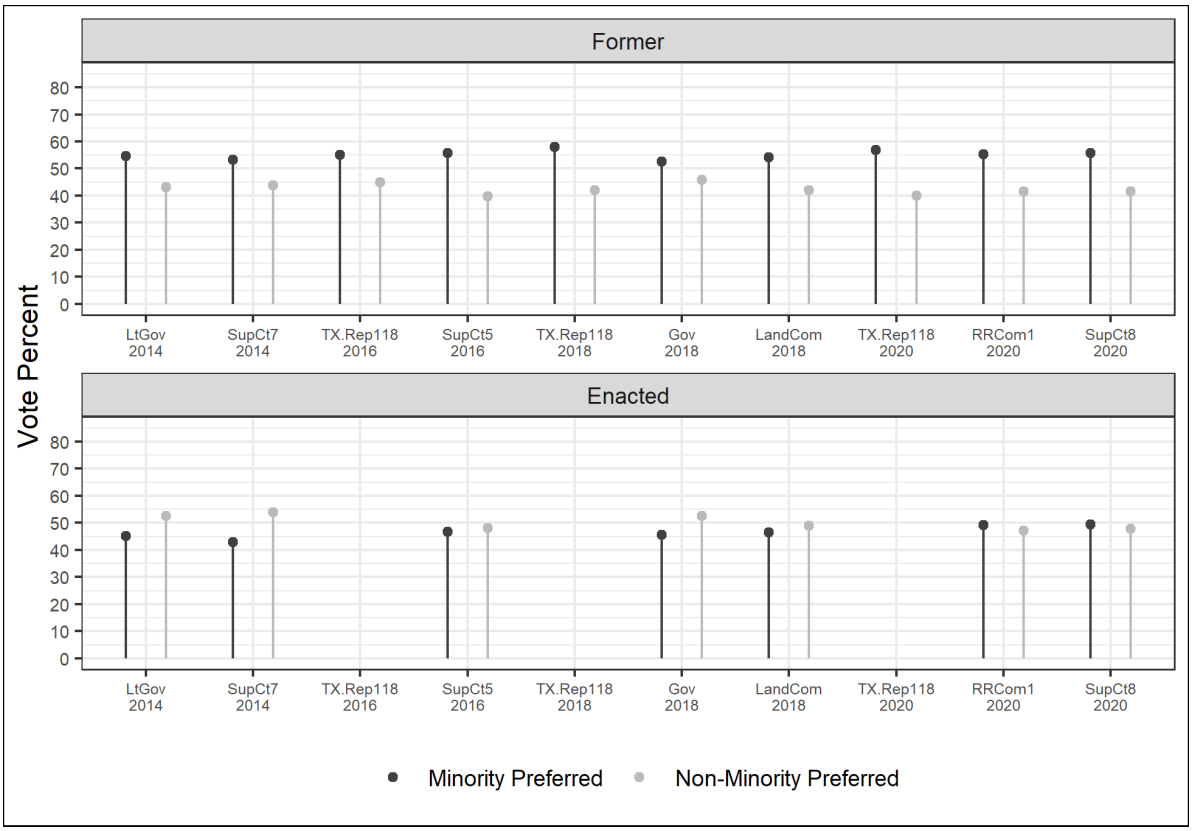


Figure 14: State House District 118

Proportionality

50. Latinos are 30.5% of the Texas CVAP population in the 2016–2020 ACS data. Latinos were 25% of the Texas CVAP population in the 2006–2010 ACS data. To see if there is a relative change between plans in the proportion of CDs and HDs where Latino voters have an opportunity to elect their preferred candidates, I examined exogenous elections in CDs and HDs with at least 40% Latino CVAP. I limit this analysis to districts with 40% CVAP because districts with lower CVAP are unlikely to provide Latino voters with opportunity to elect their preferred candidate. After determining which elections had 40% Latino CVAP, I see whether Latino-preferred candidates an opportunity to win elections by examining the proportion of exogenous elections won by the Latino-preferred candidate. I list the percent Latino CVAP in CDs and HDs in tables in Appendix F.

51. In the former plan, based on 2010 data, there were 10 CDs with over 40% Latino CVAP (in descending order: 34, 16, 15, 28, 20, 29, 23, 27, 35, and 33). In the enacted plan, based on 2020 data, these same 10 districts have over 40% Latino CVAP, although the Latino percentage has changed in several. No additional districts are over 40% Latino CVAP in 2020.

52. In the former plan, based on the past performance of minority-preferred candidates in the CD, in eight of these ten districts (15, 16, 20, 28, 29, 33, 34, and 35), Latinos had an opportunity to elect their preferred candidate.[24] In two of these districts, 23 and 27, Latinos did not have an opportunity to elect a candidate of their choice. Therefore, the proportion of statewide opportunity districts under the former plan was 22% (8/36).

53. In the enacted plan, using the expected performance of minority preferred candidates in the new districts, the same eight districts remain opportunity districts, so the proportion of Latino opportunity districts statewide is now 21% (8/38). Given the increase in Latino CVAP, this represents a relative decrease in proportionality under the enacted plan: the gap between CVAP and proportion of Latino opportunity districts in the former plan was 3 percentage points, under the enacted plan, the gap is 9.5 percentage points.

54. Under the former plan, there were 36 HDs meeting the 40% criteria. Of these, all but HD 32, 43, and 81 gave Latino voters an opportunity to elect their preferred candidate, giving a statewide proportion of 22% (33/150) opportunity districts.

55. Under the enacted plan, there are still 36 HDs meeting the 40% criteria. HDs 32, 43, 81 still do not give Latinos an opportunity to elect their preferred candidate. In addition, HDs 31 and 118 no longer Latino voters an opportunity to elect their preferred candidate, bringing the total to five districts of over 40% Latino CVAP where Latino voters do not have an opportunity to elect their preferred candidate. This leaves 31 opportunity districts for 21% (31/150) opportunity districts. Given the increase in Latino CVAP, this represents a relative decrease in proportionality under the enacted plan: the gap between CVAP and proportion of Latino opportunity districts in the former plan was 3 percentage points, under the enacted plan, the gap is 9.5 percentage points.

[24]Six the districts are, in fact, represented by Latinos. CD 35 has been represented by an Anglo Democrat, Lloyd Doggett, since 2013. He is now running in the newly created 37th District. A Latino, Greg Casar, has won the 2022 Democratic primary and will advance to the November general election. CD 33 has been represented by Marc Veasey, a Black Democrat, since 2013.

Illustrative Districts

56. I was asked by the United States to analyze their illustrative districts for HDs 31, 74, 75, 77, 78, 79, 81, and 118 and for CDs 23 and 38. For each, I repeat the process of analysis of racial bloc voting and opportunity districts that I performed above. I use the boundaries of these districts provided to me by the United States and combine them with the same demographic and voting data used above.[25]

57. Analysis of racial bloc voting for all of these illustrative districts is in Appendix G in Tables G1–G10. In nearly all districts and relevant elections, Latinos and Anglos are each cohesive within their own group and are polarized between the groups. There are a few elections that are exceptions found in the tables. In Figure 4 above, I display the change in racial bloc voting between the enacted and illustrative CD 38. Latinos are more cohesive in the illustrative plan.

58. Analysis of the opportunity for minority voters to elect their preferred candidates in CDs 23 and 38 is in Table 7. Details of the expected outcomes in each exogenous election for each district are in Appendix H. Both CDs become opportunity districts in the illustrative plan. Notably, in CD 38, the minority-preferred candidate would have won every election after 2014 (see Figure H2 in Appendix H).

	Enacted Districts Exogenous Elections		**Illustrative Districts** Exogenous Elections	
District	Margin	Win %	Margin	Win %
West Texas:				
23	-11.28	0	5.21	100
Harris County:				
38	-34.42	0	6.31	71

Table 7: Illustrative Congressional Districts Opportunity District Analysis

59. Analysis of the opportunity for minority voters to elect their preferred candidates in HDs is in Table 8. Details of the expected outcomes in each exogenous election for each district are in Appendix H. All HDs become opportunity districts in the illustrative plan.

	Enacted Districts Exogenous Elections		**Illustrative Districts** Exogenous Elections	
District	Margin	Win %	Margin	Win %
South Texas:				
31	-9.22	29	14.80	100
El Paso and West Texas:				
74	15.30	100	1.13	57
75	42.09	100	39.83	100
77	52.42	100	50.94	100
78	13.23	71	13.92	100
79	30.96	100	26.42	100
81	-50.36	0	2.36	71
Bexar County:				
118	-3.64	29	4.65	86

Table 8: Illustrative State House Districts Opportunity District Analysis

[25] In some cases, these illustrative districts include a small number of split VTDs, where part of the VTD was assigned to one district and part to another. In order to analyze these districts, the data from these districts must be either 1) assigned to one or the other of the districts or 2) split through a process of spatial interpolation and assigned to both districts. Because spatial interpolation proved inconsequential in my analysis above, I decided to assign these VTDs to the district with which a VTD has the greatest spatial overlap.

Relationship between socioeconomic factors and voter turnout

60. There is strong evidence that voter turnout is correlated with socioeconomic status. Americans living in poverty are far less likely to participate in the political process, including less likely to vote, than those with more resources (Wolfinger and Rosenstone 1980; Verba, Schlozman, and Brady 1995; Schlozman, Verba, and Brady 2012; Blais 2006).[26] Approximately half of American adults in the lowest income quintile usually vote in presidential elections, compared with nearly 80% of Americans in the highest quintile (Leighley and Nagler 2013).[27] These patterns are robust across time and place in the United States. Because one cannot experiment on socioeconomic status in order to precisely understand why this relationship exists, the causal effect and pathways of poverty on low voter participation are poorly understood. It could be because of a lack of education generally and civic education in particular (Ojeda 2018, Sondheimer and Green 2010), less perceived efficacy in the system (Aberbach and Walker 1970), less time and resources to pay the opportunity costs associated with voting (Verba, Schlossman, and Brady 1995), or less attention from campaigns (Enos, Fowler, and Vavreck 2014).[28]

[26] Wolfinger, Raymond E., and Steven J. Rosenstone. Who votes?. Yale University Press, 1980.
Verba, Sidney, Kay L. Schlozman, and Henry E. Brady. 1995. Voice and Equality: Civic Volunteerism in American Politics. Cambridge, MA: Harvard University Press.
Schlozman, Kay L., Sidney Verba, and Henry E. Brady. 2012. The Unheavenly Chorus: Unequal Political Voice and the Broken Promise of American Democracy. Princeton, NJ: Princeton University Press.
Blais, André. "What affects voter turnout?." Annu. Rev. Polit. Sci. 9 (2006): 111-125.

[27] Leighley, Jan E., and Jonathan Nagler. 2013. Who Votes Now? Demographics, Issues, Inequality, and Turnout in the United States. Princeton University Press.

[28] Aberbach, Joel D., and Jack L. Walker. "Political trust and racial ideology." American political science review 64.4 (1970): 1199-1219.
Ojeda, Christopher. 2018. The Two Income-Participation Gaps." American Journal of Political Science 62(4): 813-829
Sondheimer, Rachel Milstein, and Donald P. Green. "Using experiments to estimate the effects of education on voter turnout." American Journal of Political Science 54.1 (2010): 174-189.
Enos, Ryan D., Anthony Fowler, and Lynn Vavreck. "Increasing inequality: The effect of GOTV mobilization on the composition of the electorate." The Journal of Politics 76.1 (2014): 273-288.

A Appendix: Full EI Results

The tables below are of EI estimates for Anlgo, Latino, and Black voters. Estimates were also produced for a category of "Other", but those are not shown. Cell entries are for the Democratic vote share, with 95% confidence intervals in parentheses. The party and race for the two major-party candidates are listed next to the office (D = Democrat, R = Republican, A = Anglo, L = Latino, B = Black). Estimates for both the former and enacted districts are shown.

Congressional District 23 (West Texas)

		Former		Enactd	
Office	Year	Latinos	Anglos	Latinos	Anglos
Land Comm (AD-LR)	2014	82	12	76	13
		(78, 86)	(9, 15)	(71, 80)	(11, 16)
Lt. Governor (LD-AR)	2014	84	18	81	18
		(80, 88)	(14, 21)	(76, 85)	(15, 21)
Sup Ct 7 (LD-AR)	2014	86	15	84	16
		(83, 89)	(13, 18)	(79, 88)	(13, 19)
U.S. Rep 23 (LD-BR)	2014	86	23	-	-
		(83, 89)	(19, 26)	-	-
Sup Ct 5 (LD-AR)	2016	85	11	83	13
		(82, 87)	(8, 14)	(80, 86)	(11, 15)
Sup Ct 9 (AD-LR)	2016	78	12	74	12
		(75, 80)	(9, 15)	(71, 77)	(9, 15)
U.S. Rep 23 (LD-BR)	2016	83	13	-	-
		(81, 86)	(10, 16)	-	-
Governor (LD-AR)	2018	77	14	74	15
		(73, 80)	(11, 17)	(70, 78)	(13, 19)
Land Comm (LD-LR)	2018	80	13	77	15
		(77, 83)	(11, 16)	(73, 81)	(12, 18)
U.S. Rep 23 (LD-BR)	2018	82	16	-	-
		(79, 85)	(13, 20)	-	-
U.S. Sen (AD-LR)	2018	83	18	80	20
		(80, 85)	(15, 22)	(77, 84)	(17, 24)
RR Comm 1 (LD-AR)	2020	74	19	71	20
		(71, 77)	(15, 22)	(68, 74)	(17, 24)
Sup Ct 8 (LD-AR)	2020	76	17	73	20
		(74, 79)	(14, 20)	(69, 76)	(16, 23)
U.S. Rep 23 (LD-LR)	2020	73	17	-	-
		(70, 76)	(14, 20)	-	-
Avg.		81	16	77	16

Table A1: EI CVAP: CD 23

Congressional Districts in the Dallas-Fort Worth Metroplex

		Former			Enacted		
Office	Year	Latinos	Blacks	Anglos	Latinos	Blacks	Anglos
Land Comm (AD-LR)	2014	72	73	25	61	65	21
		(54, 83)	(58, 85)	(22, 28)	(44, 78)	(46, 81)	(19, 23)
Lt. Governor (LD-AR)	2014	69	66	32	55	57	29
		(54, 82)	(51, 81)	(29, 34)	(38, 77)	(40, 73)	(28, 30)
RR Comm 3 (BD-AR)	2014	72	66	27	61	65	23
		(58, 83)	(53, 79)	(24, 30)	(45, 77)	(50, 79)	(21, 25)
Sup Ct 7 (LD-AR)	2014	73	63	28	67	66	24
		(55, 85)	(46, 77)	(25, 31)	(53, 81)	(44, 80)	(22, 25)
RR Comm 1 (AD-BR)	2016	77	74	29	53	65	26
		(64, 86)	(60, 86)	(25, 33)	(38, 71)	(48, 80)	(24, 28)
Sup Ct 5 (LD-AR)	2016	76	72	31	61	65	27
		(66, 86)	(60, 84)	(27, 34)	(46, 75)	(46, 83)	(25, 29)
Sup Ct 9 (AD-LR)	2016	76	72	28	63	62	24
		(64, 85)	(57, 84)	(23, 33)	(45, 77)	(42, 80)	(22, 27)
CCA 7 (BD-AR)	2018	78	69	37	64	74	33
		(64, 86)	(53, 81)	(33, 42)	(50, 76)	(60, 86)	(31, 34)
CCA Pres Judge (BD-AR)	2018	82	71	36	56	61	34
		(73, 89)	(57, 85)	(32, 40)	(43, 70)	(40, 77)	(33, 36)
Comptroller (BD-AR)	2018	79	70	35	67	61	32
		(70, 86)	(53, 85)	(31, 38)	(55, 78)	(39, 79)	(30, 33)
Governor (LD-AR)	2018	81	72	32	65	59	30
		(71, 87)	(57, 83)	(27, 36)	(50, 81)	(37, 81)	(28, 32)
Land Comm (LD-LR)	2018	82	67	31	66	69	30
		(73, 89)	(53, 80)	(27, 35)	(53, 79)	(53, 83)	(27, 32)
U.S. Sen (AD-LR)	2018	80	62	43	62	60	40
		(70, 87)	(44, 79)	(40, 46)	(49, 78)	(41, 77)	(38, 41)
CCA 3 (BD-AR)	2020	74	62	38	58	59	33
		(65, 83)	(48, 75)	(35, 41)	(47, 69)	(45, 72)	(32, 35)
RR Comm 1 (LD-AR)	2020	75	62	38	58	59	35
		(64, 84)	(48, 74)	(33, 41)	(48, 68)	(43, 75)	(33, 37)
Sup Ct 7 (BD-AR)	2020	72	68	38	59	58	33
		(62, 82)	(54, 81)	(35, 40)	(48, 68)	(43, 71)	(31, 34)
Sup Ct 8 (LD-AR)	2020	77	64	37	63	66	32
		(68, 87)	(50, 78)	(33, 40)	(48, 76)	(52, 79)	(30, 35)
U.S. Rep 24 (LD-AR)	2020	72	62	37	-	-	-
		(63, 80)	(51, 73)	(35, 40)	-	-	-
Avg.		76	68	33	61	63	30

Table A2: EI CVAP: CD 24

		Former			Enacted		
Office	Year	Latinos	Blacks	Anglos	Latinos	Blacks	Anglos
Land Comm (AD-LR)	2014	67	89	11	66	83	9
		(53, 81)	(84, 93)	(8, 13)	(50, 78)	(76, 89)	(6, 11)
Lt. Governor (LD-AR)	2014	67	88	15	72	83	9
		(52, 81)	(83, 92)	(12, 18)	(60, 82)	(75, 89)	(7, 12)
RR Comm 3 (BD-AR)	2014	65	88	13	72	81	9
		(48, 78)	(84, 92)	(10, 16)	(60, 82)	(73, 88)	(7, 12)
Sup Ct 7 (LD-AR)	2014	68	88	12	72	81	8
		(55, 80)	(83, 92)	(9, 15)	(59, 82)	(73, 88)	(6, 11)
RR Comm 1 (AD-BR)	2016	76	90	12	84	83	7
		(62, 86)	(86, 93)	(10, 15)	(76, 90)	(76, 89)	(5, 9)
Sup Ct 5 (LD-AR)	2016	77	91	12	84	83	6
		(64, 86)	(88, 94)	(10, 15)	(79, 89)	(75, 88)	(4, 8)
Sup Ct 9 (AD-LR)	2016	76	91	12	86	82	6
		(63, 86)	(87, 94)	(9, 14)	(79, 91)	(76, 88)	(5, 8)
U.S. Rep 6 (BD-AR)	2016	75	91	12	-	-	-
		(62, 86)	(87, 94)	(9, 14)	-	-	-
CCA 7 (BD-AR)	2018	74	94	18	87	87	7
		(61, 85)	(91, 96)	(15, 20)	(81, 91)	(82, 92)	(5, 9)
CCA Pres Judge (BD-AR)	2018	76	94	17	87	87	7
		(61, 86)	(91, 96)	(15, 20)	(80, 91)	(81, 92)	(5, 9)
Comptroller (BD-AR)	2018	75	94	16	87	89	6
		(62, 86)	(91, 96)	(14, 19)	(81, 91)	(83, 93)	(4, 8)
Governor (LD-AR)	2018	74	93	15	86	86	5
		(59, 85)	(91, 96)	(12, 17)	(80, 90)	(79, 91)	(4, 7)
Land Comm (LD-LR)	2018	77	94	15	87	87	5
		(61, 87)	(91, 96)	(12, 17)	(82, 91)	(82, 92)	(4, 7)
U.S. Rep 6 (LD-AR)	2018	76	95	18	-	-	-
		(59, 87)	(92, 97)	(15, 21)	-	-	-
U.S. Sen (AD-LR)	2018	73	94	22	87	89	8
		(59, 85)	(91, 96)	(19, 25)	(82, 91)	(84, 93)	(6, 11)
CCA 3 (BD-AR)	2020	72	94	20	88	90	8
		(57, 84)	(92, 96)	(17, 22)	(84, 92)	(85, 93)	(6, 10)
RR Comm 1 (LD-AR)	2020	73	94	18	89	89	7
		(59, 83)	(92, 96)	(15, 21)	(84, 92)	(85, 93)	(5, 9)
Sup Ct 7 (BD-AR)	2020	75	94	19	89	89	8
		(62, 86)	(92, 96)	(16, 22)	(83, 93)	(85, 93)	(6, 10)
Sup Ct 8 (LD-AR)	2020	70	94	18	88	89	7
		(46, 84)	(92, 96)	(16, 21)	(83, 92)	(84, 93)	(5, 10)
Avg.		73	92	15	83	86	7

Table A3: EI CVAP: CD 6

Office	Year	Latinos	Blacks	Anglos
Land Comm (AD-LR)	2014	82	90	18
		(76, 86)	(87, 92)	(17, 21)
Lt. Governor (LD-AR)	2014	82	90	24
		(77, 86)	(87, 92)	(22, 25)
RR Comm 3 (BD-AR)	2014	84	90	21
		(78, 88)	(87, 92)	(19, 22)
Sup Ct 7 (LD-AR)	2014	84	89	21
		(79, 88)	(86, 92)	(19, 24)
RR Comm 1 (AD-BR)	2016	88	92	17
		(85, 91)	(89, 94)	(15, 19)
Sup Ct 5 (LD-AR)	2016	89	91	18
		(86, 92)	(89, 93)	(16, 20)
Sup Ct 9 (AD-LR)	2016	87	91	17
		(83, 90)	(88, 93)	(15, 19)
CCA 7 (BD-AR)	2018	88	92	26
		(85, 91)	(89, 94)	(24, 27)
CCA Pres Judge (BD-AR)	2018	89	91	26
		(86, 92)	(89, 93)	(24, 27)
Comptroller (BD-AR)	2018	89	91	24
		(85, 91)	(89, 94)	(23, 26)
Governor (LD-AR)	2018	88	91	22
		(85, 91)	(88, 93)	(20, 24)
Land Comm (LD-LR)	2018	89	91	22
		(86, 91)	(89, 93)	(21, 24)
U.S. Sen (AD-LR)	2018	88	91	31
		(84, 91)	(89, 93)	(29, 33)
CCA 3 (BD-AR)	2020	84	91	27
		(79, 88)	(89, 93)	(26, 29)
RR Comm 1 (LD-AR)	2020	83	90	26
		(78, 86)	(88, 93)	(24, 29)
Sup Ct 7 (BD-AR)	2020	84	92	26
		(80, 88)	(90, 93)	(25, 28)
Sup Ct 8 (LD-AR)	2020	85	91	26
		(81, 89)	(89, 93)	(24, 28)
Avg.		86	91	23

Table A4: EI CVAP: Dallas and Tarrant Counties pooled

		Former			Enacted		
Office	Year	Latinos	Blacks	Anglos	Latinos	Blacks	Anglos
Land Comm (AD-LR)	2014	75	87	19	62	81	16
		(62, 83)	(83, 90)	(17, 22)	(47, 77)	(73, 87)	(14, 18)
Lt. Governor (LD-AR)	2014	73	86	25	68	77	22
		(63, 82)	(81, 89)	(23, 27)	(56, 79)	(68, 84)	(21, 24)
RR Comm 3 (BD-AR)	2014	74	88	21	68	80	18
		(62, 83)	(83, 91)	(18, 24)	(57, 78)	(73, 86)	(16, 20)
Sup Ct 7 (LD-AR)	2014	76	87	21	71	78	18
		(66, 84)	(83, 91)	(19, 23)	(61, 80)	(68, 85)	(16, 20)
RR Comm 1 (AD-BR)	2016	81	88	18	77	77	17
		(71, 87)	(84, 91)	(15, 21)	(69, 84)	(69, 83)	(15, 19)
Sup Ct 5 (LD-AR)	2016	83	88	19	77	77	18
		(76, 88)	(84, 91)	(17, 21)	(67, 83)	(68, 84)	(16, 19)
Sup Ct 9 (AD-LR)	2016	82	89	17	79	80	16
		(76, 88)	(85, 92)	(15, 20)	(72, 85)	(72, 86)	(15, 18)
CCA 7 (BD-AR)	2018	79	91	25	77	80	23
		(70, 86)	(88, 94)	(23, 28)	(65, 84)	(71, 87)	(21, 25)
CCA Pres Judge (BD-AR)	2018	81	91	26	78	81	23
		(74, 86)	(88, 94)	(23, 28)	(72, 85)	(74, 87)	(22, 25)
Comptroller (BD-AR)	2018	79	91	24	76	80	21
		(71, 86)	(87, 93)	(22, 26)	(67, 84)	(72, 87)	(20, 23)
Governor (LD-AR)	2018	80	90	22	78	79	20
		(73, 85)	(86, 93)	(19, 24)	(69, 85)	(70, 86)	(18, 22)
Land Comm (LD-LR)	2018	81	90	22	79	78	20
		(74, 86)	(86, 93)	(20, 24)	(70, 85)	(70, 84)	(19, 22)
U.S. Sen (AD-LR)	2018	78	90	32	73	76	29
		(69, 86)	(86, 93)	(29, 34)	(65, 81)	(66, 83)	(27, 30)
CCA 3 (BD-AR)	2020	71	89	28	63	78	26
		(62, 80)	(86, 92)	(26, 30)	(56, 70)	(70, 84)	(24, 27)
RR Comm 1 (LD-AR)	2020	70	90	28	71	68	26
		(62, 79)	(86, 93)	(26, 29)	(64, 78)	(61, 75)	(24, 27)
Sup Ct 7 (BD-AR)	2020	72	89	28	64	78	25
		(65, 80)	(86, 92)	(25, 30)	(56, 72)	(70, 84)	(24, 26)
Sup Ct 8 (LD-AR)	2020	71	89	28	64	76	25
		(63, 78)	(85, 92)	(26, 30)	(57, 72)	(68, 82)	(23, 26)
Avg.		77	89	24	72	78	21

Table A5: EI CVAP: CDs 24 and 6 pooled

Congressional District 38 (Harris County)

Office	Year	Latinos	Anglos
Land Comm (AD-LR)	2014	0.54 (0.33, 0.76)	0.08 (0.05, 0.12)
Lt. Governor (LD-AR)	2014	0.53 (0.36, 0.72)	0.21 (0.18, 0.25)
Sup Ct 7 (LD-AR)	2014	0.52 (0.39, 0.67)	0.15 (0.11, 0.19)
Sup Ct 5 (LD-AR)	2016	0.77 (0.57, 0.89)	0.15 (0.11, 0.18)
Sup Ct 9 (AD-LR)	2016	0.67 (0.32, 0.92)	0.12 (0.07, 0.17)
Governor (LD-AR)	2018	0.7 (0.49, 0.85)	0.19 (0.16, 0.22)
Land Comm (LD-LR)	2018	0.75 (0.6, 0.87)	0.22 (0.18, 0.25)
U.S. Sen (AD-LR)	2018	0.66 (0.47, 0.82)	0.29 (0.25, 0.33)
RR Comm 1 (LD-AR)	2020	0.68 (0.47, 0.84)	0.24 (0.21, 0.27)
Sup Ct 8 (LD-AR)	2020	0.78 (0.61, 0.89)	0.22 (0.19, 0.25)
Avg.		0.66	0.19

Table A6: EI CVAP: CD 38

Office	Year	Latinos	Anglos
Land Comm (AD-LR)	2014	0.82 (0.78, 0.85)	0.17 (0.16, 0.19)
Lt. Governor (LD-AR)	2014	0.81 (0.77, 0.85)	0.25 (0.24, 0.26)
Sup Ct 7 (LD-AR)	2014	0.83 (0.8, 0.86)	0.21 (0.2, 0.23)
Sup Ct 5 (LD-AR)	2016	0.91 (0.89, 0.93)	0.18 (0.17, 0.2)
Sup Ct 9 (AD-LR)	2016	0.87 (0.84, 0.89)	0.15 (0.13, 0.16)
Governor (LD-AR)	2018	0.87 (0.84, 0.89)	0.24 (0.22, 0.26)
Land Comm (LD-LR)	2018	0.89 (0.87, 0.91)	0.25 (0.24, 0.27)
U.S. Sen (AD-LR)	2018	0.9 (0.88, 0.92)	0.32 (0.31, 0.34)
RR Comm 1 (LD-AR)	2020	0.82 (0.79, 0.85)	0.26 (0.24, 0.27)
Sup Ct 8 (LD-AR)	2020	0.83 (0.8, 0.85)	0.24 (0.22, 0.27)
Avg.		0.85	0.23

Table A7: EI CVAP: Harris County

State House Districts 31 and 43 (South Texas)

		Former		Enacted	
Office	Year	Latinos	Anglos	Latinos	Anglos
Land Comm (AD-LR)	2014	81	9	81	7
		(76, 85)	(5, 14)	(76, 85)	(3, 10)
Lt. Governor (LD-AR)	2014	89	8	88	8
		(85, 92)	(4, 13)	(83, 92)	(4, 12)
Sup Ct 7 (LD-AR)	2014	90	8	89	7
		(86, 93)	(4, 14)	(84, 92)	(4, 11)
Sup Ct 5 (LD-AR)	2016	85	9	84	6
		(82, 88)	(5, 14)	(80, 87)	(3, 10)
Sup Ct 9 (AD-LR)	2016	75	10	74	7
		(71, 79)	(6, 15)	(70, 78)	(4, 11)
Governor (LD-AR)	2018	67	8	68	6
		(63, 70)	(4, 13)	(64, 72)	(3, 9)
Land Comm (LD-LR)	2018	74	9	75	6
		(70, 78)	(5, 15)	(71, 79)	(3, 9)
U.S. Sen (AD-LR)	2018	76	10	76	6
		(72, 80)	(6, 15)	(72, 80)	(3, 10)
RR Comm 1 (LD-AR)	2020	69	8	68	6
		(65, 72)	(4, 12)	(64, 71)	(3, 9)
State Rep 31 (LD-AR)	2020	82	7	-	-
		(79, 85)	(4, 11)	-	-
Sup Ct 8 (LD-AR)	2020	70	7	69	5
		(67, 73)	(4, 12)	(66, 72)	(2, 8)
Avg.		78	8	77	6

Table A8: EI CVAP: HD 31

		Former		Enacted	
Office	Year	Latinos	Anglos	Latinos	Anglos
Land Comm (AD-LR)	2014	82	7	84	9
		(73, 89)	(4, 13)	(76, 90)	(5, 15)
Lt. Governor (LD-AR)	2014	88	10	89	11
		(81, 93)	(5, 16)	(85, 94)	(6, 16)
State Rep 43 (LD-LR)	2014	67	12	-	-
		(58, 75)	(7, 18)	-	-
Sup Ct 7 (LD-AR)	2014	90	9	90	11
		(85, 94)	(5, 15)	(85, 94)	(7, 17)
State Rep 43 (LD-LR)	2016	64	7	-	-
		(58, 69)	(4, 11)	-	-
Sup Ct 5 (LD-AR)	2016	89	6	90	6
		(84, 93)	(3, 10)	(85, 93)	(3, 10)
Sup Ct 9 (AD-LR)	2016	77	6	79	7
		(70, 82)	(3, 11)	(73, 83)	(4, 11)
Governor (LD-AR)	2018	69	6	72	6
		(63, 75)	(3, 11)	(66, 77)	(3, 9)
Land Comm (LD-LR)	2018	77	7	81	6
		(70, 84)	(4, 12)	(75, 86)	(3, 10)
State Rep 43 (LD-LR)	2018	66	9	-	-
		(61, 72)	(5, 14)	-	-
U.S. Sen (AD-LR)	2018	80	8	82	8
		(74, 86)	(4, 13)	(77, 87)	(5, 13)
RR Comm 1 (LD-AR)	2020	71	8	74	8
		(66, 76)	(4, 12)	(70, 78)	(5, 11)
Sup Ct 8 (LD-AR)	2020	73	7	76	7
		(68, 78)	(4, 11)	(71, 80)	(4, 10)
Avg.		76	8	82	8

Table A9: EI CVAP: HD 43

Office	Year	Latinos	Anglos
Land Comm (AD-LR)	2014	59	11
		(28, 85)	(5, 19)
Lt. Governor (LD-AR)	2014	65	13
		(39, 87)	(5, 22)
Sup Ct 7 (LD-AR)	2014	63	11
		(36, 86)	(5, 19)
Sup Ct 5 (LD-AR)	2016	77	8
		(58, 92)	(3, 14)
Sup Ct 9 (AD-LR)	2016	76	7
		(56, 91)	(3, 13)
Governor (LD-AR)	2018	72	5
		(48, 89)	(2, 10)
Land Comm (LD-LR)	2018	75	6
		(52, 91)	(2, 13)
U.S. Sen (AD-LR)	2018	85	7
		(65, 96)	(3, 14)
RR Comm 1 (LD-AR)	2020	74	6
		(57, 90)	(2, 12)
Sup Ct 8 (LD-AR)	2020	75	7
		(53, 91)	(2, 13)
Avg.		72	8

Table A10: EI CVAP: Wilson and Karnes counties pooled

State House Districts in El Paso and West Texas

		Former		Enacted	
Office	Year	Latinos	Anglos	Latinos	Anglos
Land Comm (AD-LR)	2014	72	27	72	32
		(65, 79)	(20, 34)	(64, 78)	(24, 41)
Lt. Governor (LD-AR)	2014	80	26	79	32
		(73, 86)	(19, 34)	(73, 86)	(24, 40)
Sup Ct 7 (LD-AR)	2014	82	28	81	33
		(76, 88)	(19, 36)	(74, 86)	(25, 41)
Sup Ct 5 (LD-AR)	2016	79	22	81	24
		(75, 83)	(15, 31)	(77, 84)	(16, 34)
Sup Ct 9 (AD-LR)	2016	69	20	71	23
		(65, 74)	(13, 29)	(67, 75)	(14, 32)
Governor (LD-AR)	2018	68	24	70	27
		(63, 73)	(17, 31)	(65, 74)	(18, 36)
Land Comm (LD-LR)	2018	70	26	73	29
		(64, 74)	(19, 34)	(68, 77)	(21, 37)
U.S. Sen (AD-LR)	2018	76	24	78	29
		(71, 79)	(17, 32)	(73, 82)	(22, 37)
RR Comm 1 (LD-AR)	2020	62	25	65	28
		(58, 66)	(17, 33)	(61, 68)	(20, 39)
State Rep 74 (LD-LR)	2020	69	26	-	-
		(66, 73)	(19, 33)	-	-
Sup Ct 8 (LD-AR)	2020	64	25	67	29
		(59, 69)	(16, 33)	(63, 71)	(21, 37)
Avg.		72	25	74	28

Table A11: EI CVAP: HD 74

		Former		Enacted	
Office	Year	Latinos	Anglos	Latinos	Anglos
Land Comm (AD-LR)	2014	82	36	80	47
		(74, 89)	(15, 64)	(73, 87)	(22, 71)
Lt. Governor (LD-AR)	2014	80	41	82	30
		(71, 88)	(17, 73)	(76, 89)	(11, 55)
Sup Ct 7 (LD-AR)	2014	83	37	83	35
		(75, 91)	(18, 60)	(76, 90)	(13, 59)
Sup Ct 5 (LD-AR)	2016	84	34	85	34
		(79, 89)	(13, 64)	(81, 89)	(15, 61)
Sup Ct 9 (AD-LR)	2016	77	37	77	44
		(73, 82)	(16, 67)	(74, 83)	(13, 75)
Governor (LD-AR)	2018	79	34	78	41
		(74, 84)	(11, 63)	(73, 83)	(14, 77)
Land Comm (LD-LR)	2018	80	41	80	44
		(75, 84)	(16, 70)	(75, 84)	(20, 74)
U.S. Sen (AD-LR)	2018	87	34	85	42
		(82, 91)	(14, 58)	(80, 91)	(14, 75)
RR Comm 1 (LD-AR)	2020	74	36	72	42
		(69, 78)	(13, 71)	(68, 77)	(11, 74)
Sup Ct 8 (LD-AR)	2020	76	35	75	39
		(71, 80)	(12, 66)	(71, 79)	(15, 61)
Avg.		80	36	80	40

Table A12: EI CVAP: HD 75

		Former	
Office	Year	Latinos	Anglos
Land Comm (AD-LR)	2014	93	25
		(87, 97)	(11, 42)
Lt. Governor (LD-AR)	2014	93	28
		(88, 96)	(12, 50)
Sup Ct 7 (LD-AR)	2014	93	30
		(88, 96)	(13, 51)
Sup Ct 5 (LD-AR)	2016	90	23
		(86, 92)	(8, 43)
Sup Ct 9 (AD-LR)	2016	83	27
		(80, 86)	(10, 53)
Governor (LD-AR)	2018	86	26
		(82, 89)	(8, 51)
Land Comm (LD-LR)	2018	88	24
		(84, 92)	(10, 47)
U.S. Sen (AD-LR)	2018	92	28
		(89, 94)	(12, 48)
RR Comm 1 (LD-AR)	2020	80	32
		(77, 83)	(12, 56)
Sup Ct 8 (LD-AR)	2020	83	29
		(80, 85)	(12, 52)
Avg.		88	27

Table A13: EI CVAP: HD 76

		Former		Enacted	
Office	Year	Latinos	Anglos	Latinos	Anglos
Land Comm (AD-LR)	2014	84	37	86	38
		(72, 93)	(20, 53)	(81, 91)	(21, 57)
Lt. Governor (LD-AR)	2014	83	39	87	40
		(69, 92)	(20, 58)	(82, 92)	(24, 60)
Sup Ct 7 (LD-AR)	2014	82	39	91	34
		(70, 92)	(22, 58)	(86, 95)	(18, 51)
Sup Ct 5 (LD-AR)	2016	90	27	87	34
		(84, 94)	(13, 44)	(85, 90)	(15, 58)
Sup Ct 9 (AD-LR)	2016	85	26	82	32
		(78, 90)	(11, 45)	(80, 84)	(13, 54)
Governor (LD-AR)	2018	89	22	84	41
		(81, 95)	(9, 44)	(81, 86)	(23, 62)
Land Comm (LD-LR)	2018	88	30	85	37
		(77, 94)	(13, 52)	(83, 88)	(19, 57)
U.S. Sen (AD-LR)	2018	91	40	89	52
		(84, 95)	(22, 61)	(86, 91)	(34, 71)
RR Comm 1 (LD-AR)	2020	84	30	79	44
		(75, 90)	(11, 56)	(77, 82)	(23, 69)
Sup Ct 8 (LD-AR)	2020	86	32	82	42
		(79, 92)	(14, 49)	(80, 85)	(20, 62)
Avg.		86	32	85	40

Table A14: EI CVAP: HD 77

		Former		Enacted	
Office	Year	Latinos	Anglos	Latinos	Anglos
Land Comm (AD-LR)	2014	64	38	70	39
		(43, 81)	(23, 52)	(48, 86)	(27, 50)
Lt. Governor (LD-AR)	2014	70	35	70	38
		(47, 87)	(16, 50)	(49, 85)	(23, 50)
Sup Ct 7 (LD-AR)	2014	70	37	71	38
		(48, 89)	(21, 51)	(43, 87)	(23, 52)
State Rep 78 (LD-AR)	2016	84	31	-	-
		(71, 93)	(13, 57)	-	-
Sup Ct 5 (LD-AR)	2016	85	23	89	20
		(68, 93)	(9, 48)	(80, 95)	(9, 37)
Sup Ct 9 (AD-LR)	2016	83	17	85	19
		(69, 92)	(6, 37)	(74, 93)	(8, 35)
Governor (LD-AR)	2018	85	23	88	20
		(72, 92)	(11, 44)	(80, 94)	(8, 34)
Land Comm (LD-LR)	2018	82	27	89	22
		(70, 92)	(11, 45)	(79, 94)	(9, 40)
State Rep 78 (LD-AR)	2018	86	34	-	-
		(74, 93)	(14, 55)	-	-
U.S. Sen (AD-LR)	2018	88	33	89	39
		(71, 95)	(15, 62)	(80, 94)	(24, 55)
RR Comm 1 (LD-AR)	2020	80	25	83	24
		(66, 88)	(8, 50)	(75, 90)	(11, 36)
State Rep 78 (LD-AR)	2020	80	34	-	-
		(71, 88)	(15, 51)	-	-
Sup Ct 8 (LD-AR)	2020	79	32	83	27
		(68, 87)	(15, 53)	(70, 91)	(13, 47)
Avg.		80	30	82	29

Table A15: EI CVAP: HD 78

		Former		Enacted	
Office	Year	Latinos	Anglos	Latinos	Anglos
Land Comm (AD-LR)	2014	70	47	76	37
		(43, 86)	(20, 80)	(61, 86)	(16, 64)
Lt. Governor (LD-AR)	2014	77	23	80	31
		(65, 88)	(8, 48)	(65, 91)	(13, 59)
Sup Ct 7 (LD-AR)	2014	72	47	77	38
		(51, 88)	(22, 74)	(65, 87)	(14, 60)
Sup Ct 5 (LD-AR)	2016	91	15	87	19
		(80, 96)	(6, 28)	(79, 92)	(9, 40)
Sup Ct 9 (AD-LR)	2016	73	42	75	30
		(63, 86)	(10, 85)	(67, 82)	(13, 63)
Governor (LD-AR)	2018	79	26	81	23
		(71, 90)	(7, 49)	(74, 87)	(11, 40)
Land Comm (LD-LR)	2018	84	23	86	19
		(74, 93)	(7, 48)	(76, 92)	(8, 42)
U.S. Sen (AD-LR)	2018	94	15	92	19
		(88, 98)	(7, 29)	(87, 96)	(9, 34)
RR Comm 1 (LD-AR)	2020	75	29	76	31
		(70, 81)	(13, 51)	(68, 83)	(10, 65)
Sup Ct 8 (LD-AR)	2020	77	31	79	25
		(71, 84)	(12, 58)	(73, 85)	(10, 45)
Avg.		79	30	81	27

Table A16: EI CVAP: HD 79

		Former		Enacted	
Office	Year	Latinos	Anglos	Latinos	Anglos
Land Comm (AD-LR)	2014	37	5	42	6
		(21, 57)	(3, 8)	(25, 61)	(4, 9)
Lt. Governor (LD-AR)	2014	36	5	40	5
		(19, 56)	(3, 7)	(21, 59)	(3, 8)
Sup Ct 7 (LD-AR)	2014	42	6	42	6
		(24, 64)	(3, 9)	(24, 62)	(4, 10)
Sup Ct 5 (LD-AR)	2016	78	6	80	8
		(65, 88)	(3, 10)	(66, 90)	(3, 13)
Sup Ct 9 (AD-LR)	2016	73	6	77	6
		(57, 86)	(3, 12)	(59, 89)	(2, 13)
Governor (LD-AR)	2018	69	7	72	8
		(51, 83)	(3, 12)	(54, 87)	(4, 14)
Land Comm (LD-LR)	2018	74	6	66	10
		(57, 88)	(3, 12)	(47, 83)	(5, 16)
State Rep 81 (LD-AR)	2018	67	6	-	-
		(50, 83)	(3, 12)	-	-
U.S. Sen (AD-LR)	2018	74	9	74	11
		(55, 87)	(4, 14)	(55, 89)	(5, 17)
RR Comm 1 (LD-AR)	2020	63	6	66	7
		(42, 77)	(3, 11)	(48, 81)	(3, 12)
Sup Ct 8 (LD-AR)	2020	64	6	67	7
		(48, 80)	(2, 12)	(51, 81)	(3, 13)
Avg.		62	6	63	7

Table A17: EI CVAP: HD 81

		Former		Enacted	
Office	Year	Latinos	Anglos	Latinos	Anglos
Land Comm (AD-LR)	2014	83	17	84	16
		(79, 86)	(13, 20)	(80, 86)	(13, 21)
Lt. Governor (LD-AR)	2014	86	17	86	18
		(83, 89)	(14, 20)	(83, 89)	(14, 22)
Sup Ct 7 (LD-AR)	2014	86	16	87	16
		(84, 89)	(13, 19)	(85, 90)	(13, 20)
Sup Ct 5 (LD-AR)	2016	87	12	87	12
		(85, 89)	(9, 15)	(85, 89)	(9, 15)
Sup Ct 9 (AD-LR)	2016	80	12	79	12
		(78, 82)	(9, 15)	(77, 81)	(9, 16)
Governor (LD-AR)	2018	81	14	81	15
		(79, 83)	(11, 18)	(79, 84)	(11, 18)
Land Comm (LD-LR)	2018	83	14	83	15
		(81, 85)	(11, 17)	(81, 85)	(12, 18)
U.S. Sen (AD-LR)	2018	89	16	89	17
		(87, 90)	(13, 19)	(87, 90)	(14, 21)
RR Comm 1 (LD-AR)	2020	77	13	77	14
		(76, 79)	(10, 16)	(75, 79)	(11, 17)
Sup Ct 8 (LD-AR)	2020	79	13	79	15
		(78, 81)	(10, 16)	(77, 81)	(11, 18)
Avg.		83	14	83	15

Table A18: EI CVAP: West Texas HDs pooled

State House District 118 (Bexar County)

		Former		Enacted	
Office	Year	Latinos	Anglos	Latinos	Anglos
Land Comm (AD-LR)	2014	82	13	80	15
		(74, 89)	(6, 22)	(68, 89)	(9, 23)
Lt. Governor (LD-AR)	2014	88	17	81	23
		(82, 93)	(10, 27)	(71, 89)	(13, 33)
Sup Ct 7 (LD-AR)	2014	88	14	84	15
		(82, 94)	(7, 23)	(75, 91)	(8, 25)
State Rep 118 (LD-LR)	2016	81	15	-	-
		(75, 86)	(8, 23)	-	-
Sup Ct 5 (LD-AR)	2016	88	14	88	14
		(83, 92)	(7, 23)	(81, 93)	(8, 22)
Sup Ct 9 (AD-LR)	2016	80	13	84	13
		(75, 85)	(6, 21)	(75, 91)	(7, 21)
Governor (LD-AR)	2018	76	16	78	16
		(71, 81)	(8, 24)	(69, 86)	(8, 26)
Land Comm (LD-LR)	2018	81	16	82	18
		(76, 86)	(7, 25)	(73, 88)	(10, 27)
State Rep 118 (LD-LR)	2018	84	17	-	-
		(78, 89)	(8, 28)	-	-
U.S. Sen (AD-LR)	2018	85	19	87	20
		(80, 90)	(10, 29)	(78, 93)	(12, 31)
RR Comm 1 (LD-AR)	2020	79	19	78	18
		(74, 83)	(10, 29)	(70, 84)	(8, 28)
State Rep 118 (LD-AR)	2020	82	19	-	-
		(78, 86)	(10, 29)	-	-
Sup Ct 8 (LD-AR)	2020	80	19	79	17
		(75, 84)	(10, 28)	(71, 85)	(9, 27)
Avg.		83	16	82	17

Table A19: EI CVAP: HD 118

Office	Year	Latinos	Anglos
Land Comm (AD-LR)	2014	89	18
		(87, 91)	(15, 20)
Lt. Governor (LD-AR)	2014	90	30
		(88, 92)	(28, 33)
Sup Ct 7 (LD-AR)	2014	90	25
		(88, 92)	(22, 27)
Sup Ct 5 (LD-AR)	2016	92	20
		(91, 93)	(17, 23)
Sup Ct 9 (AD-LR)	2016	88	17
		(86, 90)	(15, 20)
Governor (LD-AR)	2018	87	28
		(85, 89)	(25, 31)
Land Comm (LD-LR)	2018	90	28
		(88, 92)	(26, 31)
U.S. Sen (AD-LR)	2018	90	38
		(88, 92)	(35, 40)
RR Comm 1 (LD-AR)	2020	88	29
		(85, 89)	(27, 31)
Sup Ct 8 (LD-AR)	2020	89	26
		(88, 91)	(24, 30)
Avg.		89	26

Table A20: EI CVAP: Bexar County

B Appendix: Elections Analyzed for Opportunity Analysis

Year	Office	Name	Party	Ethnicity
2014	Lt. Governor	Van De Putte	D	Hispanic
2014	Sup Ct 7	Benavides	D	Hispanic
2014	RR Comm 3	Brown	D	Black
2016	Sup Ct 5	Garza	D	Hispanic
2018	CCA 7	Franklin	D	Black
2018	CCA Pres Judge	Jackson	D	Black
2018	Comptroller	Chevalier	D	Black
2018	Governor	Valdez	D	Hispanic
2018	Land Comm	Suazo	D	Hispanic
2020	CCA 3	Davis Frizell	D	Black
2020	RR Comm 1	Castaneda	D	Hispanic
2020	Sup Ct 7	Williams	D	Black
2020	Sup Ct 8	Triana	D	Hispanic

Table B1: Minority-preferred Candidate in Statewide Elections Analyzed

C Appendix: Additional Figures for Opportunity Analysis

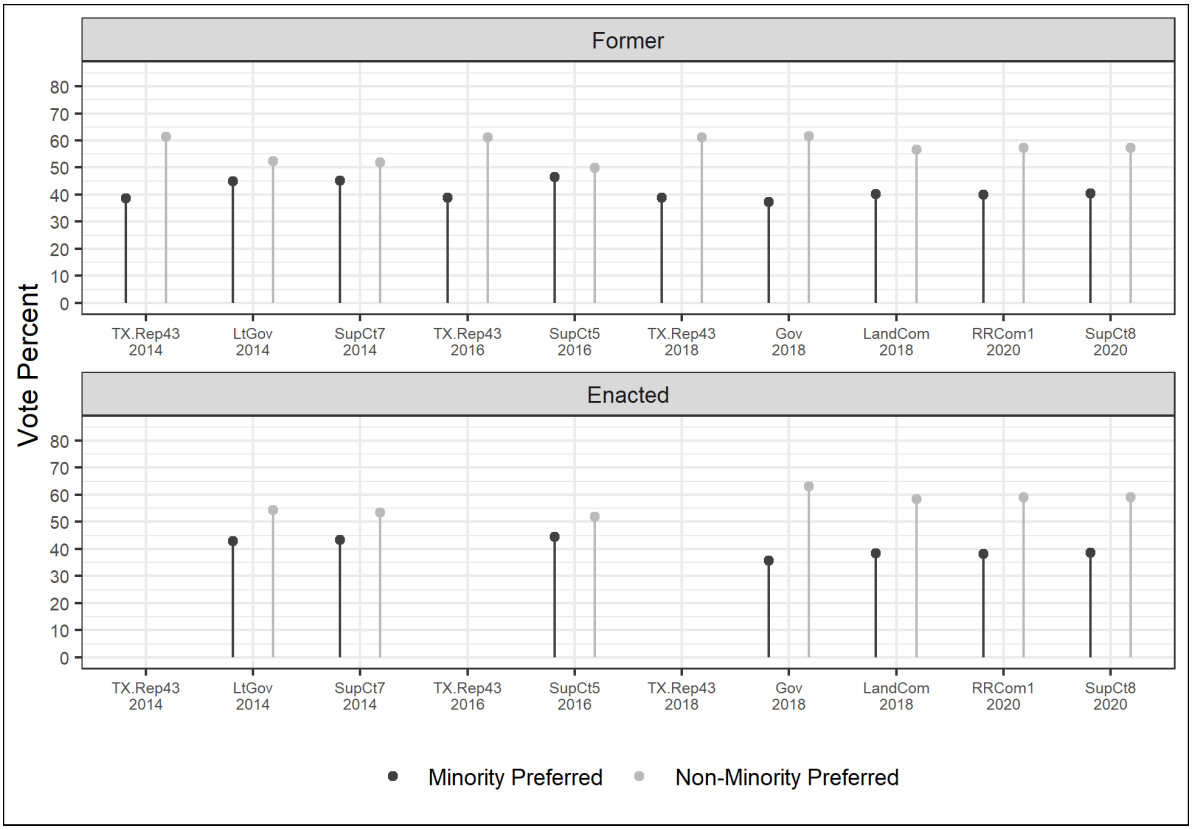


Figure C1: HD 43

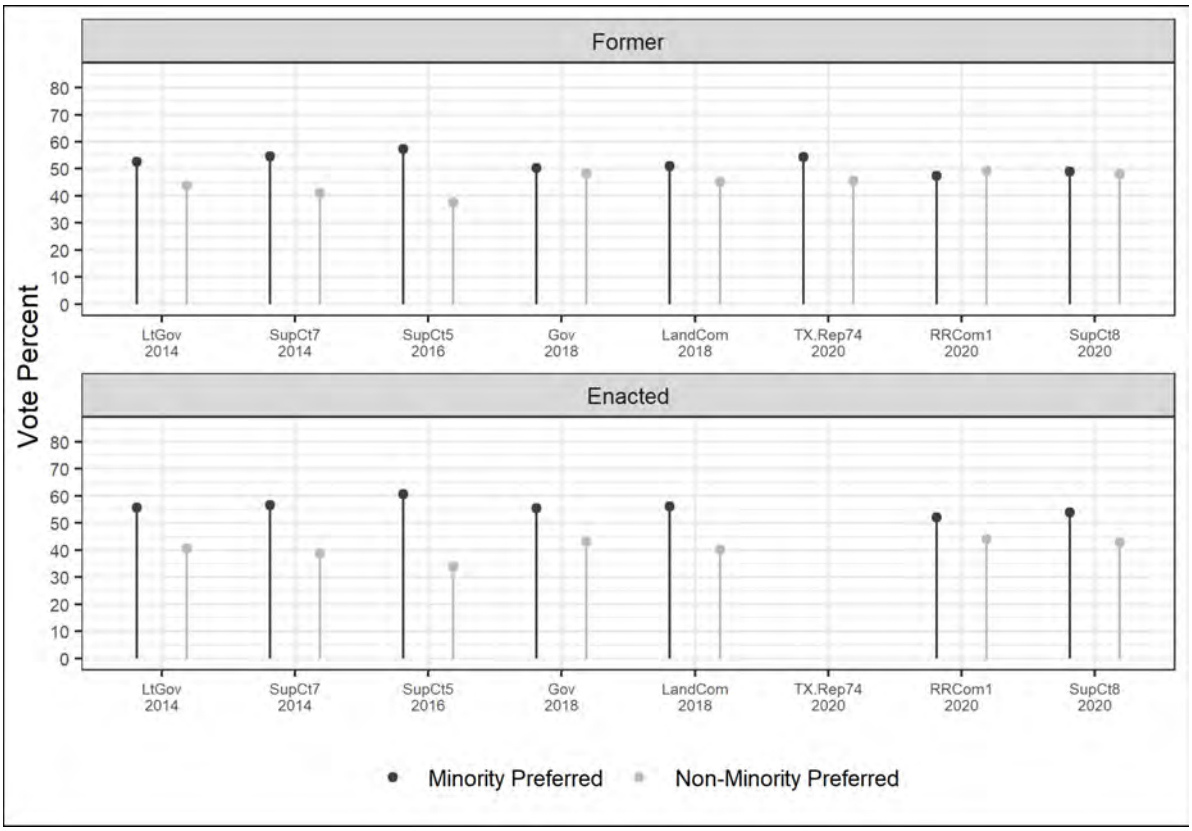


Figure C2: HD 74

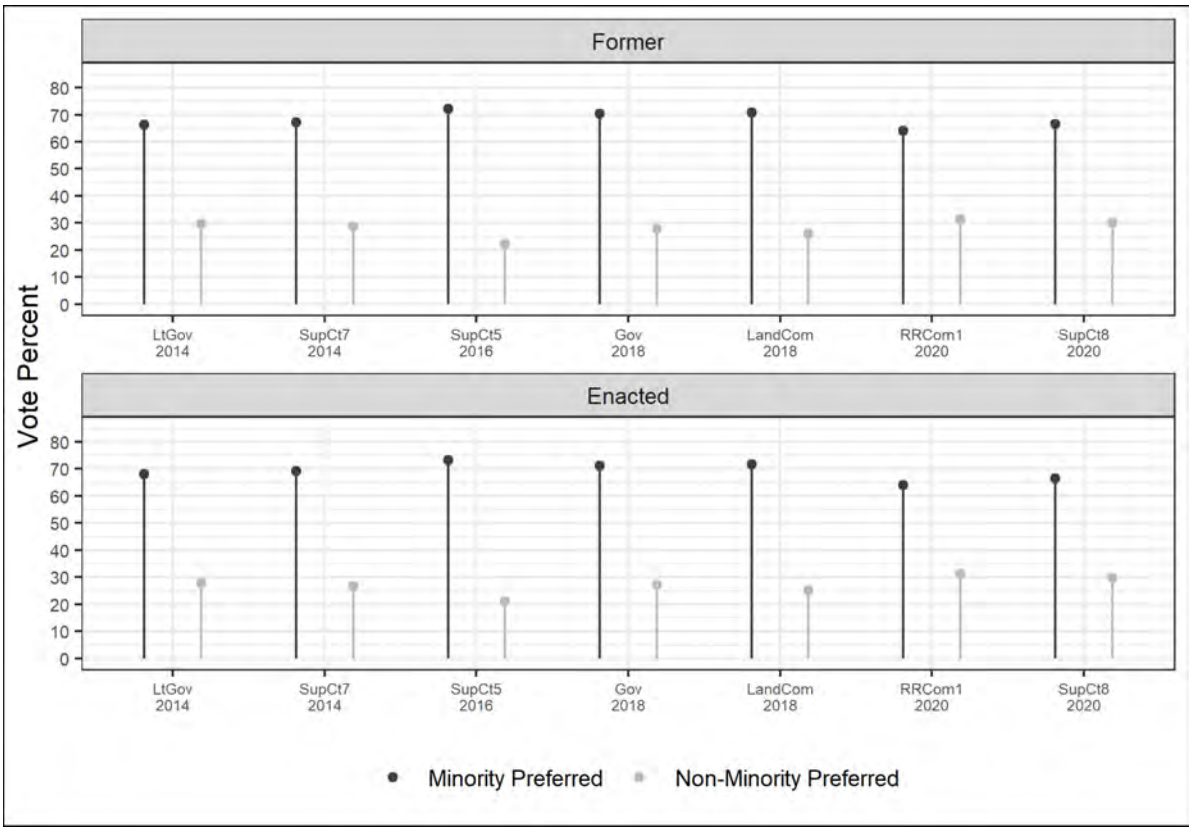


Figure C3: HD 75

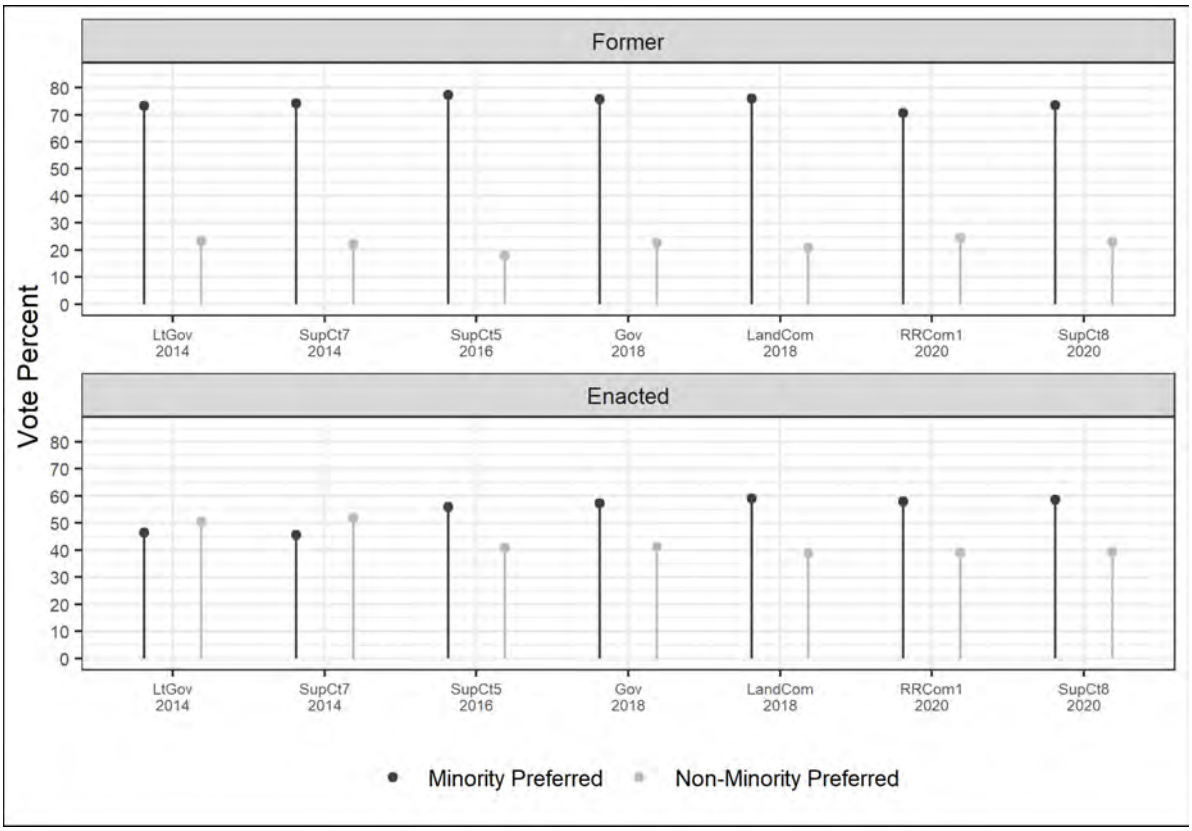


Figure C4: HD 76

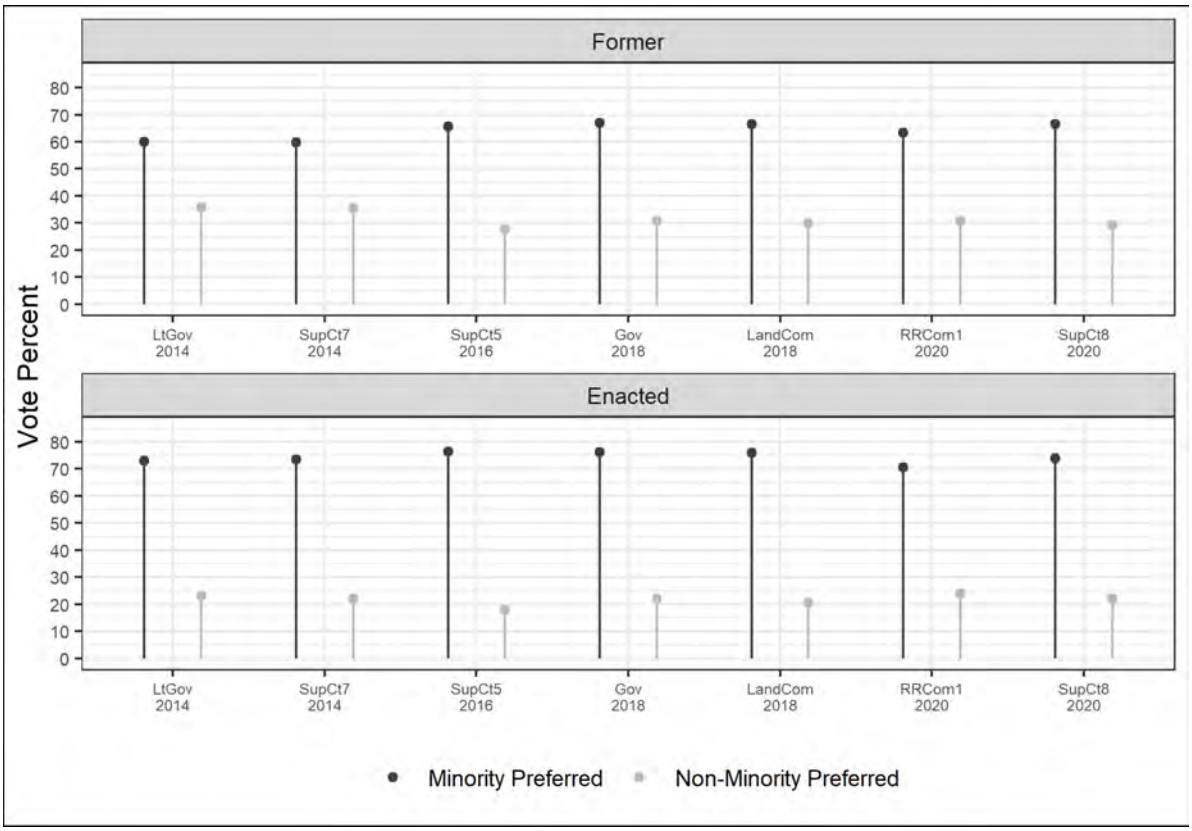


Figure C5: HD 77

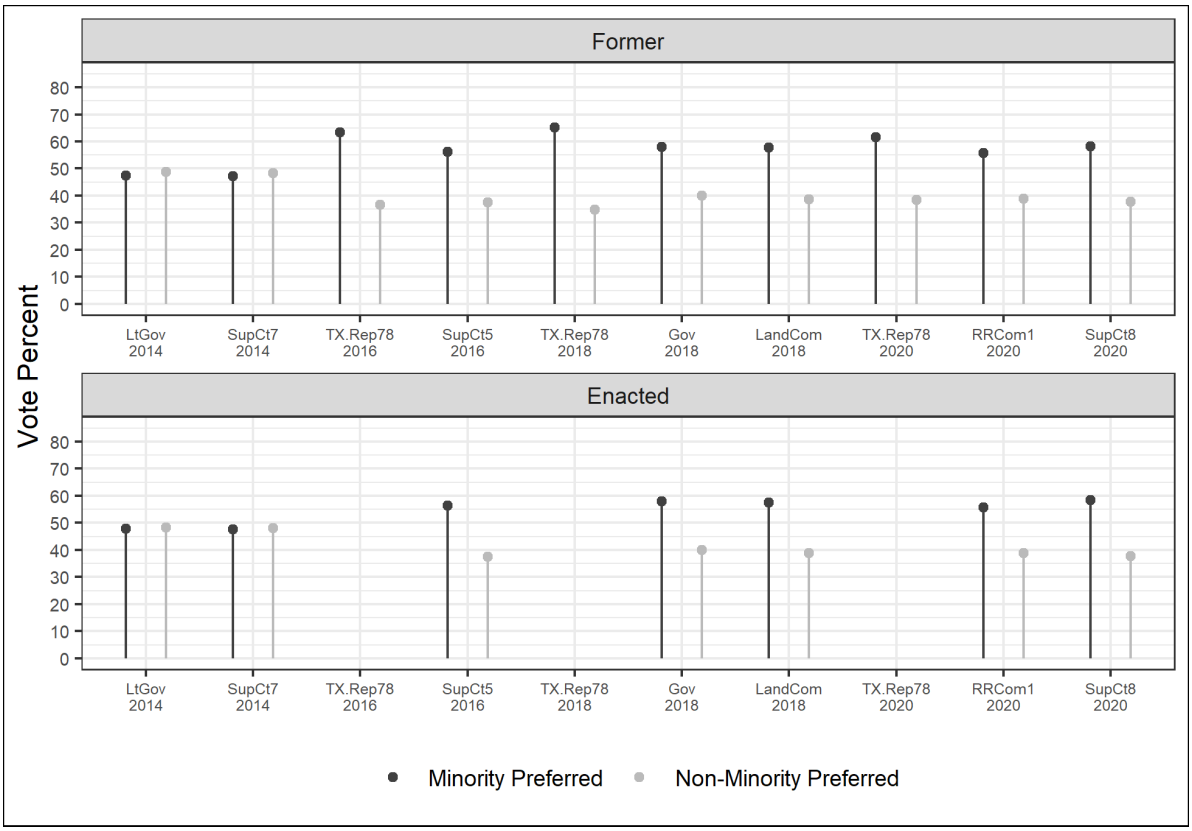


Figure C6: HD 78

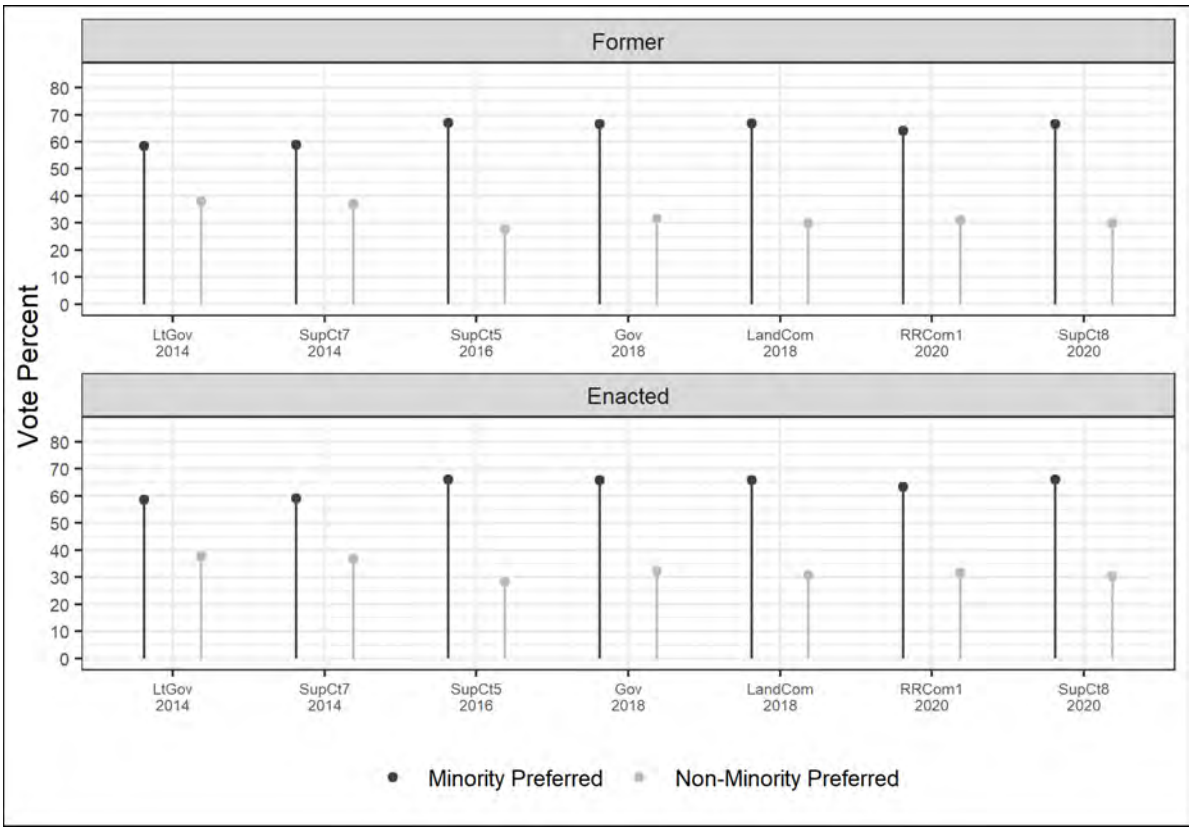


Figure C7: HD 79

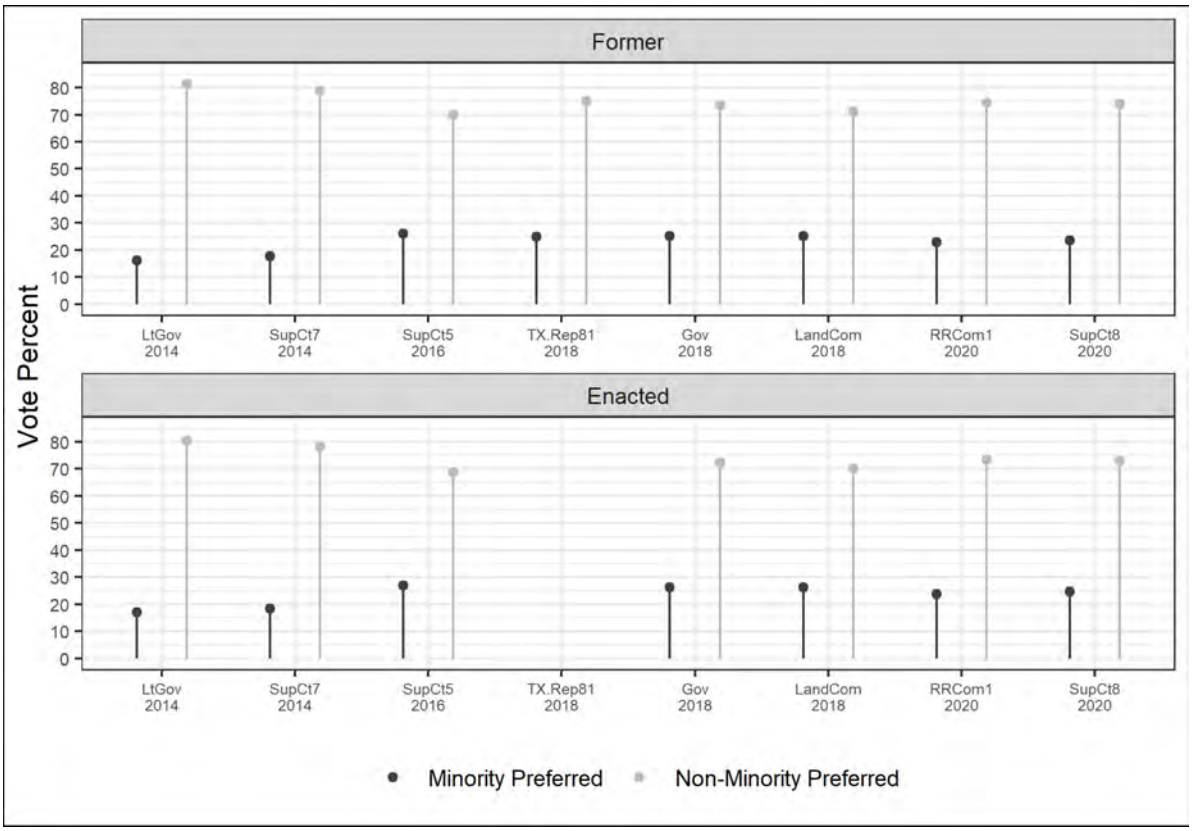


Figure C8: HD 81

D Appendix: Opportunity Analysis Using All Elections from Racially Polarized Voting Analysis

		Former Districts						Enacted Districts	
		Endogenous Elections		Exogenous Elections		All Elections		Exogenous Elections	
	District	Margin	Win %	Margin	Win %	Margin	Win %	Margin	Win %
West Texas:									
	23	-1.96	0	-5.06	20	-4.17	14	-11.97	0
Dallas-Fort Worth Metroplex:									
	6	-13.49	0	-12.64	0	-12.73	0	-31.48	0
	24	-1.33	0	-12.08	6	-11.48	6	-30.22	0
Harris County:									
	38							-35.59	0

Table D1: CD Opportunity District Analysis Using All Elections from Racially Polarized Voting Analysis

		Former Districts						Enacted Districts	
		Endogenous Elections		Exogenous Elections		All Elections		Exogenous Elections	
	District	Margin	Win %	Margin	Win %	Margin	Win %	Margin	Win %
South Texas:									
	31	16.83	100	6.63	70	7.55	79	-8.94	20
	43	-22.43	0	-13.33	0	-15.43	0	-16.92	0
El Paso and West Texas:									
	74	8.79	100	6.95	90	7.12	93	15.27	100
	75		100	41.29	100	41.29	100	43.36	100
	76		100	52.57	100	52.57	100		
	77		100	33.22	100	33.22	100	52.82	100
	78	26.84	100	13.50	70	16.58	79	13.76	70
	79		100	32.11	100	32.11	100	31.22	100
	81	-49.98	0	-51.80	0	-51.63	0	-49.81	0
Bexar County:									
	118	14.42	100	11.18	100	11.93	100	-4.65	30

Table D2: HD Opportunity District Analysis Using All Elections from Racially Polarized Voting Analysis

E Maps

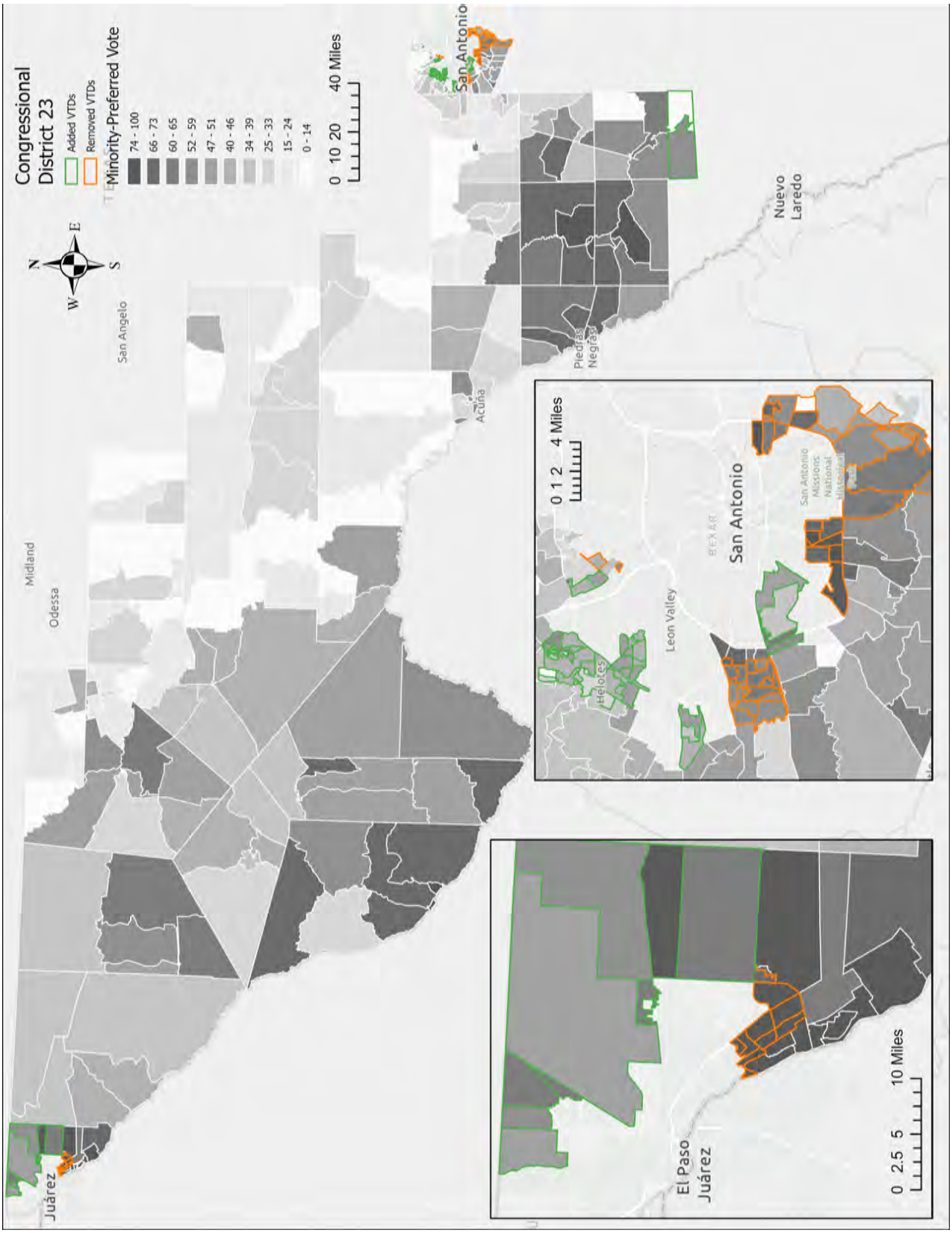


Figure E1: CD 23: Average Percent Minority-Preferred Vote

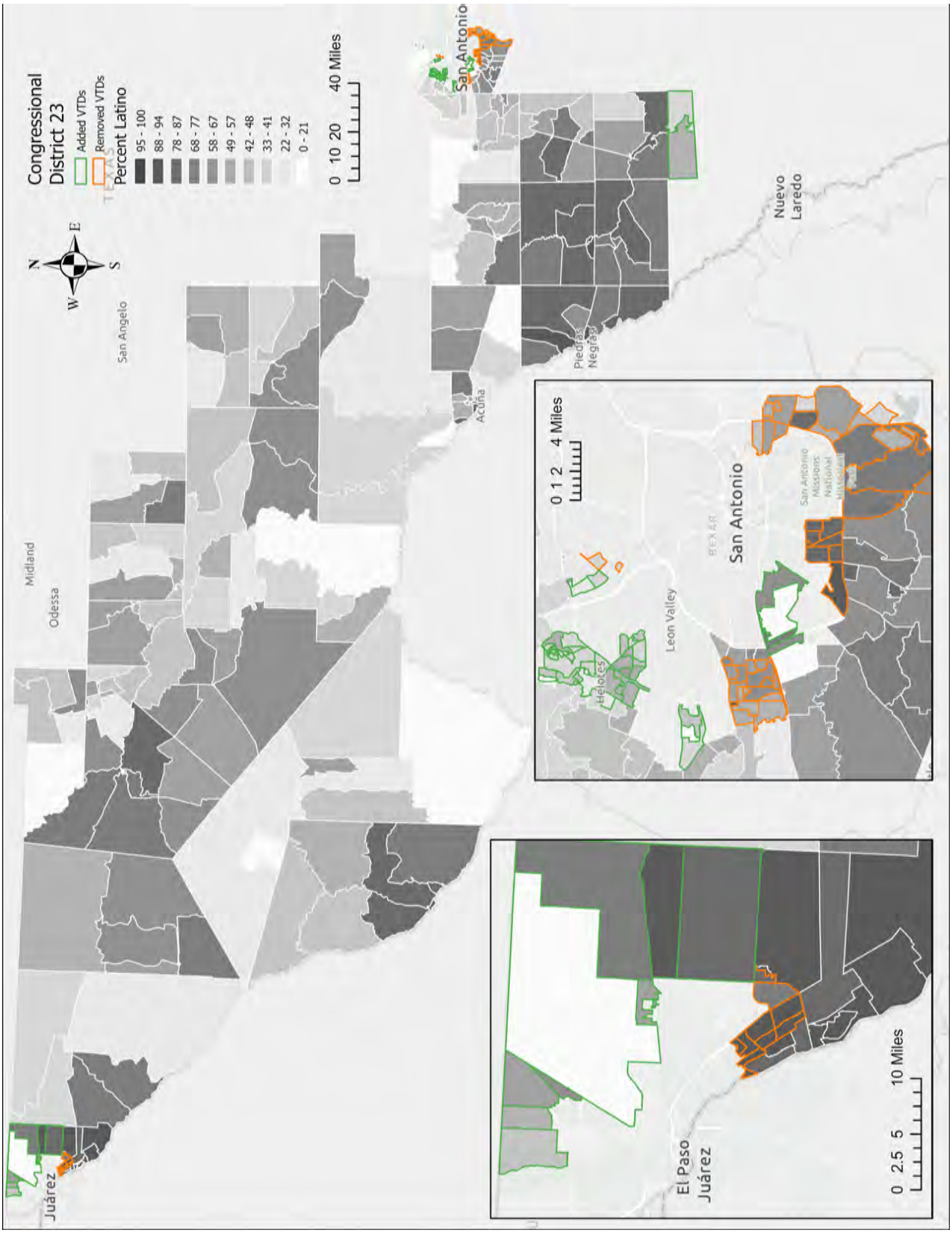


Figure E2: CD 23: Proportion Latino CVAP

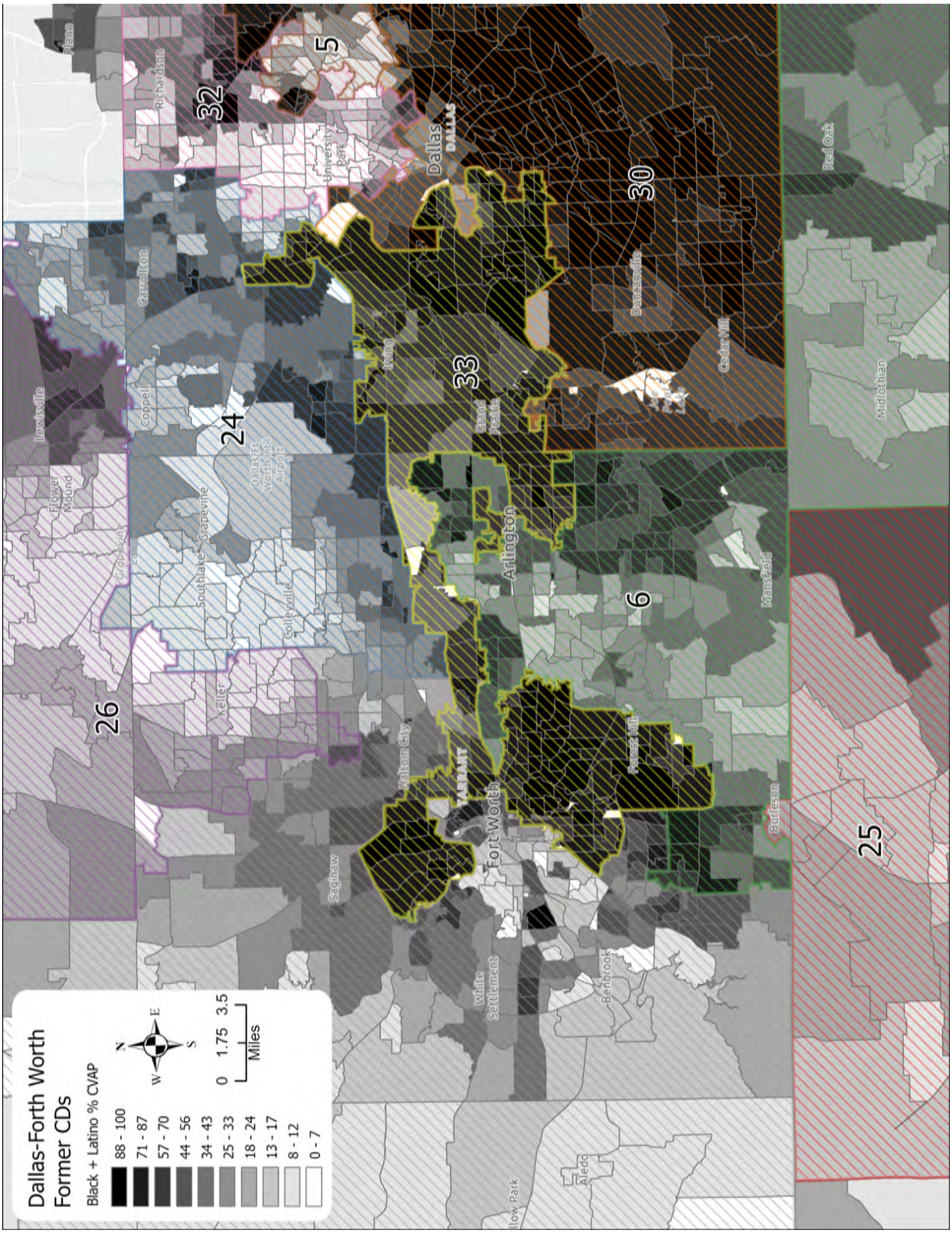


Figure E3: Dallas-Fort Worth Former CDs: Combined Proportion Black and Latino CVAP

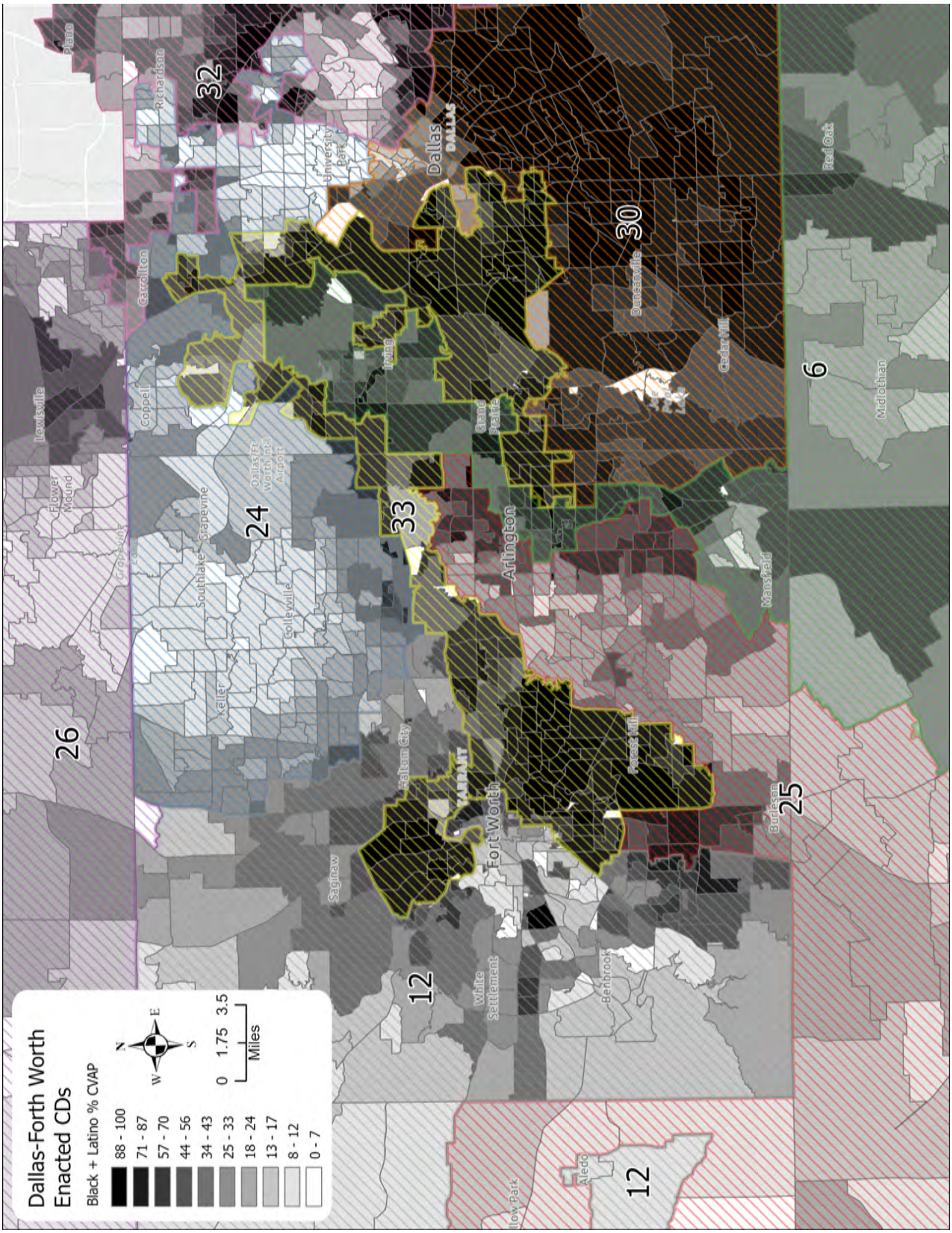


Figure E4: Dallas-Fort Worth Enacted CDs: Combined Proportion Black and Latino CVAP

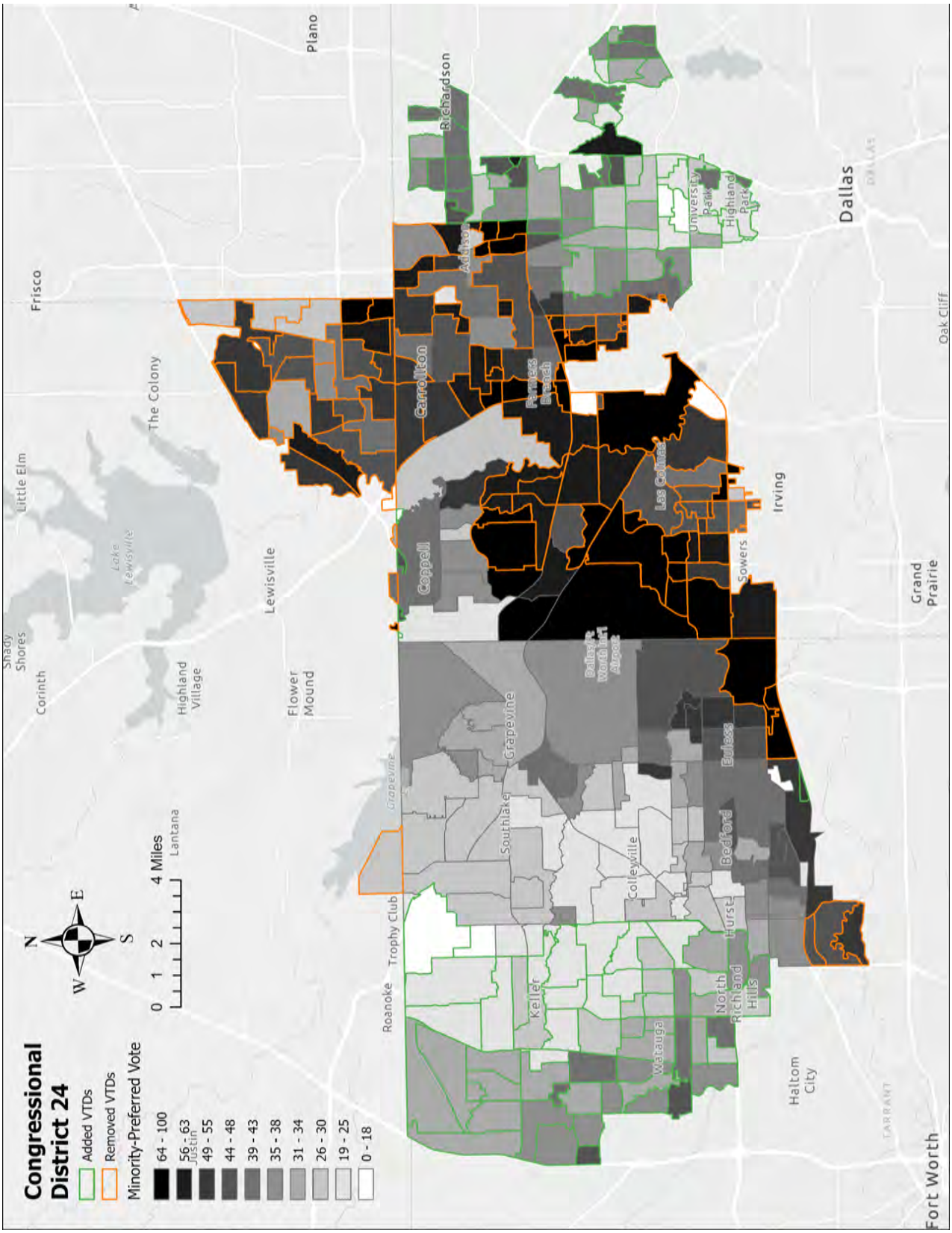


Figure E5: CD 24:Average Percent Minority-Preferred Vote

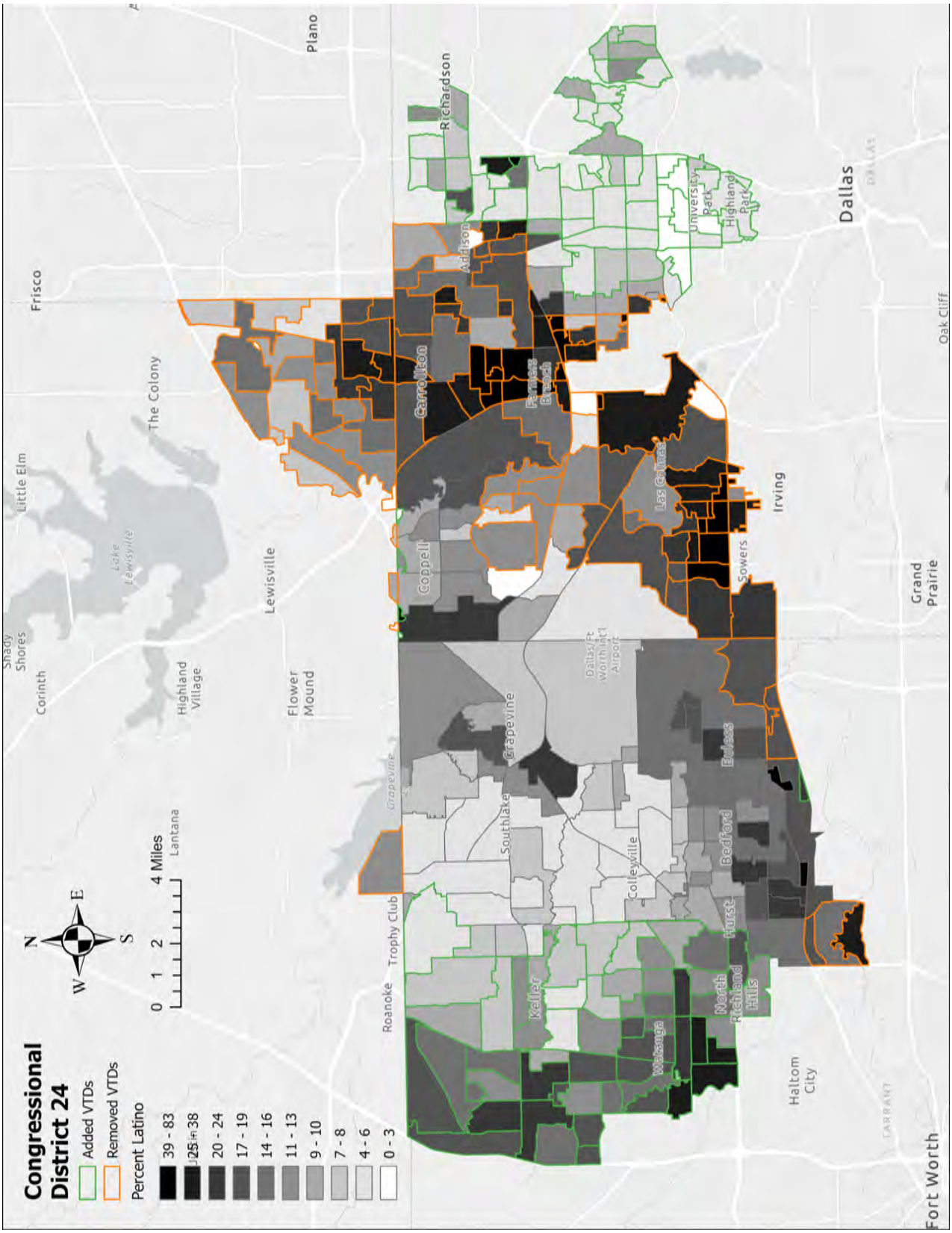


Figure E6: CD 24: Percent Latino

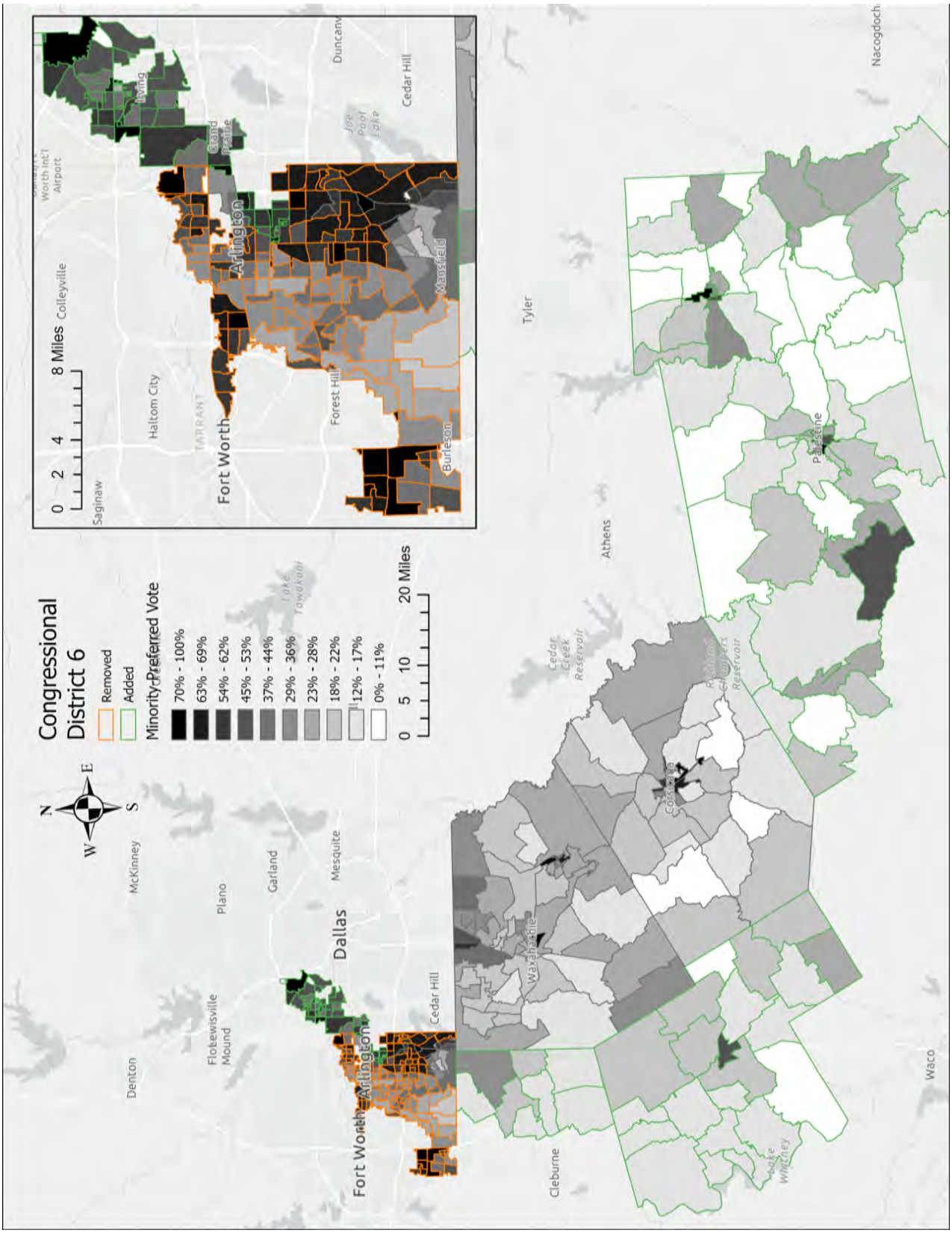


Figure E7: CD 6: Average Percent Minority-Preferred Vote

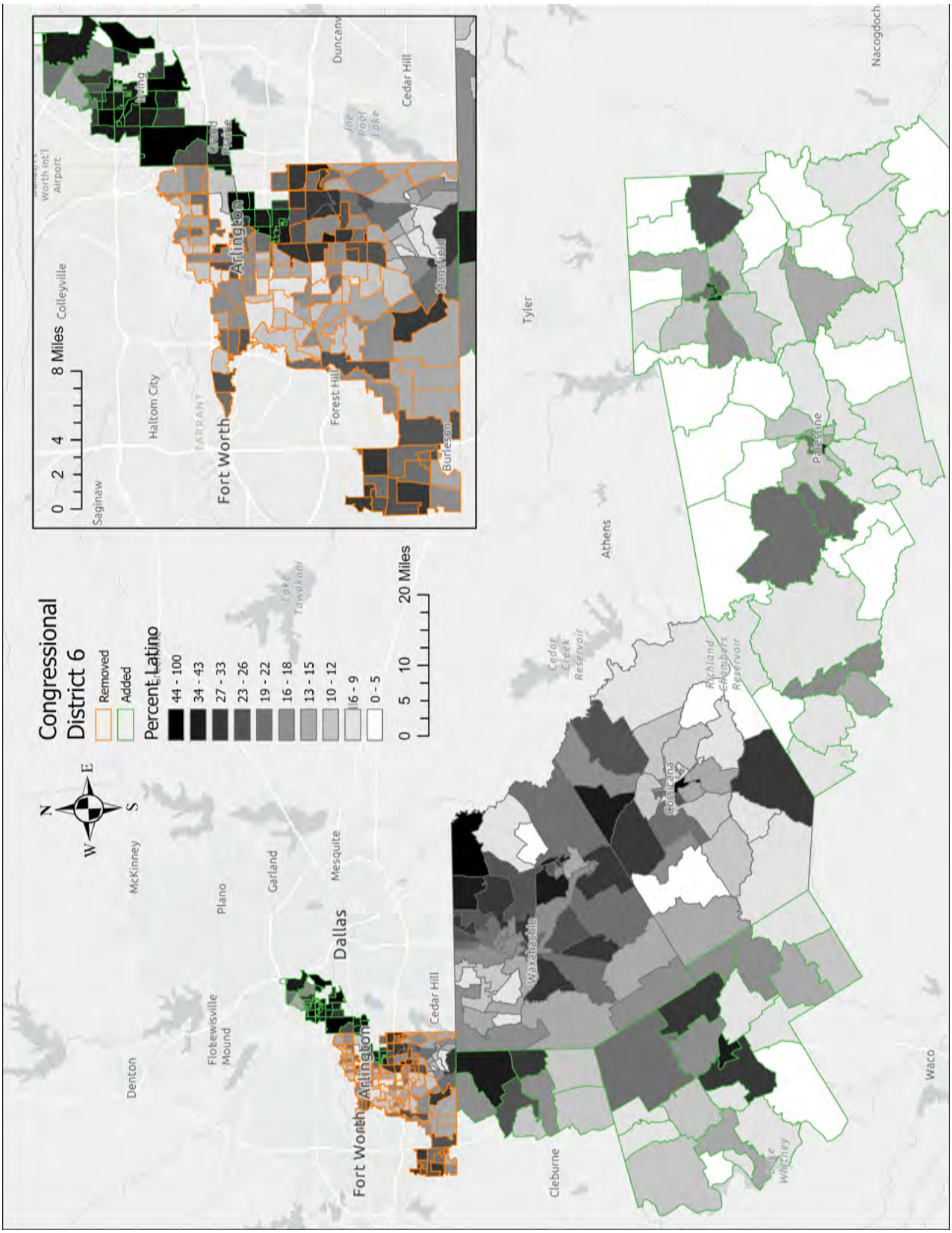


Figure E8: CD 6: Percent Latino

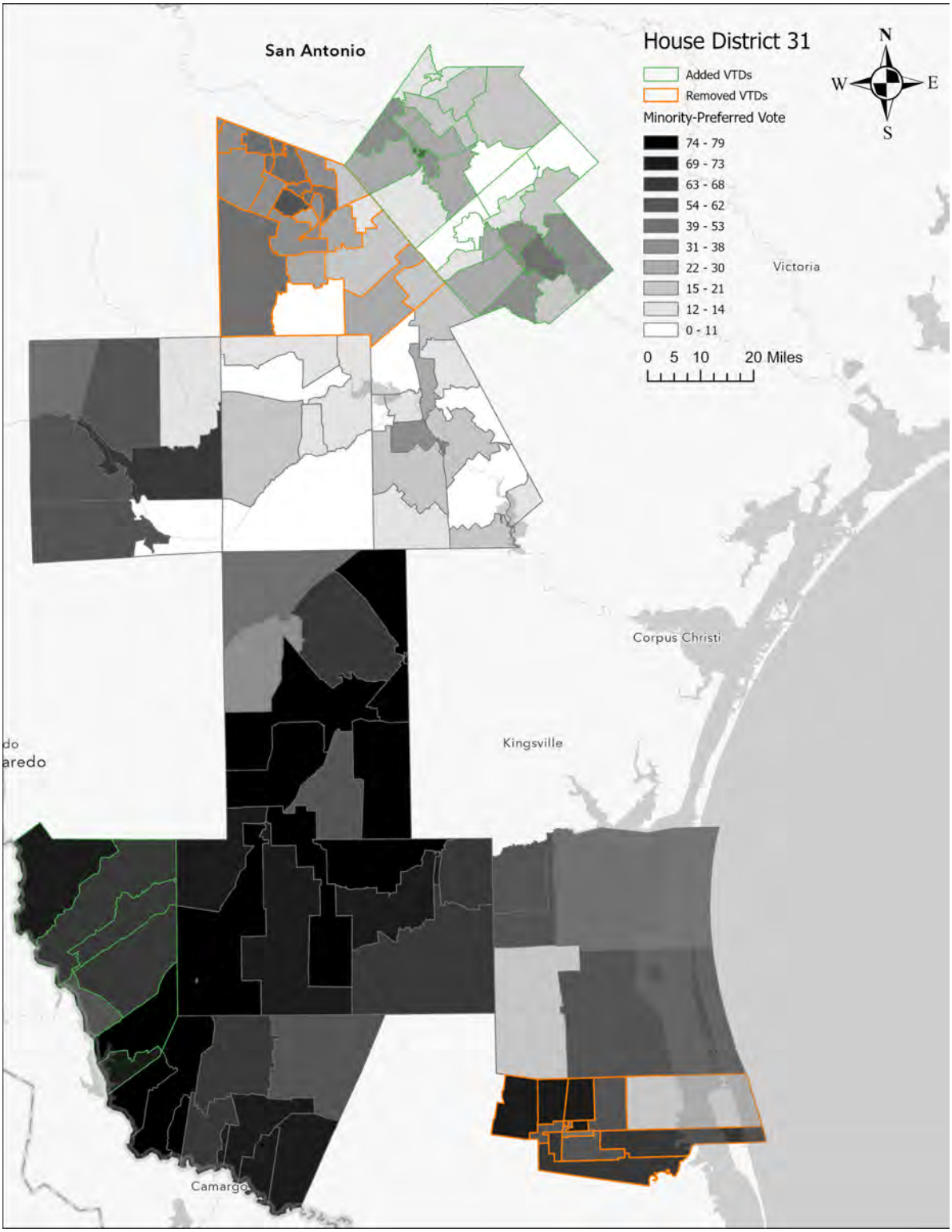


Figure E9: HD 31: Average Percent Minority-Preferred Vote

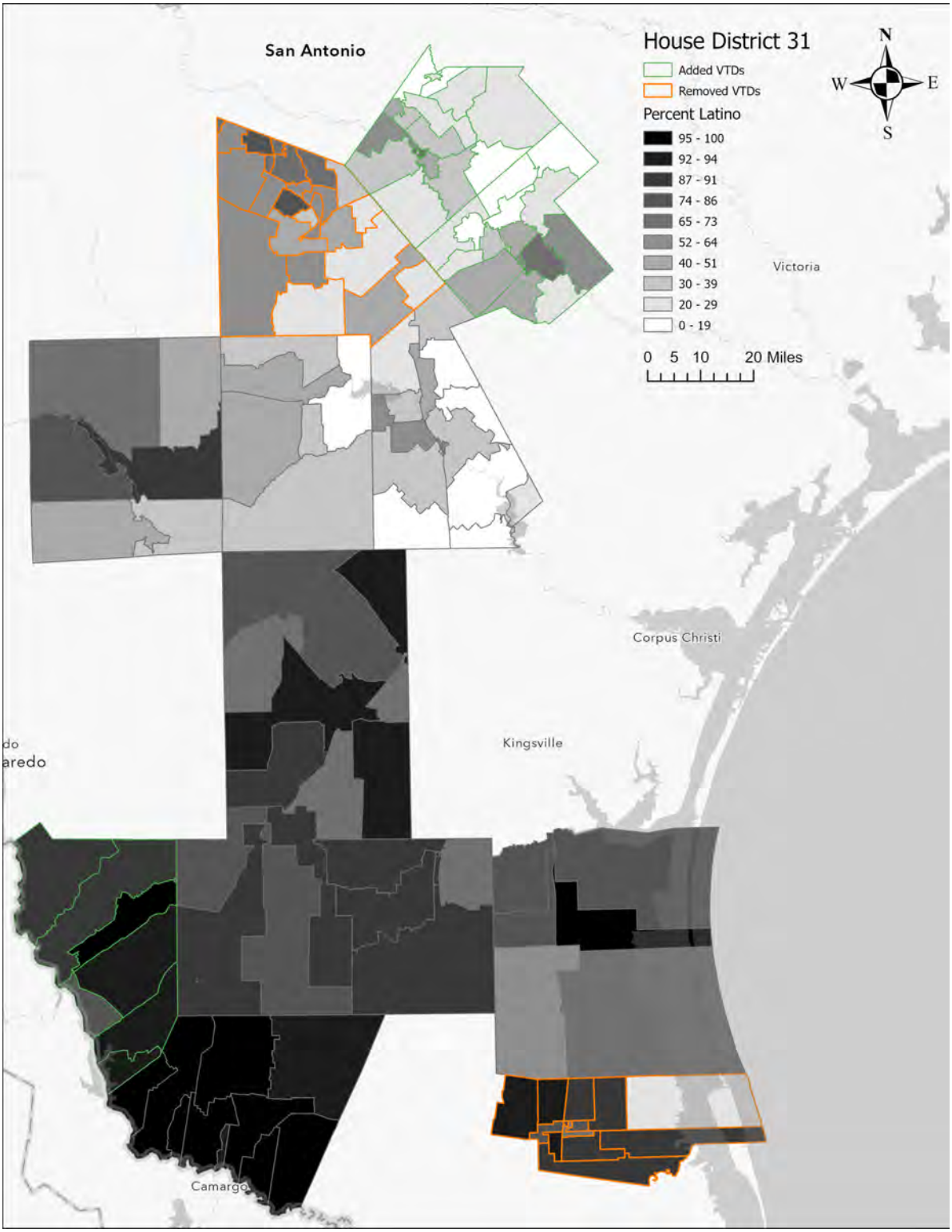


Figure E10: HD 31: Percent Latino

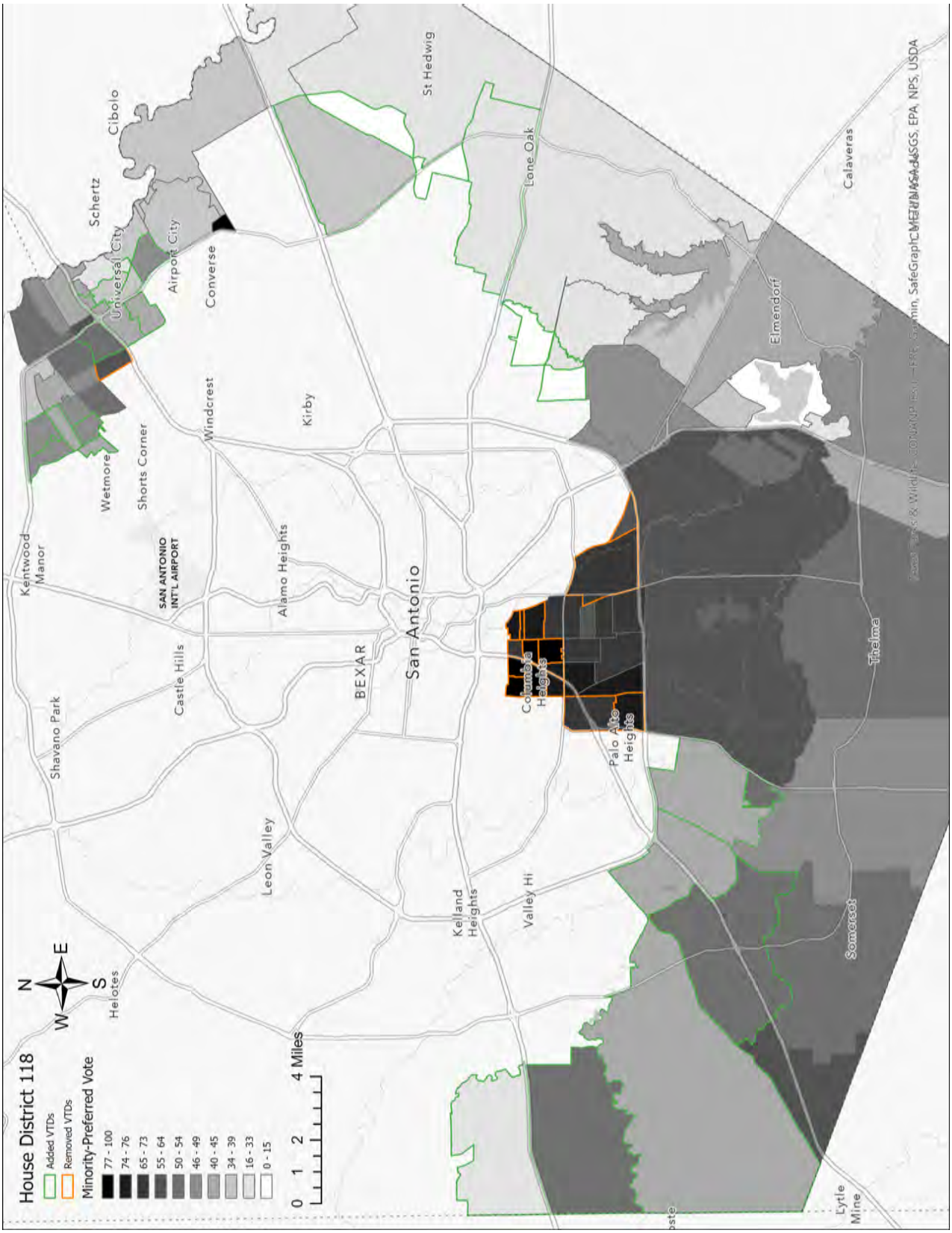


Figure E11: HD 118: Average Percent Minority-Preferred Vote

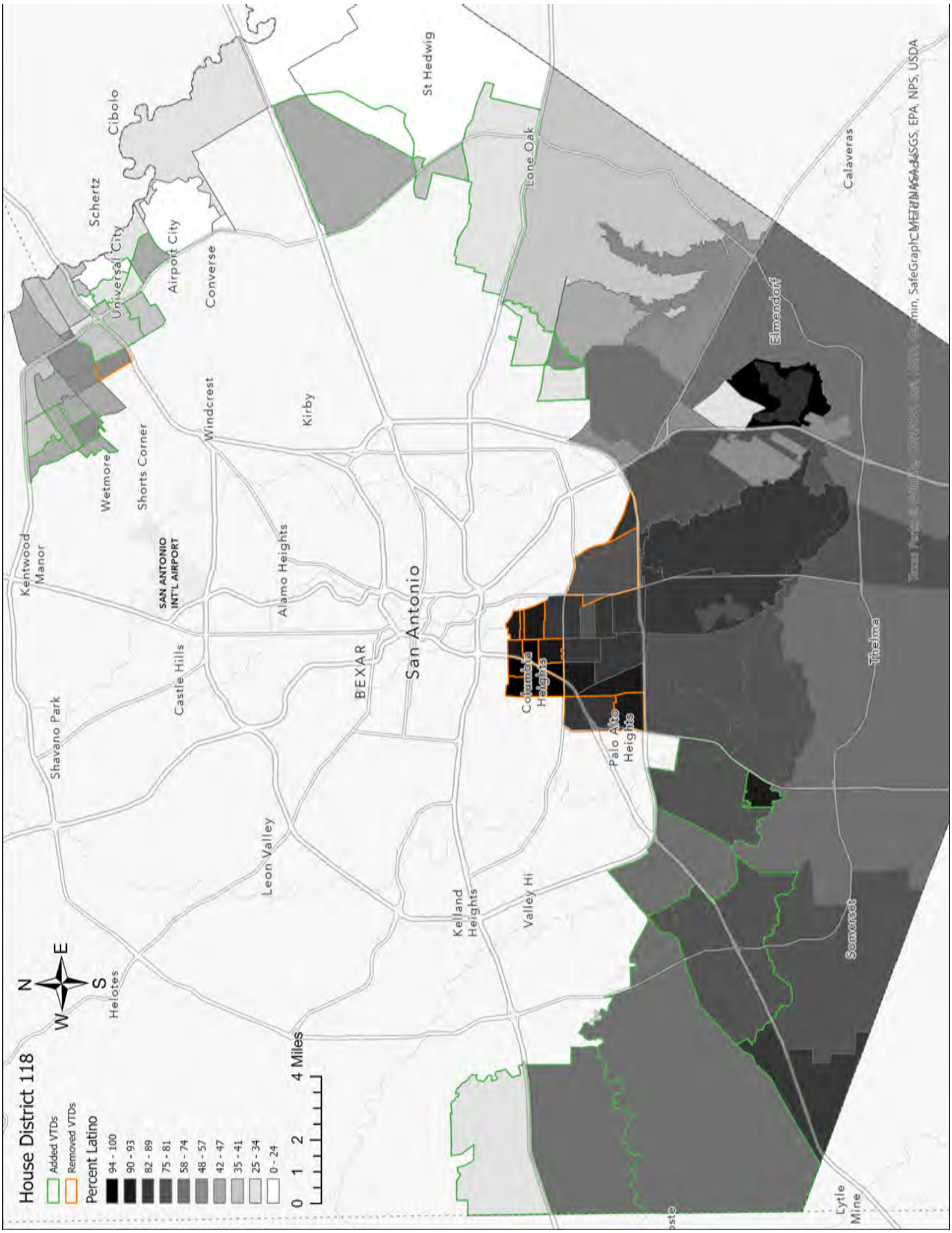


Figure E12: HD 118: Percent Latino

F Appendix: CDs and HDs by Percent Latino CVAP

Tables in this section are for the proportion Latino CVAP in CDs and HDs. CVAP is based on the data provided by the United States. Each table has a line separating districts with 40% Latino CVAP or higher from those with less than 40% Latino CVAP.

District	Former Win %	Enacted Win %	Former Latino %	Enacted Latino %
34	100.00	100	79.49	86.45
16	100.00	100	77.01	78.79
15	100.00	100	73.55	74.41
28	100.00	100	69.44	68.90
20	100.00	100	64.12	67.34
29	100.00	100	64.65	62.30
23	14.29	0	62.16	56.74
27	0.00	0	45.89	47.95
35	100.00	100	51.78	45.99
33	100.00	100	48.91	42.24
19	0.00	0	30.91	32.06
11	0.00	0	30.53	32.03
18	100.00	100	28.42	28.71
9	100.00	100	27.14	25.92
21	0.00	0	24.43	25.89
22	0.00	0	21.45	23.21
8	0.00	0	16.52	22.57
36	0.00	0	19.76	22.25
30	100.00	100	24.79	22.24
6	0.00	0	18.42	21.97
2	0.00	0	24.09	21.85
32	28.57	100	16.31	21.08
37	-	100	-	20.84
7	14.29	100	22.50	20.74
13	0.00	0	19.89	20.21
38	-	0	-	18.85
5	0.00	0	17.81	18.51
31	0.00	0	19.98	18.15
14	0.00	0	18.87	17.98
17	0.00	0	19.83	17.96
12	0.00	0	16.89	17.64
10	0.00	0	21.05	17.62
25	0.00	0	15.50	15.39
26	0.00	0	14.54	13.56
24	0.00	0	16.23	12.49
3	0.00	0	11.03	11.23
4	0.00	0	9.17	9.60
1	0.00	0	10.58	9.40

Table F1: CDs by Percent Latino CVAPs

District	Former Win %	Enacted Win %	Former Latino %	Enacted Latino %
42	100	100	94	94
38	100	100	87	92
35	100	100	85	92
40	100	100	91	90
36	100	100	90	90
39	100	100	89	89
75	100	100	88	88
77	100	100	74	86
41	100	100	82	82
79	100	100	79	78
37	100	71	87	78
80	100	100	85	77
74	86	100	74	74
34	86	100	68	70
140	100	100	68	69

78	71	71	67	68
124	100	100	67	67
117	86	100	56	66
119	100	100	61	65
31	57	29	76	65
144	71	71	67	65
143	100	100	64	63
125	100	100	68	63
116	100	100	60	60
123	100	100	62	60
43	0	0	62	59
118	100	29	68	58
104	100	100	60	56
81	0	0	52	53
145	100	100	60	52
90	100	100	60	50
120	100	100	44	44
51	100	100	43	43
107	71	100	28	42
32	0	0	48	40
148	100	71	42	40
88	0	0	39	38
45	43	71	32	38
131	100	100	34	37
135	43	71	29	37
82	0	0	37	37
103	100	100	38	36
84	0	0	34	35
110	100	100	39	35
105	71	71	34	35
122	0	0	33	34
142	100	100	34	33
30	0	0	36	33
44	0	0	33	33
149	100	100	30	33
121	0	0	36	33
72	0	0	34	33
137	100	100	31	31
128	0	0	30	30
100	100	100	26	30
53	0	0	26	30
141	100	100	30	29
50	100	100	24	29
83	0	0	30	29
87	0	0	28	29
17	0	0	34	29
46	100	100	30	28
139	100	100	32	28
138	0	0	33	27
29	0	0	24	26
147	100	100	25	25
113	57	71	24	25
25	0	0	28	24
86	0	0	24	24
132	0	0	31	23
28	0	0	18	23
111	100	100	24	23
101	100	100	26	23
129	0	0	23	23
127	0	0	22	22
48	100	100	21	22
150	0	0	22	22
92	0	71	15	22
52	43	0	25	21
95	100	100	21	21
99	0	0	21	21
136	57	71	17	21

54	0	0	21	21
14	0	0	21	21
55	0	0	20	21
23	0	0	20	21
71	0	0	21	20
126	0	0	25	20
85	0	0	31	20
10	0	0	19	20
73	0	0	20	20
114	29	100	13	19
91	0	0	19	19
3	0	0	19	19
76	100	71	87	19
93	0	0	20	19
26	0	0	16	19
49	100	100	17	19
58	0	0	18	18
130	0	0	19	18
102	57	100	15	18
27	100	100	17	18
146	100	100	19	18
109	100	100	18	17
56	0	0	18	17
20	0	0	16	17
24	0	0	16	16
115	57	57	20	16
22	100	100	13	16
13	0	0	14	16
63	0	0	12	16
12	0	0	18	16
57	0	0	12	16
96	0	0	17	15
16	0	0	17	15
133	0	0	15	15
97	0	0	16	15
94	0	0	16	15
69	0	0	14	15
15	0	0	15	15
64	0	0	16	15
4	0	0	13	14
18	0	0	17	14
47	29	86	14	14
112	29	0	21	14
59	0	0	16	13
65	29	0	16	13
68	0	0	16	13
19	0	0	6	13
134	71	86	13	13
89	0	0	12	13
8	0	0	15	13
33	0	0	13	13
67	14	0	11	13
6	0	0	13	12
106	0	0	14	12
70	0	29	12	11
9	0	0	6	10
5	0	0	11	10
2	0	0	10	10
66	0	0	9	10
61	0	0	9	10
60	0	0	12	10
98	0	0	10	10
7	0	0	9	9
11	0	0	11	9
62	0	0	8	8
108	14	0	12	7
21	0	0	11	7
1	0	0	5	4

G Appendix: EI Results for Illustrative Districts

The tables below are for EI estimates for Anlgo, Latino, and Black voters. Estimates were also produced for a category of "other", but those are not shown. Cell entries are for the Democratic vote share, with 95% confidence intervals in parentheses. The party and race for the two major-party candidates are listed next to the office (D = Democrat, R = Republican, A = Anglo, L = Latino, B = Black).

Congressional District 23 (West Texas)

Office	Year	Latinos	Anglos
Land Comm (AD-LR)	2014	84	13
		(80, 86)	(11, 16)
Lt. Governor (LD-AR)	2014	87	17
		(84, 90)	(14, 20)
Sup Ct 7 (LD-AR)	2014	89	16
		(86, 91)	(12, 19)
Sup Ct 5 (LD-AR)	2016	87	14
		(85, 89)	(11, 18)
Sup Ct 9 (AD-LR)	2016	79	13
		(77, 82)	(10, 15)
Governor (LD-AR)	2018	78	15
		(75, 81)	(11, 18)
Land Comm (LD-LR)	2018	82	14
		(79, 84)	(12, 17)
U.S. Sen (AD-LR)	2018	85	19
		(82, 87)	(16, 23)
RR Comm 1 (LD-AR)	2020	75	18
		(73, 78)	(14, 22)
Sup Ct 8 (LD-AR)	2020	77	17
		(75, 79)	(13, 20)
Avg.		82	16

Table G1: EI CVAP – CD 23

Congressional District 38 (Harris County)

Office	Year	Latinos	Anglos
Land Comm (AD-LR)	2014	0.78	0.09
		(0.7, 0.85)	(0.05, 0.13)
Lt. Governor (LD-AR)	2014	0.8	0.11
		(0.73, 0.86)	(0.07, 0.16)
Sup Ct 7 (LD-AR)	2014	0.83	0.09
		(0.76, 0.89)	(0.05, 0.14)
Sup Ct 5 (LD-AR)	2016	0.91	0.07
		(0.88, 0.94)	(0.04, 0.1)
Sup Ct 9 (AD-LR)	2016	0.84	0.07
		(0.79, 0.88)	(0.03, 0.11)
Governor (LD-AR)	2018	0.85	0.09
		(0.8, 0.89)	(0.05, 0.14)
Land Comm (LD-LR)	2018	0.88	0.1
		(0.83, 0.92)	(0.06, 0.14)
U.S. Sen (AD-LR)	2018	0.9	0.11
		(0.86, 0.93)	(0.07, 0.17)
RR Comm 1 (LD-AR)	2020	0.83	0.1
		(0.77, 0.87)	(0.06, 0.15)
Sup Ct 8 (LD-AR)	2020	0.82	0.09
		(0.77, 0.86)	(0.06, 0.15)
Avg.		0.84	0.09

Table G2: EI CVAP – Illustrative CD 38

State House Districts 31 (South Texas)

Office	Year	Latinos	Anglos
Land Comm (AD-LR)	2014	85	10
		(81, 88)	(6, 14)
Lt. Governor (LD-AR)	2014	91	10
		(88, 94)	(5, 14)
Sup Ct 7 (LD-AR)	2014	92	10
		(89, 94)	(5, 16)
Sup Ct 5 (LD-AR)	2016	88	9
		(85, 91)	(5, 15)
Sup Ct 9 (AD-LR)	2016	78	9
		(74, 81)	(5, 15)
Governor (LD-AR)	2018	71	7
		(68, 74)	(4, 11)
Land Comm (LD-LR)	2018	78	8
		(75, 81)	(5, 13)
U.S. Sen (AD-LR)	2018	80	9
		(77, 83)	(5, 14)
RR Comm 1 (LD-AR)	2020	68	10
		(66, 71)	(5, 16)
Sup Ct 8 (LD-AR)	2020	70	10
		(67, 73)	(6, 15)
Avg.		80	9

Table G3: EI CVAP – Illustrative HD 31

State House Districts in El Paso and West Texas

Office	Year	Latinos	Anglos
Land Comm (AD-LR)	2014	72	21
		(63, 78)	(15, 28)
Lt. Governor (LD-AR)	2014	80	21
		(72, 87)	(15, 28)
Sup Ct 7 (LD-AR)	2014	82	23
		(75, 87)	(16, 30)
Sup Ct 5 (LD-AR)	2016	78	20
		(73, 82)	(13, 27)
Sup Ct 9 (AD-LR)	2016	68	20
		(63, 72)	(14, 29)
Governor (LD-AR)	2018	66	21
		(62, 71)	(16, 28)
Land Comm (LD-LR)	2018	68	22
		(63, 73)	(16, 29)
U.S. Sen (AD-LR)	2018	73	23
		(67, 77)	(17, 31)
RR Comm 1 (LD-AR)	2020	61	21
		(57, 65)	(15, 28)
Sup Ct 8 (LD-AR)	2020	63	22
		(58, 68)	(16, 29)
Avg.		71	22

Table G4: EI CVAP – Illustrative HD 74

Office	Year	Latinos	Anglos
Land Comm (AD-LR)	2014	81	41
		(72, 89)	(18, 67)
Lt. Governor (LD-AR)	2014	80	43
		(72, 87)	(20, 68)
Sup Ct 7 (LD-AR)	2014	81	45
		(74, 87)	(21, 70)
Sup Ct 5 (LD-AR)	2016	83	38
		(79, 89)	(14, 74)
Sup Ct 9 (AD-LR)	2016	77	42
		(72, 83)	(14, 79)
Governor (LD-AR)	2018	79	40
		(74, 84)	(16, 69)
Land Comm (LD-LR)	2018	80	45
		(75, 85)	(20, 74)
U.S. Sen (AD-LR)	2018	86	41
		(81, 91)	(19, 67)
RR Comm 1 (LD-AR)	2020	72	41
		(67, 77)	(16, 76)
Sup Ct 8 (LD-AR)	2020	75	39
		(70, 80)	(15, 67)
Avg.		79	41

Table G5: EI CVAP – Illustrative HD 75

Office	Year	Latinos	Anglos
Land Comm (AD-LR)	2014	87	39
		(82, 92)	(21, 56)
Lt. Governor (LD-AR)	2014	89	40
		(83, 93)	(21, 59)
Sup Ct 7 (LD-AR)	2014	93	34
		(89, 96)	(17, 52)
Sup Ct 5 (LD-AR)	2016	88	34
		(85, 91)	(14, 53)
Sup Ct 9 (AD-LR)	2016	82	38
		(79, 84)	(18, 58)
Governor (LD-AR)	2018	83	47
		(79, 86)	(28, 70)
Land Comm (LD-LR)	2018	85	41
		(82, 88)	(22, 62)
U.S. Sen (AD-LR)	2018	89	55
		(85, 92)	(32, 77)
RR Comm 1 (LD-AR)	2020	79	51
		(76, 82)	(28, 72)
Sup Ct 8 (LD-AR)	2020	82	50
		(79, 84)	(29, 71)
Avg.		86	43

Table G6: EI CVAP – Illustrative HD 77

Office	Year	Latinos	Anglos
Land Comm (AD-LR)	2014	70	38
		(49, 86)	(25, 48)
Lt. Governor (LD-AR)	2014	71	39
		(52, 87)	(23, 48)
Sup Ct 7 (LD-AR)	2014	68	40
		(44, 85)	(26, 49)
Sup Ct 5 (LD-AR)	2016	86	24
		(71, 93)	(8, 48)
Sup Ct 9 (AD-LR)	2016	86	20
		(75, 94)	(8, 34)
Governor (LD-AR)	2018	89	22
		(76, 95)	(9, 39)
Land Comm (LD-LR)	2018	86	27
		(73, 95)	(13, 48)
U.S. Sen (AD-LR)	2018	90	37
		(81, 95)	(20, 50)
RR Comm 1 (LD-AR)	2020	82	26
		(74, 89)	(12, 41)
Sup Ct 8 (LD-AR)	2020	84	27
		(74, 91)	(12, 43)
Avg.		81	30

Table G7: EI CVAP – Illustrative HD 78

Office	Year	Latinos	Anglos
Land Comm (AD-LR)	2014	67	41
		(56, 78)	(20, 65)
Lt. Governor (LD-AR)	2014	70	38
		(57, 82)	(18, 67)
Sup Ct 7 (LD-AR)	2014	70	40
		(59, 85)	(20, 65)
Sup Ct 5 (LD-AR)	2016	86	20
		(76, 94)	(7, 38)
Sup Ct 9 (AD-LR)	2016	72	31
		(65, 81)	(12, 65)
Governor (LD-AR)	2018	76	26
		(70, 85)	(11, 47)
Land Comm (LD-LR)	2018	78	31
		(67, 88)	(13, 67)
U.S. Sen (AD-LR)	2018	92	17
		(87, 96)	(8, 28)
RR Comm 1 (LD-AR)	2020	73	32
		(65, 80)	(12, 67)
Sup Ct 8 (LD-AR)	2020	76	31
		(69, 83)	(12, 60)
Avg.		76	31

Table G8: EI CVAP – Illustrative HD 79

Office	Year	Latinos	Anglos
Land Comm (AD-LR)	2014	80	8
		(71, 87)	(4, 13)
Lt. Governor (LD-AR)	2014	81	8
		(73, 87)	(5, 13)
Sup Ct 7 (LD-AR)	2014	84	9
		(77, 90)	(5, 14)
Sup Ct 5 (LD-AR)	2016	84	7
		(80, 88)	(4, 11)
Sup Ct 9 (AD-LR)	2016	76	6
		(71, 80)	(3, 10)
Governor (LD-AR)	2018	79	7
		(74, 84)	(3, 11)
Land Comm (LD-LR)	2018	81	8
		(76, 85)	(4, 13)
U.S. Sen (AD-LR)	2018	86	7
		(82, 90)	(4, 11)
RR Comm 1 (LD-AR)	2020	74	6
		(70, 77)	(3, 10)
Sup Ct 8 (LD-AR)	2020	76	6
		(72, 79)	(3, 10)
Avg.		80	7

Table G9: EI CVAP – Illustrative HD 81

State House District 118 (Bexar County)

Office	Year	Latinos	Anglos
Land Comm (AD-LR)	2014	84	13
		(76, 91)	(6, 21)
Lt. Governor (LD-AR)	2014	87	18
		(81, 92)	(9, 27)
Sup Ct 7 (LD-AR)	2014	89	16
		(83, 94)	(8, 24)
Sup Ct 5 (LD-AR)	2016	90	14
		(84, 94)	(7, 21)
Sup Ct 9 (AD-LR)	2016	82	14
		(76, 87)	(7, 21)
Governor (LD-AR)	2018	77	16
		(71, 83)	(9, 25)
Land Comm (LD-LR)	2018	81	18
		(75, 87)	(10, 27)
U.S. Sen (AD-LR)	2018	85	23
		(79, 90)	(14, 33)
RR Comm 1 (LD-AR)	2020	79	21
		(73, 83)	(13, 32)
Sup Ct 8 (LD-AR)	2020	80	20
		(74, 84)	(12, 28)
Avg.		83	17

Table G10: EI CVAP – Illustrative HD 118

H Appendix: Additional Figures for Opportunity Analysis for Illustrative Districts

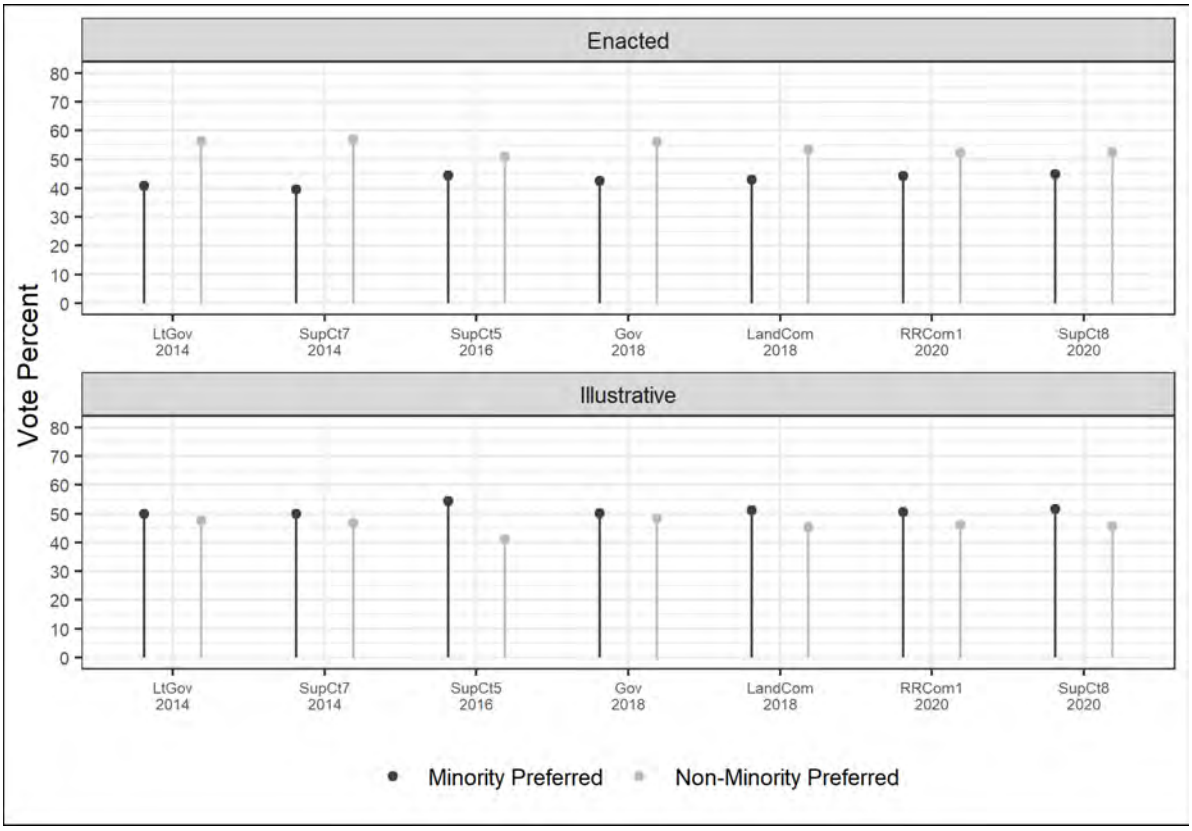


Figure H1: Illustrative CD 23

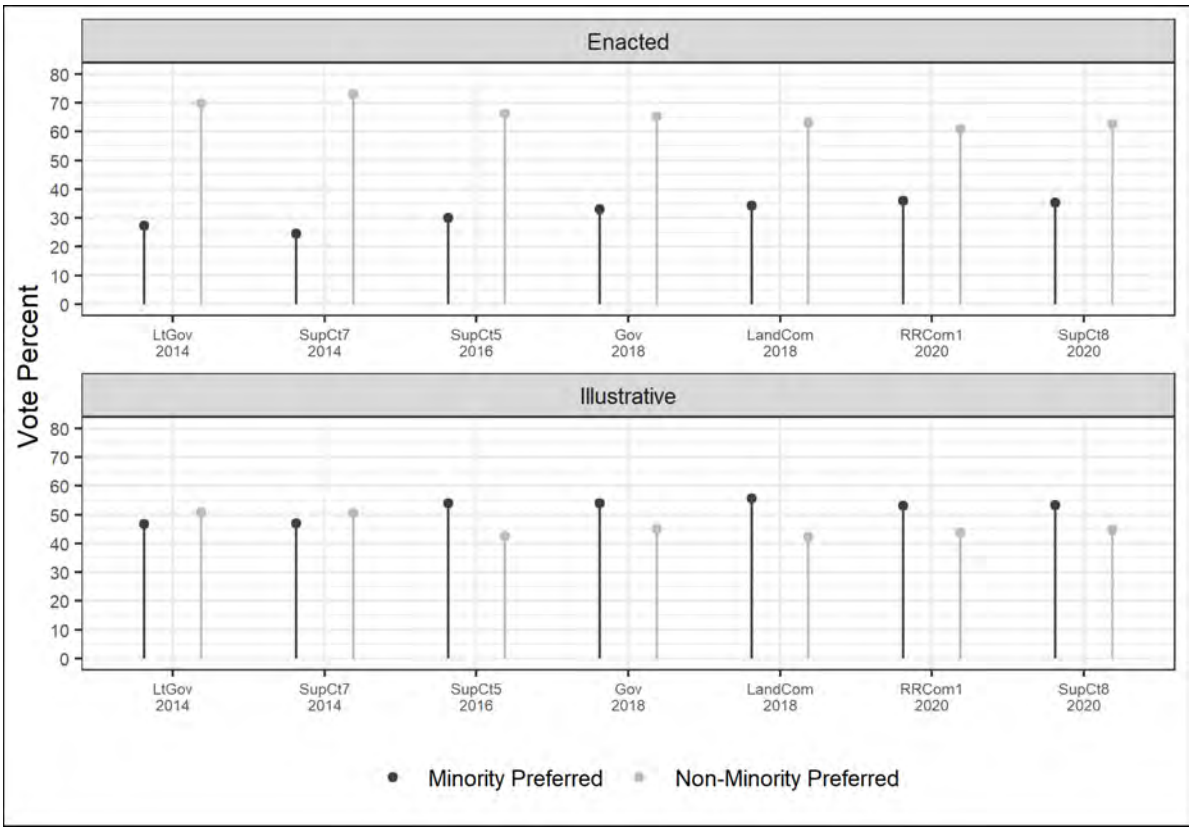


Figure H2: Illustrative CD 38

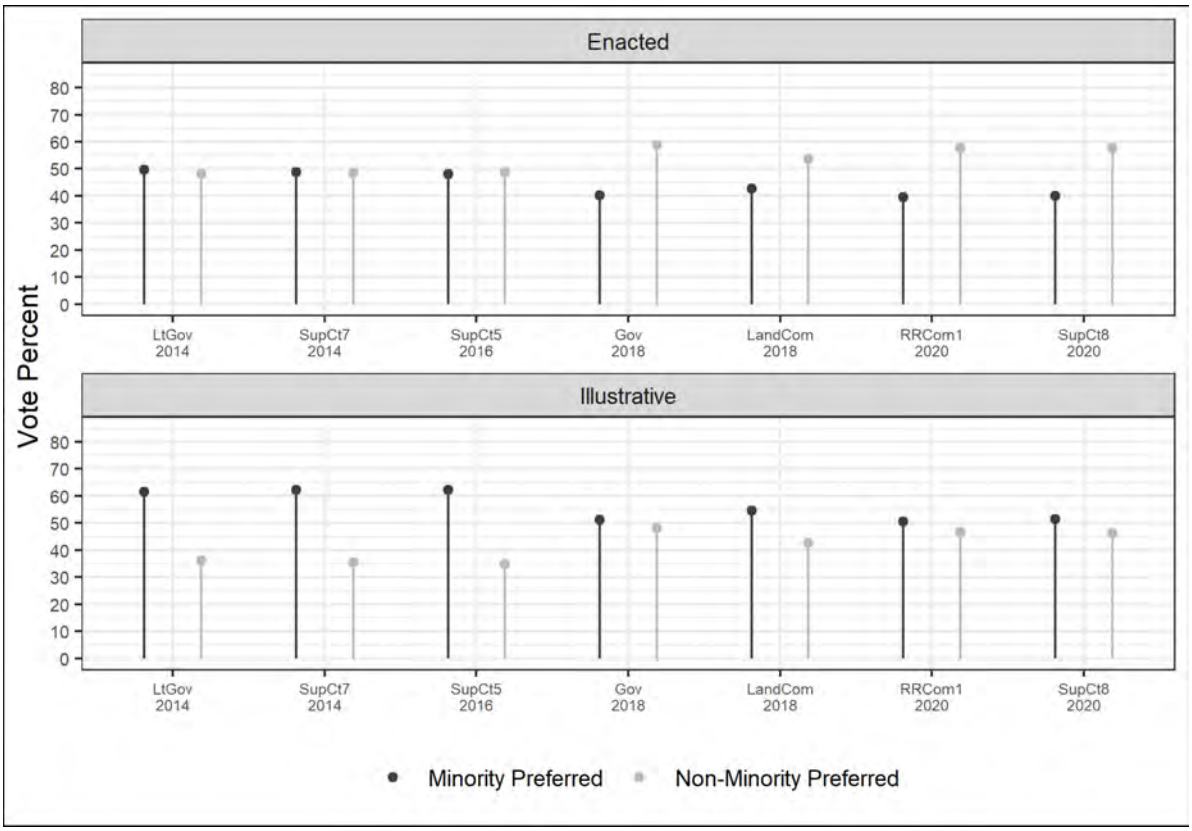


Figure H3: Illustrative HD 31

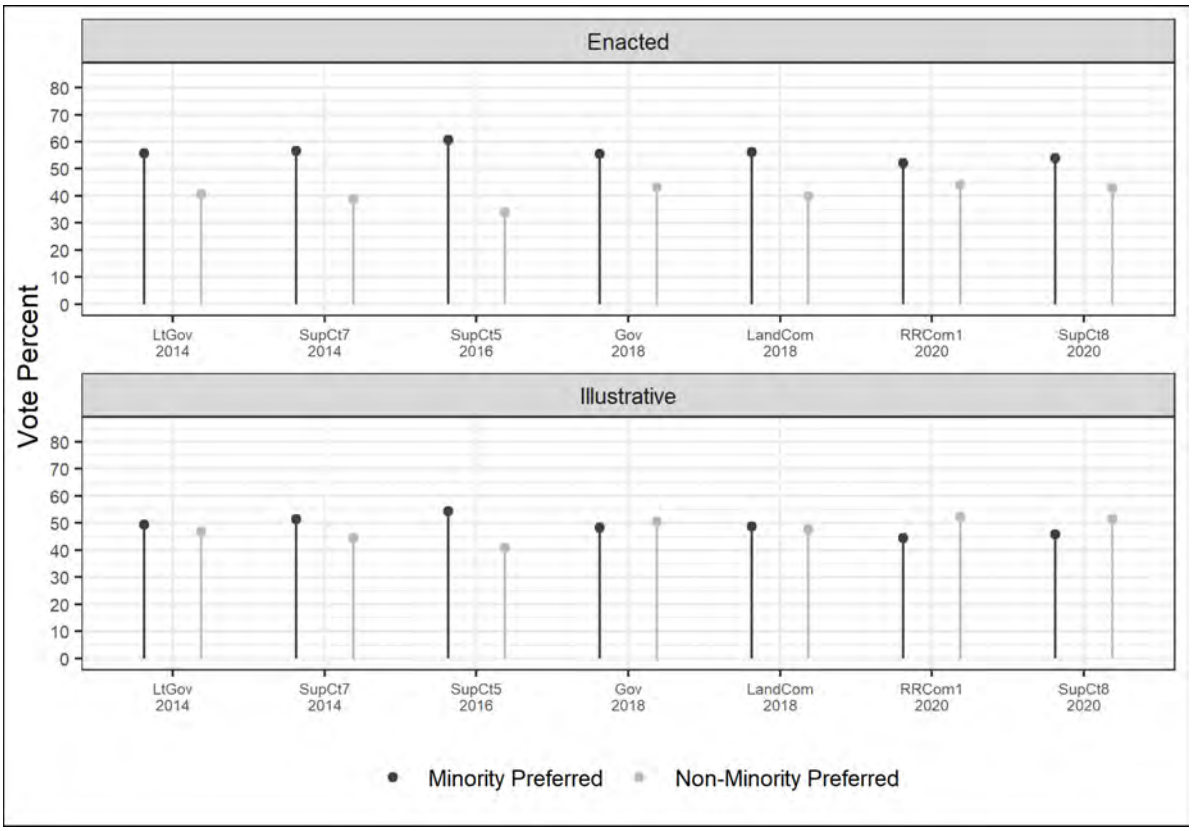


Figure H4: Illustrative State House District 74

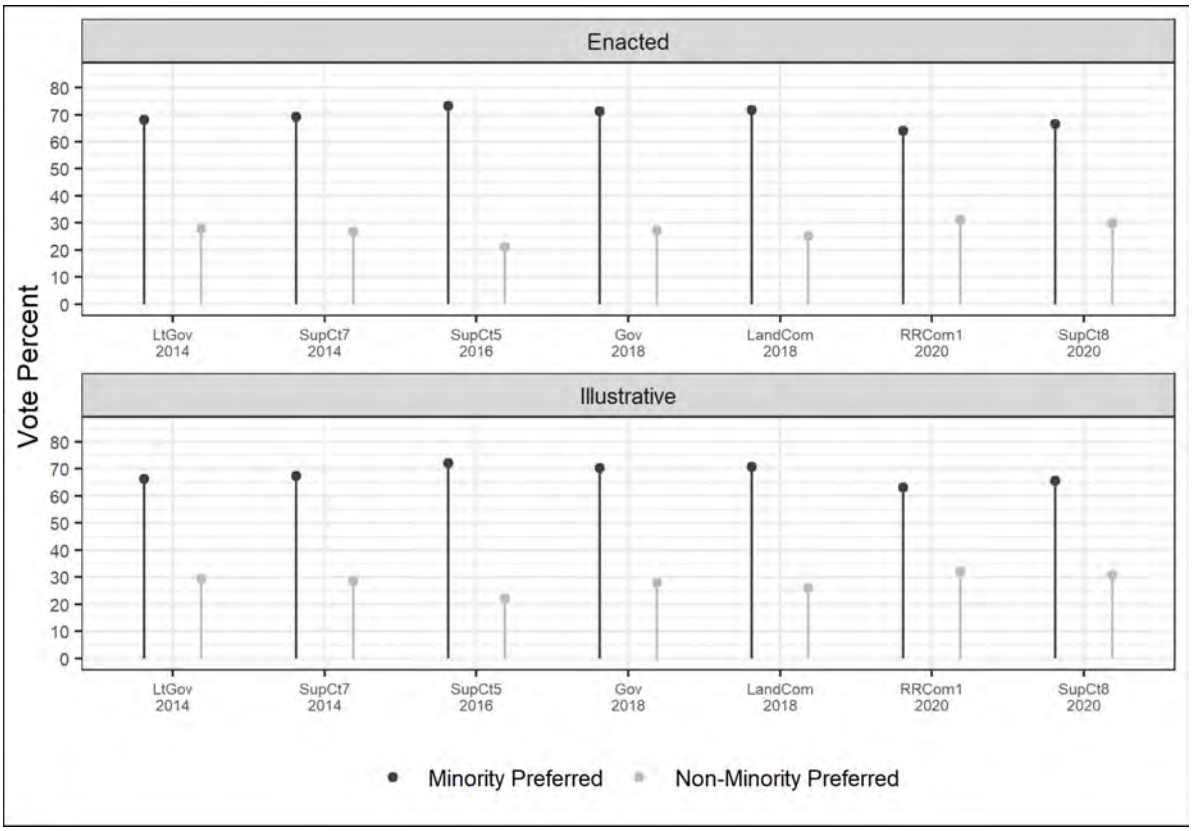


Figure H5: Illustrative State House District 75

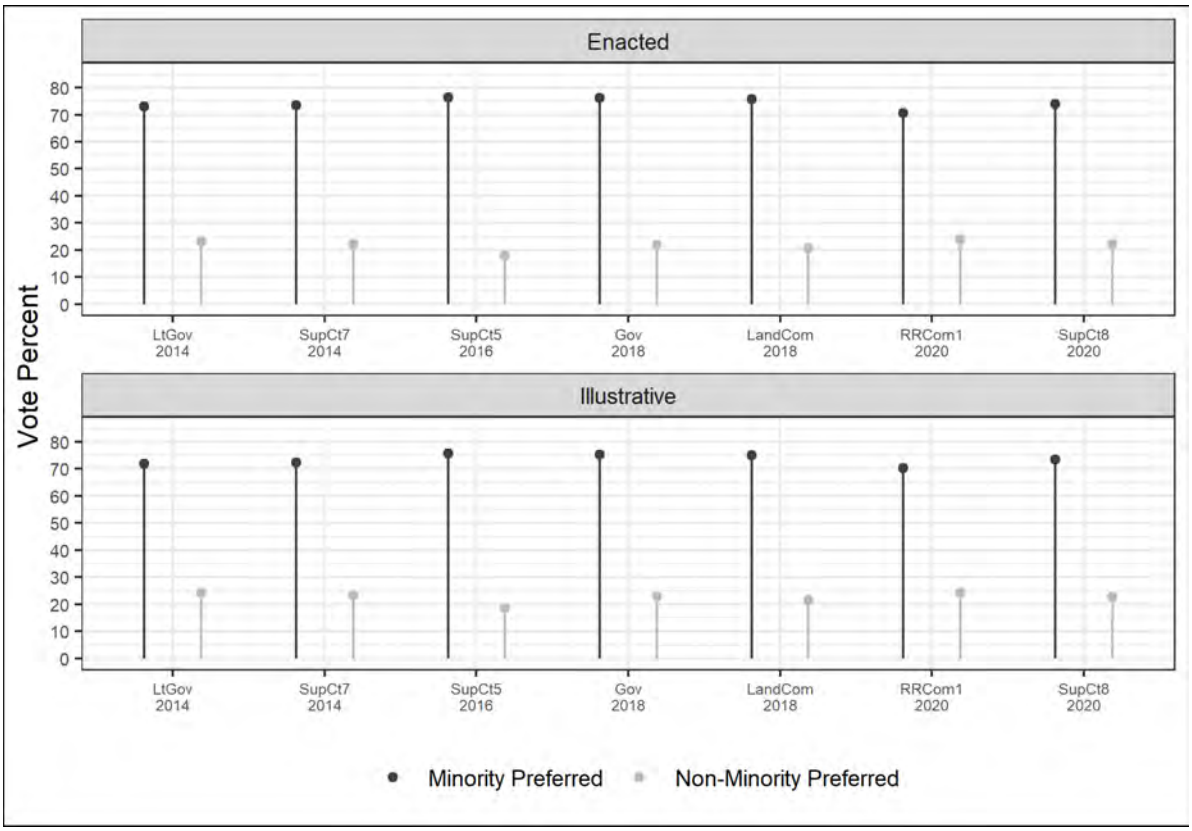


Figure H6: Illustrative HD 77

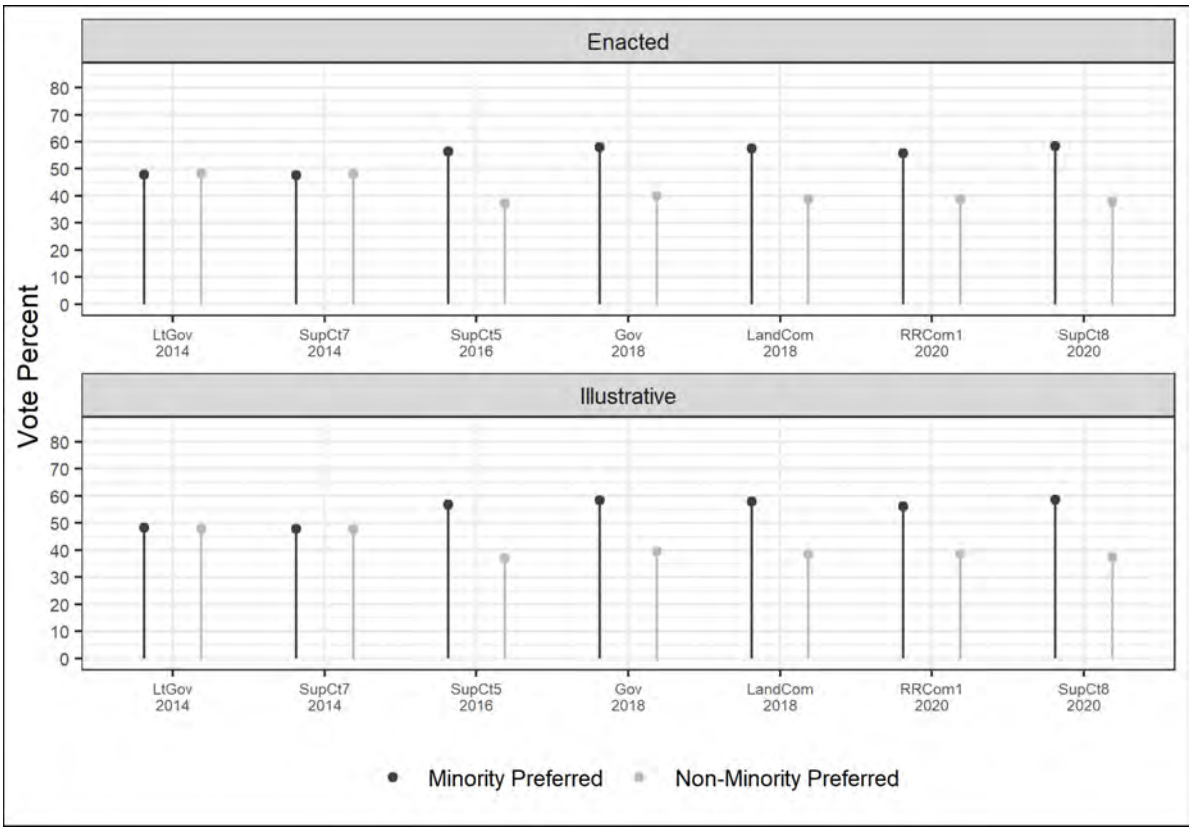


Figure H7: Illustrative HD 78

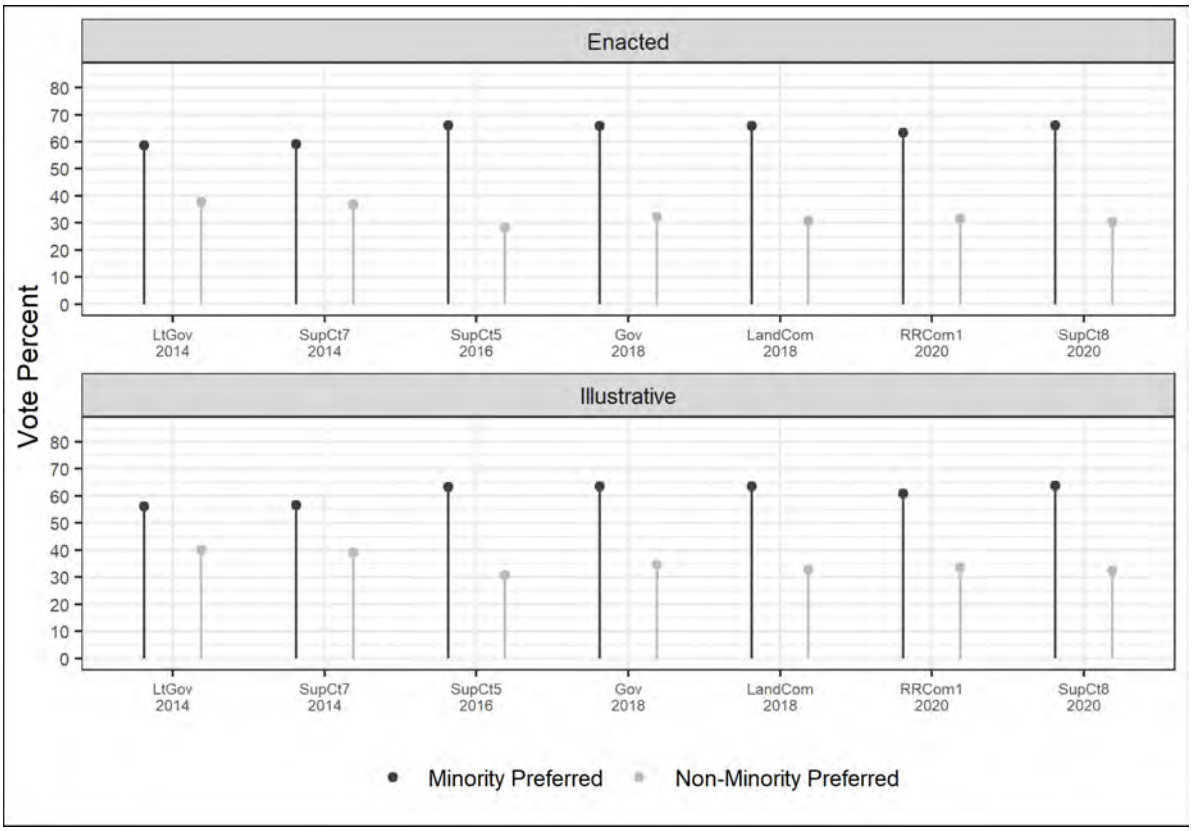


Figure H8: Illustrative in HD 79

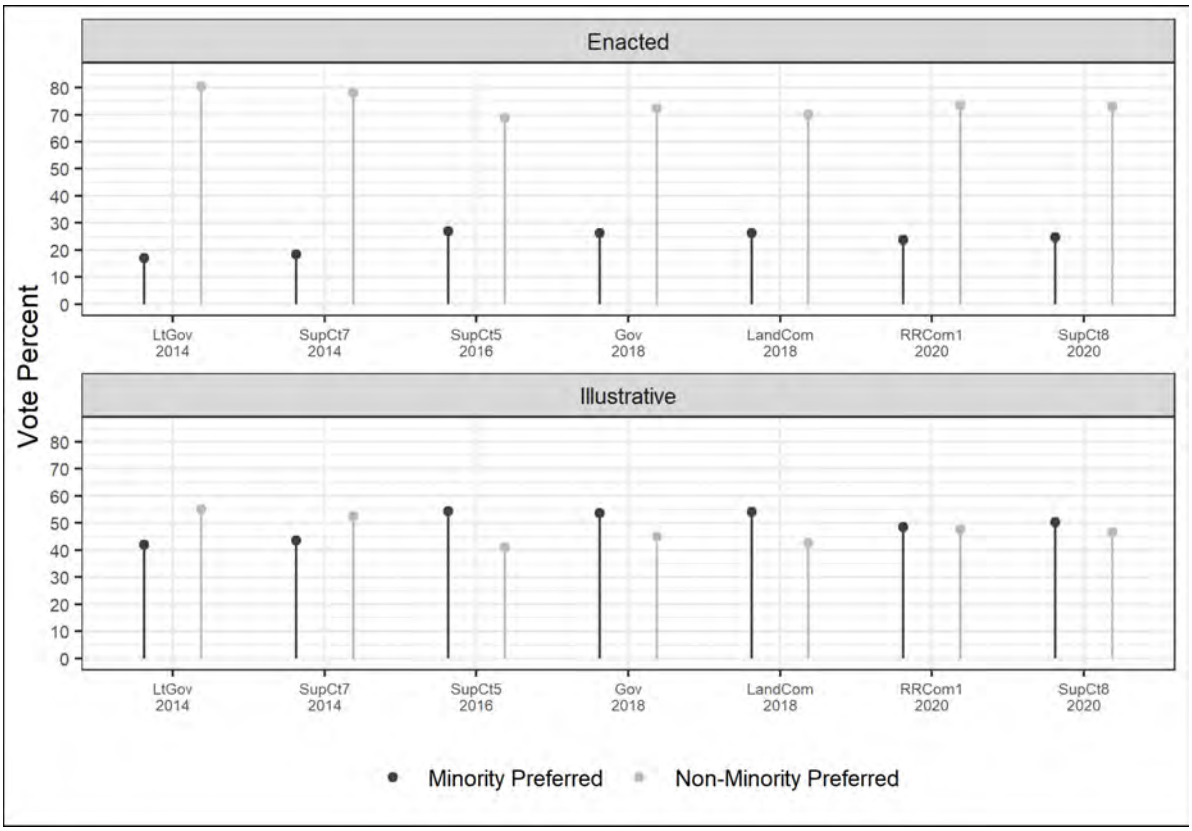


Figure H9: Illustrative HD 81

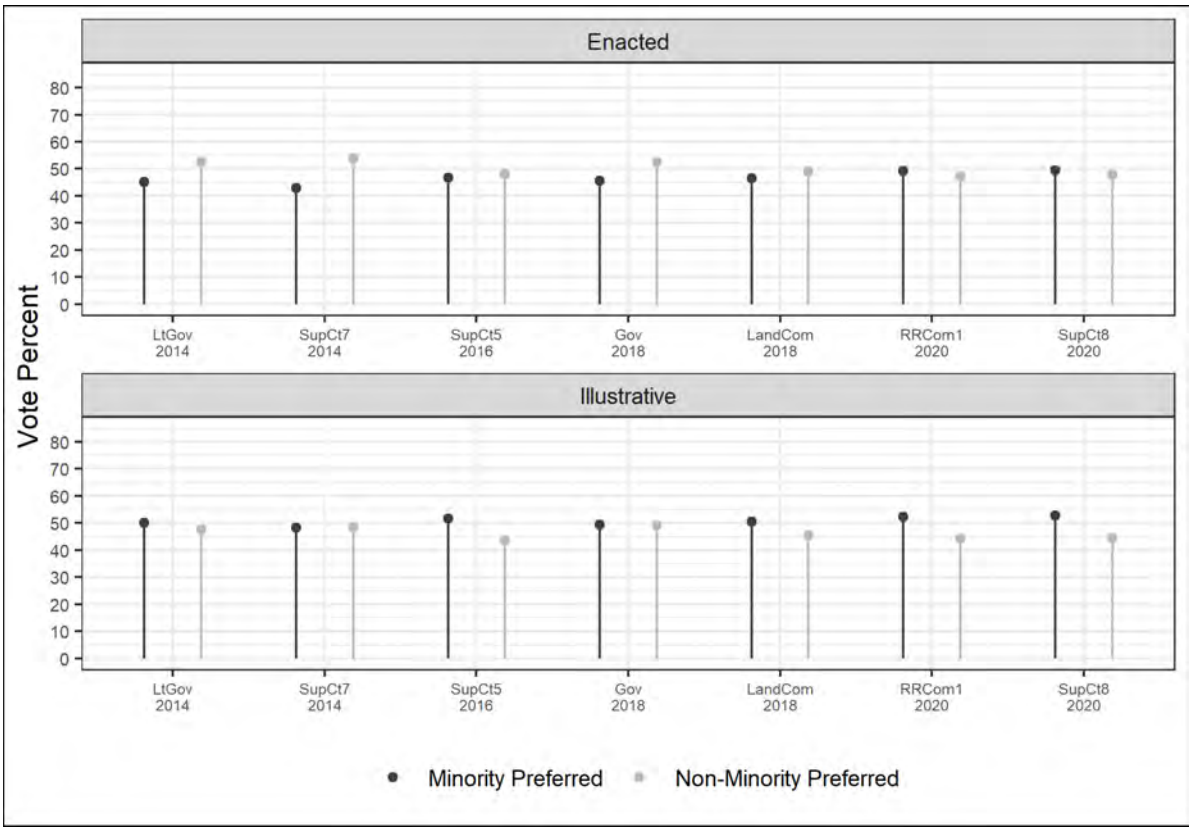


Figure H10: Illustrative HD 118

Ryan D. Enos 20 May 2022