

# **Attachment B**

# Supplemental Expert Report of Dr. Loren Collingwood

Loren Collingwood

2025-02-28

## 1 Executive Summary

I have been retained by plaintiffs as an expert in the case entitled “Rodney D. Pierce et al. v. The North Carolina State Board of Elections,” and have provided an initial report dated May 31, 2024 (“Collingwood May Report”) and a rebuttal report dated August 30, 2024 (“Collingwood August Report”). This report supplements my initial reports with data and analysis of the 2024 general elections.

Based on my review of the two aforementioned reports in combination with my analysis of the November 2024 elections, I conclude the following:

- The 2024 general elections featured racially polarized voting (RPV) at very high levels in line with RPV observed in previous election contests. Indeed, in 2024, RPV is observed in 100% of analyzed contests at the statewide level, in State Senate Districts 1 and 2, as well as in the 12-county Demonstration Area. This includes endogenous contests in State Senate Districts 1 and 2.
- Statewide, in State Senate Districts 1 and 2, and in the Demonstration Area, Black voters back their preferred candidate about 99% of the time in 2024.
- Meanwhile, statewide about 28% of White voters cross-over to support the Black-preferred candidate in the 2024 elections. This percentage falls to about 20% in State Senate District 1, 18% in State Senate District 2, and 13% in the Demonstration Area.
- On average, White voters are slightly less supportive of Black Democratic candidates than they are of White Democratic candidates in the 2024 elections. Statewide, the difference is about 1.5 percentage points (27.5% vs. 29%); in District 1 the difference is less than a percentage point (19.72% vs. 20.05%); in District 2 the difference is 1.84 percentage points (17.05% vs. 18.89%); and in the Demonstration Area the average difference is less than a percentage point (12.22% vs. 13.08%).
- However, in the one contest featuring a Black Republican (Mark Robinson for Governor), White voters cross-over to vote against the Black candidate and to back the White candidate (Josh Stein) at substantially higher rates than in almost every other contest. White voters supported White Republicans at rates of 79.54% on average in Senate District 1 and 81.82% on average in Senate District 2, but they supported Mark Robinson at rates of 72.55% in Senate District 1 and 67.40% in

Senate District 2. Notably, we did not see the same drop off in support when Robinson ran in 2020 against a Black candidate. These results reflect that there is a significant cohort of White voters, especially in Senate District 2, who will choose a White candidate over a Black candidate even when the Black candidate is aligned with the political party they usually support.

- I updated my performance analysis of state Senate District 1 with results from the 2024 elections. I found that in 2024, White voters voted sufficiently as a bloc to prevent Black voters from electing their preferred candidates of choice 100% of the time in State Senate District 1, and 94% of the time in State Senate District 2. In the endogenous elections in those districts, the Black-preferred candidates lost by nearly 15 points in 2024. The one exception in state Senate District 2 was in the election for Governor in 2024, where enough White voters crossed over to vote against Mark Robinson (who is Black) that Governor Stein won the District.
- This updated performance analysis shows that over the last five election cycles, White bloc voting successfully blocked the Black-preferred candidate in Senate District 1 in either 57 of 65 (88%) or 59 of 65 (91%) races depending how the 2018 races discussed in my May report are considered, and in Senate District 2 in 57 of 65 (88%) or 59 of 65 (91%) races. Over the three most recent, and more probative, election cycles, White bloc voting successfully blocked the Black-preferred candidate in Senate District 1 in 43 of 43 races (100%) and in Senate District 2 in 42 of 43 races (98%). Every Black-preferred Black candidate lost in these 43 races; the only Black-preferred candidate who was able to prevail across those 43 races was White, and prevailed over an opponent who was Black.
- The 2024 election results continue to confirm that Black voters would have the ability to elect their preferred candidates in Demonstration Districts A, B, C, D, and E.
- State Senate District 5 continues to operate as a performing cross-over district, with Black voters' preferred candidate prevailing in 16 of 16 elections (the 15 statewide elections in 2024 and the one endogenous election in Senate District 5 itself).
- I incorporated the 2024 elections into my analysis of the BVAP that would allow Black-preferred candidates to win in the Demonstration Area. The updated analysis shows that, on average across the 2024, 2022, and 2020 elections, the BVAP required to narrowly elect a Black-preferred candidate would be 47.7%.

I am being compensated at a rate of \$450/hour. My compensation is not contingent on the opinions expressed in this report, on my testimony, or on the outcome of this case.

## 2 List of Elections Analyzed

To conduct my updated racially polarized voting analysis, I selected all statewide elections in 2024, as well as the two respective endogenous contests—meaning historical contests in the actual districts at issue—in State Senate Districts 1 and 2. Courts have long held that

endogenous contests are the most probative contests to analyze for RPV purposes because the election dynamics are precise to the jurisdiction at issue. In endogenous contests, for instance, we do not have to make any assumptions about how voting from a statewide contest translates down to a state senate contest. The state senate contests in 2024 are the only endogenous elections available for analysis because the boundaries of Senate Districts 1 and 2 were different in the prior election years, including in 2022.

Table 2.1 lists the contests, including the statewide contests of U.S. President, NC Attorney General, NC Auditor, NC Commissioner of Agriculture, NC Commissioner of Insurance, NC Commissioner of Labor, NC Governor, NC Lieutenant Governor, NC Secretary of State, NC Superintendent of Public Instruction, NC Treasurer, NC Supreme Court Associate Justice Seat 06, NC Court of Appeals Judge Seat 12, NC Court of Appeals Judge Seat 14, and NC Court of Appeals Judge Seat 15. The two NC State Senate contests are State Senate 1 and State Senate 2.<sup>1</sup>

The table includes an asterisk next to the name of a Black candidate. This includes one Black Democratic candidate for U.S. President, five Black Democratic candidates for statewide office, and one Black Republican candidate for statewide office. This also includes one Black Democratic candidate for State Senate District 2.

Finally, I include two columns labeled SS1-Blocked and SS2-Blocked. A value of yes indicates that, using the results of the listed election, White voters vote sufficiently as a bloc in each respective enacted district to block Black voters from electing their candidate of choice.

*Table 2.1: List of contests analyzed, 2024.*

| Year | Contest     | Dem         | Rep        | Statewide<br>RPV | SS1-<br>RPV | SS2-<br>RPV | SS1-<br>Blocked | SS2-<br>Blocked |
|------|-------------|-------------|------------|------------------|-------------|-------------|-----------------|-----------------|
| 2024 | President   | Harris*     | Trump      | Yes              | Yes         | Yes         | Yes             | Yes             |
| 2024 | Atty. Gen.  | Jackson     | Bishop     | Yes              | Yes         | Yes         | Yes             | Yes             |
| 2024 | Auditor     | Holmes*     | Boliek     | Yes              | Yes         | Yes         | Yes             | Yes             |
| 2024 | Agriculture | Taber       | Troxler    | Yes              | Yes         | Yes         | Yes             | Yes             |
| 2024 | Insurance   | Marcus      | Causey     | Yes              | Yes         | Yes         | Yes             | Yes             |
| 2024 | Labor       | Winston II* | Farley     | Yes              | Yes         | Yes         | Yes             | Yes             |
| 2024 | Governor    | Stein       | Robinson*  | Yes              | Yes         | Yes         | Yes             | No              |
| 2024 | Lieu. Gov   | Hunt        | Weatherman | Yes              | Yes         | Yes         | Yes             | Yes             |
| 2024 | SoS         | Marshall    | Brown      | Yes              | Yes         | Yes         | Yes             | Yes             |
| 2024 | Sup. Inst.  | Green*      | Morrow     | Yes              | Yes         | Yes         | Yes             | Yes             |
| 2024 | Treasurer   | Harris      | Briner     | Yes              | Yes         | Yes         | Yes             | Yes             |

<sup>1</sup> The table lists Democratic and Republican candidates for brevity, but six contests include one or more candidates from third parties. None of these candidates received enough votes such that it would have changed the outcomes of the election in Senate District 1 or 2 had they not run.

| Year | Contest             | Dem              | Rep       | Statewide<br>RPV | SS1-<br>RPV | SS2-<br>RPV | SS1-<br>Blocked | SS2-<br>Blocked |
|------|---------------------|------------------|-----------|------------------|-------------|-------------|-----------------|-----------------|
| 2024 | Sup. Ct. 06         | Riggs            | Griffin   | Yes              | Yes         | Yes         | Yes             | Yes             |
| 2024 | Court Appeals<br>12 | Thompson*        | Murry     | Yes              | Yes         | Yes         | Yes             | Yes             |
| 2024 | Court Appeals<br>14 | Eldred           | Zachary   | Yes              | Yes         | Yes         | Yes             | Yes             |
| 2024 | Court Appeals<br>15 | Moore*           | Freeman   | Yes              | Yes         | Yes         | Yes             | Yes             |
| 2024 | State Senate 1      | Harman-<br>Scott | Hanig     | N/A              | Yes         | N/A         | Yes             | N/A             |
| 2024 | State Senate 2      | Davis*           | Sanderson | N/A              | N/A         | Yes         | N/A             | Yes             |

### 3 Statewide Racially Polarized Voting Results

This section presents the results of my statewide RPV analysis. Figure 3.1 presents coefficient plots in a similar format as my May Collingwood Report. I present the individual contest results in the appendix.<sup>2</sup>

The results show strong polarization in a vein similar to those observed in previous years. In 2024, Black voters, on average, back the Black-preferred candidate about 99% of the time. In 2024, White voters, on average, back the Black-preferred candidate about 28.4% of the time.

If we take the mean across all years (and weight each year equally), 97.5% of Black voters are backing the Black-preferred candidate across the five election cycles statewide.<sup>3</sup> Likewise, the support among White voters for the Black-preferred candidates across all years is 28.7%.<sup>4</sup>

Just one contest, the Governor's race, shows a notably different result in 2024, with approximately 37.5% of Whites backing Stein, the Black-preferred candidate, and a significant number of White voters supporting a third-party candidate.

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<sup>2</sup> Note, the coefficient plots here draw on the same results as those in my initial report plus the 2024 contests. The horizontal placement of each dot may vary from the generation of one plot to the next due to the random jitter placement of contests. But the data are exactly the same, as indicated by the mean reported at the top of each year column.

<sup>3</sup> If we average all 64 statewide estimates together at once instead of first binning by year, we arrive at 97.6%, essentially the same value. This is the same as the weighted mean.

<sup>4</sup> The weighted mean is 27.9%.

## Racially Polarized Voting Analysis Estimates Statewide

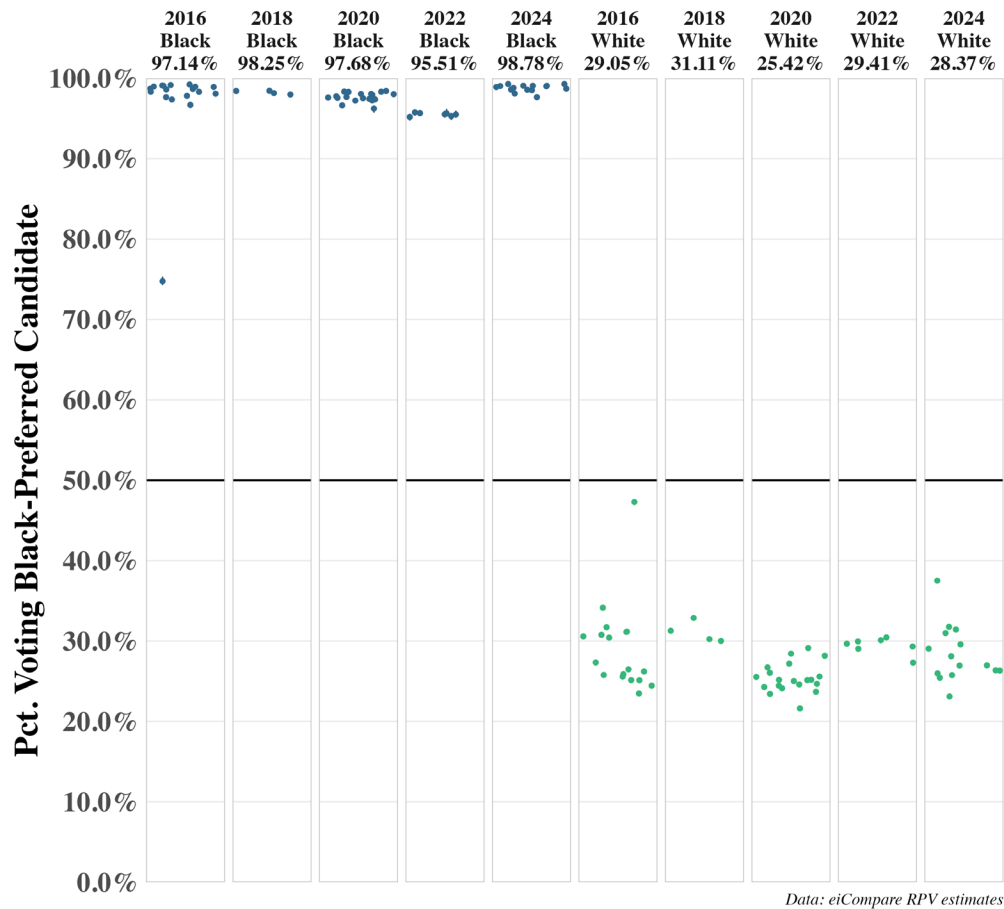


Figure 3.1: Racially Polarized Voting coefficient plot. Ecological Inference (EI) results, statewide.

As I noted in my August report, racially polarized voting analysis focuses on the voter's race and their vote choice, to determine whether voting is polarized based on the race of the voter. As I explained, a White candidate may be the preferred candidate of Black voters for reasons related to the voters' race, including because the White candidate takes policy stances that are in line with the policies and issues Black voters care about. For that reason, as I noted in my August report, the type of analysis that Dr. Alford engages in, in which he compares White and Black voters' support for Black and White Democratic candidates, cannot support any conclusion that partisanship rather than race drives racially polarized voting in the areas at issue here. But I anticipate that Dr. Alford will analyze the race and party of the candidate and so I have conducted that sort of comparison as well to show the results under Dr. Alford's type of analysis.

With respect to whether voting varies by the race of the candidate, Table 3.1 presents several relevant comparisons regarding voting behavior. For simplicity of interpretation,

the table subsets the RPV estimates to the Black-preferred candidate's mean vote share for all 2024 statewide contests.

The column labeled *Overall* presents the overall mean Black vote and the overall mean White vote for the Black-preferred candidates. This is the same number presented in the mean score in Figure 3.1 above: approximately 99% of Black voters are backing the Black-preferred candidates (who are all Democrats) whereas 28.4% of White voters are backing those same candidates statewide.

The next column, *White Dem*, subsets the analysis to just contests that featured a White Democratic candidate.<sup>5</sup> The Black vote is once again very similar (nearly 99% support the Democratic candidate), whereas the White cross-over vote is a bit higher (28.95%). The *Black Dem* column presents average votes by race in elections featuring a Black Democratic candidate.<sup>6</sup> The results show that Black voters still overwhelmingly back the Democratic candidates (nearly 99%), whereas White voters' mean vote for the Democratic candidates drops to 27.49%. Finally, the Delta column subtracts the *White Dem* column from the *Black Dem* column showing that White voters prefer White Democratic candidates to Black Democratic candidates in 2024 by a margin of, on average, 1.46 percentage points.

*Table 3.1: Comparison across different election types examining White cross-over voting, Statewide.*

| Voter Race | Overall | White Dem | Black Dem | Delta |
|------------|---------|-----------|-----------|-------|
| Black      | 98.78   | 98.73     | 98.87     | 0.14  |
| White      | 28.37   | 28.95     | 27.49     | -1.46 |

Table 3.2 reports out mean vote share for the White-preferred (Republican) candidates by voter race overall, when the Republican candidate is White, and when the Republican candidate is Black (the 2024 Governor's contest). The *Overall* column shows the average support for the white-preferred (Republican) candidates, the *White GOP* column shows average support for White Republican candidates, and the *Black GOP* column shows average support for the Black Republican candidate. Finally, the *Delta* column reports out the difference between the *White GOP* and *Black GOP* columns. The findings show that

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<sup>5</sup> Attorney General, Agriculture, Governor, Insurance, Lieutenant Governor, Secretary of State, Treasurer, Supreme Court. 06, Court Appeals 14.

<sup>6</sup> The contests are: Auditor, Court Appeals 12, Court Appeals 15, Labor, President, Supervisor of Public Instruction.

White voters are about 16 percentage points less supportive of the Black Republican candidate than they are of White Republican candidates.

This is a notable finding, in part, because the same candidate, Robinson, ran against a Black Democrat in 2020 for Lieutenant Governor. In that contest, as my May Collingwood Report shows, when faced with a choice of a Black Republican or a Black Democrat, 75.3% of White voters statewide backed Robinson – a difference of nearly 20 percentage points in support for Robinson across the two elections (75.3% White support in 2020; 55.66% White support in 2024).

*Table 3.2: Comparison across different election types. Support for Republican candidates by voter race overall vs. when Republican candidate is White or Black, Statewide.*

| Voter Race | Overall | White GOP | Black GOP | Delta  |
|------------|---------|-----------|-----------|--------|
| Black      | 1.16    | 1.16      | 1.17      | 0.01   |
| White      | 70.35   | 71.40     | 55.66     | -15.74 |

## 4 State Senate District 1 and 2 Racially Polarized Voting Results

This section presents the results of my State Senate District 1 and 2 RPV analysis. Figure 4.1 presents the RPV coefficient plot for District 1 over time. This is similar to the one presented in my May Collingwood Report, but with the results of 2024 included. The results are similar to those observed in earlier contests. In 2024 in Senate District 1, average Black support for the Black-preferred candidate is 99% and average White support for the Black-preferred candidate is 19.9%.

The overall average Black support for the Black-preferred candidate in Senate District 1 is 97.25% across the five election cycles (treating each year's mean equally).<sup>7</sup> The overall average White support for the Black-preferred candidate across all five election cycles is 22.36% (treating each year's mean equally).<sup>8</sup>

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<sup>7</sup> The weighted mean is 97.6% if we take the average of all 65 contests over the five election cycles (note that we have one more contest here than statewide due to the inclusion of the 2024 State Senate District 1 contest).

<sup>8</sup> The weighted mean is 22%.



## Racially Polarized Voting Analysis Estimates District: SS2023-D1

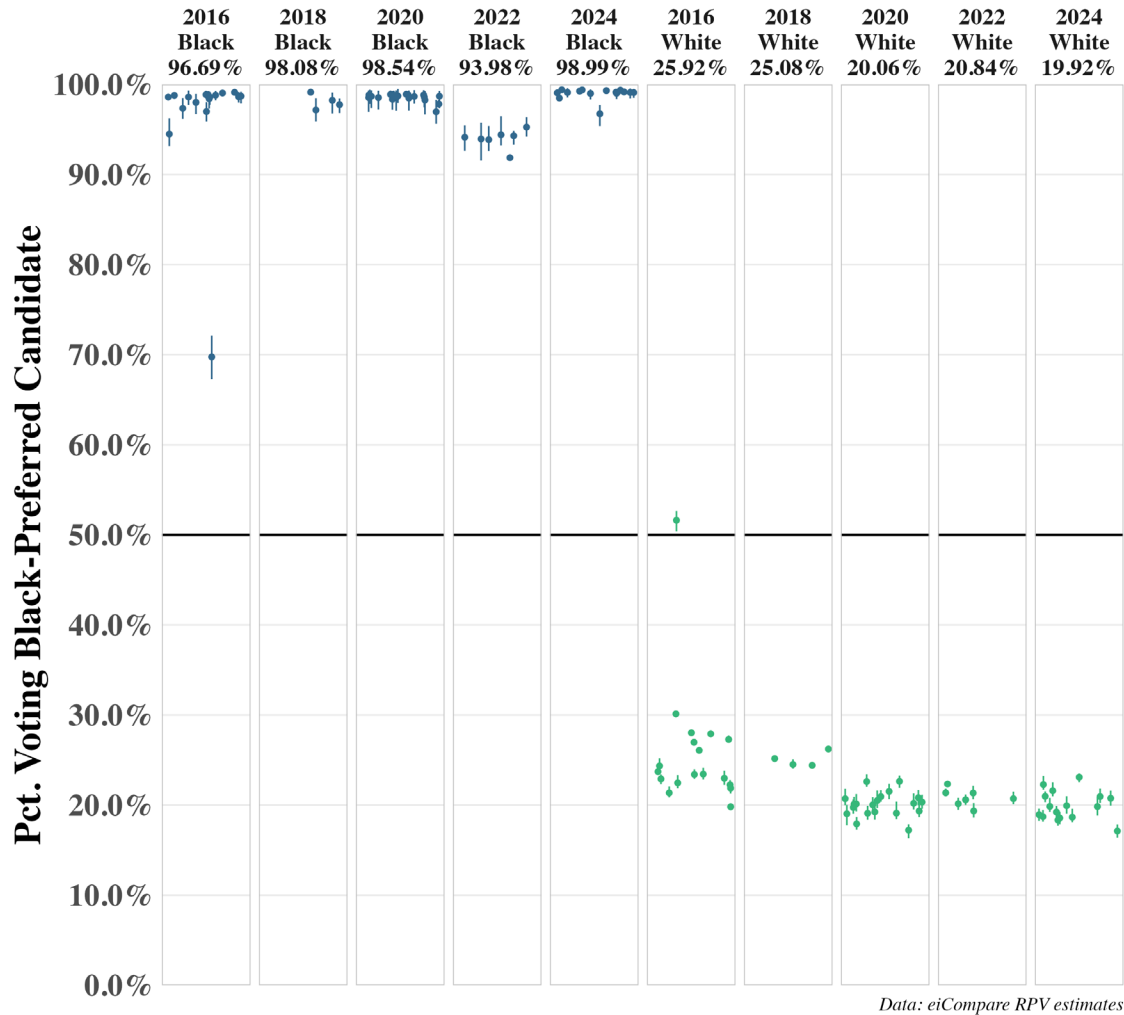


Figure 4.1: Racially Polarized Voting coefficient plot. Ecological Inference (EI) results, State Senate District 1

Tables 4.1 - 4.4 present the same set of candidate race/party comparisons as I did statewide but for State Senate Districts 1 and 2. The description of the rows and columns in the Statewide section applies equally to the tables in this section. The results presented in Table 4.1 show relatively little difference in White voter cross-over support in Senate District 1 for Black-preferred candidates based on whether the Black-preferred candidate is a White or Black Democrat (a difference of about 0.3 percentage points).

*Table 4.1: Comparison across different election types examining White cross-over voting, State Senate District 1*

| Voter Race | Overall | White Dem | Black Dem | Delta |
|------------|---------|-----------|-----------|-------|
| Black      | 98.99   | 98.89     | 99.14     | 0.25  |
| White      | 19.92   | 20.05     | 19.72     | -0.33 |

However, it is notable that, in the only contest where it is possible to make such a comparison, the same Black-preferred candidate got more White votes in SD1 when running against a Black Republican than when running against a White Republican. Josh Stein notched approximately 23% of the White vote in SD1 when running against a Black Republican, whereas in 2020 against a White Republican, Stein notched 20% of the White vote.<sup>9</sup>

Similar to what was observed in the statewide results, Table 4.2 shows that White voters are significantly more likely to cross-over to vote for a Black-preferred candidate who is White when the White-preferred (Republican) candidate is Black. Approximately 72.6% of White voters in SD1 back Robinson, who is Black, whereas about 23.1% backed Stein, who is White; other White voters back a third-party candidate. This is the highest White cross-over voting of any contest in State Senate District 1, and Robinson significantly underperforms White Republicans in 2024 (by about 7% among White voters). Further, this result is significant because in the 2020 Lieutenant Governor contest, 81% of White voters in SD1 backed Robinson when he faced a Black Democrat. In other words, White voters in Senate District 1 considering the same Black candidate across two contests were significantly less likely to vote for him when they had a White candidate as an alternative. The gap was over 8% for the same candidate across the two contests (Robinson received 80.9% of the White vote in SD1 for Lieutenant Governor in 2020, but only 72.55% of the White vote for Governor in 2024).

*Table 4.2: Comparison across different election types. Support for Republican candidates by voter race overall vs. when Republican candidate is White or Black, State Senate District 1.*

| Voter Race | Overall | White GOP | Black GOP | Delta |
|------------|---------|-----------|-----------|-------|
| Black      | 0.94    | 0.86      | 2.07      | 1.21  |
| White      | 79.10   | 79.54     | 72.55     | -6.99 |

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<sup>9</sup> See Figure 11.2 in the appendix for RPV State Senate District 1 individual contest results. The 2020 results are presented in the May Collingwood Report.

Figure 4.2 presents the RPV coefficient plot for Senate District 2 over time. The 2024 results are consistent with earlier findings.

In 2024, average Black support for the Black-preferred candidate is about 99% and average White support for the Black-preferred candidate is about 18%. The average Black support for the Black-preferred candidate is 98.7% across the five election cycles (treating each year's mean equally).<sup>10</sup> The overall average White support for the Black-preferred candidate is 19.03% (treating each year's mean equally).<sup>11</sup>

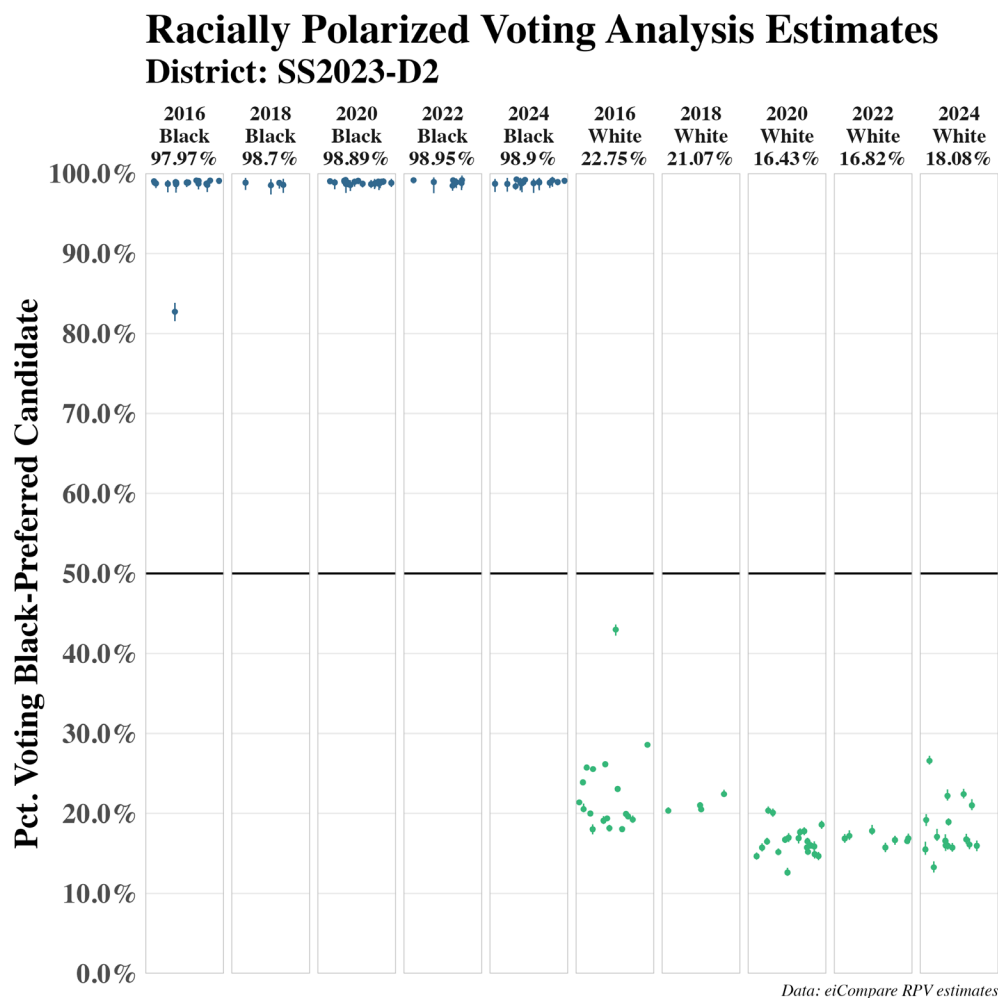


Figure 4.2: Racially Polarized Voting coefficient plot. Ecological Inference (EI) results, State Senate District 2

<sup>10</sup> The weighted mean is 98.6% if we take the average of all 65 contests over time (note we have one more contest here than statewide due to the inclusion of the 2024 State Senate SD2 contest).

<sup>11</sup> The weighted mean is 18.9%.

Table 4.3 presents the same set of candidate race comparisons as I did statewide but limited to Senate District 2. In comparison to the State Senate District 1 results, the results overall for State Senate District 2 show that White voters are somewhat more likely (~19%) to cross-over to support the Black-preferred candidate when that candidate is White (i.e., a White Democrat is running) than they are when the Black-preferred candidate is Black (~17% crossover rates). The Delta column shows the difference at 1.84%.

It is again notable that, in the only contests where it is possible to make this comparison, the same Black-preferred candidate (Josh Stein) performed much better with White voters in SD2 when he ran against a Black candidate than when he ran against a White candidate. Against a Black Republican, Josh Stein notched approximately 26.6% of the White vote in SD2 in 2024, whereas in 2020 against a White Republican, Stein received only about 17.7% of the White vote, a 9-point difference for the same candidate across the two election cycles depending on whether his opponent was Black or White.

*Table 4.3: Comparison across different election types examining White cross-over voting, State Senate District 2*

| Voter Race | Overall | White Dem | Black Dem | Delta |
|------------|---------|-----------|-----------|-------|
| Black      | 98.90   | 98.79     | 99.04     | 0.26  |
| White      | 18.08   | 18.89     | 17.05     | -1.84 |

Similarly, and as observed in the statewide results, Table 4.4 shows that White voters in Senate District 2 are significantly more likely to cross-over to vote for the White Democrat when the White-preferred (Republican) candidate is Black. Approximately 67.4% of White voters in 2024 backed Robinson, who is Black, whereas about 26.6% backed Stein, who is White; many White voters also backed a third-party candidate.<sup>12</sup> This is the highest White cross-over voting of any contest in State Senate District 2, by at least 4 percentage points. And it is far higher than the average White support for White Democratic candidates (18.89%). Likewise, Robinson received far less White support than White Republican candidates in 2024; 81.82% of White voters backed White Republican candidates, while only 67.4% of White voters backed Robinson—a difference of 14.42%. Further, in the 2020 Lieutenant Governor contest, 85.4% of White voters in SD2 backed Robinson – when he faced a Black Democrat – a gap of 18% for the same candidate across the two contests, depending on whether his opponent was Black or White. In other words, White voters in SD2 considering the same Black candidate across two contests were significantly less likely to vote for him when they had a White candidate as an alternative.

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<sup>12</sup> Results for each individual race, including the Stein-Robinson race, are in the appendix.

*Table 4.4: Comparison across different election types. Support for Republican candidates by voter race overall vs. when Republican candidate is White or Black, State Senate District 2.*

| Voter Race | Overall | White GOP | Black GOP | Delta  |
|------------|---------|-----------|-----------|--------|
| Black      | 0.91    | 0.87      | 1.51      | 0.64   |
| White      | 80.92   | 81.82     | 67.40     | -14.42 |

## 5 Demonstration Area Racially Polarized Voting Results

Figure 5.1 presents the coefficient plot showing racially polarized voting in the Demonstration Area over time. The 2024 results are consistent with earlier findings, showing cohesive Black support for one set of candidates, and cohesive White opposition to those same candidates.

In 2024, average Black support for the Black-preferred candidate is 98.9% and average White support for the Black-preferred candidate is 12.7%. The average Black support for the Black-preferred candidate is 98.55% across the five election cycles (treating each year's mean equally).<sup>13</sup> The overall average White support for the Black-preferred candidate is 15.1% (treating each year's mean equally).<sup>14</sup>

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<sup>13</sup> The weighted mean is 98.5% if we take the weighted average of all 64 contests over time.

<sup>14</sup> The weighted mean is 15.4%.

## Racially Polarized Voting Analysis Estimates 12-County Demonstration Area

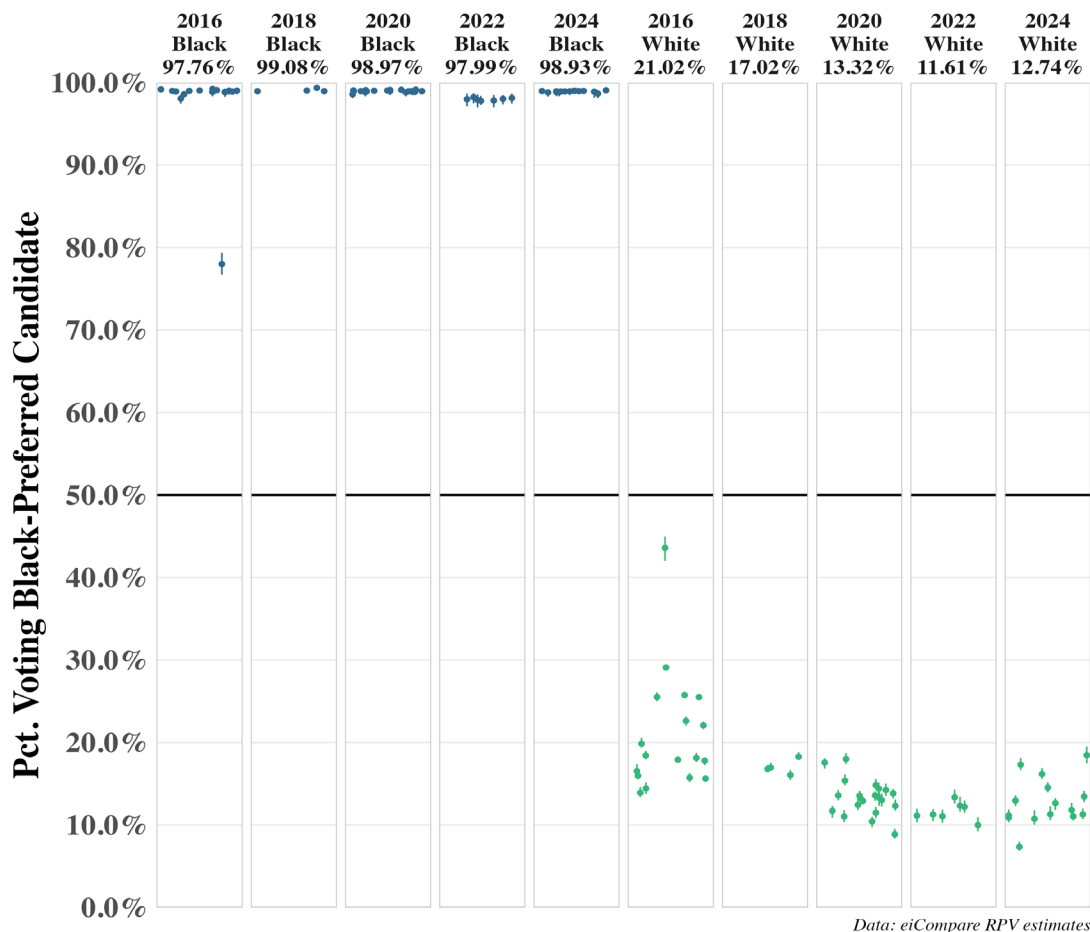


Figure 5.1: Racially Polarized Voting coefficient plot. Ecological Inference (EI) results, 12-County Demonstration Area

Table 5.1 presents the same set of candidate race/party comparisons as above. Overall, approximately 13% of White voters cross-over to vote for Black-preferred (Democratic) candidates. In contests featuring a White Democratic candidate, about 13% of White voters cross-over, whereas about 12% cross-over when the Democratic candidate is Black.

*Table 5.1: Comparison across different election types examining White cross-over voting, 12-County Demonstration Area*

| Voter Race | Overall | White Dem | Black Dem | Delta |
|------------|---------|-----------|-----------|-------|
| Black      | 98.93   | 98.90     | 98.96     | 0.06  |
| White      | 12.74   | 13.08     | 12.22     | -0.87 |

However, Table 5.2 shows that White voters in the Demonstration Area are significantly more likely to cross-over to vote for the White Democrat when the White-preferred (Republican) candidate is Black. Approximately 78% of White voters back Robinson, who is Black, whereas about 18.5% backed Stein, who is White; remaining White voters back a third-party candidate.<sup>15</sup> This is the highest White cross-over voting of any contest in the Demonstration Area.

In the Demonstration Area, while 78% of White voters backed Robinson in 2024, 88% of White voters backed Robinson in the 2020 Lieutenant Governor’s contest, when his opponent was also Black. In other words, White voters considering the same Black candidate in 2 elections were again significantly less likely to vote for him when the alternative option was White—there was a 10-percentage point difference in White support across the two election cycles.

*Table 5.2: Comparison across different election types. Support for Republican candidates by voter race overall vs. when Republican candidate is White or Black, 12-County Demonstration Area.*

| Voter Race | Overall | White GOP | Black GOP | Delta |
|------------|---------|-----------|-----------|-------|
| Black      | 0.90    | 0.89      | 1.06      | 0.17  |
| White      | 86.53   | 87.15     | 77.92     | -9.23 |

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<sup>15</sup> Results for specific races, including Stein-Robinson, are in the appendix.

## 6 Electoral Performance of Senate Districts 1 and 2

Figure 6.1 presents the State Senate District 1 electoral performance analysis. I conducted this analysis in the same way as I did in my prior reports. I subset the precinct vote tabulations to each respective district, sum the respective Democratic and Republican vote tallies, then divide each by the total votes cast in that contest.

Here, the White-preferred candidate easily wins all 16 contests in 2024 by an average margin of 13 percentage points for a block rate of 100%.<sup>16</sup> Only the Governor's contest is relatively close, but even in a contest that featured relatively large shares of White cross-over voting, it is not enough for the Black-preferred candidate, Stein, to win.

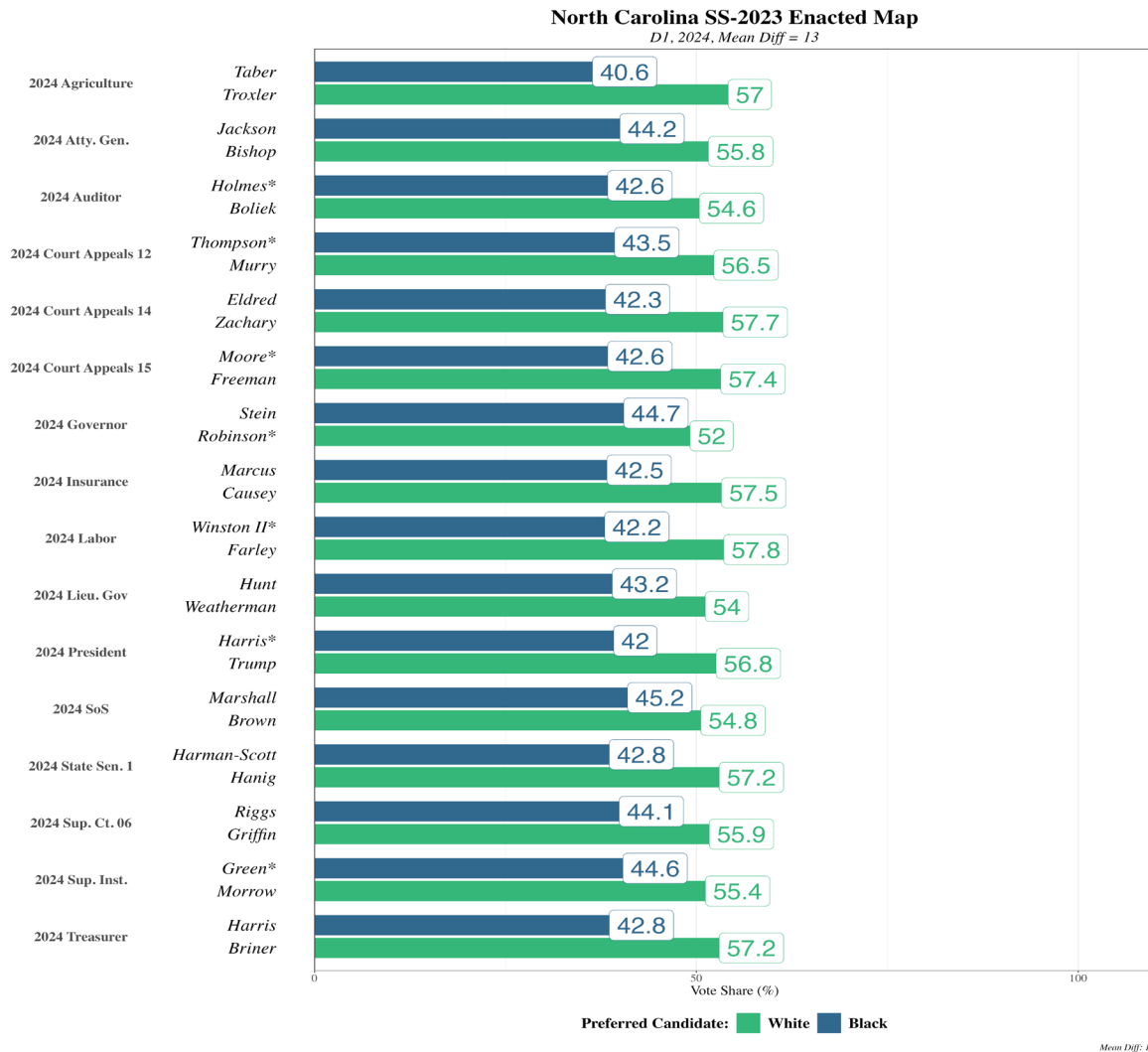
Of note is the relatively easy 14.4% victory in the State Senate District 1 endogenous contest where Hanig (57.2%, White-preferred candidate) defeated Harman-Scott (42.8%, Black-preferred candidate).

This updated performance analysis, when considered in combination with my May Collingwood Report, shows that over the last five election cycles, White bloc voting successfully blocked the Black-preferred candidate from prevailing in SD1 in either 57 of 65 (88%) or 59 of 65 (91%) races, depending how the 2018 races discussed in my May report are considered. Over the three most recent, and more probative, election cycles, White bloc voting successfully blocked the Black-preferred candidate in SD1 in 43 of 43 races (100%).

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<sup>16</sup> Rounding up from 12.98%.





*Figure 6.1: Electoral Performance Results, 2024, 2023-enacted State Senate District 1*

Figure 6.2 presents the State Senate District 2 electoral performance analysis. The White-preferred candidate wins 15 of 16 contests with a mean victory of 13.1 percentage points for a block rate of 94%.<sup>17</sup> In the State Senate District 2 endogenous contest, the White-preferred White candidate, Sanderson (56.1%), easily defeated the Black-preferred Black candidate, Davis (41.8%). The only 2024 contest where the Black-preferred candidate receives the most votes was a contest involving a Black-preferred White candidate whose

<sup>17</sup> In the graphic for Senate District 2 neither Stein nor Robinson win 50% of the vote because the denominator is total vote, not Democrat plus GOP vote, and in this election some voters voted for minor third-party candidates. If we use Democrat plus GOP vote as the denominator then Stein receives more than 50%, so the interpretation of no blocking is the same regardless of how the denominator is constructed.

opponent was Black (the Stein-Robinson race). In every contest in 2024 involving a Black-preferred Black candidate, the Black-preferred candidate lost.

This updated performance analysis, when considered in combination with my May Collingwood Report, shows that over the last five election cycles, White bloc voting successfully blocked the Black-preferred candidate from prevailing in SD2 in 57 of 65 (88%) or 59 of 65 (91%) races, depending how the 2018 races discussed in my May report are considered. Over the three most recent, and more probative, election cycles, White bloc voting successfully blocked the Black-preferred candidate in SD2 in 42 of 43 races (98%), with the only Black-preferred candidate able to prevail across those 43 races prevailing in the only race involving a White Democrat running against a Black Republican.

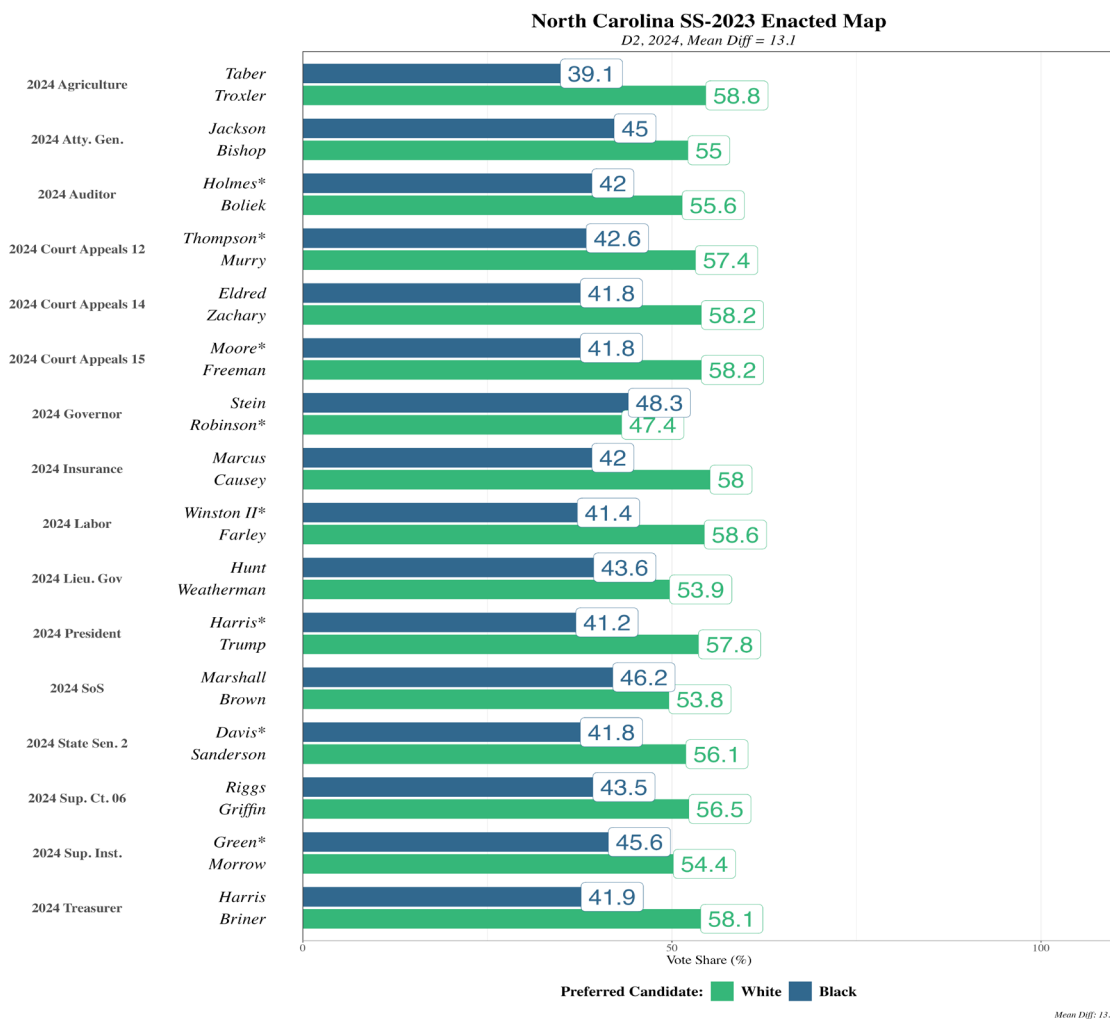


Figure 6.2: Electoral Performance Results, 2024, 2023-enacted State Senate District 2

## 7 Electoral Performance of State Senate District 5

In my August report, I examined electoral performance in State Senate District 5. I conducted the same type of analysis but using the 2024 election results. Figure 7.1 presents the results. As with my initial analysis, District 5 performs for Black voters, in this case by a mean of 12.6 percentage points, and the success rate is 100%.

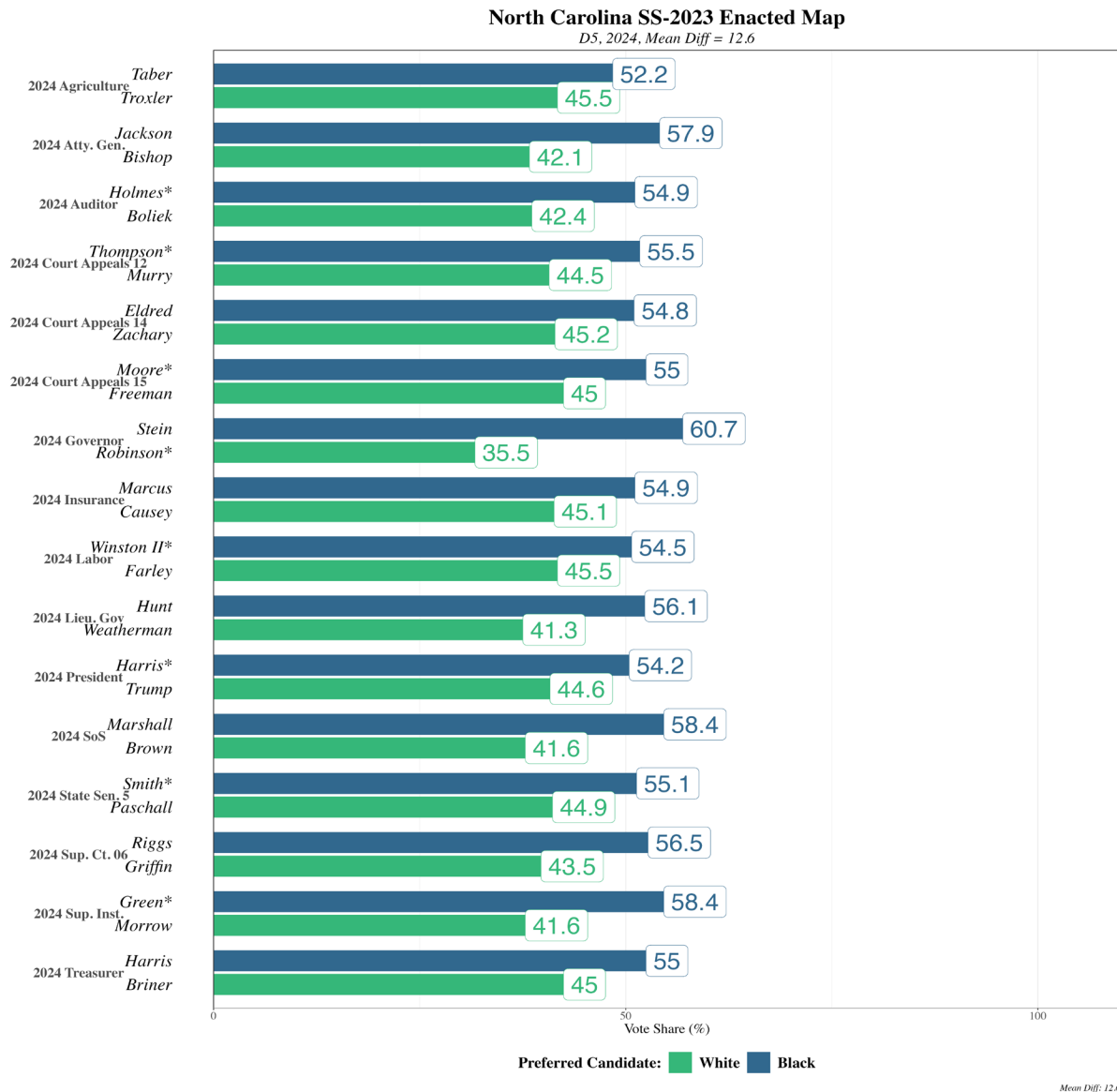


Figure 7.1: Electoral Performance Results, 2024, 2023-enacted State Senate District 5

## 8 Electoral Performance of Illustrative District A - E

In my May and August Collingwood Reports I conducted an electoral performance analysis of plaintiffs' Demonstration Districts.

I conducted the same analysis using 2024 general election data. The 2024 results are shown below in Figure 8.1. Across all five demonstration districts, the Black-preferred candidate wins 100% of the time.

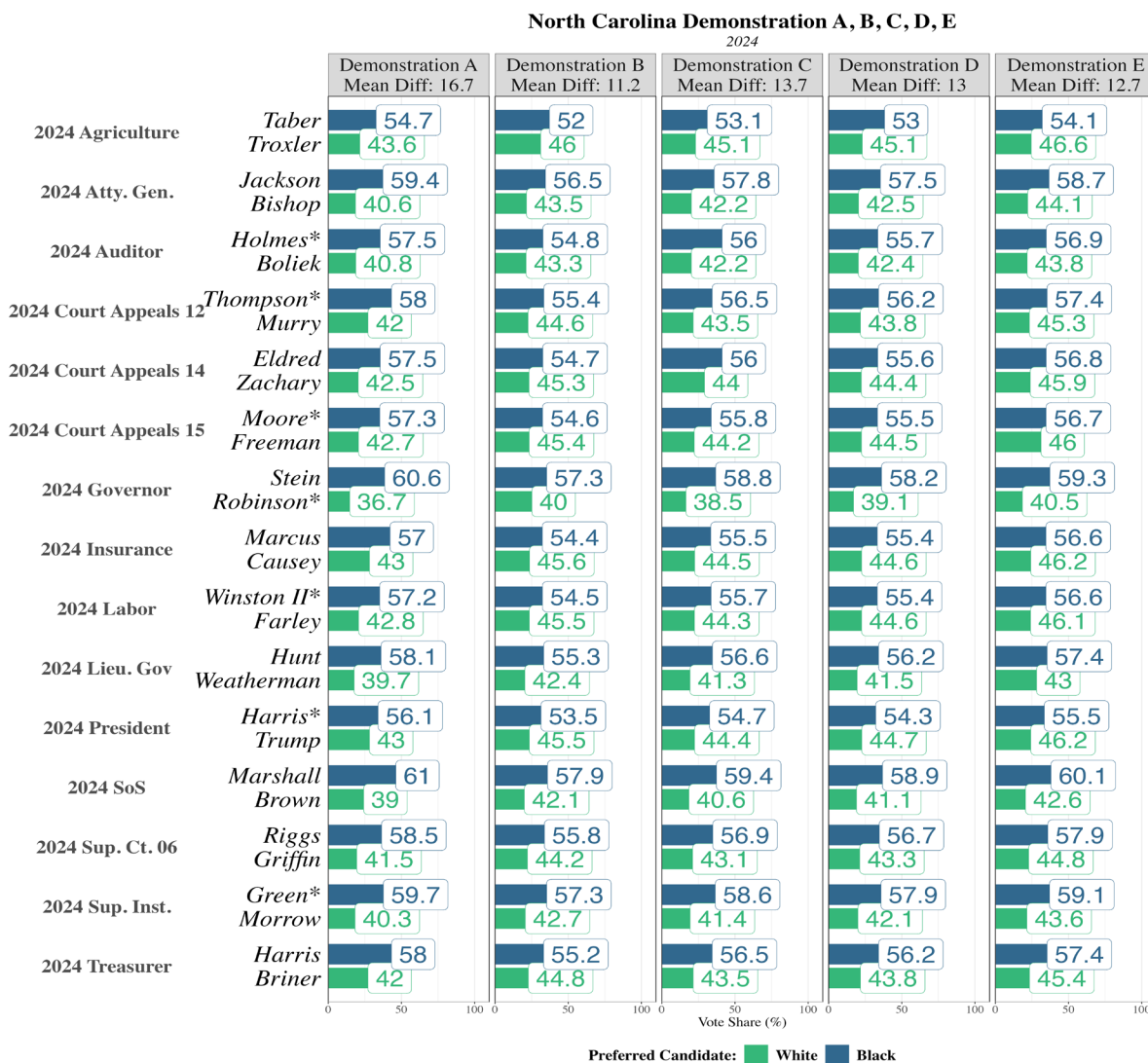


Figure 8.1: Electoral Performance Results, 2024, Demonstration A-E Districts.

## 9 BVAP Analysis

In my original report, I conducted a statistical simulation analysis to determine, using the election contests in the most recent 2 cycles (27 total), the BVAP required to narrowly elect a Black-preferred candidate in a district in the Demonstration Area. Using RPV results and turnout numbers by race, I determined the average BVAP percentage at which a district in the relevant 12-county region would elect a Black-preferred candidate. Using the results of all statewide elections in the two most recent cycles (2020 and 2022), I concluded that 47.07% is the best fit BVAP estimate that on average (i.e., not always) would enable Black-preferred candidates to achieve a narrow 50%+1 victory.

Taking the same approach, but including all the statewide contests (15) from the most recent year (2024), the BVAP estimate required to, on average, narrowly elect a Black-preferred candidate is updated to 47.7%.<sup>18</sup>

Figure 9.1 presents a histogram distribution of the results of the BVAP analysis. This is the same type of plot I presented in my May Collingwood Report. The histogram lays out the overall distribution, or spread, of these 42 estimates. Recall, each estimate is the BVAP required to narrowly achieve 50%+1 for the Black-preferred candidate in a particular contest. It is important to note that several contests fall below the mean value of 47.7, whereas several fall above 47.7. Therefore, the 47.7% estimate is not a guarantee of a victory for the Black-preferred candidate; rather it is a measure of a highly competitive district where the Black-preferred candidate has a good chance of either winning or losing, and would in fact lose many of the 42 elections.

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<sup>18</sup> Notably, the median of the distribution is exactly 47%, a very similar estimate.

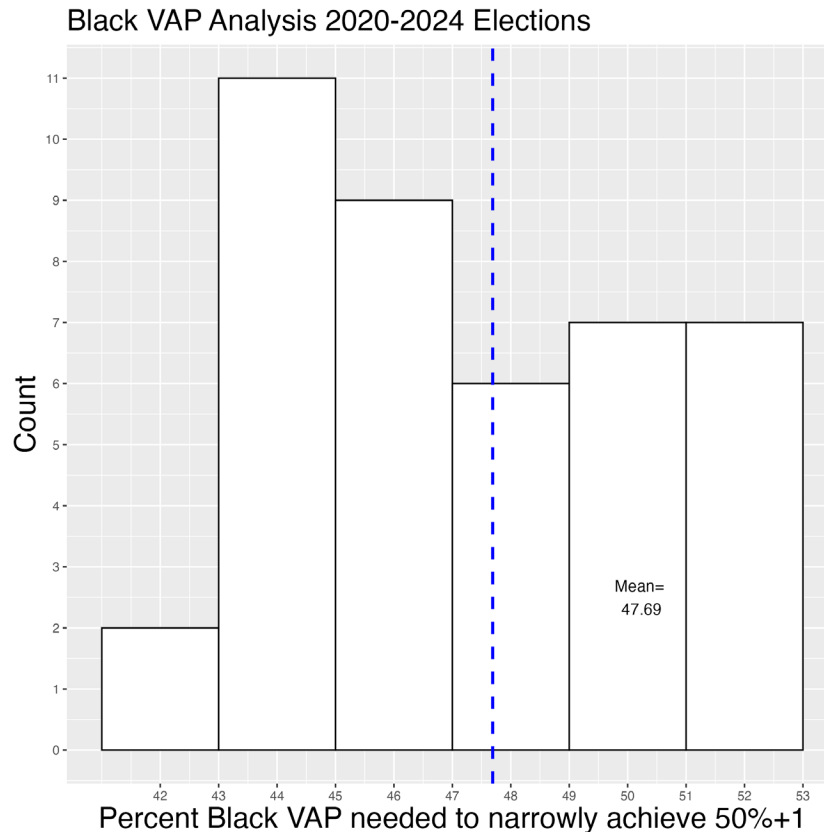


Figure 9.1: BVAP threshold analysis, All 2020-2024 contests.

## 10 Conclusion

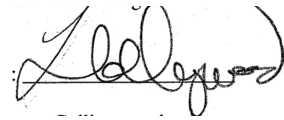
In conclusion, my RPV results show that Black voters continue to strongly prefer one set of candidates, whereas White voters prefer a different set of candidates. This occurs statewide, in the demonstration area, as well as in State Senate Districts 1 and 2. Moreover, the two endogenous districts that are the subject of this lawsuit demonstrate strong RPV in the 2024 general elections, with the Black-preferred candidate losing in both cases. This latter set of findings is perhaps the most important and probative of all my RPV findings.

Further, it does appear that White voters are slightly less supportive of Black Democrats than they are of White Democrats. But the most notable finding in this vein is White voters' lack of support for Black Republican Robinson when they had an alternative candidate who was White, which results in the only victory for a Black-preferred candidate in one of the State Senate Districts (2).

Finally, an updated BVAP analysis shows the best estimate BVAP required to draw a Black opportunity district in the 12-county demonstration region is 47.7%. Keep in mind this estimate is developed within a 12-county region that is best viewed as a guidepost – as I

noted in my original report – for drawing a highly competitive Black plurality VAP district in the region.

Pursuant to 28 U.S.C. § 1746, I, Loren Collingwood, declare the foregoing is true and correct.

A handwritten signature in black ink, appearing to read "Loren Collingwood", written over a horizontal line.

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Dr. Loren Collingwood

Dated: February 28, 2025

# 11 Appendix

## 11.1 Statewide RPV Results

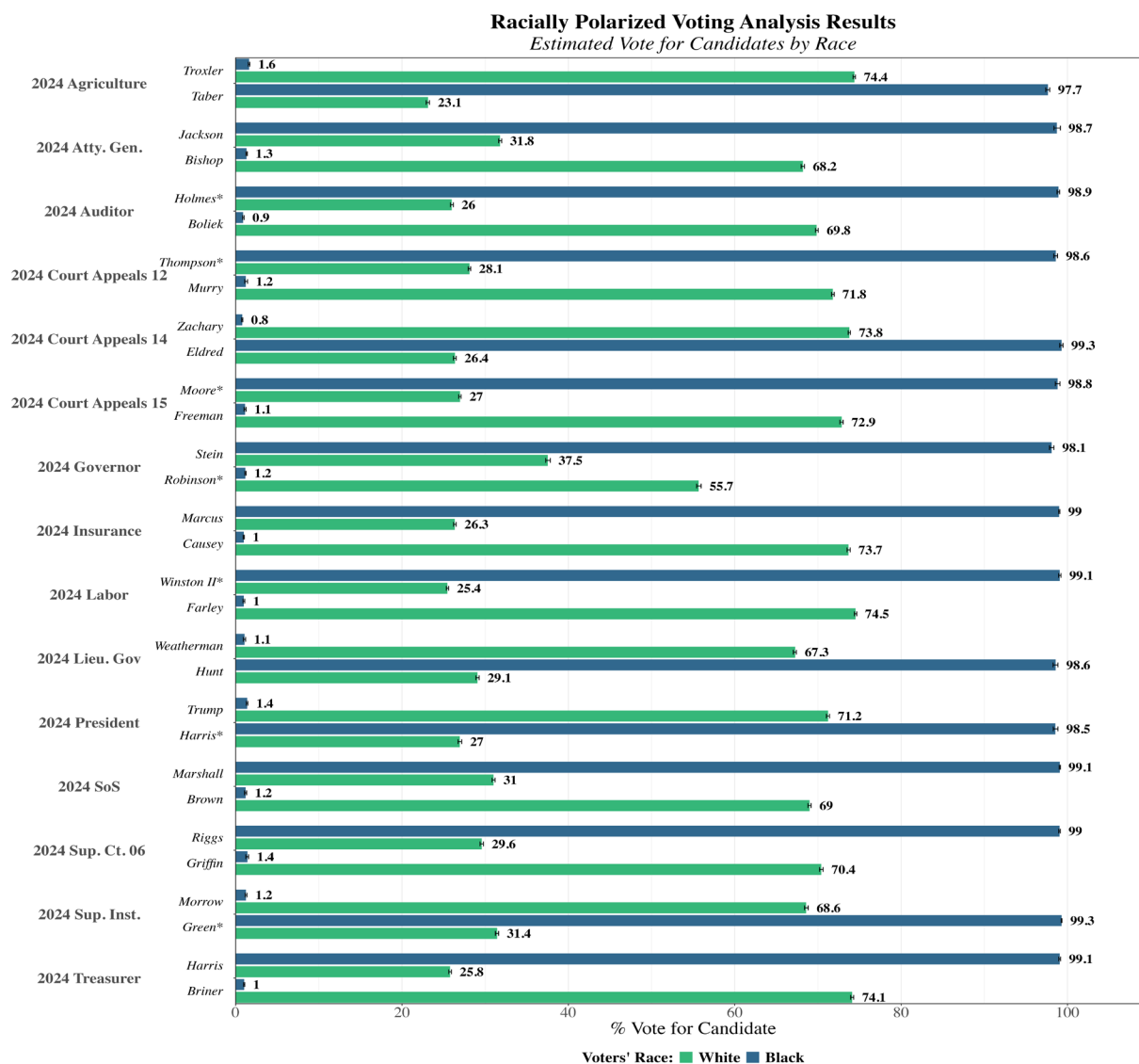


Figure 11.1: Racially Polarized Voting contest results. Ecological Inference (EI) results, Statewide 2024.



## 11.2-11.3 State Senate RPV Results

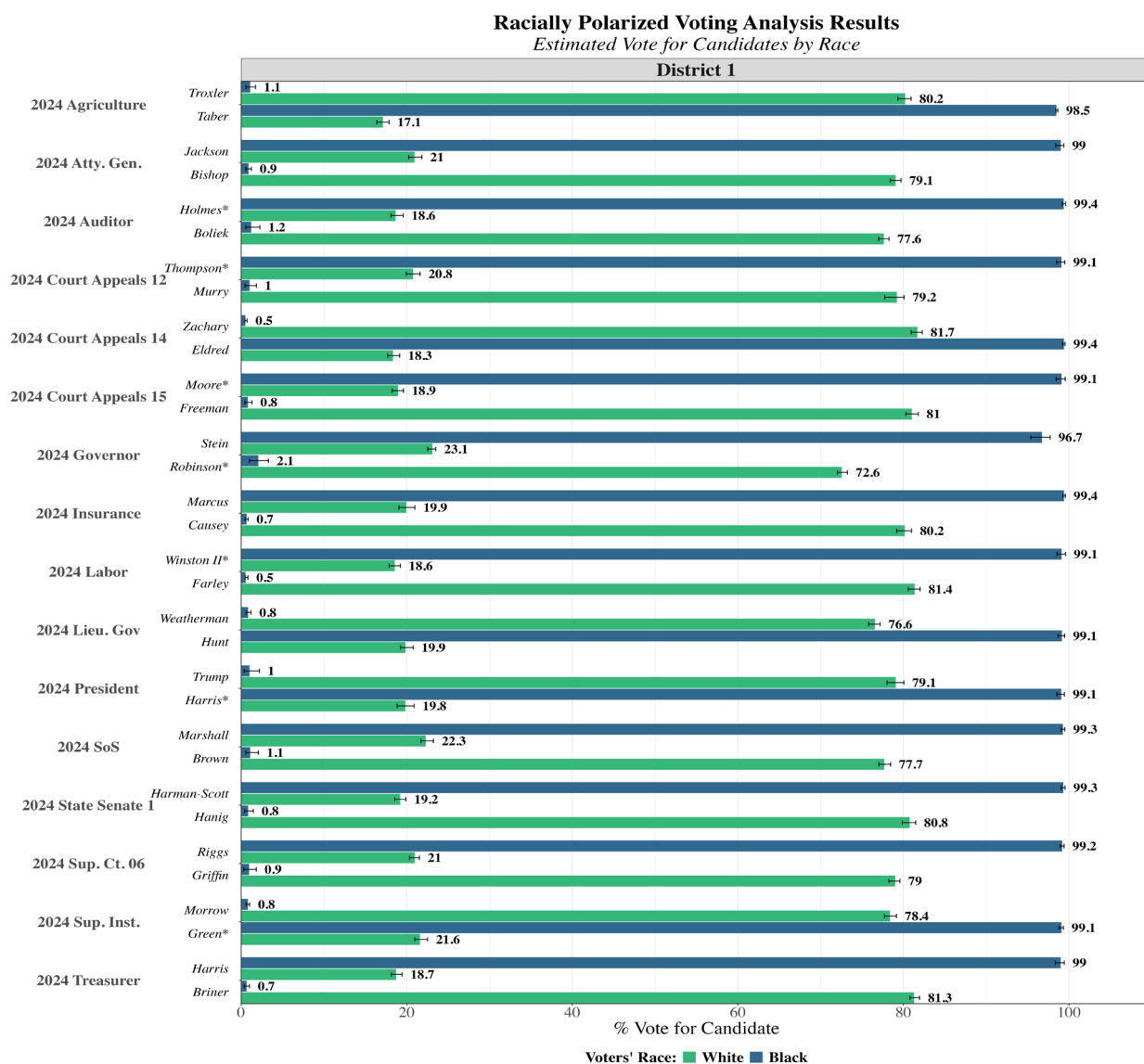
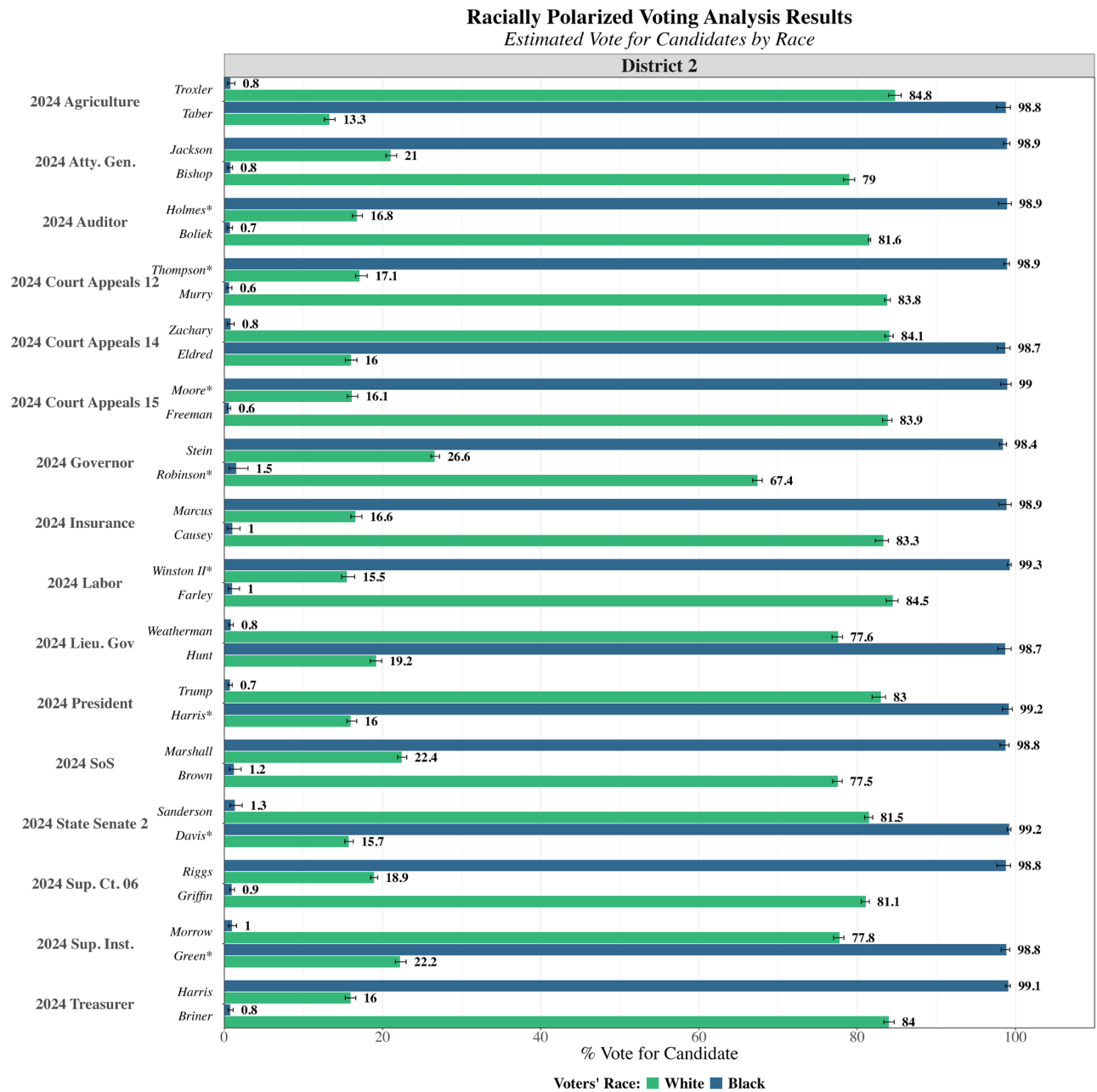


Figure 11.2: Racially Polarized Voting contest results. Ecological Inference (EI) results, State Senate D1, 2024.



*Figure 11.3: Racially Polarized Voting contest results. Ecological Inference (EI) results, State Senate D2, 2024.*

## 11.4 Demonstration Area RPV Results

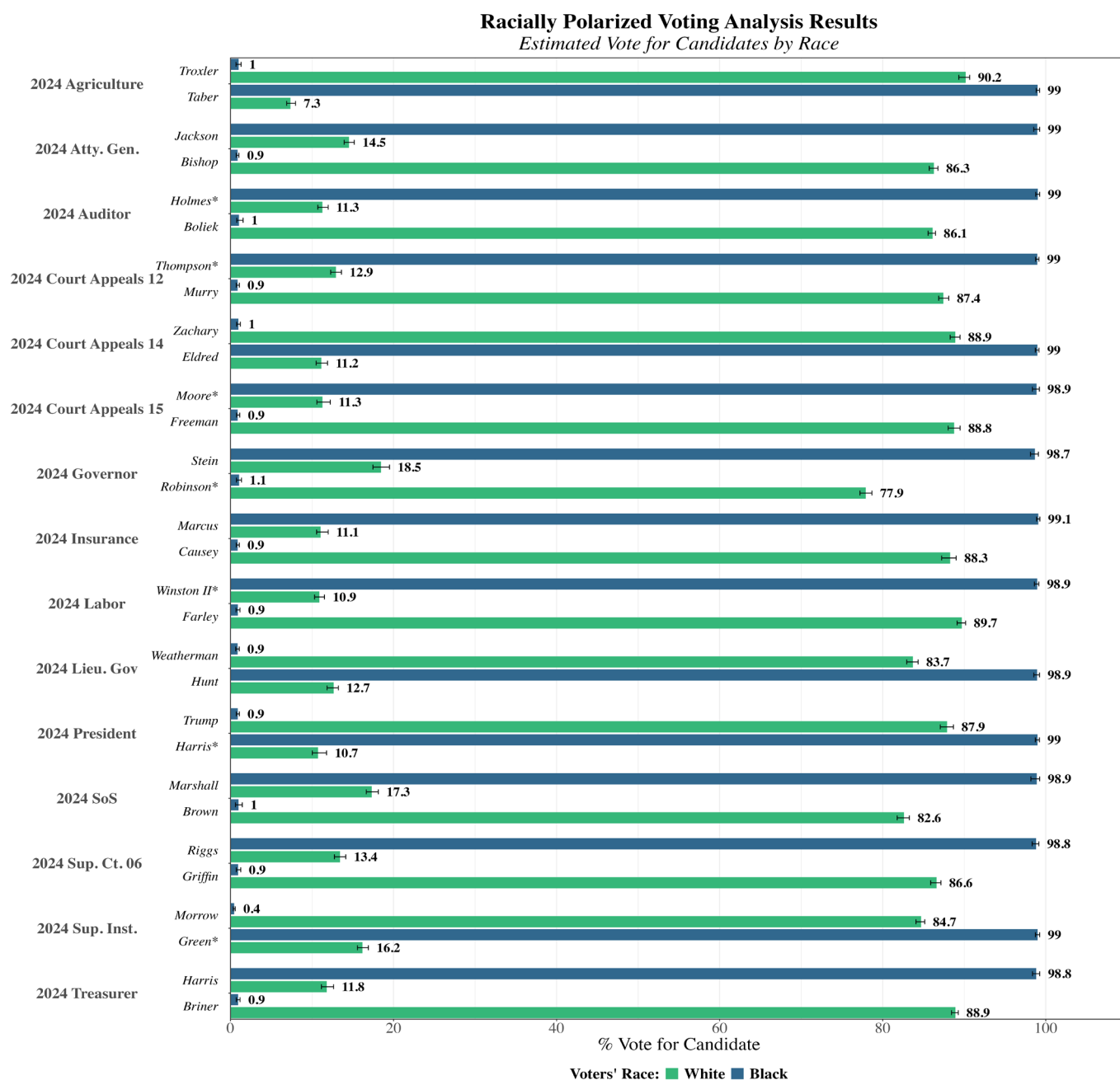


Figure 11.4: Racially Polarized Voting contest results. Ecological Inference (EI) results, 12-County Demonstration Area, 2024.

# Supplemental Expert Rebuttal Report of Dr. Loren Collingwood

Loren Collingwood

2025-03-07

## 1 Executive Summary

I have been retained by plaintiffs as an expert in the case entitled “Rodney D. Pierce et al. v. The North Carolina State Board of Elections,” and have provided an initial report dated May 31, 2024 (“Collingwood May Report”), a rebuttal report dated August 30, 2024 (“Collingwood August Report”), and a supplemental report dated February 28, 2025 (“Collingwood February Report”). This report responds to Dr. John Alford’s supplemental report regarding his analysis of the 2024 general elections.

Based on my review of Dr. Alford’s report, I conclude the following:

- Although Dr. Alford highlighted the 2020 Mark Robinson election in his initial report as key evidence to support his conclusions about party polarization, Dr. Alford’s supplemental report effectively ignores White cross-over voting in the 2024 Mark Robinson election, the only contest in the dataset where the White-preferred, Republican candidate is Black, and the Black-preferred, Democratic candidate is White. Even though his opinions in this case rest on the idea that voting is based on the party affiliation of the candidate, not on the race of the candidate, he sidesteps the evidence that a sizable share of White voters who generally prefer Republicans avoided casting a ballot for a Black Republican, and instead backed a White Democrat, in the only contest featuring that matchup.
- Even taken at face value, Dr. Alford’s results confirm that Black voters and White voters remain cohesive in 2024 and consistently support different candidates. His results confirm that voting in the relevant areas remains significantly racially polarized based on the race of the voter. He does not dispute that White opposition to the Black-preferred candidate usually results in the defeat of the Black-preferred candidate in SD1 and SD2 in 2024.
- However, Dr. Alford made a methodological choice that means that his racially polarized voting estimates *overestimate* White crossover voting in every contest in which there was a third-party candidate. Without explanation, he excludes votes for third party candidates from his EI analysis, which results in him attributing a portion of White votes for third party candidates to the Black-preferred (Democratic) candidate. The proper method would calculate each candidate’s support by

dividing the candidate's individual vote share by the total number of votes cast in that contest; not by dividing the candidate's vote share by the sum of the Democratic and Republican votes while treating third-party voters as having cast no votes.

- Dr. Alford suggests that the 2024 election results show that the BVAP needed to elect a Black preferred candidate “will very likely fall well below ... 47%.” My estimates of the BVAP that would on average result in Black-preferred candidates winning increased slightly with the inclusion of the 2024 elections because of a growing voter turnout gap between Blacks and Whites in 2024 relative to 2020, which Dr. Alford ignores. Whites enhanced their turnout advantage in 2024 in the Demonstration Area, as well as in SD-1 and in SD-2.
- Dr. Alford provides no evidence that BVAP performance should fall well below 47% BVAP, performs no calculations, and offers no accepted methodology for reaching that conclusion. His opinion is based on the roughly 20% White Cross-Over voting in SD-1 and SD-2, not the approximately 13% cross-over voting in the Demonstration Area, and he opines that given this we should expect a lower BVAP needed to elect a Black-preferred candidate. But he fails to consider turnout, which renders his opinions flawed on their face. Moreover, the higher White cross-over voting in SD-1 and SD-2 is attributable to coastal Outer Banks counties with few Black people where White people exhibit much higher cross-over voting than do White people in the Black Belt counties. These areas cannot easily be combined with the Black-Belt counties of the Demonstration Area to construct a Black-performing district.

I am being compensated at a rate of \$450/hour. My compensation is not contingent on the opinions expressed in this report, on my testimony, or on the outcome of this case.

## 2 Gingles II Cohesion and Gingles III White Blocking

While Dr. Alford and I produced slightly different ecological inference estimates, our overall findings are very similar. His results and my results establish that, in the 2024 elections, Black voters are extremely cohesive behind one set of candidates and that White voters are cohesive behind another set of candidates. This conclusion holds across the state but particularly in enacted State Senate Districts 1 and 2, and in the 12-County Demonstration Area. Dr. Alford attributes the differences in White vs. Black political behavior to “candidate party affiliation” rather than “the race of the candidates,” Supplemental Report 3, but the fact remains indisputable that White voters and Black voters vote differently to an extreme degree. The differences in Dr. Alford's White cross over voting estimates and my estimates for 2024 are similar to the differences in our results for the years 2016 through 2022, see Tables A1- A8 (Alford Initial Report), when Dr. Alford agreed that it was appropriate to rely on my analysis.

Although Dr. Alford did not calculate or supply confidence intervals (or credible intervals) with his RPV estimates in his initial report (and testified that he was relying on my estimates, which came with confidence intervals), he has calculated confidence intervals for his RPV estimates for 2024 in his supplemental report. Dr. Alford reports that the average confidence intervals associated with his estimates for White crossover voting are .7 percentage points statewide, more than 3 percentage points in the Demonstration Area, more than 4 percentage points in Senate District 1, and more than 3 percentage points in Senate District 2. The average confidence intervals associated with my estimates for White crossover voting are .365 percentage points statewide, 1.43 percentage points in the Demonstration Area, 1.48 percentage points in Senate District 1, and 1.31 percentage points in Senate District 2. These confidence intervals are calculated automatically by the ecological inference programs that Dr. Alford and I use.

Dr. Alford's confidence intervals reflect that the Court should not read the numbers he reports for White cross-over voting in 2024 as necessarily reflecting a meaningful increase compared to 2022 or prior years. For example, in my initial report I reported 20.84% cross-over voting on average in SD1 in 2022; Dr. Alford reports 24.1% for White Democrat vs. White Republican contests and 24.2% for Black Democrat vs. White Republican contests in 2024 in SD1, but Dr. Alford's confidence interval is over 4 percentage points.<sup>1</sup> Moreover, the white cross-over numbers he reports are similar to the numbers he reported in 2022 (in Tables A2, A4, A6, and A8 of his initial report).

Dr. Alford did not conduct any White blocking analysis. However, as with my May Collingwood Report blocking analysis, which showed very high rates of White blocking, I find that in the 2024 elections, White bloc voting prevents Black voters from electing their preferred candidates 100% of the time in Enacted State Senate District 1 and 94% of the time in State Senate District 2. I also find that in 2024, racially polarized voting was present in 100% of elections. These facts—which Dr. Alford's report either confirms (in the case of racially polarized voting) or does not dispute (in the case of blocking)—provide incontrovertible evidence of Gingles III.

Although Dr. Alford repeats his assertions that voting is polarized on the basis of the party of the candidate rather than the race of the candidate, it is notable that Dr. Alford did not conduct a thorough analysis of White cross-over voting when the Republican candidate is Black. Dr. Alford's initial report focused on Mark Robinson as evidence that voting was not polarized based on the race of the candidate, noting his success against White candidates

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<sup>1</sup> Confidence intervals for ecological inference RPV estimates (which are based on simulation methods involving draws from a statistical distribution) are calculated differently than margins of error associated with CVAP point estimates from the American Community Survey. One difference is that, unlike margins of error for ACS point estimates, confidence intervals for ecological inference RPV estimates are not based on a normal distribution in which the margin of error is calculated as plus or minus a value surrounding the point estimate.

in the primaries. Alford Rep. 19. Dr. Alford now relegates his discussion of Mark Robinson to a footnote. Dr. Alford concedes that “Robinson’s support from White voters is notably lower than any other Republican candidate.” Rebuttal Rep. 2 n.1. Under Dr. Alford’s type of analysis, this demonstrates that a substantial portion of White voters who normally support Republicans are no longer willing to do so when their option is a Black candidate.

This data point also undermines Dr. Alford’s conclusion that polarized voting in the Black Belt region is based solely on partisanship of the candidate rather than race of the candidate. Dr. Alford states that White voter support for Robinson in 2020 was not lower than “average White support for White Republican candidates,” but Dr. Alford ignores that Robinson in 2020 was up against a Black Democrat. Dr. Alford also notes that Robinson beat two White Republicans in the 2024 primary (statewide); but those two White Republicans received a combined 35% of the total vote. Those results leave a large swath of voters who could have voted for a White candidate over Robinson in the Republican primary and in the general election. These numbers are perfectly consistent with the conclusion, as my supplemental report demonstrated, that a significant share of White voters in 2024 become more likely to cross over to back the White Democratic candidate when the other option was to vote for a Black Republican candidate. This is true statewide, in the Demonstration Area, and in State Senate Districts 1 and 2. Further, it is worth noting that this same candidate did significantly better, by a margin of nearly 20 percentage points in places, four years prior when he faced a Black Democrat. Thus, when faced with either a Black Republican or a Black Democrat, White voters disproportionately backed the Black Republican. However, four years later when faced with the same Black Republican and a White Democrat, a sizable share of White voters who normally prefer Republican candidates opted for the White Democrat.

Finally, Dr. Alford’s discussion of the 2024 elections continues to conduct no causal analysis of the reasons Black voters support Democratic candidates or the reasons White voters support Republican candidates. Even accepting Dr. Alford’s analysis on its own terms, it attempts only to isolate whether a candidate’s race or party affiliation is a stronger predictor of voter behavior as between those two candidate-centric variables. He does not dispute that the race of the voter motivates the differential voting behavior we see.

### 3 Third Party Voting

Dr. Alford made a methodological choice in conducting his ecological inference analysis that means that his racially polarized voting estimates are technically incorrect and overestimate White crossover voting in every contest in which there was a third-party candidate. This mistake also means that the “averages” he reports in all of his tables are different than what they would be if he had properly considered third-party candidates.

In particular, and without explanation, Dr. Alford excludes votes for third party candidates and treats them akin to no votes in modeling racially polarized voting. I assume this was

done to expedite his statistical programming procedure, but I cannot say for sure. We can see this from his backup Stata .do file code here:

```
drop if candparty_~="DEM"&candparty_~="REP"
```

What this code line does is drop out non-Democrat/Republican candidates. Later, the code calculates the total vote based off of just the Democrat/Republican candidates. Any other candidate gets filtered into the No Vote category, along with voters who cast their ballots in the election but did not cast a ballot for a particular office. When the final vote-choice calculations are made, the voters falling into this No Vote/Third Party Vote get filtered out. We can see this in his results because they add up to exactly 100% even though we know there were third-party candidates in multiple contests, and many of the third-party candidates got significant portions of the vote, and especially of the White vote. For example, Dr. Alford reports in Table 1 that 20.7% of White voters voted for Tare Davis and 79.3% of White voters voted for Norman Sanderson in the Senate District 2 race. But Maria Cormos, a libertarian candidate, got 2.14% of the vote—and nearly all of those votes were from White voters. If Dr. Alford had included the votes rather than dropping them, his White cross-over percentages would go down – because there would be the same number of White votes for Tare Davis, but the denominator would now include *all* votes cast by White voters, not just some votes cast by White voters.

Obviously, many of the contests only feature a Democrat and a Republican, but in contests where there are sizable numbers of third-party votes, as in the 2024 gubernatorial contest, it is methodologically incorrect to inflate White cross-over percentages by treating White voters voting for third-party candidates the same as those who did not vote. The reason this is so is because Black voters are more cohesive behind Democratic candidates (97-99% most of the time) and so almost none of them vote third party. White voters, however, are more likely to vote for third-party candidates. Eliminating those votes has the effect of showing more White cross-over voting for the Black-preferred candidate than is actually the case.

By contrast, in both my original report and my supplemental report – which use exactly the same method to analyze racially polarized voting -- I do not drop third-party votes. Instead, I incorporate third-party vote into the denominator, account for the propensity of one group (Black or White) to cast ballots more for third-party candidates, and properly report the correct percentage of White voters who vote for Black-preferred candidates using the proper denominator of all White votes.

As an example, let's take the 2024 State Auditor's contest in SD-1. A libertarian candidate, Bob Drach, received 2.8% of the total vote in SD1. In SD-1, my estimates show that 77.64% of Whites backed the White Republican candidate, whereas 18.65% backed the Black Democratic candidate. Dr. Alford's numbers show that 75.2% of Whites back the Republican, and 24.8% of Whites back the Democratic candidate. Overall, both estimates show broad racial polarization and are consistent with one another, and part of the differences in results can be explained by the confidence intervals.



However, it can easily be shown that part of the reason our estimates diverge is due to the inclusion/exclusion of third-party candidates. To do so, I reran my EI analysis by using the Democrat and Republican combined as the vote total and then divided each candidate's vote share by that new vote total. When I do this, the White cross-over increases from 18.65% to 20%, whereas the share of Whites backing the Republican increases from 77.64% to 80%. The Black vote more or less remains unchanged, 99% Democrat, 1% Republican. This occurs because almost all of the third-party vote is White, so it makes sense that the Black vote will change very little, whereas the White vote will change more significantly. If Dr. Alford's ecological inference analysis had correctly incorporated third-party votes, his white cross-over estimates in SD1 in this race (and in all races with third-party candidates) would have gone down.

The same pattern is observed, for example, in the State Senate District 2 contest, where a third-party Libertarian candidate, Maria Cormos, received 2.14% of the vote.<sup>2</sup> Once again, if third-party candidates are excluded from the ecological inference analysis, the Black vote is essentially unchanged, but White cross-over voting inaccurately upticks from 15.73% to 16.3%, and so does White support for the Republican candidate (81.49% to 83.71%).

This error by Dr. Alford means that his White cross-over estimates are incorrect – and are overestimates – in the six elections in 2024 where third party candidates received a sizeable portion of the vote: President, NC Governor, NC Lieutenant Governor, NC Auditor, NC Commissioner of Agriculture, and Senate District 2. The choice to exclude third party in vote calculations also means that the averages in his tables, which rely on the estimates for individual elections, are incorrect.

## 4 BVAP Analysis

Dr. Alford suggests that cross-over voting in the 2024 elections should result in a lowering of the BVAP percentage that is needed to, on average, narrowly elect a Black-preferred candidate. Dr. Alford is incorrect, including because he fails to account for turnout differentials and because he incorrectly presumes (without any evidence or analysis) that it would be possible to draw a district in Northeastern North Carolina that both has a high BVAP percentage and has high White crossover voting.

First, any proper methodology for determining the BVAP at which a district would perform needs to account not only for White cross-over voting but also for turnout differentials. Dr. Alford's assertions in his supplemental report about performance, which are not backed up by any methodology or any actual mathematical analysis, simply ignore the turnout issue.

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<sup>2</sup> [https://er.ncsbe.gov/?election\\_dt=11/05/2024&county\\_id=0&office=NCS&contest=0](https://er.ncsbe.gov/?election_dt=11/05/2024&county_id=0&office=NCS&contest=0)

The reason why the estimated BVAP that would on average lead to a narrow victory for a Black-preferred candidate in the 2024 elections increased slightly compared to my prior estimate is not driven by a change in cross-over voting or lack thereof, but rather due to a significant drop in voter turnout among Blacks relative to Whites in all relevant areas (Demonstration Area, SD-1, SD-2) compared to the last presidential (2020) election year.

Indeed, the turnout gap between Whites and Blacks increased noticeably from 2020 to 2024 as a percentage of voting age population (“VAP”). Thus, the reason why the BVAP needed to elect a Black-preferred candidate increased with this most recent analysis is due to the turnout gap between Blacks and Whites widening between 2020 and 2024.

We know that BVAP increased due to the Black-White turnout gap because the general RPV results in the 12-county region changed only slightly from 2024 compared to earlier years, and if anything, became slightly more favorable to the Black-preferred candidate. This, on its own, would make the BVAP required to elect a Black-preferred candidate a bit lower since the Black-preferred candidate is on average now receiving a slightly higher vote (12.56 mean White cross-over across the three election cycles) compared to just including 2020 and 2022 (12.465 mean White cross-over across the two election cycles). To be sure, this overall difference is miniscule, but the point is that the model increases BVAP slightly due to a relative reduction in Black turnout, not due to a change in White Cross-Over voting.

Table 4.1 presents the racial turnout gap across the 2020 presidential election, and Table 4.2 presents the same findings but for 2024.<sup>3</sup> Table 4.1 shows that in the Demonstration Area in 2020, White voters enjoy a voter turnout advantage of 5.4 percentage points over Black voters, a margin of 68% (White) to 62.6% (Black).

*Table 4.1: 12-County Demonstration Region, Turnout by race, 2020 election.*

| Race                   | VAP 20  | Voted 20 | Turnout 20 |
|------------------------|---------|----------|------------|
| Total                  | 214,505 | 142,246  | 66.3       |
| White                  | 98,700  | 67,082   | 68.0       |
| Black                  | 101,326 | 63,425   | 62.6       |
| W-B Turnout Gap (2020) |         |          | 5.4        |

Table 4.2 shows the same results but for 2024. Overall, raw black turnout goes *down* between 2020 and 2024, and the White turnout advantage goes up from 5.4 percentage points in 2020 to 12.8 percentage points in 2024 (69% White to 56.2% Black). This generates a net White turnout advantage across the two cycles of 7.5 percentage points.

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<sup>3</sup> The VAP data are taken from the 2020 Census; and the votes cast are taken directly from the NCSBE voter turnout by race data that I have used throughout my reports.

*Table 4.2: 12-County Demonstration Region, Turnout by race, 2024 election.*

| Race                   | VAP 24  | Voted 24 | Turnout 24 |
|------------------------|---------|----------|------------|
| Total                  | 214,505 | 135,895  | 63.4       |
| White                  | 98,700  | 68,102   | 69.0       |
| Black                  | 101,326 | 56,919   | 56.2       |
| W-B Turnout Gap (2024) |         |          | 12.8       |

Table 4.3 reports turnout by race results for State Senate District 1 in election year 2020. Similar to the Demonstration District, White voters clearly have an edge in voter turnout: 72.5% of Whites voted in 2020, whereas just 61.9% of Blacks voted.

*Table 4.3: State Senate District 1, Turnout by race, 2020 election.*

| Race                   | VAP 20  | Voted 20 | Turnout 20 |
|------------------------|---------|----------|------------|
| Total                  | 160,716 | 112,411  | 69.9       |
| White                  | 101,719 | 73,761   | 72.5       |
| Black                  | 47,403  | 29,349   | 61.9       |
| W-B Turnout Gap (2020) |         |          | 10.6       |

Table 4.4 reports turnout by race results for State Senate District 1 in election year 2024. Once again, and consistent with the Demonstration Area, the raw number of Black voters decreases, and the relative gap in turnout increases between 2020 and 2024. In 2024, 77% of Whites of voting age voted. However, just 55.3% of Blacks of voting age voted. This generates a White VAP turnout advantage in 2024 of 21.7 percentage points, compared to 10.6 percentage points in 2020.

*Table 4.4: State Senate District 1, Turnout by race, 2024 election.*

| Race  | VAP 24  | Voted 24 | Turnout 24 |
|-------|---------|----------|------------|
| Total | 160,716 | 113,515  | 70.6       |
| White | 101,719 | 78,316   | 77.0       |

| Race                   | VAP 24 | Voted 24 | Turnout 24 |
|------------------------|--------|----------|------------|
| Black                  | 47,403 | 26,231   | 55.3       |
| W-B Turnout Gap (2024) |        |          | 21.7       |

Table 4.5 reports turnout by race results for State Senate District 2 in election year 2020. As with the Demonstration area and SD-1, White voters in SD-2 maintain a voter turnout advantage relative to Blacks. In SD-2, 72.7% of Whites of voting age voted in 2020, whereas 62.7% of Blacks of voting age voted, for a 10-point gap in voter turnout by race.

*Table 4.5: State Senate District 2, Turnout by race, 2020 election.*

| Race                   | VAP 20  | Voted 20 | Turnout 20 |
|------------------------|---------|----------|------------|
| Total                  | 162,322 | 115,686  | 71.3       |
| White                  | 102,468 | 74,456   | 72.7       |
| Black                  | 48,705  | 30,522   | 62.7       |
| W-B Turnout Gap (2020) |         |          | 10.0       |

Table 4.6 reports turnout by race results for State Senate District 2 in election year 2024. Once again, the raw number of Black voters decreased in 2024. In total, 76.7% of voting age Whites voted, whereas 56.2% of voting age Blacks voted for a 20.5% gap in voter turnout by race – compared to 10% in 2020.

*Table 4.6: State Senate District 2, Turnout by race, 2024 election.*

| Race                   | VAP 24  | Voted 24 | Turnout 24 |
|------------------------|---------|----------|------------|
| Total                  | 162,322 | 115,852  | 71.4       |
| White                  | 102,468 | 78,637   | 76.7       |
| Black                  | 48,705  | 27,383   | 56.2       |
| W-B Turnout Gap (2024) |         |          | 20.5       |

This turnout differential has huge consequences for purposes of determining the BVAP needed to win an election. For example, in 2022, Senate District 3 in this region had a

BVAP of 42.33%, and the Black-preferred candidate lost by a margin of 5 points, 52.53% to 47.47%. But one cannot simply assume that the Black-preferred candidate would have won if the BVAP went up by 2.5 points to around 45%, because the 2.5-point increase in BVAP would not translate to a 2.5 point-increase in votes for the Black-preferred candidate. Indeed, only 38% of the Black voting age population voted in the 2022 election in the Demonstration Area.

Second, on the claim that 47% BVAP is an inflated number, Dr. Alford states: “White crossover vote is notably higher in the geography of Senate Districts 1 and 2 than it is in the Demonstration area. With White crossover in the endogenous elections in both districts at or above 20 percent, and Black crossover below 5 percent, the BVAP needed to elect a Black preferred candidate (a Democrat) will likely fall well below the 47% that Dr. Collingwood suggested based on the Demonstration Area. (Page 4).” The trouble with this claim is that the areas of SD-1 and SD-2 where White cross-over voting is higher are the areas that have fewer Black people and are physically furthest from the core of the Black Belt and so would be very difficult to include in a Black-performing district – which is why I selected the Demonstration Area in the first place.

The areas where White cross-over voting in SD-1 and SD-2 are the highest include, generally, the coastal counties of Currituck and Dare (SD1) and Carteret, Hyde, and Pamlico (SD2). To show this I conducted a county-by-county RPV analysis with just the 2024 statewide elections.<sup>4</sup> I then take the average and weighted average (based on VAP, so that more populous counties are weighted more heavily) of White cross-over voting in the counties that are in the Demonstration Area and then in the counties that are in SD-1 and SD-2 but are not in the Demonstration Area.<sup>5</sup>

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<sup>4</sup> This includes, President, NC Attorney General, NC Auditor, NC Commissioner of Agriculture, NC Commissioner of Insurance, NC Commissioner of Labor, Governor, Lieutenant Governor, Secretary of State, NC Superintendent of Public Instruction, NC Treasurer, NC Supreme Court Associate Justice 6, NC Court of Appeals 12, NC Court of Appeals 14, NC Court of Appeals 15. I do not include the SD-1 and SD-2 contests in this particular analysis because I want to be able to make comparisons across the entire Demonstration Area and SD-1, SD-2 region. Breaking down the data to a county-by-county analysis does reduce observation size in each EI run since I split the whole region up by county then conduct ecological inference in each county. However, given that the overall average estimate is nearly identical to the RPV estimate when I conduct EI on the full 12-county region, we can be confident that this county-by-county analysis taken altogether is meaningful, accurate, and provides useful information to rebut Dr. Alford’s argument that a BVAP well below 47% is sufficient to elect a Black-preferred candidate based on no serious analysis.

<sup>5</sup> Note these results are similar to what I estimated when I estimated RPV for the 12-County Demonstration Region (12.6% here vs. 12.74% when estimated all together) but they are

Table 4.7 reports the mean White cross-over voting for the Black-preferred candidate in the 12-County Demonstration Area (12.6%). Incidentally when I weight the mean based on the VAP the result is the same, 12.6%. However, in the remaining counties the mean White cross-over vote for the Black-preferred candidate is 20.2%, and the weighted mean is 22.3%. Importantly, this summary table also demonstrates that the mean Percent Black VAP in the Demonstration Area is 45.3% (47.2% when we weight to account for population size by county), whereas the Percent Black VAP in the Remaining counties collectively is 13.3% (7.9% weighted mean).

*Table 4.7: Mean White Cross-Over voting by 12-County Demonstration Area and SD-1 and SD-2 Counties that are not in the Demonstration Area, 2024*

| Demonstration | White Cross Over (Mean) | White Cross Over (Weighted Mean) | Pct. Black VAP | Pct. Black VAP (Weighted) |
|---------------|-------------------------|----------------------------------|----------------|---------------------------|
| Yes           | 12.6                    | 12.6                             | 45.3           | 47.2                      |
| Remaining     | 20.2                    | 22.3                             | 13.3           | 7.9                       |

Table 4.8 reports the results broken down by county. The data shows that White cross-over voting is clearly on average higher in the portion of SD1 and SD2 that is not in the Demonstration Area, while at the same time those areas that show the most cross-over voting are also the least Black. Take Carteret County as an example. While about 20% of voters here are estimated to cross-over (similar to the SD-1/SD-2 mean), just 5.4% of the VAP is Black. Another example, Dare County, shows relatively high White cross-over voting at about 37%, but just 2.3% of the VAP is Black. The correlation between White cross-over voting and Percent Black VAP is -0.53 (on a scale from -1 to 1, with -1 being a perfect negative relationship between two variables, and a 1 being a perfect positive linear relationship between two variables) which is fairly high. This provides strong evidence that in this region, Whites cross-over much less frequently when they live in areas with larger Black populations.

*Table 4.8: Mean White Cross-Over voting by 12-County Demonstration Region and SD-1 and SD-2 Counties that are not in the Demonstration Region, 2024. County by County Results.*

| County | White Cross Over (Mean) | Pct. Black 20 | VAP 20 | Demonstration |
|--------|-------------------------|---------------|--------|---------------|
| BERTIE | 5.97                    | 60.40         | 14896  | Yes           |
| CHOWAN | 15.90                   | 32.10         | 11114  | Yes           |
| GATES  | 8.11                    | 31.40         | 8343   | Yes           |

not exactly the same because they are based on a county-by-county analysis then putting the results back together via taking the mean/weighted mean.

| County      | White Cross Over (Mean) | Pct. Black 20 | VAP 20 | Demonstration |
|-------------|-------------------------|---------------|--------|---------------|
| HALIFAX     | 11.80                   | 51.70         | 38975  | Yes           |
| HERTFORD    | 12.10                   | 57.30         | 17639  | Yes           |
| MARTIN      | 11.70                   | 41.00         | 17615  | Yes           |
| NORTHAMPTON | 10.80                   | 55.20         | 14372  | Yes           |
| PASQUOTANK  | 14.70                   | 36.70         | 31964  | Yes           |
| TYRRELL     | 14.10                   | 30.60         | 2574   | Yes           |
| VANCE       | 11.20                   | 50.00         | 32871  | Yes           |
| WARREN      | 22.70                   | 49.30         | 15292  | Yes           |
| WASHINGTON  | 11.60                   | 47.90         | 8850   | Yes           |
| CAMDEN      | 9.05                    | 11.90         | 7887   | No            |
| CARTERET    | 19.80                   | 5.40          | 56213  | No            |
| CURRITUCK   | 18.30                   | 5.81          | 22004  | No            |
| DARE        | 37.30                   | 2.32          | 30445  | No            |
| HYDE        | 25.80                   | 28.30         | 3785   | No            |
| PAMLICO     | 21.50                   | 18.10         | 10478  | No            |
| PERQUIMANS  | 9.64                    | 21.60         | 10592  | No            |

Thus, given these findings, it is nonsensical to conclude that cross-over voting “at or above 20 percent” in SD1 or SD2 suggests that a performing district “well below” 47% VAP in the region is possible. In order to incorporate that higher cross-over White vote, the district would necessarily have to include counties in SD1 and SD2 where there are simply not that many Black people—the very counties that drag down the BVAP of SD1 and SD2 to around 30%. While there are a couple of counties with higher Black populations (i.e., Warren and Chowan) that have in the neighborhood of 16-23% cross-over voting, almost all the counties in this broader region that contain sizable Black populations contain White populations that cross-over at rates close to 12.6%. To increase the BVAP of the district even to around 42% (like in SD3 in 2022), you would need to exclude the southern counties with relatively high cross-over voting, which is why the district did not perform. All of this is precisely why it is appropriate to estimate a BVAP threshold for Black-preferred candidate success on the basis of turnout and cross-over voting in the region where a heavily Black district could be drawn (the Demonstration Area), and not on the basis of cross-over voting in SD1 and SD2 as a whole.

## 5 Conclusion

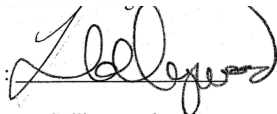
While it is true that Dr. Alford and I consistently report similar ecological inference estimates, I provided evidence that Dr. Alford’s decision to exclude third-party candidates from the way he estimates RPV inflates White cross-over voting estimates. In addition, Dr. Alford did not seriously address the large cross-over voting observed in the 2024

gubernatorial contest in which large numbers of Whites opted not to vote for a Black Republican and instead voted for the Black Democrat.

My turnout analysis here reveals that in the Demonstration Area, and in SD-1 and SD-2, the turnout gap between Whites and Blacks grew from 2020 to 2024. This is why my updated BVAP analysis shows a slight increase in the BVAP at which, on average, a Black-preferred candidate would narrowly win.

Furthermore, we cannot simply draw a Black-performing district that includes the areas in SD1 and SD2 with higher White cross over voting because those areas are furthest from the Black Belt region of the Demonstration Area and contain relatively few Black people (e.g., Dare County). A district where Black voters have an equal shot of winning would be located primarily in the Black Belt area, and in that area White voters do not cross-over at nearly the same degree as they do in counties that are in the portions of SD-1 and SD-2 that are outside the Demonstration Area. That is why Dr. Alford's back-of-the-envelope assertions about BVAP thresholds on the basis of white cross-over voting in SD-1 and SD-2 are methodologically flawed and incorrect.

Pursuant to 28 U.S.C. § 1746, I, Loren Collingwood, declare the foregoing is true and correct.



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Dr. Loren Collingwood

Dated: March 7, 2025