

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION**

IN RE GEORGIA SENATE BILL 202

Master Case No.:
1:21-MI-55555-JPB

**STATE DEFENDANTS' SUR-REPLY IN OPPOSITION TO
PLAINTIFFS' MOTION FOR A PRELIMINARY INJUNCTION
BASED ON DISCRIMINATORY-INTENT CLAIMS**

Plaintiffs' Reply brief [[Doc. 617](#)] offers new arguments and new evidence that were not contained in their original motion, requiring State Defendants to submit this sur-reply. Specifically, Plaintiffs' Reply (1) attaches a Supplemental Declaration from Dr. Barry Burden that is actually a new expert report [[Doc. 617-2](#) ("Burden Suppl. Decl.")] and (2) makes inaccurate representations of an updated calculation by Dr. Justin Grimmer of drop box usage during the 2022 General Election. Further, Plaintiffs continue to rely on Dr. Burden's critique of Dr. Grimmer's drop box analysis based on the Georgia Public Broadcasting (GPB) dataset, claiming the GPB dataset undercounted drop box usage when compared to Dr. Burden's self-prepared dataset. State Defendants were unable to respond to this critique in their Response because the full data Dr. Burden relied on in his March 3, 2023 Sur-
Rebuttal Report [[Doc. 566-43](#)] was only provided to State Defendants on August 28, 2023, four days after Plaintiffs' Reply.

This Court should disregard the new arguments and evidence, which go beyond merely responding to the arguments made by State Defendants. But even if this Court considers the new information, none of it demonstrates that Plaintiffs are entitled to a preliminary injunction. And none of it supports the Plaintiffs' argument that the General Assembly's decision to regulate the use of drop boxes had a discriminatory effect, or much less discriminatory intent by the people's elected representatives.

ARGUMENT

I. Plaintiffs misrepresent Dr. Grimmer's opinions on drop box usage by race in the 2022 General Election.

Plaintiffs first suggest that a cover email [[Doc. 617-18](#)] provided in advance of Dr. Grimmer's planned August 22, 2023 supplemental deposition¹ "indicat[es] that his analysis no longer suggests that white voters used drop boxes more than Black voters in 2022." [Doc. 617 at 13](#) n.12. Plaintiffs even offer a Supplemental Declaration from Dr. Barry Burden stating as much. [Doc. 617-2 at 3–4](#) ("Based on this email, Dr. Grimmer's analysis no longer supports his claim that white voters were more likely than Black voters to use absentee ballot drop boxes in the 2022 election."). However, as explained below and in the attached update to Dr. Grimmer's expert report, that representation is

¹ Dr. Grimmer's August 22, 2023 supplemental deposition was rescheduled to September 15.

false. See Update to Expert Report of Justin Grimmer, Ph.D. ¶¶ 1–3, 24 (attached as Ex. A) (“Grimmer Update”).

As Dr. Grimmer’s Update explains, his conclusions on drop box usage in the 2022 general election remain unchanged: He finds that white mail-in absentee voters were 6.5 percentage points more likely to use absentee ballot drop boxes than Black mail-in absentee voters. Grimmer Update ¶ 17 (while acknowledging that the difference is such that one cannot statistically prove there is an actual difference in drop box use between white and Black voters). For consistency with his 2020 analysis, Dr. Grimmer also analyzes the rate at which voters overall—including in-person early, Election Day in-person, and mail-in absentee—used a drop box to return their ballot in the 2022 general election. Of course, only mail-in absentee voters are even able to use a drop box. Correcting a small math error in his code used for calculating the estimated rates, Dr. Grimmer’s analysis remains statistically unchanged, with the percentage of all white and Black voters who reported using a drop box in 2022 being statistically the same. *Id.* ¶ 24. As Dr. Grimmer explains, this does not mean that his “analysis no longer suggests that white voters used drop boxes more than Black voters in 2022.” *Id.* ¶ 3. In fact, even after the modest corrections to his data, his analysis still shows that in 2022 white voters used drop boxes more than Black voters but by a smaller margin than in 2020. *Id.* ¶¶ 6–7.

Of course, it is not even clear what Plaintiffs are suggesting with their misinterpretation of Dr. Grimmer's analysis. Dr. Grimmer's analysis and that of their own experts provide no support for Plaintiffs' argument that SB 202's drop box provision has had any racially discriminatory effect, let alone that it was put in place for a discriminatory motive.

II. Plaintiffs' new arguments that Dr. Grimmer relies on surveys with insufficient sample sizes are also incorrect.

Plaintiffs are also wrong in claiming, for the first time, that the samples relied upon by Dr. Grimmer are too small (and that the resulting confidence intervals are too wide) to generate the conclusions he draws from them. Specifically, in their Reply, Plaintiffs claim:

Defense expert Dr. Justin Grimmer relies on two surveys, each containing fewer than 150 total drop box voters in Georgia. Ex. 133 (Burden Supp. Decl. 1-3). For 2022, the dataset he relies on contains only twelve (12) self-reported drop box users in the entire State. *Id.* at 3. These sample sizes are far too small to draw conclusions about Georgia voters as a whole. *Id.* at 2-3.

[[Doc. 167 at 13](#) (footnote omitted)].

Plaintiffs' claim is based on faulty analysis by Dr. Burden on how to determine who returned a ballot by drop box based on the Cooperative Election Study (CES) from 2020 and the Survey of the Performance of American Elections (SPAEL).² Burden Suppl. Decl. 2–3 [[Doc. 617-2](#)]. Specifically, Dr.

² These are surveys of voters where the voters answer a series of questions about their voting experience and not an analysis of actual return data (such as the GPB dataset addressed in Section III).

Burden's analysis is based on a flawed definition of when someone returns a ballot via drop box and on calculation errors by Dr. Burden that improperly exclude survey respondents. Dr. Burden excludes everyone who returned their absentee ballot to their "neighborhood polling place or voting center" even though those were the primary places to return absentee ballots via drop box (along with the main election office) in 2020 and only places for drop box returns in 2022. Thus Dr. Burden eliminated half of all drop box returns in conducting his 2020 analysis. Grimmer Update ¶ 25.

Regarding his claim that the SPAE is unreliable due to low sample size, Dr. Burden is again incorrect in his analysis. Burden Suppl. Decl. at 2. As Dr. Grimmer explains:

Dr. Burden's estimated confidence intervals, however, are based on an error that arises from incorrectly using the SPAE survey. As a result, Dr. Burden is reporting confidence intervals for a quantity that I do not estimate. Further, as a result of this error he inadvertently excludes respondents from the calculation, incorrectly decreasing the sample size and, subsequently, incorrectly increasing the reported margin of error.

Grimmer Update ¶ 26. The error Dr. Burden makes in his critique of the SPAE survey is that he improperly followed the survey's internal "decision tree" (how a survey respondent is taken from one question to the next based on answers to certain questions), something Dr. Grimmer explained in his deposition. Grimmer Dep. 139:5–140:15 (excerpts attached as Ex. B). Because Dr. Burden misanalysed the SPAE survey, he did not evaluate the same results Dr.

Grimmer did—creating an apples versus oranges situation and making Dr. Burden’s analysis and criticisms meaningless. Grimmer Update ¶¶ 27–28; *see also* ¶¶ 29–30 & n.6 (explaining how to get Dr. Burden’s conclusions by inaccurately analyzing the SPAE dataset and pointing out other miscalculations Dr. Burden made in determining the number of relevant respondents from the dataset).

Regarding his claim that the 2022 preliminary CES survey results had only 12 respondents, [[Doc. 617-2 at 3](#)], Dr. Burden’s analysis is again off the mark. As Dr. Grimmer explains:

But Dr. Burden’s conclusions are based on the small number of individuals who report using a stand-alone drop box in 2022. It is inappropriate to restrict the analysis to only these individuals, because SB 202 requires drop boxes to be at main election offices or voting centers. Therefore, it is not surprising that few voters report returning ballots to stand alone drop boxes. I noted this expectation in my replication code. I wrote: “Note: we expect non-polling location drop boxes to be a smaller share, but I include that option here to keep the table format the same” (Grimmer Second Replication Code Lines 157-158). My conclusions are based on the definition of drop box use where drop boxes are located in 2022, in particular which includes main election offices (along with the small number of individuals who report using non-polling location drop boxes).

Grimmer Update ¶ 31 (internal citation omitted). Dr. Grimmer also explains his use of the 2022 CES and how he reached his conclusions given the limitations of the preliminary data. Grimmer Update ¶¶ 17, 23. Here again,

by relying on Dr. Burden, Plaintiffs' criticism of Dr. Grimmer's analysis is misplaced.

In order to support their allegation of discrimination intent, Plaintiffs' have to take a distorted view of which drop box ballots to count, and then manipulate the resulting data in ways that are inconsistent with the legislative scheme in place at the time, and then make errors in compiling or analyzing the resulting dataset. As explained above and in more detail by Dr. Grimmer (Update at ¶¶ 25–31), that is obviously improper.

III. Dr. Burden's Sur-Rebuttal analysis of drop box usage is plagued by other errors.

Dr. Burden's sur-rebuttal is plagued by other errors that further undermine Plaintiffs' claims of discriminatory intent. For example, relying upon Dr. Burden, Plaintiffs continue to claim that 69% of mail in-absentee ballots returned in the last four days before Election Day in November 2020 were returned via drop box. [[Doc. 566-1 at 38](#) (citing Burden Sur-Rebuttal at 6)]. But that conclusion is likewise based on Dr. Burden's overcounting of drop box ballots.³ Grimmer Update ¶ 36.

³ The analysis here is based on dataset compiled from return data and not from voter surveys such as CES and SPAE as addressed in Section II. Accordingly, the analysis discussed in this Section is different from the analysis in Section II as it relies on an entirely different kind of data.

Dr. Burden first made this error in his original report which Dr. Grimmer pointed out in his initial report. [[Doc. 601-17 at ¶¶ 13, 117–124](#) (“Grimmer Rep.”)]. Dr. Burden then attempted to correct his prior error but failed to do so. [[Doc. 566-43 at 4](#)].

From a review of the data Dr. Burden relied on in his Sur-Rebuttal Report, it is clear that his analysis continues to be plagued by two of his earlier errors. First, as Dr. Grimmer explains in detail, Dr. Burden continues to double-count numerous drop box returns—thereby seriously undermining the very analysis upon which Plaintiffs rely. Grimmer Update ¶¶ 32–41. For example, Dr. Burden’s analysis continues to contain duplicate entries, particularly for Gwinnett County, thus overstating the actual number of ballots returned via drop box in 2020. *Id.* ¶¶ 33–34.

Second, Dr. Burden erroneously rejects the GPB drop box dataset, which is far superior to the ad hoc data compiled by Dr. Burden. The GPB dataset looked at 112 Georgia counties in the 2020 general election and tabulated the number of ballots returned via drop boxes in those counties. *Id.* ¶¶ 39–40. Although that dataset does not include all Georgia counties, that is because only 129 of Georgia’s 159 counties used drop boxes in 2020 even though they were authorized for the first time under an Emergency Authorization declaration. Grimmer Rep. ¶ 117. Dr. Burden, by contrast, relied on a self-compiled dataset of 101 counties, which is substantially fewer than the set of

all counties that used drop boxes in 2020. Grimmer Update ¶¶ 39–40. That failure to use all reasonably available data further undermines the credibility of Dr. Burden’s conclusions. *See Id.* at ¶¶ 32–41.

In short, Plaintiffs have failed to demonstrate any discriminatory impact, let alone intent, related to SB 202’s drop box regulations. Dr. Burden’s error-prone analysis certainly does not provide any supporting evidence for their claims.

CONCLUSION

Plaintiffs’ new evidence and new arguments in their reply do not change the reality—they have failed to establish any of the requirements for a preliminary injunction. Dr. Grimmer’s analysis regarding drop box usage shows that white voters used drop boxes to return absentee ballots at higher rates than Black voters in 2020, and that while the racial gap closed in 2022, after SB 202, it still appears that white mail-in absentee voters continue to use drop boxes at a slightly higher rate than Black voters. What is not shown is any racially discriminatory intent or effect from SB 202.

Respectfully submitted this 8th day of September, 2023.

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CERTIFICATE OF COMPLIANCE

Pursuant to L.R. 7.1(D), the undersigned hereby certifies that the foregoing brief was prepared in Century Schoolbook 13, a font and type selection approved by the Court in L.R. 5.1(B).

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EXHIBIT A

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
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IN RE GEORGIA SENATE BILL 202

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Update to Expert Report of Justin Grimmer, Ph.D.

1. In the Department of Justice’s Reply in support of its Motion for Preliminary Injunction the government makes several inaccurate criticisms of my opinions and the data upon which I relied. Initially, the government states that “Defendants’ claim that “Black voters in 2020 and 2022 used drop boxes less frequently than white voters” is unsupported by the data. State’s Br. 64” (Reply to PI motion 13). This is because, the government claims, “Defense expert Dr. Justin Grimmer relies on two surveys, each containing fewer than 150 total drop box voters in Georgia. Ex. 133. For 2022, the dataset he relies on contains only twelve (12) self reported drop box users in the entire State. Id. at 3. These sample sizes are far too small to draw conclusions about Georgia voters as a whole. Id. at 2-3” (Reply to PI motion pg 13). The government also states in footnote 12: “On August 21, 2023, State Defendants provided “updated” information from Dr. Grimmer indicating that his analysis no longer suggests that white voters used drop boxes more than Black voters in 2022. See Ex. 149 (Email dated Aug. 21, 2023).” Such statements do not accurately reflect my opinions and the data.

2. The issue concerns the rates at which white and Black voters used absentee ballot drop boxes in the 2020 and 2022 general election in Georgia. As set out below, that

analysis involves using the 2020 Cooperative Election Survey (CES), the 2020 Survey of the Performance of American Elections (SPAЕ), the 2022 preliminary CES data, and information from the Georgia’s absentee voter history and the state voter file. I evaluated the rate of self-reported drop box use in both the 2020 and 2022 general elections.

3. I first examined the rate white and Black voters who cast their ballot by mail-in absentee voting report returning their ballot via drop box, because only mail-in absentee voters would actually use a drop box. I then examined the percentage of all voters – early in person, Election Day in person, and mail-in absentee – who reported returning a ballot via drop box. The “updated” information was related to an arithmetic error I discovered in calculating the overall percentage of white and Black voters--- including early in person, Election Day in person, and mail-in absentee---who returned their ballot by use of a drop box in 2022. As explained below, my conclusion is not that my “analysis no longer suggests that white voters used drop boxes more than Black voters in 2022.” My analysis of drop box use among mail-in voters is unaffected by this arithmetic error. My estimates for the rates overall voters used drop boxes in 2022 does have a sign change, but the numerical change in the estimate is relatively small and therefore my conclusion is largely unaffected.

4. In this Update, I examine the self-reported rate of drop box use by race for mail in absentee voters in the 2020 general election and the 2022 general election in Georgia and the self-reported rate of drop box use by race for all voters (early in-person, Election Day in person, and mail-in absentee) in the 2020 general election and the 2022 general election. For the 2020 general election I calculate these quantities using the Cooperative Election Study (CES) from 2020 and the Survey of the Performance of American Elections (SPAЕ) from 2020. For the 2022 general election I compute the rate of drop box use for mail-in absentee voters and all voters using the preliminary release of the Cooperative Election Study (CES) from 2022.

5. In the 2020 general election regardless of the survey used, I find that white mail in absentee ballot voters in Georgia are more likely than Black mail in voters to report returning their ballot via drop box. In the 2020 election my estimates indicate that white mail in voters were 10.1 to 18.4 percentage points more likely to return their ballot via drop box than Black mail-in voters. I also perform a statistical test to determine whether the differences I estimate in the rate white and Black mail in voters use drop boxes are surprising if white and Black mail in voters are believed to use drop boxes at the same rate. To do this I follow a standard statistical inference procedure and I estimate how surprising the observed differences are if I assume that there are no differences in the rate white and Black mail-in voters use drop boxes, which is referred to as a “null hypothesis”. Under the null hypothesis of no difference between the rate white and Black mail-in voters use drop boxes, I find that in all but one instance I reject the null hypothesis that white and Black mail-in voters use drop boxes at the same rate at 95% confidence and in all instances, I reject the null hypothesis of no difference at the 90% level of confidence. In other words, the data shows that white mail in voters used drop boxes at a higher rate than Black mail in voters and this difference is statistically significant at standard levels of confidence.

6. In the 2022 general election white mail-in voters continued to be more likely to return their ballot via drop box than Black mail in voters, but the difference between the two groups was smaller, with white mail-in ballot voters 6.5 percentage points more likely to return their ballot via drop box. In 2022 I fail to reject a null of that white and Black mail-in voters use drop boxes at the same rate. That is, while I find that in 2022 white mail in voter use drop boxes at a higher rate than Black mail in voters, the difference would not be surprising if white and Black mail in voters actually used drop boxes at the same rate in 2022.

7. As a share of overall voters (early in person, Election Day, and mail-in absentee) my estimates indicate that white voters are more likely to use drop boxes in Georgia than Black voters in Georgia or that white and Black voters use drop boxes at essentially equal rates in both 2020 and 2022. Across surveys, weights, and definitions of using a drop box I estimated the difference in drop box use between white and Black voters ranges from -0.00 to 3.0 percentage points in the 2020 general election, but I fail to reject a null hypothesis that white and Black voters overall use drop boxes at the same rate. In the 2020 general election I consistently find that white voters were more likely to use drop boxes located at non-polling location, a difference that is sometimes statistically significant. For the 2022 general election, I find that overall Black voters were 0.1 percentage points more likely than white voters to return their ballot via drop box, but I fail to reject a null hypothesis of no difference between the rate white and Black voters overall used drop boxes.

8. The government also offers a supplemental declaration from Dr. Burden who criticizes my analysis of drop box usage using survey data. Dr. Burden objects to my definition of drop box voters in Georgia included in my original report, instead arguing that the analysis should be restricted to respondents who report returning their ballot at a stand-alone drop box at a non-polling location, excluding individuals who report returning their ballot at a main election office, a neighborhood polling place, or a voting center (Burden Sup. Decl. p. 2). In the 2020 election, this definition will inappropriately exclude many drop box voters. As I explained in my deposition and demonstrated in the replication code, about 45% of all drop box ballots are returned at main election offices (Grimmer Deposition 140:16-141:3; Grimmer Second Replication Code Lines 360-364). Further, in the 2020 Georgia general election the only mechanism to return a mail in absentee ballot at a neighborhood polling place or voting center is via drop box. The definition that I use ensures that all drop box voters are included in my analysis. Nevertheless, in this update I calculate the rate white

and Black mail in voters and voters overall use non-polling location drop boxes in the 2020 election.

9. Dr. Burden's definition of a drop box voter is particularly inappropriate in the 2022 election, leading him to undercount the number of drop box voters in the 2022 CES. SB 202 requires drop boxes to be located at main election offices or at voting centers. As a result, it is not surprising that Dr. Burden finds few voters in the 2022 CES in Georgia who report returning their ballot at stand-alone drop boxes. Indeed, I explained in circulated replication code that this narrow definition is incorrect (Grimmer Second Replication Code Lines 157-158). My 2022 analysis is based on 62 respondents who reported using a drop box out of 193 overall mail in absentee voters (weighted to be 50.8 respondents who report using a drop box out of approximately 174 respondents).

10. Dr. Burden also criticizes the sample size used as a basis for assessing drop box use in Georgia. Dr. Burden criticizes my use of the SPAE in 2020 to examine self-reported drop box use (Burden Sup. Decl. p. 2). But his analysis of the SPAE data set suffers from an error that results from misusing the SPAE data set, causing him to inappropriately exclude from his calculations all mail in voters who reported mailing their ballot. As a result, he reports a confidence interval for a quantity that I do not estimate and is therefore irrelevant to my opinions. Further, because the confidence interval he estimates is based on only a subset of the relevant respondents he overstates the margin of error in the calculations that I perform.

11. In addition to issues regarding survey estimates of drop box use among Georgia voters, after I filed my initial expert report, I received code and data that has enabled me to evaluate Dr. Burden's claims about the number of ballots returned via drop box and his criticism of my analysis. Dr. Burden's surrebuttal report continues to have errors in overcounting the number of ballots returned via drop box. After correcting for his errors, I

find Dr. Burden's estimates and my estimates of the share of ballots returned via drop box from my first expert report are quite similar. Additionally, his criticisms of the Georgia Public Broadcasting (GPB) data on drop box use are misplaced as the GPB covers more drop box ballots than his data set and therefore isn't an undercount as he claims.

Calculating Self-Reported Drop Box Use by Race

12. To reach my conclusions, I first examine the rate mail-in ballot voters in Georgia report casting their ballot via drop box in both the 2020 general election and the 2022 general election. In the 2020 general election I used the 2020 Cooperative Election Study (CES) and the 2020 Survey of the Performance of American Elections (SPAEE). For the 2022 general election, I used the preliminary release of the 2022 Cooperative Election Study (CES). To identify mail in voters, I restricted the analysis to voters who report they "Voted by mail (or absentee)." Across surveys I then analyzed responses to the question "Which of the following most accurately describes how your ballot was returned?" I used two different definitions of drop box returns based on this question. First, to capture all drop boxes at many locations I coded mail-in voters as having used a drop box if they report returning their ballot at a drop box not located at an election office or polling place, main election office, neighborhood polling place, or a voting center.¹ In Georgia in 2020 mail in voters returning their mail in ballot to a neighborhood polling place or voting center necessarily had to use a drop box. Mail in voters at main election offices could plausibly hand their ballot to an election official. However, my analysis of drop box data shows that at least 45.3% of ballots return via drop box were returned at a main election office (Grimmer Second Replication

¹ Specifically, under this definition I coded mail in voters as drop box voters if they select "Drop box used only for ballots, not located at an election office or polling place", "Main election office", "Neighborhood polling place", or "Voting center, not a neighborhood polling place."

Code 360-364). Second, I coded mail-in voters as using a "Non-polling" drop box if they report returning their ballot to a "Drop box used only for ballots, not located at an election office or polling place." This definition corresponds to Dr. Burden's preferred definition. Because SB 202 requires drop boxes at main election offices or voting centers, in 2022 this definition of drop box is inappropriate in that election. I only calculate the rate of non-polling drop box use in 2022 to keep the format of my tables constant, but I do not reach a conclusion about drop box use based on this rate.

13. Table 1 uses the 2020 CES to calculate the share of mail-in ballots returned via drop box for white and Black mail-in absentee voters in Georgia. In Table 1, I restrict the sample to individuals whose turnout has been vote validated by the CES. This is a process where the CES confirms that individuals actually voted in the election using administrative data from the state of Georgia. I further restrict the sample to individuals who self-report voting mail-in ballot absentee. I then weight the responses using the vote validated weights from the post-election survey. In Table 1 (and subsequent tables) the first column is the estimated rate of use among white mail-in voters for both definitions of drop box use, the second column is the estimated rate of use for Black mail in voters, the third column is the difference in the estimated rate of use between white and Black voters, and the fourth column is the standard error for the difference between the rate of use between white and Black voters.

14. Table 1 shows that whether I examine mail in voters who use all drop boxes or restrict attention to non-polling drop boxes, white mail-in voters were more likely to return their ballot via drop box than Black mail in voters. Focusing first on all drop boxes, white mail-in voters were 10.1 percentage points more likely to report returning their ballot via drop box than Black mail-in voters (95 percent confidence interval [-0.002, 0.205]). I performed a null hypothesis to test if this difference is surprising if the truth is that white

and Black mail in voters use drop boxes at the same rate. If I assume that the truth is that white and Black mail in voters use drop boxes at the same rate, the probability of observing this difference, or one more extreme, is 0.056, slightly larger than the standard 0.05 cutoff for significance at 95% confidence. I do reject the null hypothesis at 90% confidence level. I find a similar difference in the use of non-polling drop boxes, with white mail-in ballot voters reporting they are 13.5 percentage points more likely to return their ballot via drop box at a non-polling location than Black mail-in ballot voters (95 percent confidence interval [0.045, 0.225]). Assuming that white and Black mail in voters use non-polling location drop boxes at the same rate, I find the probability of observing this difference, or one more extreme is 0.004, which implies that I reject the null of no difference at the 95% level of confidence. Table 2 shows that I estimate similar differences across white and Black mail-in voters in the use of all drop boxes and non-polling drop boxes if I use the voter validated weights rather than the post-election voter validated weights.

	White	Black	Diff	SE, Difference
All Drop Boxes	0.556	0.455	0.101	0.053
Non-polling	0.317	0.182	0.135	0.046

Table 1: CES 2020 Estimates of Rate of Drop box Use by Race Among Turnout Validated Mail-in Voters, Voter Validated Weights from Post Survey

	White	Black	Diff	SE, Difference
All Drop Boxes	0.564	0.426	0.138	0.054
Non-polling	0.335	0.159	0.176	0.047

Table 2: CES 2020 Estimates of Rate of Drop box Use by Race, Among Turnout Validated Mail-in Voters, Voter Validated Weights

15. Because the 2022 CES is a preliminary release there is no voter validation for the 2022 general election. This means that I cannot use vote validation weights when computing the self-reported drop box use rates among mail in absentee voters in 2022. To

avoid comparing calculations using two different types of weight, in Table 3, I estimated the rate of self-reported drop box use among mail in voters, by race, using the weights the same kind of weights available in the 2022 CES. In Table 3, I calculated the difference in self-reported drop box use for white and Black mail-in self-reported (rather than vote validated) voters in Georgia and then weighted responses using the post-election weights (rather than the vote-validated weights), because these are the weights available in the 2022 preliminary CES. Table 3 shows that using self-report absentee voting and the non-voter validated weights, I continue to find that white mail in ballot voters were more likely than Black mail in ballot voters to return their ballot via drop box (15.7 percentage point difference, 95 percent confidence interval [0.067, 0.247]). Under the null hypothesis that white and Black voters use drop boxes at the same rate, I estimate the probability of observing this difference, or one more extreme is 0.001. This implies that I reject the null hypothesis at the standard 95-percent level of confidence. I also continue to find that white mail in voters are more likely to return their ballot at a non-polling location drop box than Black voters (13.1 percentage point difference, 95 percent confidence interval [0.057, 0.206]). Under the null hypothesis that white and Black mail in voters return their ballots at non-polling drop boxes at the same rate, the probability of observing this difference, or one more extreme, is 0.001. This implies that I reject the null hypothesis at the standard 95-percent level of confidence.

	White	Black	Diff	SE, Difference
All Drop Boxes	0.551	0.394	0.157	0.046
Non-polling	0.285	0.154	0.131	0.038

Table 3: CES 2020 Estimates of Rate of Drop box Use by Race, Among Mail-in Voters, Postelection Weights

16. The higher rate of drop box use among white mail-in voters is not an artifact of the CES survey: in Table 4, I find a similar difference using the Survey of the Performance of American Elections (SPAEE). This survey does not include vote validation, so in this

calculation I restrict the sample to respondents in Georgia who self-report voting by mail. I then weight the responses using the SPAE provided survey weights. In Table 4, across all drop boxes, I find that white mail in ballot voters are 18.4 percentage points more likely than Black mail in ballot voters to self-report returning their ballot via drop box (95 percent confidence interval [0.068, 0.300]). Under the null hypothesis that white and Black mail-in voters use drop boxes at the same rate I find that the probability of observing this difference, or one more extreme, is 0.002. This implies that I reject the null hypothesis at standard 95-percent level of confidence. I also find that in the SPAE survey in the 2020 general election in Georgia white mail in voters self-report using non-polling drop boxes 11.0 percentage points more often than Black mail-in voters (95 percent confidence interval [0.014, 0.207]).² Under the null hypothesis of no difference between the rate white and Black mail in voters use drop boxes, I find that the probability of observing this difference, or one more extreme, is 0.026. This implies that I reject the null hypothesis at the standard 95-percent level of confidence.

	White	Black	Diff	SE, Difference
All Drop Boxes	0.452	0.268	0.184	0.059
Non-polling	0.241	0.131	0.110	0.049

Table 4: SPAE 2020 Estimates of Rate of Drop box Use by Race, Among Mail-in Voters, SPAE Weights

17. In Table 5, I use the preliminary 2022 CES survey data, released after I submitted my first report, to estimate the self-reported overall rate of drop box use and non-polling drop box use among white and Black mail in voters in 2022. As I mentioned

² Dr. Burden criticizes the multivariate model I used in my original analysis and applied to the SPAE data set. He argues that I failed to use weights and that my multivariate model was inappropriate for analyzing whether Black mail in voters used drop boxes more often than white mail in voters (Burden Sup. Decl 2-3). Dr. Burden provides no evidence I would reach a different conclusion if I used a different procedure to perform my calculations. This analysis shows that my conclusions are robust to these objections.

previously, the 2022 preliminary CES has not validated voters yet from the 2022 general election. Given this, I restricted the sample to respondents from Georgia who self-reported voting and who self-reported voting via mail-in absentee and I then weight responses using the survey provided post-election weights. Table 5 shows smaller differences between the rate of drop box use among white and Black mail in voters in the 2022 election. Across all drop boxes, which is the appropriate definition of drop box voter in the 2022 election in Georgia, I find that white mail in voters were 6.5 percentage points more likely to use a drop box (95 percent confidence interval [-0.068, 0.198]). Under the null that white and Black mail in voters use drop boxes at the same rate, the probability of observing this difference, or one more extreme, is 0.34. Therefore, in 2022 I fail to reject the null that white mail-in voters use drop boxes more often than Black mail in voters. While the difference between the rates white and Black mail in voters use drop boxes in 2022 (6.5 percentage points) is smaller than the difference in 2020 using the post-election common weights (15.7 percentage points), I cannot reject a null that the two differences are equal to each other. Under the null hypothesis of no change in the rates white and Black voters used drop boxes, the probability of observing this difference, or one more extreme, is 0.25.

	White	Black	Diff	Diff, SE
All Drop Boxes	0.318	0.253	0.065	0.068
Non-Polling	0.098	0.025	0.073	0.036

Table 5: CES 2022 Estimates of Rate of Drop box Use by Race, Among Mail-in Voters, Postelection Weights

18. I also estimated the share of all white and Black voters---early in person, Election Day in person, and mail-in absentee---who cast their ballots using drop boxes and non-polling drop boxes, not just among voters who cast their ballot using mail-in absentee voting. To obtain estimates of the overall rate voters use drop boxes, I multiplied the estimates of drop box use among white and Black mail in voters in Tables 1- 5 by the share

of voters from each racial group who cast their ballot using mail-in absentee ballot.³ Obviously, this implies that an accurate estimate of the overall rate voters use drop boxes requires an accurate estimate of the rate white and Black voters cast their ballot using mail-in absentee ballots. Upon inspecting the CES and SPAE, I found that both surveys overestimate the share of Black voters in Georgia who cast their ballot via mail-in absentee. This bias is found in both the 2020 and 2022 CES general election surveys, regardless of the particular vote validation or weighting scheme used, and in the 2020 SPAE. For example, using validated voters and the voter validated post-election weights the 2020 CES reports that 44.8% of Black voters in Georgia cast their ballot using mail-in absentee, while according to administrative data from the state of Georgia (the absentee voter history and information in the voter file), the rate Black voters in Georgia used mail in voting in the 2020 election is 29.4%. This difference of 15.4 percentage points is outside of the margin of error for the 2020 CES survey estimates in Georgia on this question, which is 9.84 percentage points. Similarly, in the SPAE survey 36.4% of Black voters in Georgia report returning their ballot via mail-in absentee, a difference of 7 percentage points more than the rate of mail in voting calculated using Georgia administrative data, a difference that is larger than the margin of error of 6.39 percentage points for this question in Georgia. And the 2022 CES using the survey weights and self-reported voters estimates that 20.0% of Black voters cast their ballot via mail-in absentee, compared to the rate of Black votes cast using mail in absentee of 7.48% from Georgia's administrative data. This difference of 12.52 percentage points is also outside the

³ When an individual casts their ballot via drop box they are necessarily casting their vote via mail-in absentee. Formally, this means I am estimating $\Pr(\text{Drop, Absentee} | \text{Vote, Race})$, which is equal to $\Pr(\text{Drop, Absentee} | \text{Vote, Race}) = \Pr(\text{Absentee} | \text{Vote, Race})\Pr(\text{Drop} | \text{Absentee, Vote, Race})$. In words, the overall rate voters use drop boxes is equal to calculating the probability of a voter from a particular racial group voting absentee multiplied by the probability of a mail-in ballot voter from a particular racial group voting via drop box. This latter quantity is found in Tables 1- 5.

margin of error for this question of 7.44 percentage points.⁴ To address the bias in the survey, I used estimates of the rate white and Black voters used mail in ballots calculated using administrative data from the state of Georgia. Specifically, I multiplied the estimated rates of drop box use for white and Black mail-in voters in Tables 1- 5 by the share of votes cast using mail-in absentee ballots reported in Figure 1 in my original report for the 2020 and 2022 general elections. Using administrative data to estimate the rate voters cast their ballot via mail-in voting has several advantages over naively using the survey-based estimates when calculating the overall rate voters used drop boxes in Georgia. Most importantly, it weakens the assumptions needed for unbiased estimation of the overall rate white and Black voters used drop boxes.⁵

19. In Table 6, I provide the estimated rates of all white and Black voters (early in person, Election Day, and mail-in absentee) who used drop boxes in the 2020 election calculated using the CES with vote validated voters and using the post-election vote validated weights. In Table 6, I find essentially no difference in overall rate white and Black voters return their ballot via drop box: a -0.00 percentage point difference (95 percent confidence interval [-0.028, 0.028]). Under the null hypothesis of no difference in the overall

⁴ For white voters in the 2020 CES general election survey using vote validated voters and the vote validation weights I find that the survey estimates 25.4% of Georgia white voters cast their ballot via mail in absentee, slightly larger than the 24.0% overall. The 2020 SPAE survey estimates that 28.3% of white Georgia voters are estimated to have voted absentee. And finally the 2022 CES estimates that 11.1% of white Georgia voters returned their ballot via mail-in absentee, compared to 5.63% in the 2022 general election.

⁵ A key assumption in my analysis is that, across racial groups, the rate mail in voters self-report using drop boxes is representative of the rate mail-in voters actually use drop boxes in Georgia. If I were to naively use the self-reported rates of mail-in voting from the CES or SPAE surveys, I would still need to make this consequential assumption. But, I would also need the additional assumption that the self-reported rate of mail-in voting among all voters was representative of the rates of mail-in voting of all Georgia voters. This assumption is directly contradicted by the data.

rate white and Black voters use drop boxes, I find the probability of observing this difference, or one more extreme is 0.99. And as a result, I fail to reject the null of no difference. I do find a difference in the use of non-polling location use of drop boxes: white voters are 2.3 percentage points more likely than Black voters to return their ballot through a non-polling drop box (95-percent confidence interval [-0.002, 0.047]). Under the null hypothesis of no difference in the overall rate white and Black voters use non-polling drop boxes, the probability of observing this difference, or one more extreme, is 0.07. Therefore, I fail to reject the difference at the standard 95% level of confidence, but would reject the null at a 90% level of confidence.

	White	Black	Diff	SE, Difference
All Drop Boxes	0.134	0.134	-0.000	0.014
Non-Polling	0.076	0.054	0.023	0.012

Table 6: CES 2020 Estimates of Rate of Drop box Use by Race Among All Turnout Validated Voters, Voter Validated Weights from Post Survey

20. I find similar differences in Table 7. Here, I estimated the rates all white and Black voters (early in person, Election Day, and mail-in absentee) used drop boxes in the 2020 election using the 2020 CES, restricting the analysis to vote validated respondents, but now using vote validated weights, rather than postelection vote validated weights. Using these set of weights, overall, I find that white voters are 1 percentage point more likely to use drop boxes than Black voters (95 percent confidence interval [-0.019, 0.039]). Under the null that the overall rate white and Black voters use drop boxes is equal, the probability I observe this difference, or one more extreme, is 0.496, implying that I fail to reject a null of no difference. Again, I find a bigger difference in the rate white and Black voters used non-polling location drop boxes. I find that in the 2020 general election white voters in Georgia are 3.4 percentage points more likely than Black voters in Georgia to return their ballot at a non-polling drop box location (95 percent confidence interval [0.008, 0.059]). Under the null

of white and Black voters using non-polling drop boxes as the same rate, the probability of observing this difference, or one more extreme is 0.01. This implies I reject the null hypothesis at the standard 95% level of confidence.

	White	Black	Diff	SE, Difference
All Drop Boxes	0.136	0.126	0.010	0.015
Non-Polling	0.081	0.047	0.034	0.013

Table 7: CES 2020 Estimates of Rate of Drop box Use by Race Among All Turnout Validated Voters, Voter Validated Weights

21. I find similar estimates of the overall rate white and Black voters (early in person, Election Day, and mail-in absentee) use drop boxes in Georgia if I use the estimates of drop box use among mail in voters from Table 3, where I focus on self-reported mail in voters and the post-election weights from the CES survey. In Table 8, I estimate that white voters are 1.7 percentage points more likely than Black voters to return their ballot via drop box (95 percent confidence interval [-0.007, 0.041]). Under a null hypothesis of white and Black voters using drop boxes at the same rate, the probability of observing this difference, or one more extreme, is 0.183, implying that I fail to reject the null hypothesis at standard levels of confidence. Further I find that white voters are 2.3 percentage points more likely than Black voters to use non-polling location drop boxes (95-percent confidence interval [0.003, 0.044]). Under the null hypothesis of no difference, I find the probability of observing this difference, or one more extreme, is 0.025. This implies that I reject the null of no difference at the standard 95% levels of confidence.

	White	Black	Diff	SE, Difference
All Drop Boxes	0.132	0.116	0.017	0.012
Non-Polling	0.069	0.045	0.023	0.010

Table 8: CES 2020 Estimates of Rate of Drop box Use by Race Among Self-Reported Voters, Post-Election Survey Weights

22. I also obtain similar estimates of the overall rate white and Black voters used drop boxes if I use the SPAE survey. I present the estimates in Table 9. Using the SPAE survey, I find that white voters in Georgia are 3 percentage points more likely to use a drop box than Black voters (95 percent confidence interval [-0.002, 0.061]). Under a null of no difference between white and Black voters, the probability of observing this difference, or one more extreme, is 0.067. This implies I fail to reject the null hypothesis at standard 95% levels of confidence, but I do reject the null hypothesis at 90% confidence levels. I also find that white voters are 1.9 percentage points more likely to use non-polling location drop boxes (95 percent confidence interval [-0.007, 0.046]). Under the null of white and Black voters using non-polling drop boxes at equal rates, the probability of observing this difference, or one more extreme is 0.153. This implies I fail to reject the null of no difference at standard confidence levels.

	White	Black	Diff	SE, Difference
All Drop Boxes	0.109	0.079	0.030	0.016
Non-Polling	0.058	0.039	0.019	0.014

Table 9: SPAE 2020 Estimates of Rate of Drop box Use by Race, Among Self-Reported Voters, SPAE Weights

23. In Table 10, I calculate the overall share of white and Black voters who self-report using a drop box in the 2022 election. Again, because this is a preliminary data set, I am unable to use vote validation to confirm self-reported voters in fact voted. Therefore, the closest comparison from 2020 is Table 8, which uses the 2020 survey, self-reported voter turnout and vote by mail status, and with the post-election weights. In Table 10, I find that Black voters are 0.1 percentage points more likely to use a drop box than white voters (95-percent confidence interval [-0.010, 0.008]). Under the null that white and Black voters use drop boxes at the same rate in 2022, the probability of observing this difference, or one more extreme, is 0.82. Therefore, I fail to reject the null of no difference.

	White	Black	Diff	SE, Difference
All Drop Boxes	0.018	0.019	-0.001	0.005
Non-Polling	0.005	0.002	0.004	0.002

Table 10: CES 2022 Estimates of Rate of Drop box Use by Race, Among Self-Reported Voters, Post-election Weights

24. In the first version of replication code I shared, I incorrectly calculated the overall rate of drop box use for white and Black voters in 2022, incorrectly using the rates of mail-in voting from 2020 for white and Black voters. Specifically, in the replication code I multiplied the rate white mail-in ballot voters used drop boxes in the 2022 CES, 0.318, by 0.240 (the rate white voters used mail-in ballots in Georgia in 2020) instead of 0.0563 (the rate white voters used mail in ballots in Georgia in 2022) (Grimmer Second Replication Code, Line 298). Likewise, in my original calculation I multiplied the rate Black mail-in ballot voters used drop boxes in the 2022 CES, 0.253, by 0.294 (the share of ballots cast by Black voters in 2020 using mail-in ballots) instead of 0.0748 (the share of ballots cast by Black voters in 2022 using mail-in ballots) (Grimmer Second Replication Code, Line 299). As a result, in my original code I calculated that white voters were 0.2 percentage points more likely to use a drop box than Black voters in 2022 and I now find that Black voters were 0.1 percentage points more likely to use a drop box in 2022. While this does change the sign of the difference between rates of drop box use among white and Black voters, the actual change in my estimate is 0.3 percentage points, which is a fraction of the standard error (approximately 60% of the size of the standard error). And as a result, my opinion on the rate of drop box use overall among white and Black voters in Georgia remains that there is no significant statistical difference in drop box usage between white and Black voters overall in the 2022 general election.

Dr. Burden’s Criticisms of the CES and SPAE Drop Box Data are Based on Consequential Errors

25. In Dr. Burden’s supplemental declaration he offers several criticisms of my analysis. Focusing first on my definition of drop box voters, Dr. Burden argues that my “definition includes people who reported that they brought their ballots to neighborhood polling places or voting centers. This is obviously quite different from an analysis of drop box usage per se” (Burden Sup. Decl. 2). It is unclear why Dr. Burden thinks this is different. In 2020 the only way for mail in voters to return ballots to neighborhood polling places or voting centers was to return their ballot at a drop box. Further, as my replication code demonstrated, 45.3% of all drop box ballots were returned at main election offices (Grimmer Second Replication Code Lines 360-364). Despite this, Dr. Burden expresses a preference for defining drop box voters using the response “Drop box used only for ballots, not located at an election office or polling place” (Burden Sup. Decl 2). The replication code I shared already examined this definition of drop box voters in 2020, but this definition is inappropriate in 2022. SB 202 requires all drop boxes to be located at main election offices or voting centers and so stand-alone drop boxes, as defined in the survey question, are not present. As I explained in my replication code (Grimmer Second Replication Code 157-158), I would expect very few (if any) voters to report returning their ballot this way. Instead, voters who use a drop box will necessarily report returning their ballot at a main election office or voting center. I still examined the non-polling drop boxes to maintain the same table format, but it is inappropriate to restrict the analysis to only these responses to assess drop box usage.

26. Focusing on the SPAE survey, Dr. Burden asserts that the SPAE survey is unreliable for studying drop box return “because the tiny samples make the statistical uncertainty unreasonably high. The 95% confidence intervals – indicating where the true values likely lie – range from 36.3% to 57.4% among white voters who cast absentee ballots

and range from 24.2% to 55.5% among Black voters who cast absentee ballots” (Burden Sup. Decl. 2). Dr. Burden’s estimated confidence intervals, however, are based on an error that arises from incorrectly using the SPAE survey. As a result, Dr. Burden is reporting confidence intervals for a quantity that I do not estimate. Further, as a result of this error he inadvertently excludes respondents from the calculation, incorrectly decreasing the sample size and, subsequently, incorrectly increasing the reported margin of error.

27. As I explained in my deposition and the replication code I provided afterward, the SPAE survey made an error when asking how mail in absentee voters returned their ballots (Grimmer Second Replication File Lines 312-332; Grimmer Deposition 139:9-140:15). Specifically, after a respondent reported voting mail-in absentee, the SPAE survey inadvertently only asked mail-in absentee voters who reported that their ballot was “Taken to an official election location (such as a polling place, early voting center, or drop box)” how they returned their ballot. As a result, none of the individuals who reported that they “Mailed back” their mail in absentee ballot were asked how they returned their ballot.

28. The replication file that I provided after my deposition contained the appropriate code to address this error and to estimate the appropriate quantity: the rate white and Black mail-in ballot voters returned their ballot via drop box (Grimmer Second Replication Code Lines 119-151). It appears that Dr. Burden did not use this code in his calculations and, as a result, Dr. Burden calculated a different quantity. Because of the error, Dr. Burden inadvertently restricted the respondents to only include white and Black mail-in absentee voters who reported returning their ballot “to an official election location (such as a polling place, early voting center, or drop box).” As a result, Dr. Burden excluded from his calculation all individuals who report mailing in their mail-in ballots. After restricting the analysis to mail in voters who report not mailing their ballot, Dr. Burden then calculated the rate this group reported using a “drop box used only for ballots, not located at an election

office or polling place.” It is unclear what question this quantity addresses. Not only does Dr. Burden report confidence intervals for quantities I don’t estimate, his error also causes him to overstate the margin of error in my calculations. Because Dr. Burden’s calculation excludes all mail-in absentee respondents who reported mailing their ballot, it reduces the sample size and therefore artificially inflates the margin of error.

29. I reached the conclusion that Dr. Burden reported this irrelevant quantity by nearly identical numbers as Dr. Burden when incorrectly analyzing the SPAE data set. Specifically, I find that if I restrict the analysis to respondents from Georgia, 46.7% of white respondents who report using a mail in ballot but not mailing their ballot report returning their ballot to a “drop box used only for ballots, not located at an election office or polling place”. The confidence interval I estimated for this quantity is the same confidence interval Dr. Burden reports [36.4%, 57%]. I also find that 39.0% of Black respondents who report using a mail in ballot but not mailing their ballot report returning their ballot at a non-polling location drop box. I also find essentially the same confidence interval Dr. Burden reports for this quantity [23.9%, 54.1%]. Therefore, it appears Dr. Burden’s criticism of the SPAE survey is based on estimating a different quantity than I estimate with fewer respondents.

30. As I discussed above, when appropriately analyzed to include all mail in absentee voters, I find a statistically significant difference in the rate of white and Black mail in voters used drop boxes in 2020—overall and at non-polling drop box locations. Dr. Burden also argues that the data from the CES results “in confidence intervals that are too wide to yield reliable conclusions about which racial group used drop boxes at higher rates,

particularly when using the weights provided in the CES dataset” (Burden Sup. Decl 3). It is unclear what he bases this conclusion on.⁶

31. Dr. Burden opines that my analysis of the 2022 CES is inappropriate because “Only 12 respondents – nine of them white and three of them Black – report using drop boxes in Georgia in 2022. It is difficult to imagine how Dr. Grimmer could analyze such sparse [sic] data in an informative way” (Burden Sup. Decl 3). But Dr. Burden’s conclusions are based on the small number of individuals who report using a stand-alone drop box in 2022. It is inappropriate to restrict the analysis to only these individuals, because SB 202 requires drop boxes to be at main election offices or voting centers. Therefore, it is not surprising that few voters report returning ballots to stand alone drop boxes. I noted this expectation in my replication code. I wrote: “Note: we expect non-polling location drop boxes to be a smaller share, but I include that option here to keep the table format the same” (Grimmer Second Replication Code Lines 157-158). My conclusions are based on the definition of drop box use where drop boxes are located in 2022, in particular which includes main election offices (along with the small number of individuals who report using non-polling location drop boxes).

⁶ Further, while analyzing the SPAE survey Dr. Burden incorrectly reported the number of individuals in Georgia who report returning their ballot at a non-polling location. Dr. Burden first opines that “even using Dr. Grimmer’s overly broad categorization of what constitutes drop box usage, the SPAE dataset includes only 122 people in Georgia who were drop box users” he then asserts that “When drop box users are more accurately identified as only those individuals who reported that they returned ballots via a ‘drop box used only for ballots,’ the number is reduced to 45 respondents” (Burden Sup. Decl 2). Under Burden’s narrow definition of drop box use, the survey actually contains 64 respondents who report using non-polling drop boxes. Further, because I am estimating a rate, the appropriate sample size for the calculation includes both the mail-in ballot voters who report returning their ballot via drop box and those who do not.

Dr. Burden's Updated Drop Box Ballot Data Continues to Contain Errors and Does not Support his Claim the Georgia Public Broadcasting Data Undercounts Drop Box Ballots

32. In my expert report I documented consequential errors in Dr. Burden's calculations about the number of ballots returned by drop box in Georgia in the 2020 general election. In Dr. Burden's surrebuttal he explained that his first calculations about drop box use showed "more drop box ballots than it should" (Burden Surrebutal 5). Dr. Burden explained that the error was "a result of miscommunication between me and the firm hired to digitize the hand-written drop box ballot transfer forms, as well as a workflow error in which a final data linkage step took place after a de-duplication process rather than the other way around" (Burden Surrebutal 5). In his surrebuttal Dr. Burden explained that he "corrected the problem" and then updated figures tallying the number of ballots returned by drop box in the 2020 Georgia general election, the January 5th, 2021 run off election, and the June 9th, 2020 primary election (Burden Surrebutal 5).

33. After I filed my expert report I was provided with data and replication code for Dr. Burden's surrebuttal and I have analyzed the data and code that Dr. Burden used to form his opinions in his surrebuttal and analyzed Dr. Burden's claims.⁷ Dr. Burden's corrected data set continues to have a consequential error, causing Dr. Burden to again overestimate the number of ballots returned via drop box in his data set. Dr. Burden's updated analysis inadvertently contains double entries for ballots retrieved from Gwinnett County. This double counting for Gwinnett County occurs because Dr. Burden's code includes two different sources of ballots from Gwinnett County, and his procedure fails to remove a number of

⁷ Dr. Burden's code replicates Figure A1 and Figure A2 exactly in the surrebuttal. The code, as run, does not exactly replicate Figure 2. Dr. Burden's code calculates fewer ballots returned on several days before and on Election Day than Figure 2 portrays.

duplicate entries in Gwinnett County. One source for Gwinnett County data is the file referenced in Dr. Burden's code as "2022.04.19 – Drop Box Data.xlsx" (Burden Replication Code Line 387). This file was called "Drop Box Data.xlsx" in the data set I was provided by counsel. As a second source of data for Gwinnett County, in Dr. Burden's replication code he creates a new data set for Gwinnett County and then manually enters retrieved ballot totals for several dates in the 2020 general election (at Lines 655-700). Dr. Burden's code then merges these two sources (along with several other drop box data sets) and attempts to remove duplicate entries by dropping observations that simultaneously are: 1) from the same county, 2) refer to the same date of ballot retrieval, 3) contain ballots from the same election, and 4) have the same number of ballots of recorded retrieved ballots (at Lines 756-769). But because the number of ballots recorded as retrieved on each day from Gwinnett County in the "2022.04.19 – Drop Box Data.xlsx" data set is not equal to the number of ballots in the data set Dr. Burden manually enters, the repeated entries for each date are not removed and are thus double counted.

34. Including two entries for the number of ballots retrieved on each day prior to the November 2020 general election for Gwinnett County is an error. According to Dr. Burden's merged data set, Gwinnett County mail in absentee voters returned 120,939 ballots via drop box, even though there were only 124,317 mail in ballots returned altogether in Gwinnett County (counting ballots returned via U.S. Mail, drop box, or hand delivery). In other words, Dr. Burden's data set implausibly estimates that 97.3% of all mail-in ballots returned in Gwinnett County were returned via drop box. Further, Dr. Burden's data set reports an impossible number of ballots retrieved from drop boxes in Gwinnett County in the last four days of the election. Dr. Burden's data set estimates that 15,053 ballots were retrieved in the last four days of the 2020 election from Gwinnett County drop boxes, from October 31st to November 3rd, 2020. But using the absentee voter history file from the

Georgia Secretary of State website, I calculate that only 11,925 mail-in absentee ballots were returned in total (drop box and via U.S. Mail, or hand delivery) over these four days in Gwinnett County. And the size of the overestimate for Gwinnett County is similar to the size of the overestimates that I diagnosed in Dr. Burden's expert report. Using data from Georgia Public Broadcasting, I calculated that 56,260 mail in ballots were returned via drop box in Gwinnett County. Dr. Burden's estimate for Gwinnett County is 115% of the number from the Georgia Public Broadcasting corporation.

35. Once I correct the Gwinnett County estimates in Dr. Burden's data set of drop box ballots, the estimated share of mail in ballots returned by drop box using Dr. Burden's data set closely aligns with the share of mail in ballots returned via drop box from my expert report, 45.3%. If I replace the estimated number of mail in ballots returned via drop box in Gwinnett County with the number recorded in the Georgia Public Broadcasting data, but I otherwise use Dr. Burden's data set, I estimate that 44.9% of the mail-in ballots returned in the 101 counties covered in Dr. Burden's data were returned via drop box, rather than 52% he reports in his surrebuttal (Burden Surrebutal 6). If, instead, I take the average of the reported number of ballots returned by drop box on each day from Dr. Burden's data, I estimate 45.3% of mail-in ballots were returned by drop box in Georgia.⁸

36. Correcting the duplicated entries from Gwinnett County also brings Dr. Burden and my estimate of the share of mail in ballots returned via drop box in the last four days of the election closer together. To calculate this quantity both Dr. Burden and I first

⁸ If I resolve the duplicated entries by preserving the largest number of reported ballots returned from each day in Dr. Burden's data set I calculate that 46.7% of all mail in ballots in the 101 counties in Dr. Burden's data set were returned by drop box. If I resolve the duplicated entries by preserving the smallest number of reported ballots returned from each day in Dr. Burden's data set I calculate that 43.8% of all mail in ballots were returned via drop box.

restrict attention to mail in absentee ballots returned in the last 4 days of the election. I then calculate the share of those mail in ballots returned over the last 4 days of the election that were returned using a drop box (rather than by U.S. Mail, for example). If I use the estimate of the number of ballots returned in the last 4 days in Gwinnett County from GPB data set but otherwise use Dr. Burden's data set for the other counties in his data set, I find that 59.8% of mail in ballots returned in the last 4 days were returned via drop box. This is closer to the 55% of mail in ballots I estimate returned in the last four days of the election in the counties in the GBP data set than it is to the 69% Dr. Burden reports in his surrebuttal (Burden Surrebutal 6).⁹

37. In Dr. Burden's surrebuttal he also criticized my analysis of the number of ballots returned via drop box. Dr. Burden opines that the data set I utilized from the Georgia Public Broadcasting corporation "is incomplete. It omits some known drop boxes that are represented in my dataset. For example, the GPB dataset only lists one drop box in McDuffie County, located in the city of Thompson. However, multiple sources, including the drop box transfer forms provided by officials in McDuffie County, show a second drop box location in the town of Dearing. Similarly, the GPB dataset omits one of the two drop boxes in Chattahoochee County. The GPB dataset also excludes Carroll County entirely, even though the county actively used two drop box locations in the 2020 election" (Burden Surrebutal 4). As a result of these criticisms, Dr. Burden goes on to claim that my analysis "relies on a

⁹ If I resolve the duplicates by using the average number of ballots returned in each of the last four days in Dr. Burden's data set I calculate that 60.5% of mail in ballots returned in the last four days were returned by drop box. If, instead, I resolve the duplicated entries by preserving the largest number of reported ballots returned from each day in Dr. Burden's data set I calculate that 62.3% of mail in ballots returned in the last four days were returned via drop box. If I resolve the duplicated entries by preserving the smallest number of reported ballots I estimate that 58.8% of ballots returned in the last four days were returned by drop box.

dataset that undercounts the number of ballots returned via drop box" (Burden Surrebutal 4).

38. Dr. Burden provides no explicit calculation to demonstrate that the GPB data set undercounts the number of mail in ballots returned via drop box. The specific criticisms that Dr. Burden offers do not establish that my data set meaningfully under counts the number of ballots returned via drop box. For example, Dr. Burden's data set records that 751 mail in ballots were recovered from drop boxes in McDuffie County. The Georgia Public Broadcasting data set records that 731 mail in ballots were recovered from drop boxes in McDuffie County. This 20 ballot difference constitutes 0.004% of all drop box ballots recorded in the GPB data set. Dr. Burden represents that there are retrieved drop box ballots from Chattahoochee County in his data set, but in the data and code that was provided to me, there is no record of ballots retrieved from Chattahoochee County. The GPB data set records 10 ballots retrieved from drop boxes in Chattahoochee County.

39. Dr. Burden criticizes the omission of Carroll County from the Georgia Public Broadcasting data set, but the omission of Carroll County is not sufficient to support Dr. Burden's conclusion that the GPB data set under counts the number of drop box ballots returned in Georgia. Overall, the GPB data set covers ballots retrieved from drop boxes in 112 counties in the 2020 Georgia general election. Dr. Burden's data set covers ballots retrieved from drop boxes in 101 counties.

40. Determining the relative number of ballots available across data sources requires explicitly contrasting the two data sets. Using Dr. Burden's drop box data and code provided to me after I filed my first expert report, I am able to systematically compare Dr. Burden's data set and the GPB data. Overall, I find that the GPB data set is a more comprehensive record of drop box ballots than Dr. Burden's corrected data set. This is true, in part, because the GPB covers more counties than Dr. Burden's corrected data set and in

the counties that appear only in the GPB or Dr. Burden's data set, there are more ballots in the GPB data set. Specifically, I find that there are 16 counties present in the GPB data set that are not found in Dr. Burden's data set.¹⁰ The GPB data set records 11,013 mail in ballots retrieved from drop boxes in these counties. In contrast, there are 5 counties that appear in Dr. Burden's data set that do not appear in the GPB data set.¹¹ Dr. Burden's data set records a total of 3,309 mail in ballots recovered from these counties. In total across counties that appear in only one data set there are 7,704 more ballots reported as recovered in the GPB data set than in Dr. Burden's corrected data set.

41. I also find that when the GPB data set and Dr. Burden's corrected data set cover the same counties, the recorded number of drop box ballots retrieved is quite similar in the aggregate. There are a total of 96 counties that appear in both Dr. Burden's data set and the GPB data set. Given the errors in Dr. Burden's reported number of ballots from Gwinnett County, I excluded that county from the comparison. Among the remaining 95 counties, I find that, in total, there are 116 more mail in ballots recorded as retrieved from drop boxes in Dr. Burden's corrected data set than in the GPB data set. This difference constitutes 0.02% of the total mail in ballots recorded as retrieved from these 95 counties in the GPB data.

¹⁰ The 16 counties are: Appling, Brantley, Chattahoochee, Clay, Dade, Dooly, Evans, Franklin, Glynn, Gordon, Jones, Mitchell, Pickens, Stephens, Telfair, and Turner.

¹¹ Those 5 counties are Baker, Carroll, Crawford, Lee, Terrell.

I reach these conclusions to a reasonable degree of scientific certainty and to the best of my knowledge using methods that are standard in my field. I reserve the right to update and amend my report.

Executed this 7th day of September, 2023.

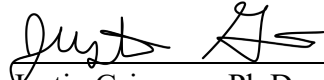

Justin Grimmer, Ph.D.

EXHIBIT B

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IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION

IN RE GEORGIA SENATE BILL 202) Master Case No.
) 1:21-MI-55555-JPB
-----)

VIDEOTAPED DEPOSITION OF JUSTIN GRIMMER, Ph.D
Mountain View, California
Monday, May 1, 2023
Volume I

Reported by:
CATHERINE A. RYAN, RMR, CRR, B.S.
CSR No. 8239
Job No. 5893014

PAGES 1 - 360

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IN THE UNITED STATES DISTRICT COURT
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) 1:21-MI-55555-JPB
-----)

Videotaped deposition of JUSTIN GRIMMER,
Ph.D, Volume I, taken on behalf of Plaintiffs, with
the Witness appearing at FENWICK & WEST LLP, 801
California Street, Mountain View, California,
beginning at 9:00 a.m. and ending at 6:16 p.m., on
Monday, May 1, 2023, before CATHERINE A. RYAN,
Certified Shorthand Reporter No. 8239.

1 survey, no. We just have the survey itself. 11:57:36

2 THE WITNESS: Yeah, that will be fine.
3 I'll talk about it.

4 MR. SCHAERR: You said this is Exhibit
5 478? 11:57:41

6 MR. ROSENBERG: 477.
7 (Exhibit 477 was marked for
8 identification by the court reporter.)

9 THE WITNESS: Okay. So what the -- what
10 the disagreement is is that in this document there 11:57:54

11 is an error in the survey flow. That error in the
12 survey flow means that question 29 subsets in a
13 different way. So Dr. Fraga's critique actually
14 does not apply -- or it applies in a very marginal
15 way that does not affect my estimates very much. So 11:58:09
16 let me walk through this.

17 The way you get to this particular
18 question is, for individuals who report voting on
19 question 4, they answer response 3. They voted by
20 mail or absenteeed by ballot -- by -- voted by mail 11:58:22
21 or absentee ballot by mail. All right?

22 So now, having responded to question 4,
23 those individuals flow to question 27. So you had
24 to turn out to vote, and then you vote by mail.

25 And at this point, you're asked: How did 11:58:41

1 you return your ballot? So it's taken to an 11:58:43
2 official election location: Polling place, early
3 voting center, or drop box. That's option 1. Or,
4 2, you mailed it back. Okay?

5 Individuals were then asked, on question 11:58:52
6 28: Who did this for you? Either you did it,
7 personally, or someone else did.

8 So now the key issue with question 29 is
9 that the survey flow should have everyone who
10 returned the ballot themselves. All mail-in voters 11:59:04
11 should have gone into 29. However, the survey
12 subsetted only to individuals who had taken their
13 official -- taken the ballot to an official election
14 location. So immediately half of the voters are
15 missing. 11:59:20

16 Second, in Dr. Fraga's analysis, he
17 subsets to option 4, which -- this is critical --
18 "Drop box used only for ballots, not located at an
19 election office or polling place."

20 By my calculations, somewhere a little 11:59:36
21 under half of all drop box ballots are delivered at
22 election office or polling place. So the result of
23 conditioning on just 4 is that Dr. Fraga looks at
24 nonrepresentative and all-too-small subset of
25 voters. You should include 5, "main election 11:59:53

1 I, the undersigned, a Certified Shorthand
2 Reporter of the State of California, do hereby
3 certify:

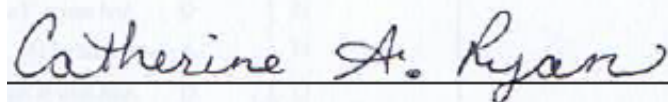
4 That the foregoing proceedings were taken
5 before me at the time and place herein set forth;
6 that any witnesses in the foregoing proceedings,
7 prior to testifying, were administered an oath; that
8 a record of the proceedings was made by me using
9 machine shorthand which was thereafter transcribed
10 under my direction; that the foregoing is a true
11 record of the testimony given.

12 Further, that if the foregoing pertains to the
13 original transcript of a deposition in a Federal
14 Case, before completion of the proceedings, review
15 of the transcript [X] was [] was not requested.

16 I further certify that I am neither
17 financially interested in the action nor a relative
18 or employee of any attorney or any party to this
19 action.

20 IN WITNESS WHEREOF, I have this date
21 subscribed my name.

22 Dated: 05/09/2023

23 

24 Catherine A. Ryan, RMR, CRR, B.S.

25 CSR No. 8239

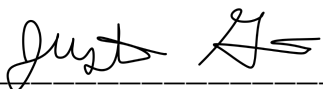
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I, JUSTIN GRIMMER, Ph.D., do hereby
declare under penalty of perjury that I have read
the foregoing transcript; that I have made any
corrections as appear noted, in ink, initialed by
me, or attached hereto; that my testimony as
contained herein, as corrected, is true and correct.

EXECUTED this 15 day of May,
2023, at Stanford, California.

(City)

(State)



JUSTIN GRIMMER, Ph.D.

VOLUME I

Page	Line	Original	Corrected
31	12	UCAVA	UOCAVA
52	25	elected	likely
59	12	act	effect
245	20	UCAVA	UOCAVA
306	8	causal s demand	causal estimand
315	16	s demand	estimand