UNITED STATES DISTRICT COURT
MIDDLE DISTRICT OF LOUISIANA

PRESS ROBINSON, et al., *Plaintiffs,* v. KYLE ARDOIN, in his official capacity as Secretary of State for Louisiana, *Defendant.*	Civil Action No. 3:22-cv-00211-SDD-SDJ
EDWARD GALMON, SR., et al., *Plaintiffs,* v. R. KYLE ARDOIN, in his official capacity as Secretary of State for Louisiana, *Defendant.*	Consolidated with Civil Action No. 3:22-cv-00214-SDD-SDJ

SUPPLEMENTAL EXPERT REPORT
OF
CHRISTOPHER C. BLUNT, PH.D.

May 7, 2022

Exhibit
LEG_77

I. INTRODUCTION

1. Subsequent to my initial report of April 29, 2022, Dr. Maxwell Palmer submitted a Rebuttal Expert Report dated May 2, 2022. This supplemental report assesses Dr. Palmer's statement in that Rebuttal Expert Report that:

> Dr. Blunt imposes very strict constraints on his maps that substantially limit the range of feasible maps he produces. In particular, Dr. Blunt requires the algorithm to split at most six parishes in each plan. This constraint means that plans like the map adopted by the state legislature, which splits 15 parishes, will never be generated. Thus, the statistical results of Dr. Blunt's analysis— the distributions of various properties of the maps—may not be representative of the much broader set of feasible maps that comply with the redistricting criteria actually employed by the state of Louisiana.

Palmer Rebuttal Report, ¶ 11.

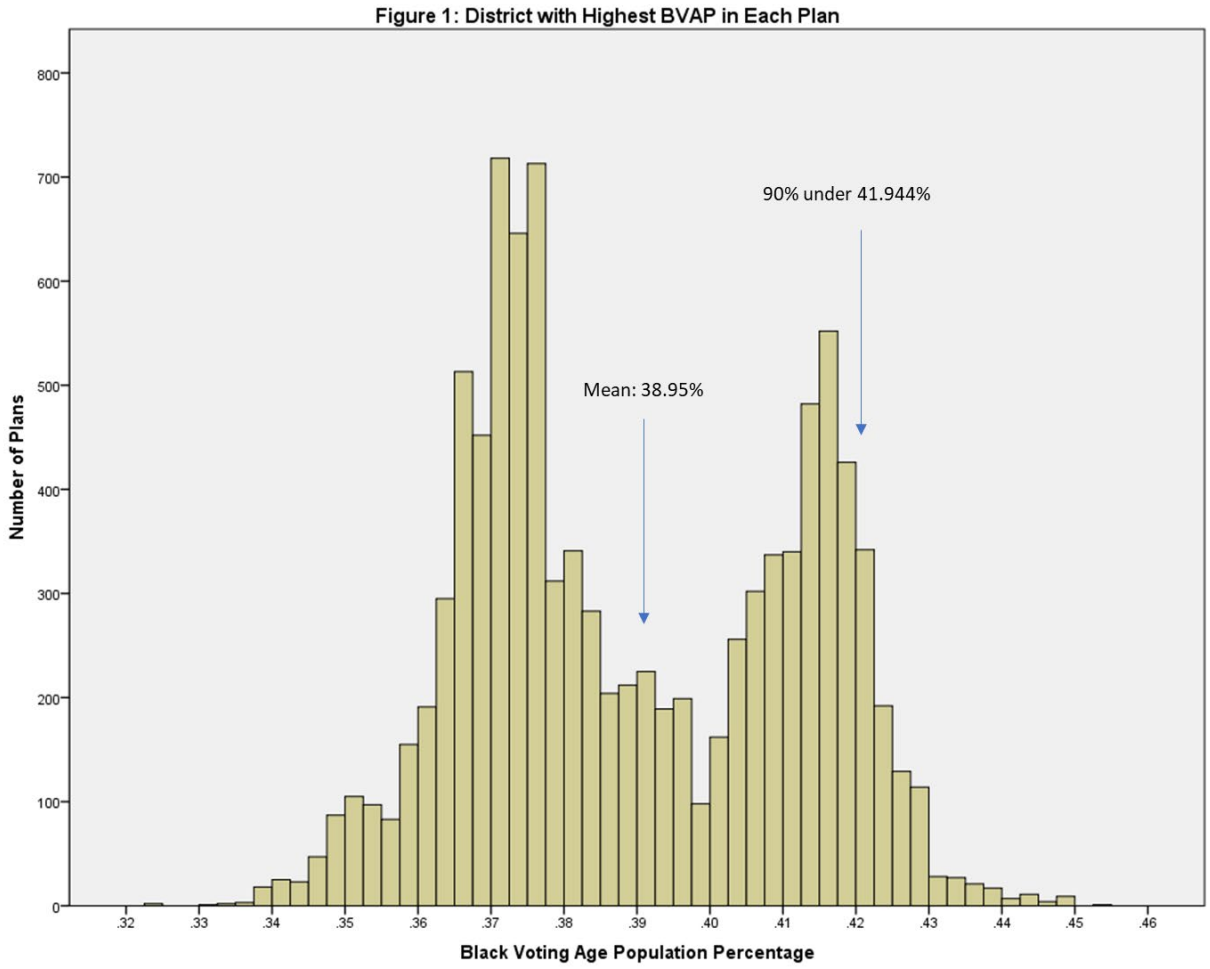
II. RESPONSE

2. In producing my simulated district maps, my intention was to model the redistricting criterion to minimize parish splits that are reflected in the expert reports of Mr. Fairfax, Mr. Cooper, and the Louisiana Legislature's Joint Rule 21. The REDIST package's Sequential Monte Carlo (SMC) algorithm, which Dr. Palmer acknowledges is a standard approach to simulating redistricting plans (and that he has used in his own research) provides, to my knowledge, one standard option that could be used to model that criterion: the algorithm can be instructed to attempt to cap the number of parish splits at one fewer than the number of districts being drawn. In Louisiana, that means the algorithm has a preference for plans with no greater than five parish splits. To my knowledge, using the software's standard features, the analyst does not have a way to specify one's own preferred maximum (such as ten split parishes, or fifteen).

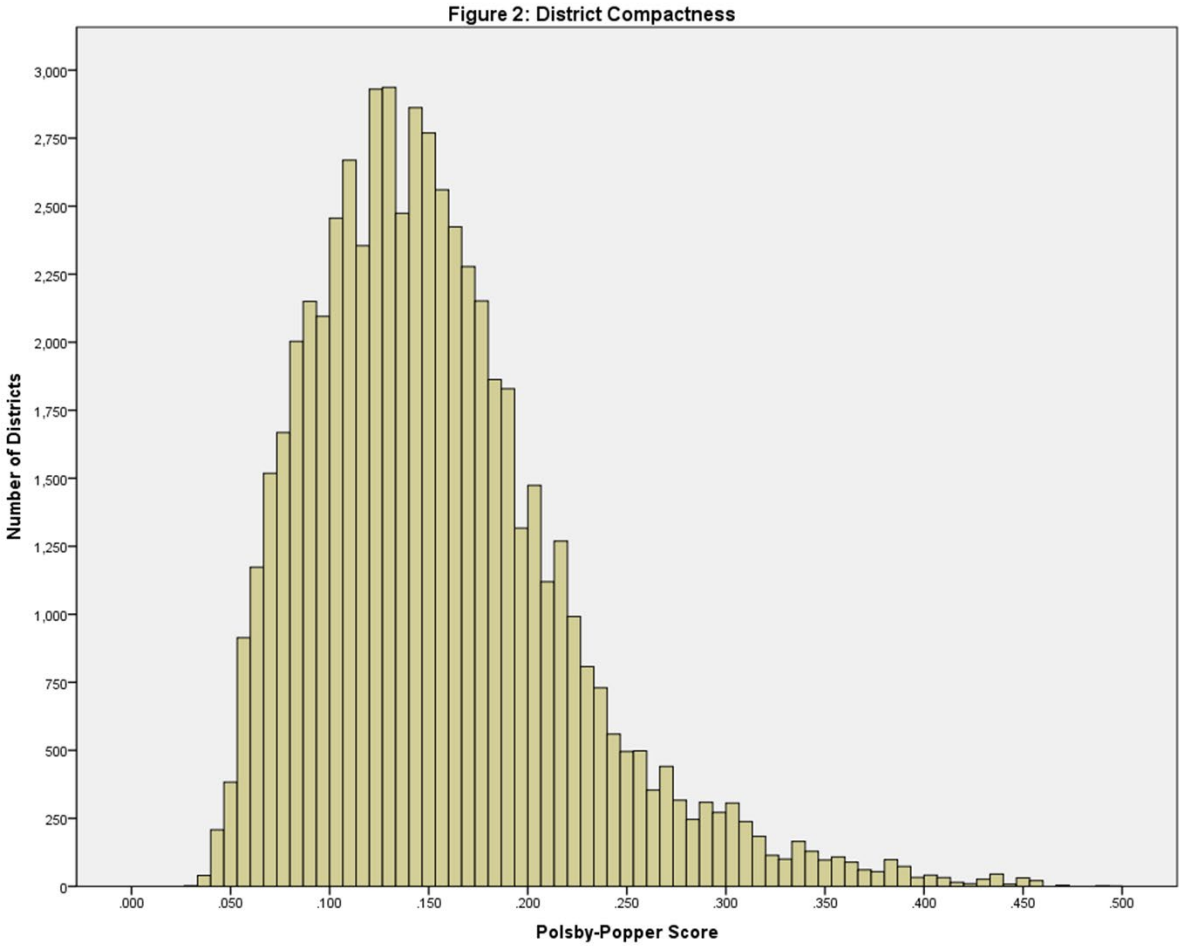
3. Dr. Palmer's rebuttal suggests that had I allowed for more split parishes, the conclusions from my original report may have been significantly different. As a test of the robustness of my findings, and in response to Dr. Palmer's rebuttal, I removed the parish split

constraint altogether and instructed the SMC algorithm to generate a fresh set of 10,000 simulated district plans. Although disregard for parish boundaries is contrary to actual redistricting practice in Louisiana, this approach provides the algorithm with an even greater freedom to find Majority Minority Districts (MMDs) if such are to emerge naturally. I retained only the constraints for compactness, and to keep total district population deviation within +/-0.25 percent for each plan.

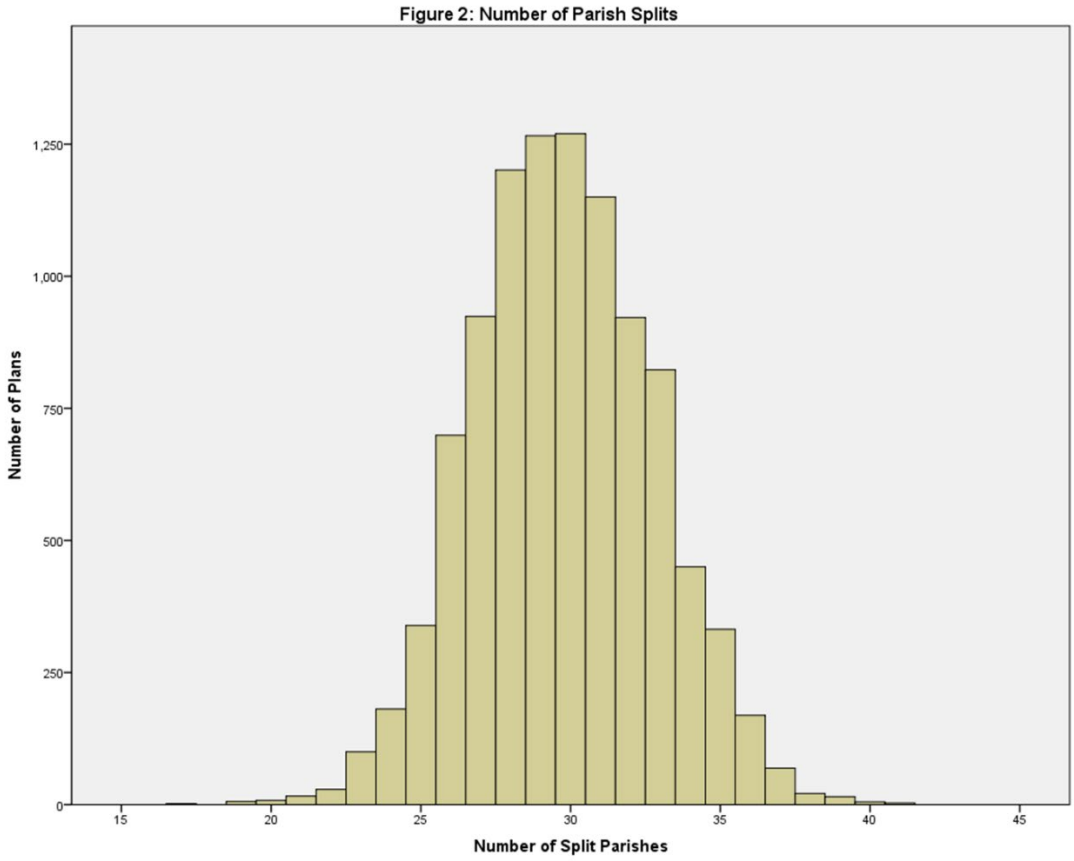
4. I then analyzed the second set of 10,000 plans using the same analytic methods as the first set of plans that included a parish-split constraint. In the second set of plans, the plan with the highest Black voting age population percentage in any one district does increase slightly (from 45.47 percent Black to 46.06 percent Black), but still fails to reach majority status. In only 127 plans is the highest-district BVAP 43 percent or higher. The number of plans with at least 41 percent BVAP in two separate districts increases from 28 to 54, but such plans remain very uncommon. A total of 170 plans (1.7 percent) include two districts with at least 40 percent BVAP, and 387 plans include two districts with at least 39 percent BVAP.



5. These marginal increases in highest-district BVAP come at the expense of compactness. The mean Polsby-Popper score drops from .254 to .154, and the score for the most compact district drops from .60 to .498. Whereas 89.9 percent of districts had previously had a Polsby-Popper score of at least .13, without the parish boundary split constraint only 60.3 percent reach that level of compactness.



6. The number of split parish boundaries increases dramatically compared to the original set of 10,000 simulations, to which a parish-split constraint was imposed. The mean number of parish splits is now 30, with only about 7 percent of the plans having 25 splits or fewer.

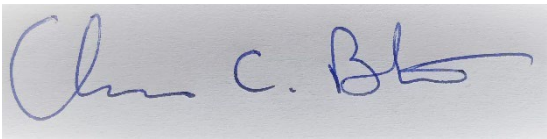


III. CONCLUSION

7. This analysis demonstrates that even if one completely disregards the principle of avoiding parish splits, a redistricting plan that is blind to concerns of race (or proxies for race) would still be extremely unlikely to produce two Majority Minority Districts.

8. All of the foregoing opinions in this rebuttal are given to a reasonable degree of scientific certainty, and the statements and opinions provided in this report are true and accurate to the best of my knowledge, information, and belief.

Dated this 7th day of May, 2022.



Christopher C. Blunt, Ph.D.