

**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF FLORIDA**

CUBANOS PA'LANTE, *et al.*,

Plaintiffs,

v.

FLORIDA HOUSE OF REPRESENTA-
TIVES, *et al.*,

Defendants.

Case No. 1:24-cv-21983-JB

**REBUTTAL REPORT OF CORY McCARTAN, Ph.D.
June 23, 2025**

I. INTRODUCTION

1. My name is Cory McCartan, Ph.D., and I am an Assistant Professor of Statistics and a faculty affiliate in Political Science at the Pennsylvania State University. Among other areas, I specialize in the study of legislative redistricting in the United States. My qualifications are covered in the previous report I submitted in this case.

2. I have been asked by counsel representing the Plaintiffs to produce a map in response to the Expert Report of Alfredo Gonzalez, Eqs., and to review and respond to the Expert Report of Sean P. Trende, Ph.D.

**II. MAP OF “COMMONLY UNDERSTOOD AND ASCERTAINABLE” BOUNDARIES
IN MIAMI-DADE AND COLLIER COUNTIES**

3. In his report, Mr. Gonzalez analyzes how the “adherence to political and geographical boundaries” of House districts and congressional District 26 coincide with, including how the

boundaries use “commonly understood and ascertainable” roads, railways, municipal boundaries, and waterways. Gonzalez report at 4 and *passim*.

4. Mr. Gonzalez uses “commonly understood and ascertainable” roads to encompass a number of classifications. Gonzalez report at 3–4.

5. I have obtained shapefiles with the functional classification of roads from the Florida Department of Transportation (FDOT) for Miami–Dade and Collier Counties.¹ The shapefiles describe the roads corresponding to the following classifications:

- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Local Road

6. I removed the “local roads” and “minor collectors” from this dataset. In examining the remaining roads I have found them to agree with the classifications used by Mr. Gonzalez to describe where district boundaries follow “important roadways that are easily ascertainable and commonly known.” Gonzalez report at, e.g., 5. In particular, they include the section line roads in Miami-Dade county that Mr. Gonzalez mentions, and they appear to include all of the major and minor roads on the Miami-Dade County Adopted 2030 and 2040 Land Use Master Plan Map that Mr. Gonzalez attaches as an appendix to his report and discusses as forming the boundaries of districts.

7. I also collected shapefiles for county and municipality boundaries, railroads, and

¹Available at <https://www.fdot.gov/statistics/gis/default.shtm>

rivers, canals, and coastlines in Miami–Dade and Collier counties. These shapefiles were obtained from the U.S. Census Bureau, except the river² and canal³ data. Mr. Gonzalez includes these boundaries as well as “commonly understood and ascertainable.” He did not specify any requirements on the size or type of canal, river, stream, or other body of water he considers “commonly understood and ascertainable.”

8. A map of all of the boundaries Mr. Gonzalez’ report classifies as “commonly understood and ascertainable” in Collier and Miami–Dade counties is shown in Figure 1. A detailed view of central Miami–Dade county is shown in Figure 2.

III. REPONSE TO REPORT OF DR. TRENDE

9. This section responds to the conclusions and points made in Dr. Trende’s expert report.

A. Movement of residents versus the Enacted Map

10. Section 5.2 of Dr. Trende’s report includes counts of the number of residents who are “moved,” which I understand to mean that they reside in a different district in my illustrative maps than under the enacted map.

11. I do not understand Dr. Trende to be criticizing any particular aspect of the illustrative plans in this section. The plans I drew are alternatives to the enacted plans; that by definition requires “moving” residents. If no residents were “moved,” the alternative plans would be identical to the enacted plans.

²Florida Geographic Information Office’s “major rivers,” obtained from <https://geodata.floridagio.gov/datasets/FGIO::major-rivers-lines/about>.

³The canals referenced in the Consumptive Use Chapter 40E-2, Florida Administrative Code (F.A.C.), obtained from https://geo-sfwmd.hub.arcgis.com/datasets/ae7b71ca80c44db6ba9dc6359046e6d1_0/explore?location=25.646808%2C-80.339286%2C12.00.

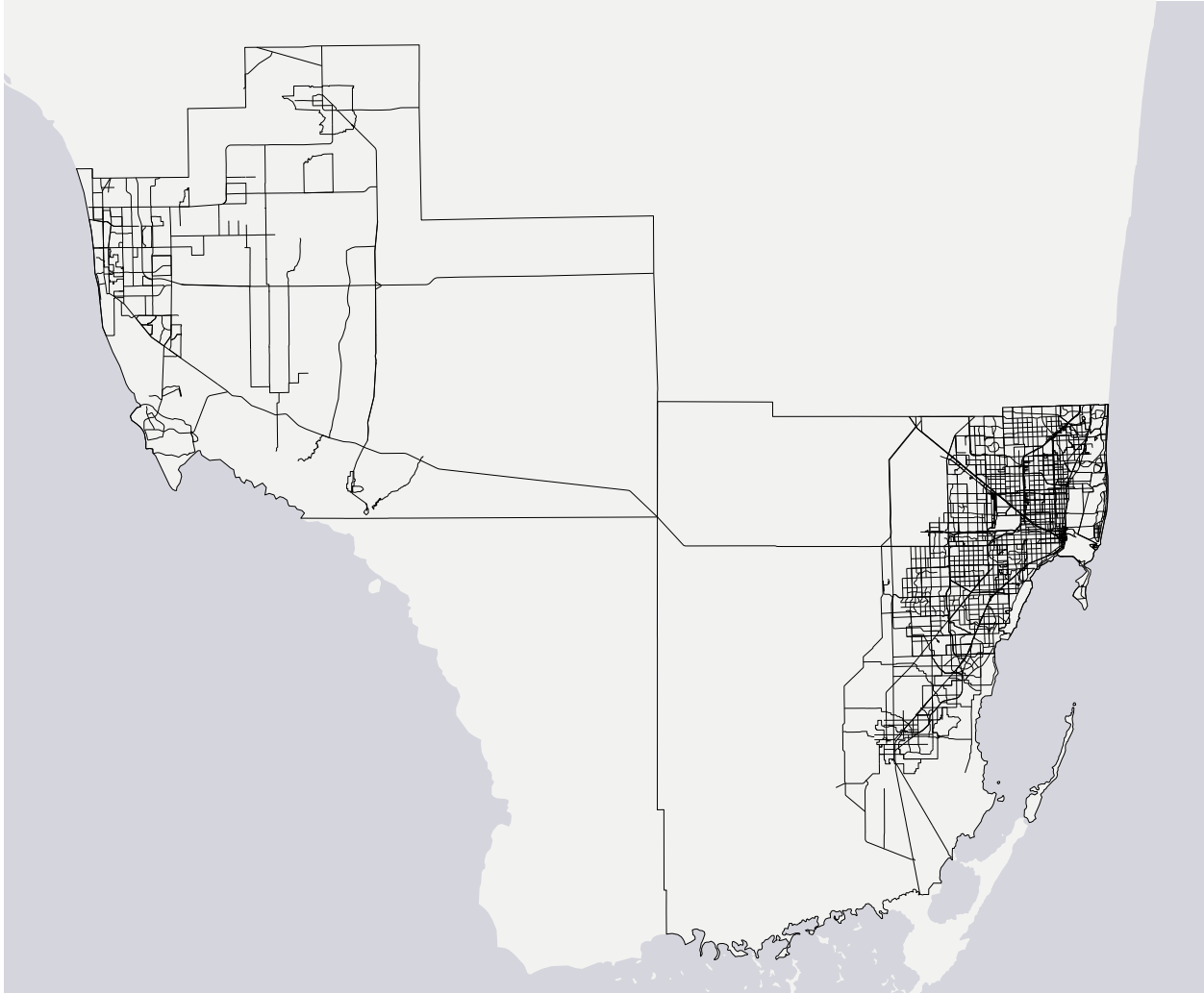


Figure 1: “Commonly understood and ascertainable” boundaries in Collier and Miami–Dade counties.

B. The Everglades

12. Dr. Trende claims that “[i]t is never explained why, of all the thousands of potential river, highway, railway and other boundaries in Florida, Dr. McCartan opts to treat the Everglades as an inviolable barrier.” Trende rep. at 20.

13. As my report states, I was asked by counsel for the Plaintiffs to redraw District 26. McCartan rep. at 1. Thus my considerations as to boundaries were initially limited to those in and around District 26, not all of Florida.

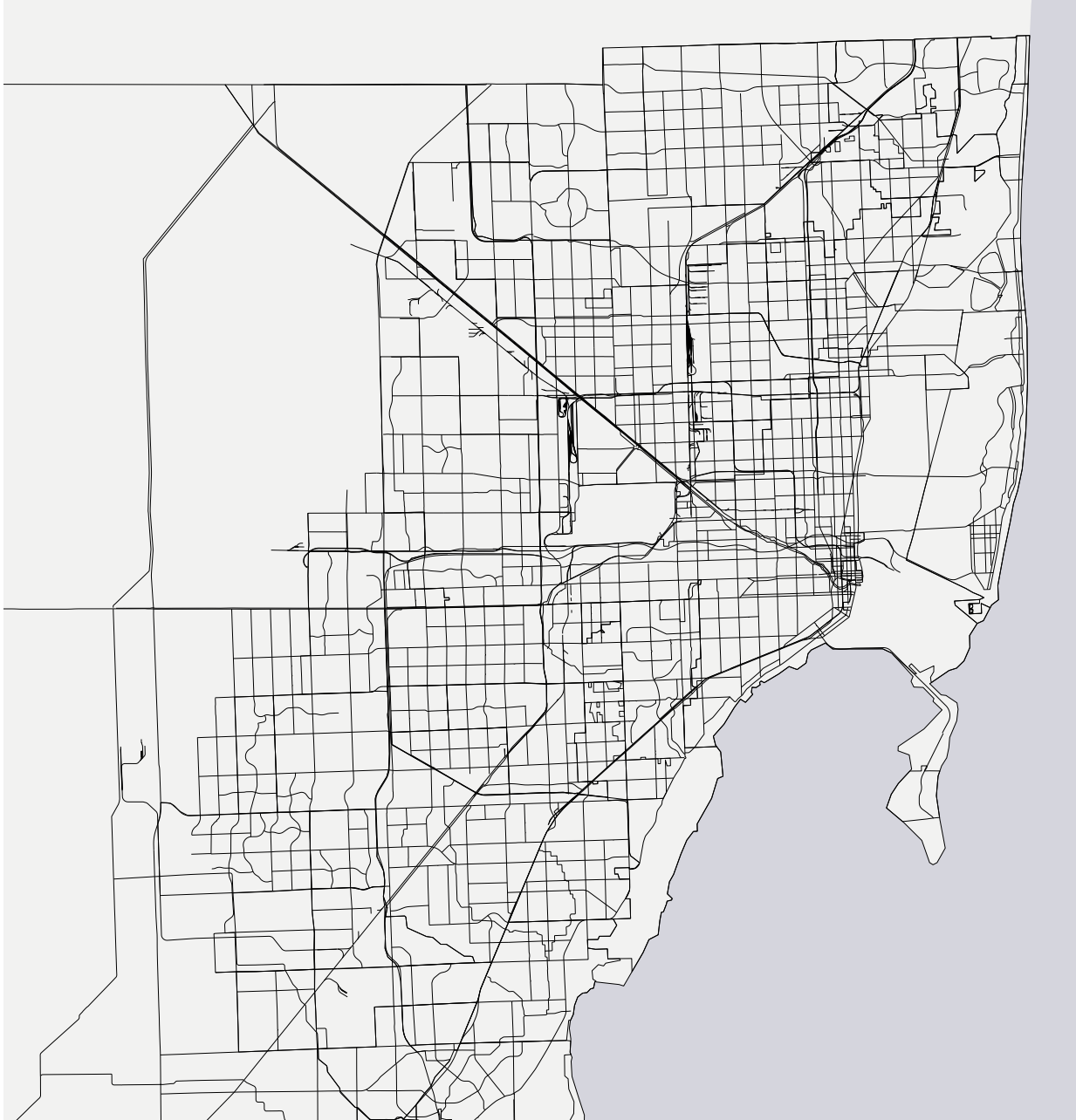


Figure 2: “Commonly understood and ascertainable” boundaries in central Miami–Dade county.

14. In contrast Dr. Trende’s claim, my report does explain my choice to respect the Everglades as a boundary:

The Everglades is a significant natural boundary between cities and other population centers on the east and west coasts of Florida. Additionally, in South Florida, the east

and west coasts are separated along county lines. Thus, in following the constitutional standard regarding the use of geographic and political boundaries, and the guidance laid out in the Senate memo, all of the plans I present here respect the major geographic boundary of the Everglades, as well as the political boundary that separates Collier and Hendry counties from Monroe, Miami-Dade, Broward, and Palm Beach counties.

(McCartan rep. at 8.)

15. More importantly, Dr. Trende misinterprets my use of the word “respect.” He appears to count a district boundary as respecting the Everglades only if no portion of the boundary crosses any of the national preserves, parks, or other reserved areas which may be considered part of the Everglades. In doing so, he confuses land, which is not represented in Congress, with people, who are.

16. He also misunderstands the role and importance of the Florida constitutional criteria to my redrawing of district 26, including respecting county boundaries. As stated in the report, the Everglades aligns with the major political boundary that separates Collier and Hendry from Monroe, Miami-Dade, Broward, and Palm Beach counties. Redrawing district 26 to respect this major political boundary, rather than violate it, was consistent with my direction to adhere to the Florida constitutional standards.⁴

17. Figure 3 is a population dot map, similar to those included in Dr. Trende’s report, showing the distribution of residents in the enacted District 26. Each dot represents 10 people, except in more sparsely populated areas, where a dot may represent fewer than 10 people.⁵ Natural

⁴Relatedly, applying Florida’s constitutional criteria explains why redrawing CD26 affects other districts as well. (Trende rep. at 17-20.) All of the changes I made in the map are direct consequences of redrawing CD26 to adhere to the constitutional criteria of compactness and utilization of political and geographic boundaries. “Redrawing” a district necessarily involves moving residents to different districts.

⁵This occurs when the Census block a person resides in contains fewer than 10 people. Rather than omit such blocks

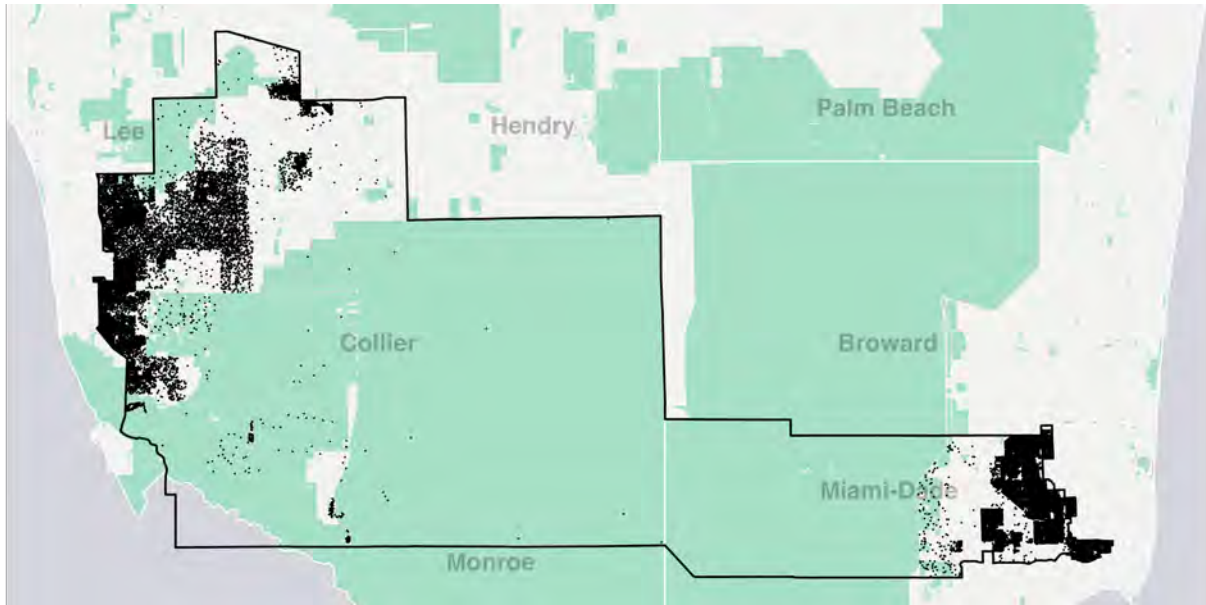


Figure 3: Population dot map of District 26, with managed areas shaded in green. Each dot represents at least 1 and at most 10 people.

managed areas, as defined by the Florida Natural Areas Inventory,⁶ are shaded in green.

18. As Figure 3 shows, exceedingly few people reside near the border between Collier and Miami–Dade counties, or for that matter anywhere in the managed areas.

19. The figure makes clear how the enacted District 26 connects two densely populated areas in western Collier and eastern Miami–Dade counties via the Everglades. That is, *people* on both sides of the Everglades are connected by District 26, despite the large, sparsely inhabited area which connects those regions. This sparsely populated area is also divided by the major political boundary of the county line, discussed above.

20. In contrast, my illustrative maps respect this separation of population centers, and do not connect these population centers.

21. Dr. Trende appears to understand this interpretation of “respect. . . the Everglades,” when he writes that it could mean “not traversing the Everglades.” Trende rep. at 20. Later, he also

from the map, they are each plotted with a dot.

⁶See <https://www.fnai.org/publications/gis-data>.

describes the enacted configuration of District 26 as “pairing Collier County with population centers on or near the Atlantic Coast.” Trende rep. at 25. But he does not consider these interpretations in his discussion of whether my illustrative maps respect the Everglades as a geographic boundary. Even in the section where he writes that my illustrative maps “traverse the Everglades”, he only demonstrates that various managed areas are *split* by illustrative districts, including districts that I did not redraw, rather than analyzing whether the districts *traverse* the Everglades, i.e., span them from east to west. Trende rep. at 24. But, unlike counties, geographic boundaries, and compactness, managed areas and parks do not have any particular status under the Florida Constitution’s redistricting standards.

22. Finally, Dr. Trende shows historical Congressional maps, dating back to 1936 when the population of South Florida was substantially smaller relative to the rest of the country, and argues there is “nothing particularly unusual” about District 26 spanning the Everglades. Trende rep at 25–37. Dr. Trende fails to clarify that the vast majority of these maps were drawn when there was a different set of controlling standards and rules for congressional districts in Florida. Indeed, the requirements that districts be compact and utilize existing geographic and political boundaries where feasible were not adopted until 2010.

C. County splits

23. Dr. Trende takes issue with my calculation of county splits in the illustrative congressional maps. He writes that the calculation “depends on this Court’s treatment of Hendry County,” and points to District 21 in Illustrative Plan A. Trende rep. at 38.

24. Dr. Trende correctly notes that the twelve blocks that belong to District 21 in Illustrative Plan A in Hendry County are unpopulated. As per the Florida Supreme Court’s decision in *League of Women Voters of Florida v. Detzner* (Apportionment VIII), 179 So. 3d 258, 295 (Fla. 2015), these blocks are not included in counting the number of split counties as a matter of Florida

law.. Yet Dr. Trende describes this calculation as “not. . . a minor oversight.” In fact, it is not an oversight, but a correct application of the existing standards for counting split counties.

25. Dr. Trende also confuses the *number of counties which are split* with the *number of county splits*. If a county is changed from being split once (i.e., it contains portions of two districts) to being split twice (i.e., containing portions of three districts), the number of counties which are split does not change, but the number of county splits does.

26. My report includes the number of counties which are split (“Split 1+”), split at least twice (“Split 2+”), as well as the overall number of county splits (“Total”). McCartan rep. at 16.

27. In contrast, Dr. Trende limits his own analysis to the former statistic. This may be because all of the illustrative plans have fewer counties which are split twice or more, and all but Plan A have the same or fewer total splits.

28. Dr. Trende does consult Dave’s Redistricting App for a count of total county splits, but DRA employs split rules that are contrary to Florida law, and inappropriate to use here as a result.

29. Finally, Dr. Trende claims that redrawing District 26 to not span the Everglades should mean that the map “immediately starts . . . out with two fewer county splits.” Trende rep. at 40. But as noted in my report, changes to District 26 *required* additional changes to other districts to comply with Florida’s constitutional standards. Rather than having a budget to “spend” elsewhere and choosing to split additional counties, these additional splits were a natural result of redrawing District 26—the district I was instructed to redraw consistent with Florida’s constitutional standards.

D. Municipality Splits

30. Dr. Trende includes a table of municipalities split in my illustrative plans which are not split by the enacted plan. He does not show the converse, that is, municipalities which are split

by the enacted plan but not by my illustrative plans.

31. Dr. Trende incorrectly claims that I count Census designated places (CDPs) in counting municipality splits. Trende rep. at 40. He provides no supporting evidence for this claim, and I do not know why he made it. In any event, he is incorrect. Had he properly examined the computer code turned over along with my report, he would have found that CDPs, which are not incorporated, are excluded from my list of municipalities. This is accomplished by use of the Census Bureau's FUNCSTAT variable.

32. As with county splits, Dr. Trende again misunderstands the correct method for counting municipality splits in Florida. Unpopulated blocks are not count as split municipalities, because in that case the residents of a municipality are all assigned to the same district.

E. Boundary analysis

33. Dr. Trende claims my "boundary splits analysis is flawed." Trende rep. at 42. But his Table 5, which he presents to make this point, does not contradict any of the findings in my report. Indeed, they are based on my reports' appendices. Moreover, my own Table 3, reporting the boundary analysis scores, shows the same qualitative conclusions as Dr. Trende's Table 5: Illustrative Plan D has a higher boundary score than the enacted plan (by 1.6%), and the other plans have a lower score (by about 1%).

34. Dr. Trende then proceeds to analyze the boundary scores in Hispanic-majority districts. I do not understand this section of his report to be arguing my analysis is "flawed," since as I state in my report, I did not access or consult racial demographic data in drawing or analyzing my illustrative maps.

F. Compactness

35. Dr. Trende claims my “compactness analysis is flawed.” Trende rep. at 44. But he does not explain in what way it is flawed. His discussion is limited to disaggregating the average compactness scores I present in my Table 4 to the compactness in Districts 24 and 26–28. As his Table 6 shows, all of these compactness scores are quite similar to those for the enacted plan. I did not claim otherwise in my report, and Dr. Trende explains no particular “flaw” in my analysis.

36. Dr. Trende also fails to perform a visual analysis of the illustrative districts. This is important since no particular numerical measure is privileged or used by the Florida constitution—rather, compactness is primarily a visual assessment.

G. Conclusions about congressional maps

37. Given Dr. Trende’s vague and unsubstantiated claims about “flaws” in my analyses, it is helpful to note areas of agreement.

38. Dr. Trende admits to “improvements” in the illustrative plans with regards to county and municipality splits. Trende rep. at 44–45.

39. Dr. Trende writes that “little changes” in the illustrative maps. Trende rep. at 44. In other words, he agrees that the maps illustrate that there are several ways to draw congressional districts which involve a different configuration of District 26 that does not traverse the Everglades, all while matching or improving compliance with the Tier Two constitutional standards. *See also* Trende rep. at 105. Dr. Trende’s disagreement, in this section, is that he feels the improvements are “marginal.”

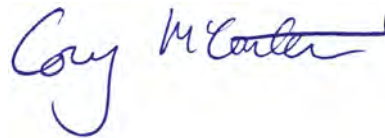
H. House districts

40. Dr. Trende also examines the illustrative House maps I provided in my report. He simultaneously finds that the illustrative maps “substantially reconfigure” the enacted districts, but also that the changes are “limited.” Trende rep. at 104. He also critiques my redrawing of the House maps as “limited” because “little changes,” Trende rep. at 104, despite criticizing my congressional maps for “shifting millions of residents,” *id.* at 17. Dr. Trende’s critiques of alternative maps might therefore be summarized as “heads we win, tails you lose.”

41. Dr. Trende again errs in claiming that my report counted CDPs in calculating municipality splits.

42. Again, it is helpful to note points of agreement. Dr. Trende agrees the maps improve on municipality splits. He agrees that I “produce more compact districts, on average”. Trende rep. at 104. Despite explaining that the Reock scores almost triple for several of the districts, he nevertheless finds the districts “don’t improve substantially upon traditional redistricting criteria overall.” Trende rep. at 105.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct. Executed this 23rd day of June, 2025.

A handwritten signature in blue ink that reads "Cory McCartan". The signature is fluid and cursive, with the first name "Cory" being more prominent than the last name "McCartan".

Cory McCartan, Ph.D.