

STATE OF WISCONSIN
IN SUPREME COURT

Case No. 2021AP1450-OA

BILLIE JOHNSON, ERIC O'KEEFE,
ED PERKINS and RONALD ZAHN,

Petitioners,

BLACK LEADERS ORGANIZING
FOR COMMUNITIES, VOCES DE LA
FRONTERA, LEAGUE OF WOMEN
VOTERS OF WISCONSIN, CINDY
FALLONA, LAUREN STEPHENSON,
REBECCA ALWIN, CONGRESSMAN
GLENN GROTHMAN, CONGRESSMAN
BRYAN STEIL, CONGRESSMAN TOM
TIFFANY, CONGRESSMAN SCOTT
FITZGERALD, LISA HUNTER, JACOB
ZABEL, JENNIFER OH, JOHN PERSA,
GERALDINE SCHERTZ, KATHLEEN
QUALHEIM, GARY KRENZ, SARAH J.
HAMILTON, STEPHEN JOSEPH
WRIGHT, JEAN-LUC THIFFEAULT,
and SOMESH JHA,

Intervenors-Petitioners,

v.

WISCONSIN ELECTIONS COMMISSION,
MARGE BOSTELMANN in her official
capacity as a member of the Wisconsin
Elections Commission, JULIE GLANCEY
in her official capacity as a member of
the Wisconsin Elections Commission,
ANN JACOBS in her official capacity as
a member of the Wisconsin Elections
Commission, DEAN KNUDSON in his
official capacity as a member of the
Wisconsin Elections Commission, ROBERT
SPINDELL, JR. in his official capacity as

a member of the Wisconsin Elections
Commission and MARK THOMSEN in
his official capacity as a member of the
Wisconsin Elections Commission,

Respondents,

THE WISCONSIN LEGISLATURE,
GOVERNOR TONY EVERS, in his official
capacity, and JANET BEWLEY Senate
Democratic Minority Leader, on behalf of
the Senate Democratic Caucus,

Intervenors-Respondents.

ORIGINAL ACTION

**GOVERNOR TONY EVERS'S
MOTION TO SUPPLEMENT THE RECORD**

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Pursuant to the U.S. Supreme Court’s remand of this action, Intervenor-Respondent Governor Tony Evers moves to supplement the record to provide this Court with additional expert analysis relevant to the issues identified in *Wisconsin Legislature v. Wisconsin Elections Comm’n*, No. 21A471, 2022 WL 851720 (U.S. Mar. 23, 2022).

As the U.S. Supreme Court stated, this Court is “free to take additional evidence” regarding the Governor’s map. *Id.* at 7. That is necessary here because, together with the evidence already submitted to this Court, the Governor’s additional evidence demonstrates both that adoption of the Governor’s map is necessary to comply with the VRA and that the alternative maps before the Court violate the Voting Rights Act (VRA). It also is especially appropriate here because the U.S. Supreme Court’s order announces new guidance in applying the VRA, including inserting new issues that were not extensively developed before this remand and clarifying that this Court must perform a searching analysis even on issues that were not meaningfully disputed.

On March 24, the Governor submitted a letter to this Court indicating that he would expeditiously make an expert report available for that purpose by April 1. That report, by Dr. Lisa Handley, is now complete and is being submitted with this motion. (Ex. A.) The Governor requests that the Court grant the motion to supplement and consider the attached report in the context of its task on remand.¹

The basis for this motion is as follows.

Background

1. The U.S. Supreme Court reversed and remanded this Court’s adoption of the Wisconsin Assembly map based on this Court’s analysis of the Milwaukee area. Specifically, the Court’s concern was the “intentional addition of a seventh majority-black district” to the preexisting six-majority-Black-district map. *Wisconsin Legislature*, Slip Op. at 4. It

¹ The Governor also will submit briefing if the Court wishes.

concluded that this Court needed to provide a more detailed explanation of the necessity of the seventh district. *Id.* at 4. It also found that the Court’s order lacked sufficient analysis of the *Gingles* factors, and that it did not holistically conduct the totality of circumstances analysis. *Id.* at 6–7.

2. The Court explained that, while states have “breathing room” to adopt additional majority-minority opportunity districts, the state must have a strong basis in evidence that the addition is necessary—not simply that it might be. *Id.* at 5. It also instructed that courts should undertake a more searching analysis of even undisputed *Gingles* factors in reaching this conclusion. *Id.* at 6–7.

3. The U.S. Supreme Court thus remanded to this Court to review the seven proposed Milwaukee opportunity districts under this newly articulated framework, indicating that this Court is “free to take additional evidence” regarding the Governor’s map. *Id.* at 7.

Dr. Handley’s report is necessary to the decision on remand, as it demonstrates that a seventh majority-Black district is necessary under the *Gingles* preconditions.

4. While there already are robust and detailed expert reports on the VRA in the record, the U.S. Supreme Court’s opinion indicates that it is appropriate for this Court to consider supplemental evidence. Here, it is necessary, as Dr. Handley’s report, in combination with the existing evidence regarding the Senate factors, demonstrates that only the Governor’s maps comply with the VRA.

5. The U.S. Supreme Court’s order reiterated that the VRA forbids “the distribution of minority voters into districts in a way that dilutes their voting power.” *Wisconsin Legislature*, Slip Op. at 3 (citing *Thornburg v. Gingles*, 478 U.S. 30, 46–51 (1986)). Similarly, it forbids “the concentration of [minority voters] into districts where they constitute an excessive majority.” *Gingles*, 478 U.S. at 46, n.11. Dr. Handley’s report finds that both the existing map

and the Legislature’s map “pack” minority voters in precisely this manner, and that the Governor’s maps are necessary to avoid this packing.²

6. Dr. Handley’s report analyzes at the district level whether the VRA requires the creation of the Governor’s seventh majority-Black district. It reinforces that all the *Gingles* preconditions are met with respect to the Milwaukee County area.³ The report demonstrates this in terms of the specific districts in the existing maps and the Legislature’s maps and in terms of the need to create the seventh district in Governor’s map to avoid vote dilution. And, because the creation of the seventh district is necessary in this population to avoid unlawful vote dilution, it demonstrates that maps lacking such a district, including the existing maps and the Legislature’s maps, dilute minority votes. Thus, it is necessary to consider it in connection with the issues identified by the U.S. Supreme Court, together with the reports already in the record.

² To determine whether a map that “packs” voters violates the VRA, courts review the *Gingles* factors. *See, e.g., Bone Shirt v. Hazeltine*, 461 F.3d 1011, 1017 (8th Cir. 2006). Because Dr. Handley’s analysis applies to the Milwaukee-area population, her analysis demonstrates that the *Gingles* factors are met for that population whether the maps at issue are the Governor’s, the Legislature’s, or the existing maps.

³ The three *Gingles* preconditions are:

- (1) The minority group must be sufficiently large and compact to constitute a majority in a reasonably configured district, (2) the minority group must be politically cohesive, and (3) a majority group must vote sufficiently as a bloc to enable it to usually defeat the minority group’s preferred candidate.

Wisconsin Legislature, Slip Op. at 3 (citing *Gingles*, 478 U.S. at 50–51).

The first precondition.

7. To start, the Handley report demonstrates that the first *Gingles* precondition is met. “The first *Gingles* condition refers to the compactness of the minority population, not to the compactness of the contested district.” *League of United Latin Am. Citizens v. Perry*, 548 U.S. 399, 433 (2006) (citation omitted).

8. Relevant to the specific districts at issue in the Governor’s Assembly districts, Maps 1a and 1b in the report show the Black population in Milwaukee, which is extremely geographically compact. As those maps reflect, darker shades of orange represent higher concentrations, with the darkest orange areas (representing 80-100%) overlapping with the districts in the Governor’s seven majority-Black districts. (Report of Dr. Lisa Handley (“Handley Report”) at 10–11 (March 31, 2022); *see also* Report of Dr. Jeanne Clelland at 11 (Dec. 15, 2022).)⁴ This is consistent with evidence in the existing record, which showed that districts largely overlapping with the Governor’s proposed districts were in very highly concentrated Black population areas. (Report of Dr. Ken Mayer at 8 (Dec. 15, 2021).)

9. Consistent with that, this Court’s March 3 decision states that “[o]ver the last decade, the Black population in Wisconsin grew by 4.8% statewide, while the white population fell by 3.4%” and that “a significant proportion of Wisconsin’s Black population lives in Milwaukee County,” where “the Black voting age population increased 5.5%, while the white voting age population decreased 9.5%.” *Johnson v. Wisconsin Elections Comm’n*, 2022 WI 14, ¶ 48.

10. Further, *after* this Court’s decision on March 3, the U.S. Census Bureau, on March 10, 2022, revealed that the census actually had “undercounted the Black or African

⁴ “[I]t is proper to look at all individuals who identify themselves as black.” *Georgia v. Ashcroft*, 539 U.S. 461, 473 n.1 (2003) (emphasis in original).

American population” with “a statistically significant undercount of 3.30%.”⁵ (Ex. B.)

11. Thus, it is unsurprising that this factor went uncontested, and the supplemental report conclusively confirms that it is met as to the population at issue for the Governor’s proposed districts.

The second and third preconditions.

12. The Handley Report also confirms that the second and third *Gingles* factors are met. The second and third *Gingles* preconditions are often referred to as concerning “racially polarized voting.” *Gingles*, 478 U.S. at 56. As the U.S. Supreme Court has explained, such an analysis “will vary according to a variety of circumstances” and does not require that racially polarized voting is present in every election. *Id.* at 57–58.

13. To determine whether *Gingles* preconditions two and three are met, the Handley Report assesses the overall level of racially polarized voting in the Milwaukee area and in the six existing opportunity districts in that area.

14. It finds that voting is racially polarized in the Milwaukee area and that “this racial polarization would hinder the ability of Black voters to elect candidates of their choice to the Wisconsin State Assembly if districts are not drawn to provide Black voters with this opportunity.” (Handley Report at 24).

15. The Handley Report’s racial polarization analysis covers and applies to the same population base redistricted under the current map and the Governor and Legislature’s maps. The findings apply no matter which proposals are under scrutiny. *Id.* at 3.

⁵ U.S. Census Bureau, *Census Bureau Releases Estimates of Undercount and Overcount in the 2020 Census*, available at <https://www.census.gov/newsroom/press-releases/2022/2020-census-estimates-of-undercount-and-overcount.html>.

16. The Handley Report demonstrates that voting in the Milwaukee area is racially polarized. Black Milwaukee-area voters have a cohesive voting pattern that is distinct from that of White voters who often vote as a bloc opposing the Black community's candidates of choice. *Id.* at 5, 8.

17. The Handley Report analyzes nine probative, recent elections conducted between 2016 and 2021 that involved a Black candidate running against white candidates. The analysis is based upon Dr. Handley's independent review of one race and her assessment of previous analysis conducted by the BLOC expert Dr. Loren Collingwood. The races analyzed included nonpartisan and Democratic primary races and spring general races. *Id.* at 3-9.

18. The Handley Report analyzes voting patterns by race in the nine elections. To do so, it uses three statistical techniques that estimate vote choices by race: homogeneous precinct analysis, ecological regression, and ecological inference. The first two of these techniques were used by the plaintiff's expert in *Gingles* and were relied upon by the Supreme Court. The third, developed after *Gingles*, has been regularly accepted for use by number courts in their VRA analyses. *Id.* at 3-5; *see also* BLOC Br. at 37 (Dec. 15, 2021).

19. The Handley Report explains why analyzing other races are not probative. Many of the possible races conducted in the area or relevant Assembly districts were either not competitive or were uncontested or did not feature white candidates running against Black candidates. *Id.* at 3, 7, 12-14.

20. The Handley Report looked at the Milwaukee area as a whole because there have been virtually no probative assembly elections for racially polarized voting analysis. The report analyzes the primary and general elections in the six current opportunity districts from 2016, 2018, and 2020 and explains how they can and cannot be helpful in assessing racially polarized voting for purposes of a VRA analysis. *Id.* at 3, 12-14, and Appendix.

21. The Handley Report finds that Milwaukee-area voting is “usually racially polarized” and that Black voters are “cohesive in support of their preferred candidates.” *Id.* at 8.

22. In seven of nine of those races, Black voters had a clear preferred candidate. Even in a race with multiple candidates, such as the 2018 Democratic gubernatorial primary where there were 10 candidates, Black voters strongly supported one particular person. *Id.* at 5-8.

23. In six of the nine races, White voters voted as a bloc for white candidates to defeat preferred Black candidates. *Id.*

24. Overall, then, six of nine races demonstrated racially polarized voting. In a seventh—the 2020 spring City Attorney race—the extent of racially polarized voting was unclear. *Id.* at 5.

25. One of the nine races that was not racially polarized in either the Handley or the BLOC expert’s report—the 2018 Milwaukee County Sheriff’s Democratic primary—involved “special circumstance[s]” and should be disregarded. *See* BLOC Br. at 39-40 (Dec. 15, 2021); “[T]he success of a minority candidate in a particular election does not necessarily prove that the [jurisdiction] did not experience polarized voting” particularly when “special circumstances” are present. *Gingles*, 478 U.S. at 57.

26. *Gingles* does not require that racially polarized voting be present in every election. “[W]here elections are shown usually to be polarized, the fact that racially polarized voting is not present in one or a few individual elections does not necessarily negate the conclusion that the district experiences legally significant bloc voting.” *Id.* at 57.

27. The Handley Report concludes: “districts that provide Black voters with an opportunity to elect their candidates of choice must be created.” (Handley Report at 8).

28. The Handley Report contains a district-specific functional analysis of whether the districts proposed by both

the Governor and the Legislature and the existing districts are narrowly tailored to comply with the VRA. *Id.* at 8–24.

29. A district specific analysis of Assembly races reveals that many of these races are packed. *Id.* at 14.

30. The Handley report concludes that some of the existing districts, especially Districts 11 and 17, are “very heavily packed.” *Id.* at 14.

31. The existing maps pack Black voters and “dilutes their voting strength.” *Id.* at 14.

32. The Handley Report finds that the Legislature’s plan “impedes the ability of Black voters to elect their candidates.” *Id.* at 24.

33. The Legislature’s plan contains one district, District 11, that has an “astounding” Black Voting Age Population (BVAP) of 73.28%. On the other hand, District 11 has its BVAP “startlingly” decreased from 59.39% to 47.19%. *Id.* at 19.

34. A district-by-district functional analysis finds that existing and Legislature’s maps continue to produce results that waste Black votes as a result of an over-concentration of Black voters in six districts. *Id.* at 19.

35. The Handley Report finds that the seventh opportunity district—District 14—created in Governor Evers’ plan is crafted to carefully unpack the current districts that have high BVAP and that “wast[e]” Black votes. *Id.* at 18.

36. The creation of this seventh district is done to “satisfy the requirement of the Voting Rights Act that the voting strength of minority voters not be diluted,” the Handley Report concludes. *Id.* at 25.

37. The Handley Report explains why all seven of Governor Evers’ opportunity district perform under a VRA analysis, contrary to the Collingwood rebuttal report, which suggested that Governor Evers’ District 10 would not do so. *Id.* at 22–23 and n. 11.

38. Thus, the Handley Report demonstrates that the VRA preconditions apply to the specific population at issue and that the seventh district is necessary to avoid dilution. The Black voting age population in the Milwaukee area is large and compact enough to form a majority in seven reasonably configured districts; the Black voting age population is politically cohesive; and the risk of vote dilution is stark because white voters in the area vote sufficiently as a bloc to usually defeat the Black voting age population's preferred candidates.⁶

39. The Handley Report also shows the flip side of this analysis: Continued use of the preexisting six-district configuration would pack Black voters and dilute their votes. The Legislature's maps are even more flawed, diluting minority votes to an even greater degree. *Id.* at 24–25.

40. As discussed above, the Handley Report demonstrates that the *Gingles* preconditions are met for the population at issue—that is, that they are satisfied whether considered in connection with the Governor's maps, the existing maps, or the Legislature's maps.

41. Thus, the Handley Report's careful evaluation at the district-level of the updated population data and the voting patterns of the Milwaukee-area Black population make it clear that the *Gingles* preconditions are met.

Together with the existing record, the Hadley Report also is relevant to addressing the totality of circumstances.

42. In determining whether the Governor's maps are required, the Court also must address whether “the totality of circumstances” shows that members of a racial group in the area at issue “have less opportunity than other members of

⁶ Again, in earlier proceedings before this Court no party disputed that the first and second *Gingles* factors were met (a conclusion supported by all experts). And nobody disputed that the third *Gingles* factor was met until oral argument, when the Legislature raised conclusory objections

the electorate to participate in the political process and to elect representatives of their choice.” 52 U.S.C. § 10301(b). This includes a consideration of the factors set forth in the Senate Report on the 1982 amendments to the VRA. *LULAC*, 548 U.S. at 426.

43. In its decision, the U.S. Supreme Court faulted this Court for discussing only one factor—proportionality—instead of addressing the factors more holistically. That can be readily remedied, as the existing record, together with the Handley Report, are more than adequate to show that the totality of circumstances shows that minority voters would be denied equal political opportunity if a seventh district is not adopted.

44. The totality analysis is a “practical evaluation” and “there is no requirement that any particular number of factors be proved.” *Gingles*, 478 U.S. at 45 (citation omitted). That appraisal is necessary to determine whether “the absence of an additional district constitutes impermissible vote dilution” in the specific area at issue. *LULAC*, 548 U.S. at 423. And while “the basic unit of analysis for racial gerrymandering claims is the district,” evidence pertaining to larger or smaller areas may be probative to look at a district in context. *Bethune-Hill v. Virginia State Bd. of Elections*, 137 S. Ct. 788, 800 (2017).

45. Dr. Hanley’s report provides exactly this type of district-specific, functional analysis with respect to a key Senate Factor: “the extent to which voting in the elections of the State or political subdivision is racially polarized.” See *LULAC*, 548 U.S. at 426 (quoting *Gingles*, 478 U.S. at 37). As discussed in more detail above and in the report, it first analyzes city and county election returns in the area that encompasses the districts at issue. (Handley Rep. 3, 5–9.) Finding racially polarized voting, the report proceeds to a district-specific, functional analysis that looks at whether candidates preferred by minority voters can actually win in the proposed districts. (Handley Rep. 9–24.) See *LULAC*, 548 U.S. at 427 (upholding district court analysis where court

looked at racially polarized voting in south and west Texas, along with projected results in the district at issue).

46. Moreover, although not discussed in this Court’s original opinion (other than proportionality), the existing record contains a great deal of evidence bearing on the other Senate Factors and demonstrating the necessity of a seventh district.

47. For example, the evidence shows that minority voters still face very significant hindrances in access to housing, employment, and other opportunities that affect political participation for minority voters. It also demonstrates, largely a failure of Black candidates to achieve higher offices, such as mayor of Milwaukee; a history of disparate impacts on Black voters in the region and of minority vote dilution; and fewer polling places in Milwaukee per capita in recent elections, among other details. *See LULAC*, 548 U.S. at 426 (citing *Gingles* at 44–45; S.Rep. No. 97–417 (1982), U.S.Code Cong. & Admin. News 1982, pp. 177, 206). (Report of David T. Canon, Dec. 15, 2021.)

48. For example, Dr. Canon discussed in great detail the factor regarding “effects of past discrimination in areas such as education, employment, and health, which hinder [the minority group’s] ability to participate effectively in the political process.” He reported on the significant segregation among racial groups in the Milwaukee area, and the very large racial disparities in a wide swath of daily life, both now and historically. That large gap is present, for example, in home ownership, income, education, health, poverty, eviction rates, incarceration, and unemployment, and long has been. (Canon Rep. 13–30.) In turn, studies show that these factors, including segregation, home ownership rates, incarceration, and eviction rates, correspond to diminished political participation. (Canon Rep. 20, 26.)

49. Dr. Canon also discussed specific examples of the Senate Factor’s “voting practices and procedures,” historical “voting-related discrimination,” “racial appeals in political campaigns,” and electoral success. For example, he cited a

federal report that the effects of voter-purging have been disproportionately felt in counties like Milwaukee with large Black and Latino populations (Canon Rep. 7–9); that Covid-related closing of approximately 180 in-person Milwaukee polling sites, leaving only five for the April 2020 primary, was dramatically more impactful than in nearby, predominately-white counties (Canon Rep. 10–11); that there are examples of various racially-tinged campaign ads, spanning from 2008 to the present (Canon Rep. 30–34); and that outside of majority BVAP districts, most political positions are not held by Black officeholders in the relevant area, with Milwaukee having never had a Black mayor (Canon Rep. 34). And, like Dr. Handley, the existing expert reports from Dr. Loren Collingwood confirmed the presence of polarized voting. (Report of Loren Collingwood at 14–35 (Dec. 19, 2021).)

50. Lastly, though insufficient standing alone, as this Court already recognized, another relevant factor is proportionality. Here, evidence showed that the Legislature’s expert underestimated Black voters and overestimated white voters. Using a correct estimation, as discussed in detail in the reports, a proportionate share of districts was between six and seven districts. (Resp. Report of Dr. Loren Collingwood at 19–21 (Dec. 30, 2021).) And, as this Court explained, with Milwaukee-specific shifts, there was good reason to conclude that a seventh district was required. Further, as noted above, the U.S. Census Bureau more recently—on March 10—reported significant *undercounts* of Black voters. Thus, especially with that new information, proportionality clearly points to seven, not six or less, districts.

51. There “is no requirement that any particular number of factors be proved.” *Gingles*, 478 U.S. at 45 (citation omitted). Here, the Senate Factors clearly show that a seventh district is necessary to prevent Black voters from being denied equal political opportunity.

* * *

In sum, the evidence the Governor seeks to submit is not just probative; it demonstrates both that the standard set

by the U.S. Supreme Court is met here, and that failure to consider this evidence and adoption of an existing alternative map, such as the Legislature's, would be serious legal error. As a result, this Court should grant the motion to supplement. Together with the existing record, it shows that the VRA requires the creation of seven majority-Black districts. Conversely, it demonstrates that both the preexisting map, and, to an even greater extent, the Legislature's proposal, unlawfully pack voters in violation of the VRA. *See Gingles*, 478 U.S. 30, 46–51. That the Governor's map achieves this VRA compliance while also vastly outperforming on least changes should lead this Court to reaffirm its decision to adopt the Milwaukee districts.

Dated this 31st day of March 2022.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I certify that on this day, I caused service of a copy of this brief to be sent via electronic mail to counsel for all parties who have consented to service by email. I caused service of copies to be sent by U.S. mail and electronic mail to all counsel of record who have not consented to service by email.

Dated this 31st day of March 2022.



ANTHONY D. RUSSOMANNO
Assistant Attorney General

Expert Report of Dr. Lisa Handley

March 31, 2021

I. Introduction

Summary Conclusion There are currently six majority Black state assembly districts in Milwaukee County. Because voting in recent Milwaukee County and City elections is usually racially polarized, districts that offer Black voters an opportunity to elect their candidates of choice have been crafted to comply with Voting Rights Act. However, the currently existing assembly districts pack Black voters unnecessarily – districts with lower Black voting age populations could easily elect Black-preferred candidates to the state assembly. The over-concentration of Black voters into six districts dilutes their voting strength. The Governor’s Plan unpacks these overly concentrated Black districts, thereby providing Black voters with another Black opportunity state assembly district in the Milwaukee area. The failure to unpack the overconcentrated majority Black districts and create an additional Black opportunity district dilutes Black voting strength and hinders the ability of Black voters to participate in the electoral process and elect candidates of their choice to the Wisconsin State Assembly.

Scope of Project I was retained by Governor Tony Evers to assess the inclusion of a seventh majority Black district in the Governor’s Plan in view of the Voting Rights Act. As part of this examination, I compared the Governor’s Plan to the currently existing plan and the plan put forward by the Legislature. The first step in the assessment was to ascertain whether voting in the area of the currently existing and proposed majority Black assembly districts is racially polarized. If I found that it was, I was then to conduct a district-specific, functional analysis to determine what existing and proposed districts provide Black voters with an opportunity to elect their candidates of choice to the state assembly. Finally, I was asked to compare the ability of Black voters to elect their candidates of choice to the state assembly in the plan proposed by the Governor (Governor’s Plan) and the plan proposed by the Legislature (Legislature’s Plan).

II. Professional Background and Experience

I have over thirty-five years of experience as a voting rights and redistricting expert. I have advised scores of jurisdictions and other clients on minority voting rights and redistricting-related issues. I have served as an expert in dozens of voting rights cases. My clients have included state and local jurisdictions, independent redistricting commissions (Arizona, Colorado, Michigan), the U.S. Department of Justice, national civil rights organizations, and such international organizations as the United Nations.

I have been actively involved in researching, writing, and teaching on subjects relating to voting rights, including minority representation, electoral system design, and redistricting. I co-authored a book, *Minority Representation and the Quest for Voting Equality* (Cambridge University Press, 1992), and co-edited a volume, *Redistricting in Comparative Perspective* (Oxford University Press, 2008), on these subjects. In addition, my research on these topics has appeared in peer-reviewed journals such as *Journal of Politics*, *Legislative Studies Quarterly*, *American Politics Quarterly*, *Journal of Law and Politics*, and *Law and Policy*, as well as law reviews (e.g., *North Carolina Law Review*) and a number of edited books. I hold a Ph.D. in political science from The George Washington University.

I have been a principal of Frontier International Electoral Consulting since co-founding the company in 1998. Frontier IEC specializes in providing electoral assistance in transitional democracies and post-conflict countries. In addition, I am a Visiting Research Academic at Oxford Brookes University in Oxford, United Kingdom. Attached to the end of this report is a copy of my curriculum vitae.

III. Analysis of Voting Patterns by Race

An analysis of voting patterns by race serves as the foundation of two of the three elements of the “results test” as outlined in *Thornburg v. Gingles*: a racial bloc voting analysis is needed to determine whether the minority group is politically cohesive; and the analysis is required to determine if whites are voting sufficiently as a bloc to usually defeat the candidates preferred by minority voters. The voting patterns of white and minority voters must be estimated using statistical techniques because direct information about the race of the voters is not, of course, available on the ballots cast.

The most probative elections for making a determination of whether voting is racially polarized are elections for the office at issue – in this case, state assembly elections – that include minority candidates. However, as will be discussed below, there have been virtually no assembly elections that included both Black and white candidates – white candidates have rarely run in these six districts. I have therefore focused my attention on recent Milwaukee City and County elections as all of the districts of interest are in this specific area.¹

To carry out an analysis of voting patterns by race, an aggregate level database must be constructed, usually employing election precincts (referred to as wards in Milwaukee City and County) as the units of observation. Information relating to the demographic composition and election results in these precincts is collected, combined, and statistically analyzed to determine if there is a relationship between the racial composition of the precincts and support for specific candidates across the precincts.

A number of statistical techniques have been developed over time to estimate vote choices by race. I typically rely on three such techniques: homogeneous precinct analysis, ecological regression, and ecological inference.² Two of these analytic procedures – homogeneous precinct analysis (HP)³ and ecological regression (ER)⁴ – were employed by the

¹ There are eight countywide elected officials in Milwaukee County. Two are elected in nonpartisan elections that occur in April: County Executive and County Comptroller. If more than two candidates file to compete for the office, a primary is held in February. The other six countywide officials are elected in partisan elections. Recent elections for four of the offices were held in 2016 and 2020: County Clerk, County Treasurer, Register of Deeds and District Attorney. The other two countywide officials are partisan offices last elected in 2018: County Sheriff and Clerk of the Circuit Court. At this time, all partisan countywide offices are held by Democrats. Most of the recent elections for these offices were not contested in either a primary or a general election. The only exceptions are the countywide election contests that have been analyzed and included in this report. There are four citywide elected officials in Milwaukee City: Mayor, City Attorney, City Comptroller, and City Treasurer. None of these are partisan elections. All of these seats were contested in April 2016 and 2020 and all of the contests that included Black candidates have been analyzed and the results have been included in this report.

² For a detailed explanation of homogeneous precinct analysis and ecological regression see Bernard Grofman, Lisa Handley and Richard Niemi, *Minority Representation and the Quest for Voting Equality* (Cambridge University Press, 1992). See Gary King, *A Solution to the Ecological Inference Problem* (Princeton University Press, 1997) for a more detailed explanation of ecological inference.

³ *Homogeneous precinct* analysis is the simplest technique. It involves comparing the percentage of votes received by each of the candidates in precincts that are racially or ethnically homogeneous. Since there are rarely precincts made up of only one race, the general practice is to label a precinct as homogeneous if at least 90 percent of the voters or voting age population is composed of a single race, although in this case, in my analysis I used 85 percent because there were no precincts that were at least 90% non-Hispanic white in composition. In fact, the homogeneous results reported are not estimates – they are the

plaintiffs' expert in *Thornburg v. Gingles*, have the benefit of the Supreme Court's approval in that case, and have been used in most subsequent voting rights cases. The third technique, ecological inference, was developed after the *Gingles* decision and was designed, in part, to address some of the disadvantages associated with ecological regression analysis.⁵ I also use a variant of King's EI when, as in this case, turnout by race is not available and voting age or citizen voting age population by race is the demographic measure relied on to conduct the racial bloc voting analysis. This variant, which I label as EI RxC, is a recently developed version of ecological inference which can be used to control for differential turnout based on race when producing estimates of minority and white voters support for the candidates considered.

An expert report by Dr. Loren Collingwood dated 2021-12-15 (Collingwood Report), submitted to this Court by the BLOC Petitioners, includes estimates of voting patterns by race in recent Milwaukee County and City elections.⁶ Dr. Collingwood uses the same statistical

actual precinct results. However, since most voters in Wisconsin do not reside in homogeneous precincts and voters who reside in homogeneous precincts may not be representative of voters who live in more racially diverse precincts these can only serve as estimates of Black and white voting patterns.

⁴ *Ecological regression* uses information from all precincts, not simply the homogeneous ones, to derive estimates of the voting behavior of minorities and whites. If there is a strong linear relationship across precincts between the percentage of minorities and the percentage of votes cast for a given candidate, this relationship can be used to estimate the percentage of minority voters supporting the candidate.

⁵ *Ecological inference*, developed by Professor Gary King in the 1990s, also uses information from all precincts but, unlike ecological regression, it does not rely on an assumption of linearity. Instead, it incorporates maximum likelihood statistics to produce estimates of voting patterns by race. In addition, it utilizes the method of bounds, which uses more of the available information from the precinct returns as well as providing more information about the voting behavior being estimated. Unlike ecological regression, which can produce percentage estimates of less than 0 or more than 100 percent, ecological inference was designed to produce only estimates that fall within the possible limits. However, EI does not guarantee that the estimates for all of the candidates add to 100 percent for each of the racial groups examined.

⁶ The Collingwood Report is the only report submitted to the Court that included the results of an area-specific racial bloc voting analysis. In the report prepared by Dr. Moon Duchin, she indicates that she conducted a racial bloc voting analysis, but she writes that it was statewide, and she does not report the results for individual contests. Although Dr. Alford critiques Dr. Collingwood's racial bloc voting analysis in his report, he does not appear to have conducted one himself.

techniques that I do – in fact, I use a software package that he and his colleagues developed to produce estimates of voting patterns by race.⁷

Because I believe it is important to examine all recent election contests that included both a Black and white candidate, I analyzed some contests that were not included in the Collingwood Report. I analyzed these elections using Dr. Collingwood’s statistical software program, as well as his precinct demographic data. I downloaded the additional election returns from the Milwaukee City and Milwaukee County Election Commission websites and matched the election returns to the appropriate election precinct demography using the ward names and numbers.

Table 1 reports estimates of the percentage of Black and white voters supporting the Black and white candidates in the five recent nonpartisan election contests that included both Black and white candidates: the April 2020 Milwaukee City elections for Mayor, City Comptroller, and City Attorney; the April 2016 Milwaukee City Comptroller election; and the April 2020 contest for County Executive. The table also includes the recent 2021 statewide election for State Superintendent of Public Instruction in which Black candidate Shandowlyon Hendricks-Williams competed.

Five of the six elections analyzed were clearly racially polarized, with Black voters and white voters supporting different candidates: Black voters strongly favored the Black candidates running and white voters supported the white candidates in each of these elections. In the sixth election contest, the race for City Attorney in 2020, Black voters strongly supported the Black candidate, Tearman Spencer, but the set of estimates for white voters point in different directions – white voters undoubtedly divided their support and it is impossible to determine which candidate received a majority of their vote.

⁷ The R software package developed by Collingwood and his colleagues, eiCompare, builds upon other packages I also use (eiPack and ei for R) to produce estimates of voting patterns by race/ethnicity using a variety of statistical techniques.

Table 1: Racial Bloc Voting Analysis of Recent Nonpartisan Elections in Milwaukee City and County

Recent Citywide and Countywide Elections with Both Black and White Candidates	Race	Estimates of the Percentage of Black Voters Supporting Candidate				Estimates of the Percentage of White Voters Supporting Candidate			
		HP	ER	EI	EI RxC	HP	ER	EI	EI RxC
Milwaukee City Elections									
2020 April									
Mayor									
Tom Barrett	W	37.6	29.2	33.1	31.8	78.9	91.8	85.7	76.7
Lena Taylor	B	62.4	70.8	66.9	68.2	21.1	8.1	14.3	23.4
City Comptroller									
Aycha Sawa	W	23.0	15.6	17.9	16.5	69.0	85.1	76.1	65.6
Jason Fields	B	77.0	84.4	82.1	83.5	31.0	15.0	23.8	34.4
City Attorney*									
Tearman Spencer	B	76.8	78.3	78.6	79.1	55.1	47.3	48.4	55.5
Grant Langley	W	23.2	21.8	21.4	20.9	44.9	52.7	51.6	44.5
2016 April									
City Comptroller									
Martin Matson	W	33.9	27.4	31.2	31.1	63.1	73.5	68.0	64.3
Johnny Thomas	B	64.8	71.2	67.6	68.9	36.1	25.8	31.2	35.8
Milwaukee County Elections									
2020 April									
County Executive									
David Crowley	B	80.0	84.6	84.9	87.2	46.0	24.8	38.7	43.1
Chris Larson	W	19.7	15.2	14.8	12.8	53.5	74.5	60.8	56.9
Statewide Elections in Milwaukee County									
2021 February									
State Superintendent of Public Instruction									
S. Hendricks-Williams	B	51.1	54.5	52.2	56.5	15.0	3.1	9.3	14.8
Jill Underly	W	10.6	7.4	9.2	8.1	35.2	40.7	40.3	36.3
Deborah Kerr	W	17.6	17.7	18.1	15.6	23.7	25.4	22.8	23.7
Sheila Briggs	W	15.8	16.1	15.9	14.2	13.6	11.9	10.5	13.1
others	W	4.9	4.3	3.1	5.6	12.5	18.9	13.4	12.2
*Elections that I analyzed - all other estimates have been derived from Dr. Collingwood's Report 12/15/2021									

There are few partisan elections to analyze because there have been very few Black candidates running in partisan general elections – in fact, no Black candidates appear to have run in a statewide or a countywide November general election recently. (However, in the 2018 gubernatorial election, the running mate of the successful candidate, Tony Evers, was Black Democrat Mandela Barnes.) Three recent Democratic primaries have been identified as including Black candidates: Malon Mitchell ran in the 2018 primary for Governor, Mandela Barnes ran in the 2018 primary for Lieutenant Governor, and Earnell Lucas ran in the 2018 Democratic primary for Milwaukee County Sheriff.⁸ One of these contests was racially polarized. In the Democratic gubernatorial primary, Black voters strongly supported Mitchell; one of his white opponents, Tony Evers, garnered the support of a majority of the white voters. Table 2 reports the estimates for these three contests.

⁸ Only Democratic primaries were examined for two reasons. One, the overwhelming majority of Black voters who participate in primaries cast their ballots in Democratic rather than Republican primaries. As a consequence, Democratic primaries are far more probative than Republican primaries in ascertaining the candidates preferred by Black voters. Two, this is particularly true in the heavily Democratic Milwaukee area. The Collingwood Report discusses two of these three election contests (he did not analyze the 2018 Democratic Primary for Lieutenant Governor), but points to special circumstances surrounding the 2018 Primary for Milwaukee County Sheriff (Collingwood Report, pages 6-7) to explain why voting in this election is not indicative of the overall pattern of polarization found in Milwaukee County.

Table 2: Racial Bloc Voting Analysis of Recent Democratic Primaries in Milwaukee City and County

Recent Democratic Primaries with Both Black and White Candidates	Race	Estimates of the Percentage of Black Voters Supporting Candidate				Estimates of the Percentage of White Voters Supporting Candidate			
		HP	ER	EI	EI RxC	HP	ER	EI	EI RxC
Milwaukee County Elections									
2018 August									
Democratic Primary for Sheriff									
Earnell Lucas	B	67.0	61.6	69.2	68.6	53.2	31.3	51.8	53.5
Richard Schmidt	W	29.0	34.1	27.6	28.3	36.2	52.7	37.1	36.8
Robert Ostrowski	W	4.0	4.3	2.8	3.1	10.6	16.1	11.4	9.7
Statewide Elections in Milwaukee County									
2018 April									
Democratic Primary for Governor									
Mahlon Mitchell	B	78.2	91.3	88.1	81.1	22.6	6.0	16.1	17.2
Tony Evers	W	12.3	0.0	7.4	9.5	49.5	56.2	53.3	40.4
Kelda Helen Roys	W	1.9	0.0	0.8	1.5	23.2	24.4	25.1	18.4
Other white candidates	W	4.6	15.6	5.5	7.9	4.6	13.4	7.3	24.0
Democratic Primary for Lieutenant Governor*									
Kurt Kober	W	11.3	7.0	8.2	9.2	28.9	33.6	30.6	25.4
Mandela Barnes	B	88.7	93.0	91.8	90.8	71.1	66.4	69.4	74.6
*Elections that I analyzed - all other estimates have been derived from Dr. Collingwood's Report 12/15/2021									

Summary Conclusion Voting in recent Milwaukee City and County elections is usually racially polarized, with Black voters cohesive in support of their preferred candidates and white voters usually voting to defeat these candidates. As a consequence, districts that provide Black voters with an opportunity to elect their candidates of choice must be created or if they already exist, as is the case with the state assembly districts in the Milwaukee area, must be maintained as opportunity districts.

A district-specific, functional analysis should be conducted to determine whether the proposed districts are narrowly tailored to provide Black voters with an opportunity to elect their preferred candidates. This assessment depends not only upon the demographic composition of

the district but the voting patterns of minority and white voters and whether the candidates preferred by minority voters can actually win in the district – this is what is meant by “functional.”

In the case of proposed districts, election results recompiled to conform to the boundaries of the proposed districts must be used to make a determination as to whether Black-preferred candidates would win because no elections have actually been conducted in the districts. The best election contests to use for a functional analysis are recent elections that included a minority candidate supported by minority voters but not by white voters. The reason for this is that if the elections chosen are not polarized, then the candidates preferred by both Black and white voters would win even if there were no Black voters at all in the district.

IV. Majority Black Assembly Districts in the 2011 Plan

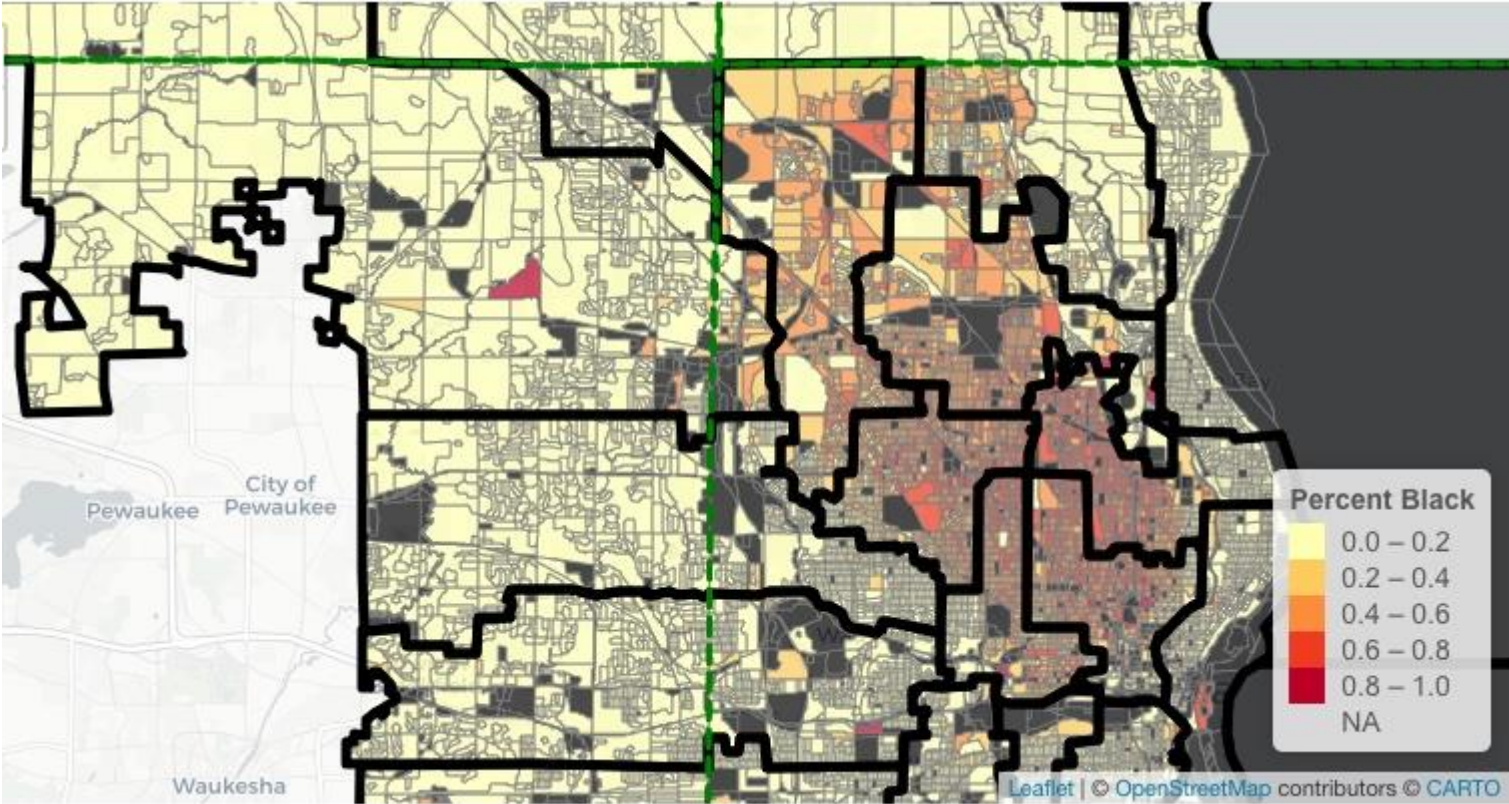
There are six majority Black assembly districts in the plan currently in place. They are all located in the Milwaukee area. These districts, and the Black voting age population (BVAP) of these districts, are listed in Table 3.⁹ Maps 1a and 1b display the Black population concentrations by census block: Map 1a is Milwaukee County and Map 1b zooms in on the majority Black districts.

Table 3: Majority Black Districts in 2011 Plan

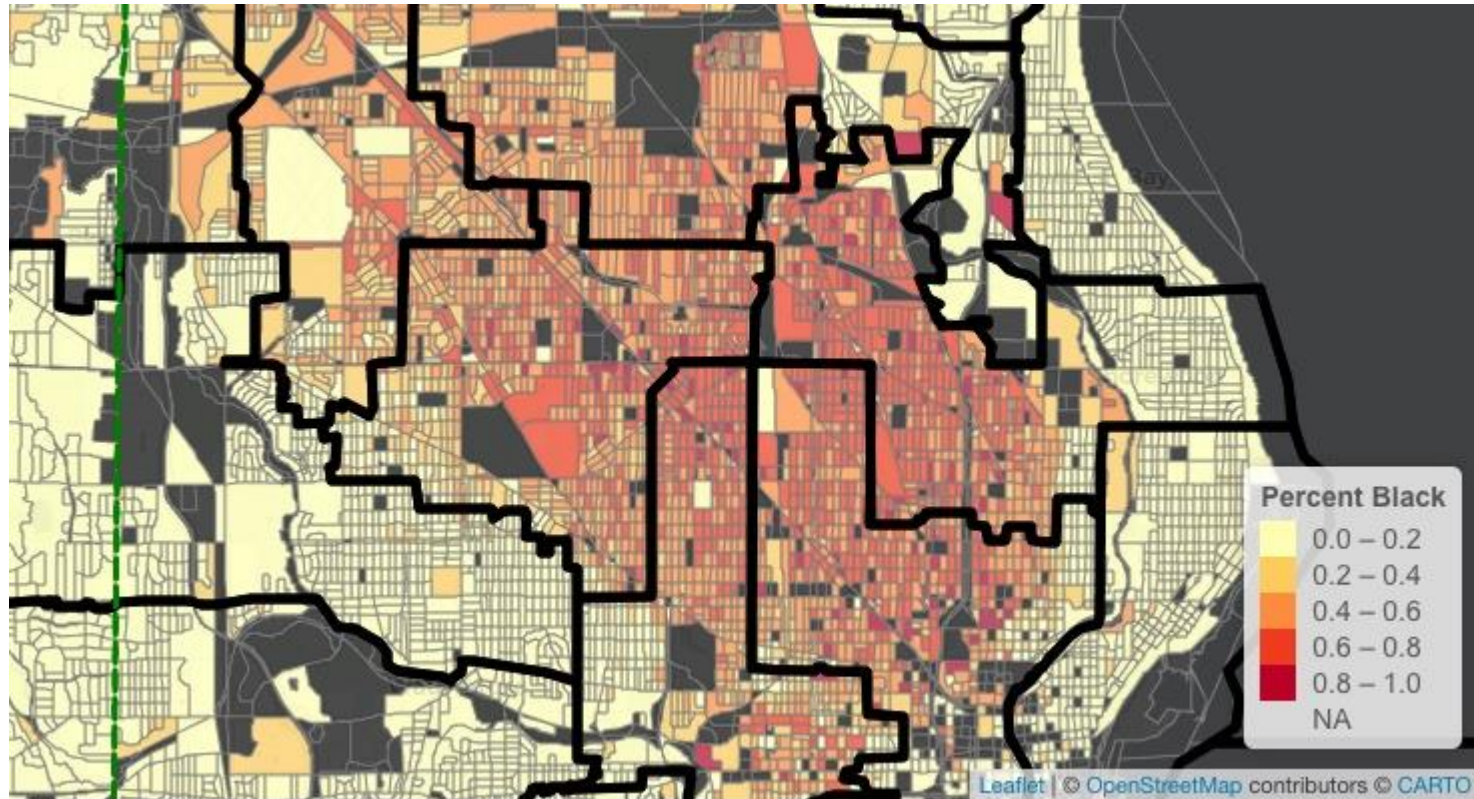
Assembly District	Percent BVAP 2020
10	59.39
11	65.53
12	60.64
16	55.60
17	68.37
18	60.71

⁹ Black voting age population has been calculated by counting all persons who are 18 or older who checked “Black or African American” on their census form. This includes persons who are single-race Black or any part Black (i.e., persons of two or more races who indicate “Black” as one of the races), including Hispanic Black.

Map 1a: Currently Existing Districts in the Milwaukee County Area with Census Blocks Shaded by Percent Black Population



**Map 1b: Zoom in on the Currently Existing Majority Black Districts,
Census Blocks Shaded by Percent Black Population**



State assembly general elections in the currently existing districts have not been competitive. While Milwaukee County as a whole is solidly Democratic, these six majority Black districts are particularly heavily Democratic. For example, in the 2018 gubernatorial general election, the Democratic candidate Tony Evers received 67.88% of the two-party vote in Milwaukee County. In the majority Black districts Evers garnered at least 80% of the vote and more than 90% of the vote in one district. Table 4 lists the percentage of vote he received in each of the six majority Black districts.

Table 4: Vote for Democratic Candidate in 2018 General Election for Governor

Assembly District	Percentage of Two-Party Vote for Democrat
10	89.47
11	85.51
12	80.46
16	90.95
17	86.33
18	89.24

It is not particularly surprising, given how heavily Democratic these districts are, that in 2016 and 2018, none of the Democratic incumbents in any of the majority Black assembly districts faced competition in the general election – all six ran unopposed. In 2020, two of the six candidates ran unopposed; the other four candidates won with over 80% of the vote. Table 5 lists the percentage of votes each of the winning candidates received in the general elections in these six districts in recent elections.

Table 5: General Election Results for Winning Candidates in Six Majority Black Districts

State			
Assembly	2020	2018	2016
District			
10	100.00%	100.00%	100.00%
11	84.75%	100.00%	100.00%
12	81.83%	100.00%	100.00%
16	89.14%	100.00%	100.00%
17	86.04%	100.00%	100.00%
18	100.00%	100.00%	100.00%

Democratic primary contests in these districts have been both more frequent and more competitive in this heavily Democratic area of the State. However, the primaries in these six districts have rarely featured white candidates. One exception to this is District 18, where the incumbent, Evan Goyke, is white. Goyke is clearly the candidate of choice of Black voters. He has faced no competition in recent general elections and in the one recent Democratic primary in which he was confronted with an opponent, Black voters supported Goyke over his Black challenger, Travis Spell. In other words, this contest was not racially polarized: the majority of both Black and white voters cast their votes for Goyke and he won with 75% of the vote. The *Appendix* at the end of this report provides more detail on the general and Democratic primary elections in each of these six state assembly districts.

Overall, in the last three election cycles (2016, 2018, and 2020), only three white candidates have competed in general or primary elections in these districts. One of these contests (Goyke-Spell in District 18) was discussed above. In addition, there was a general election in District 17 in 2020 in which a white Republican ran and a Democratic primary in 2018 in District 12 in which the incumbent white Democrat was defeated by a Black challenger. The results of the racial bloc voting analysis of all three of these election contests are found in Table 6. The candidates preferred by Black voters easily won all three of these elections.

Table 6: Racial Bloc Voting Analysis of Recent Nonpartisan Elections in Milwaukee City and County

Recent State Assembly Elections in Majority Black Districts	Race	Estimates of the Percentage of Black Voters Supporting Candidate				Estimates of the Percentage of White Voters Supporting Candidate			
		HP**	ER	EI	EI RxC	HP**	ER	EI	EI RxC
2020 November									
Assembly District 17*									
Supreme M Omokunde	B	95.1	101.1	99.9	97.6		51.3	49.0	60.7
Abie Eisenbach	W	4.9	-1.1	0.2	2.4		48.6	50.9	39.3
2018 August									
Assembly District 12									
LeKeshia Myers	B		88.5	83.4	66.0		34.0	30.1	46.9
Frederick Kessler	W		11.5	17.1	53.2		66.0	72.2	53.2
Assembly District 18*									
Evan Goyke	W	63.9	57.7	61.8	64.6		103.0	98.7	93.6
Travis Spell	B	36.1	42.5	38.1	35.4		-3.1	1.3	6.4

*Elections that I analyzed - all other estimates have been derived from Dr. Collingwood's Report 12/15/2021
 **If there are no HP estimates reported, this is because there were no homogenous precincts in the assembly district

While the recent election histories of Districts 10, 11, 12, 16, 17, and 18 indicate that the districts have a higher BVAP than necessary to elect Black-preferred candidates to the state assembly, these election results are not sufficient, in and of themselves, to conclude that if proposed districts had lower BVAPs they would still elect other Black-preferred candidates. For this reason, I have also conducted a district-specific, functional analysis of the majority Black districts offered in the Governor’s Plan compared to both the 2011 Plan and the Legislature’s Plan using recompiled election results. As the recompiled elections results indicate, several of the current districts are very heavily packed, especially Districts 11 and 17.

V. Majority Black Districts in the Governor’s Plan

The Governor’s Plan creates seven majority Black districts in the Milwaukee area. It does so by drawing Black population from several of the current districts that have BVAPs over 60%.

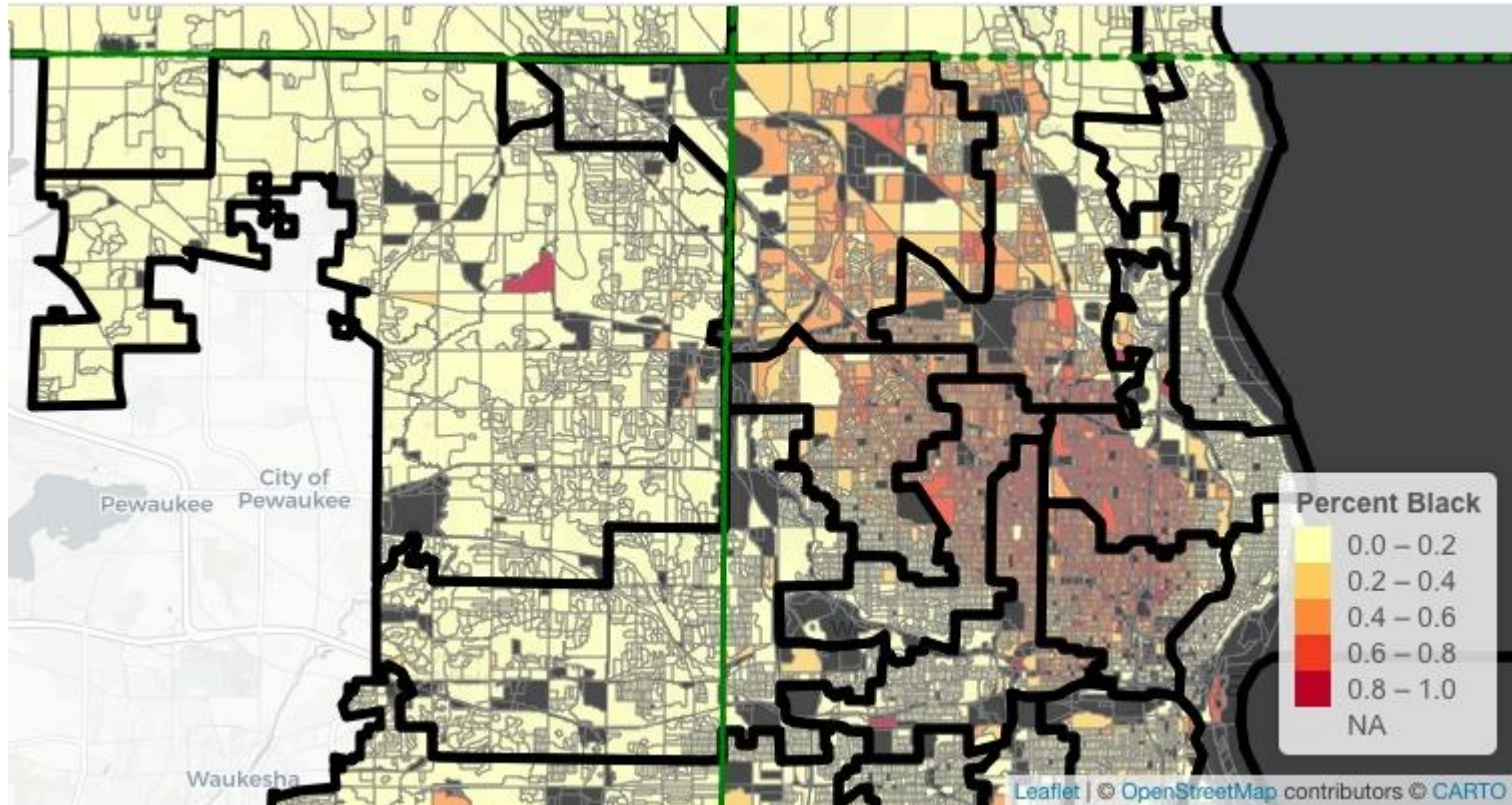
Table 7 provides the BVAP percentage of all of the majority Black districts in the Governor’s Plan. The new majority BVAP district, District 14, is bolded.

Table 7: Majority Black Districts in Governor’s Plan

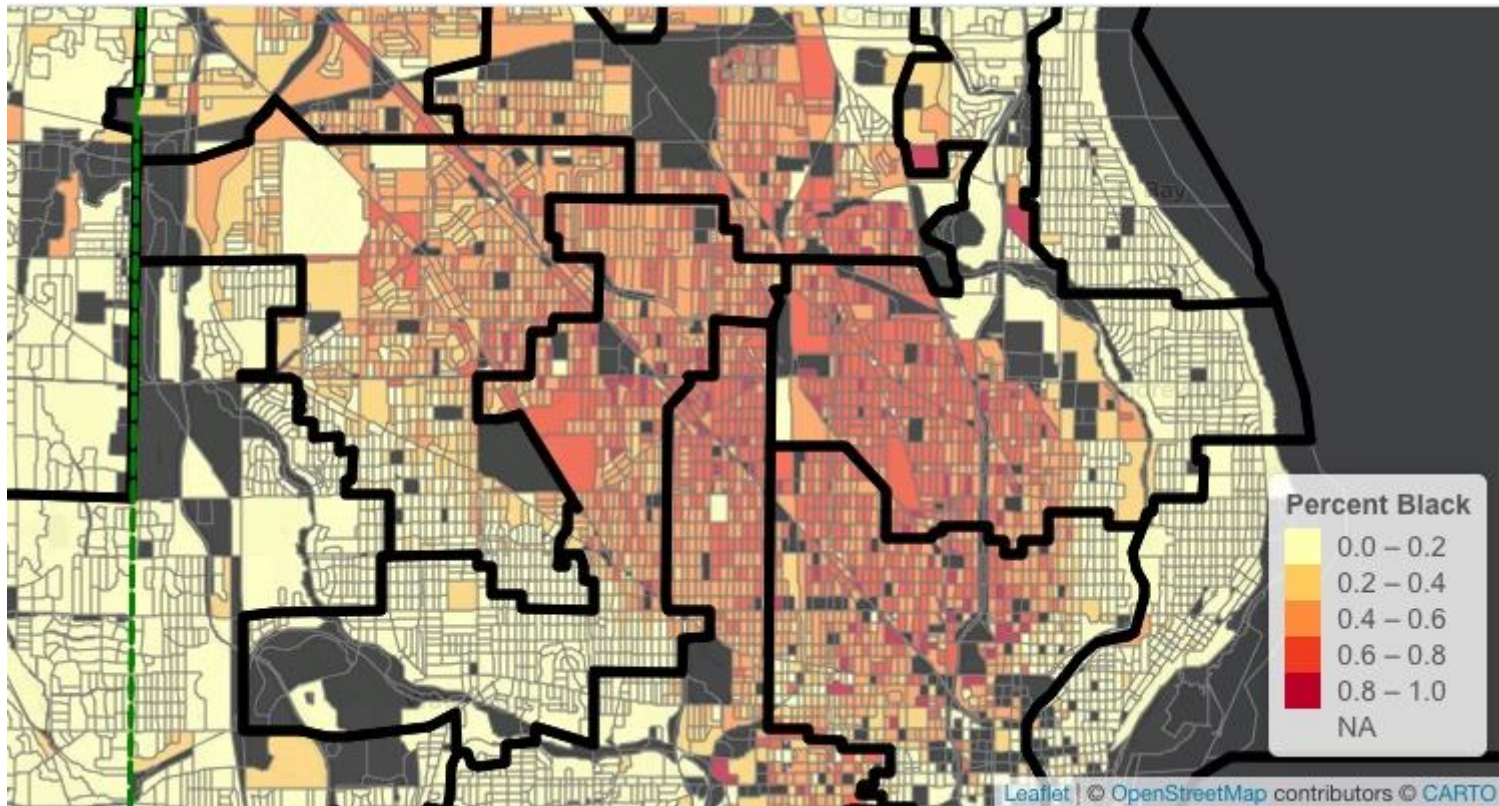
Assembly District	Percent BVAP 2020
10	51.39
11	50.21
12	50.24
14	50.85
16	50.09
17	50.29
18	50.63

Maps 2a and 2b show the Black population concentrations by census block in the Milwaukee County area for the Governor’s Plan. Map 2a is Milwaukee County and Map 2b zooms in on the majority Black districts.

**Map 2a: Governor's Plan Proposed Districts in the Milwaukee County Area,
Census Blocks Shaded by Percent Black Population**

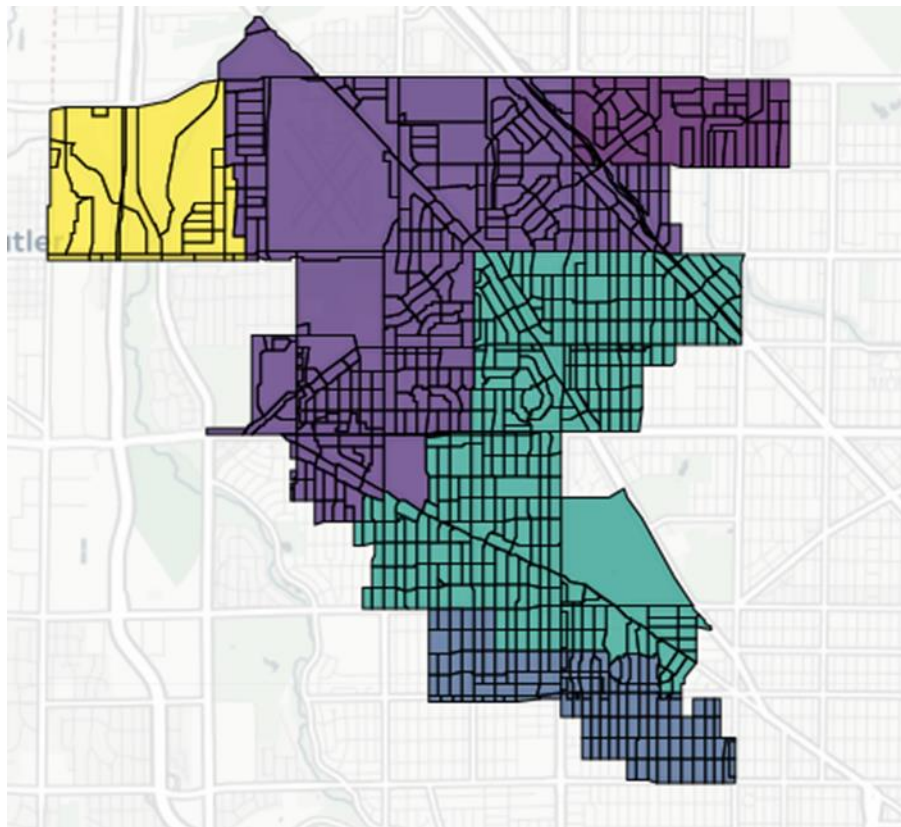


**Map 2b: Zoom in on the Proposed Majority Black Districts in the Governor's Plan,
Census Blocks Shaded by Percent Black Population**



District 14 in the Governor’s Plan was drawn, in part, with population taken from existing Districts 11, 12, and 17, as illustrated by Map 3. All three of these districts have high BVAPs. The teal area of proposed District 14 comes from existing District 17, which has a BVAP of 68.37%. The dark purple area of proposed District 14 (in the far right upper corner) comes from existing District 11, which has a BVAP of 65.53%. And the light purple area comes from existing District 12, which has a BVAP of 60.64%. (The blue area is from existing District 14 and the yellow area is from existing District 22.) All three of the current districts brought into proposed District 14 not only have high BVAPs, but as the functional analysis shows, the produce far more votes for Black-preferred candidates than needed to elect these candidates, wasting Black votes. The creation of new majority Black District 14 in the Governor’s Plan does not impact the ability of Black voters to elect their candidates of choice in the remaining six majority Black districts – instead it creates an additional Black opportunity district.

Map 3: Component Parts of District 14 in Governor’s Plan



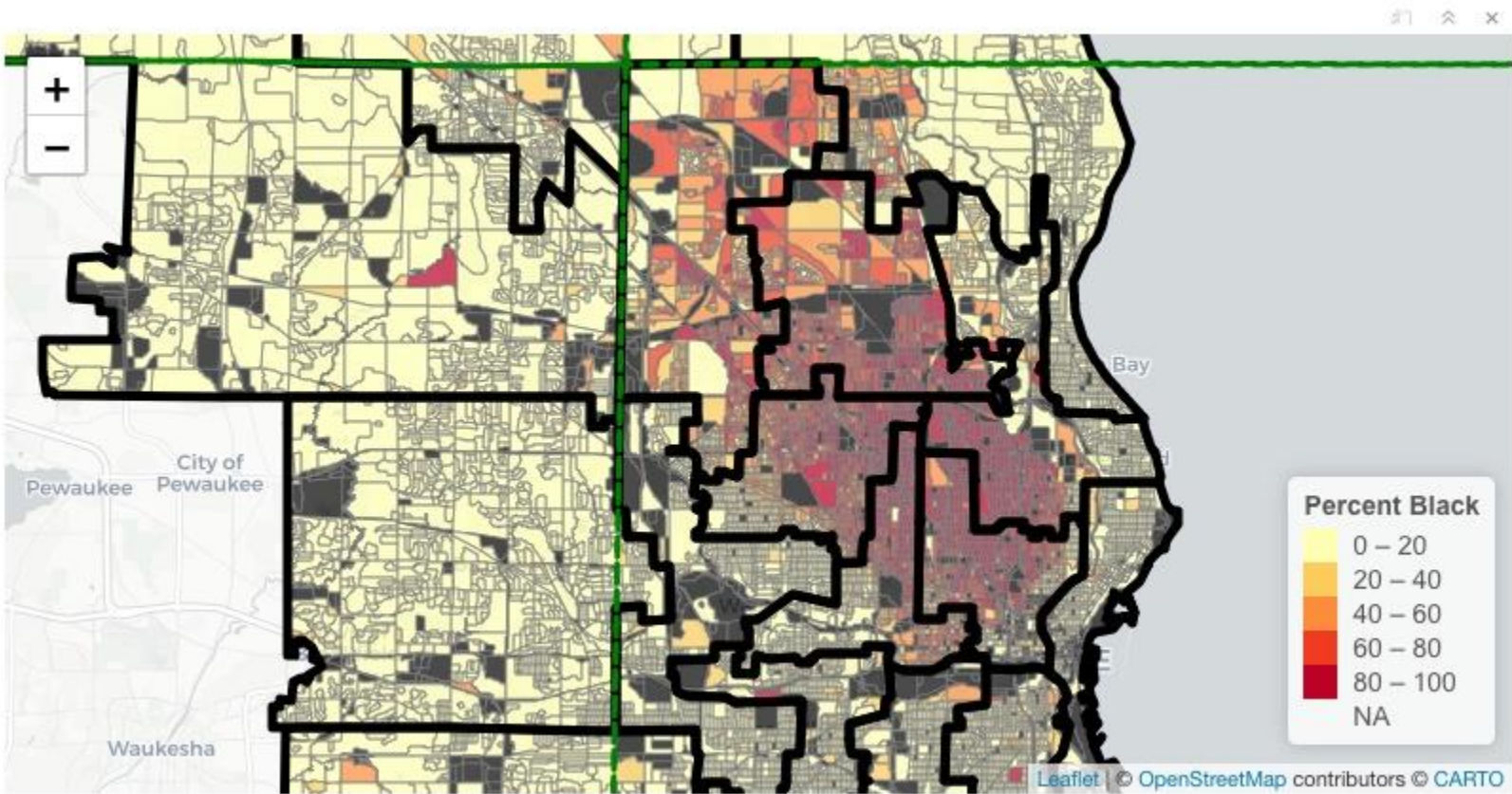
VI. Majority Black Districts in the Legislature’s Plan

The assembly map proposed by the Legislature fails to unpack the over-concentrated majority Black districts. (The one startling exception to this is District 10, in which the BVAP is decreased from 59.39 to 47.19%.) Instead, the Legislature’s Plan actually increases the BVAP in one of the already overly concentrated Black districts – District 11 – from 65.53% in the 2011 plan to an astounding 73.28% in the Legislature’s Plan. Table 8 lists the BVAP of districts with a sizeable Black population in the Legislature’s Plan. Maps 4a and 4b show the Black population concentrations by census block in the Milwaukee County area (a) and, more specifically, in the area of the majority Black districts (b), for the Legislature’s Plan.

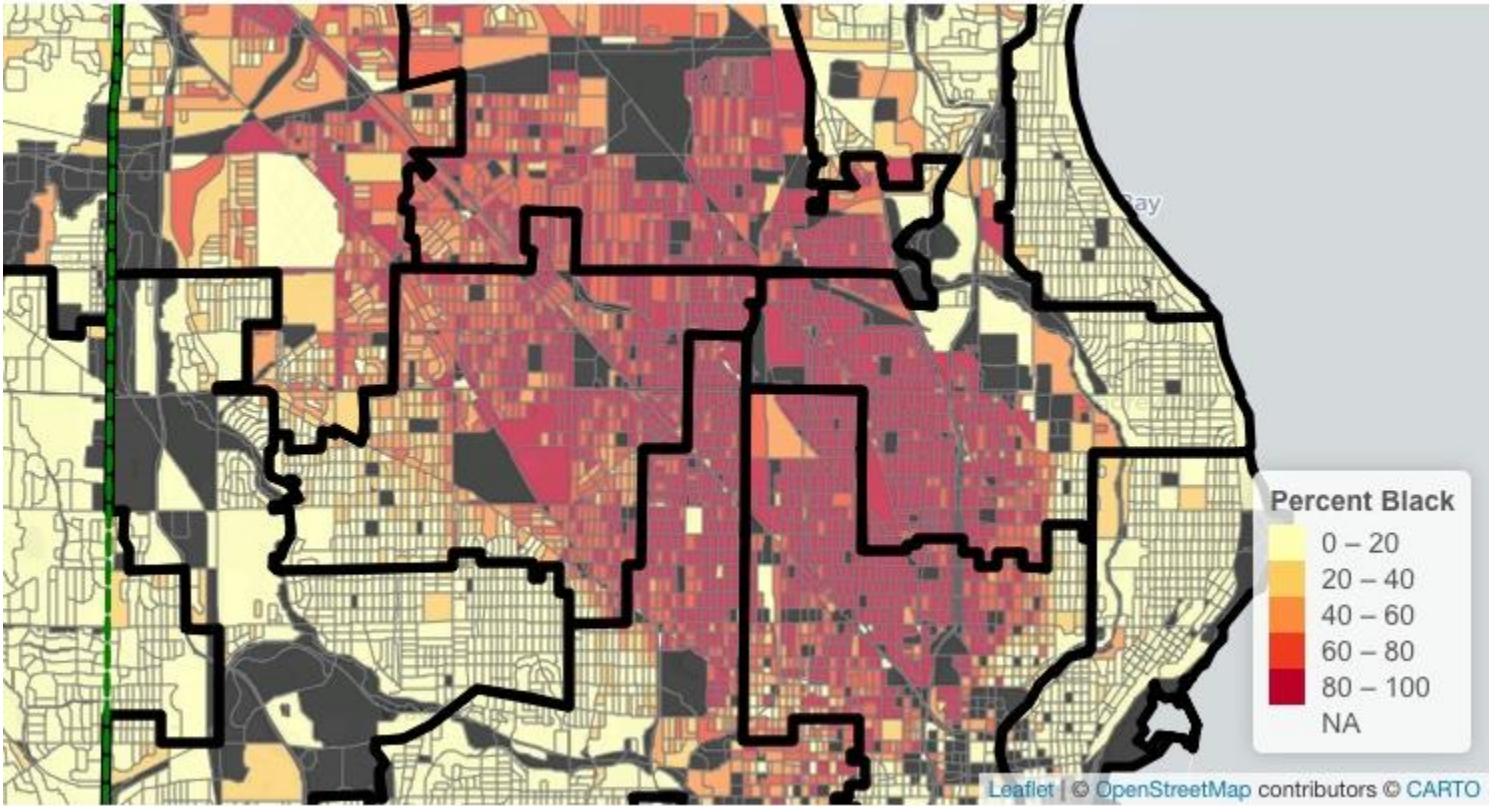
Table 8: Districts with a Significant Black Population in the Legislature’s Plan

Assembly District	Percent BVAP 2020
10	47.19
11	73.28
12	57.01
16	54.13
17	61.81
18	52.57

**Map 4a: Legislature's Plan Proposed Districts in the Milwaukee County Area with Census Blocks
Shaded by Percent Black Population**



**Map 4b: Zoom in on the Proposed Majority Black Districts in the Legislature’s Plan,
Census Blocks Shaded by Percent Black Population**



VI. District-specific, Functional Analysis of Black Opportunity Districts

A district-specific, functional analysis is necessary to determine if the Voting Rights Act requires the creation of minority opportunity districts and, if so, whether the districts created to comply with the Act remedy the violation. While voting within the existing and proposed majority Black assembly districts themselves is not likely to be particularly polarized – white candidates rarely run in these districts – voting is racially polarized in the general area of these districts. Given this, any plan considered for adoption must include districts that provide Black voters with an opportunity to elect their candidates of choice. The Governor’s Plan, by unpacking districts with very high BVAP percentages, creates opportunities for Black voters to elect their candidates of choice that is not present in the Legislature’s Plan. This assessment rests not only on the demographic composition of the districts, but a functional analysis that focuses on the likely electoral success of the Black-preferred candidates in the proposed districts.

The best election contests to use for a functional analysis are recent elections that included a minority candidate supported by minority voters but not by white voters. I refer to these as “bellwether” elections. Because all of these districts are heavily Democratic, a successful challenge to a Black-preferred state assembly candidate is much more likely in a Democratic primary. Only one recent statewide Democratic primary satisfies the conditions that the contest include a Black-preferred Black candidate and that voting is racially polarized:¹⁰ the 2018 Democratic primary for Governor in which Black candidate Mahlon Mitchell garnered a very high percentage of the Black vote but less than 20% of the white vote (see Table 2). The drawback to this election as a bellwether election is that the ballot for this contest listed a total of 10 candidates. Mitchell received only 16.3% of the vote statewide in this 10 candidate contest; he garnered 35.2% of the vote in Milwaukee County.

The Alford Report incorporates recompiled results for this election for the currently existing plan and the Legislature’s Plan. Table 9 reports his results as corrected in the Alford Reply Expert Report dated 1/4/2022 (Exhibit 1). I have added to this table my recompilation of the

¹⁰ In the expert report prepared by Dr. Alford, dated 12/15/2021 and submitted by the Legislative Petitioners, he compares the performance of the Black candidate, Mandela Barnes, in the 2018 Democratic Primary for Lieutenant Governor across districts in the various plans before the Court. Since this contest was not racially polarized, it tells us nothing about what would happen in a racially polarized contest. It simply tells us that he was very popular in all of the districts, across all of the plans. Moreover, because a majority of white voters in the Democratic primary across the County supported him, he most likely won every single district in Milwaukee County, regardless of the percentage BVAP in the district.

election results for the Governor’s Plan.¹¹ Mitchell receives at least a plurality, and often substantially more, of the vote in every district included in the table.

Table 9: Percent of Vote for Mahlon Mitchell in the 2018 Democratic Primary for Governor: Comparison of Plans

Assembly District	2011 Plan	Legislature’s Plan	Governor’s Plan
10	47.4	39.3	41.6
11	65.3	70.6	49.2
12	58.7	56.4	55.7
16	58.4	58.6	56.0
17	65.7	59.8	49.2
18	55.3	47.4	50.0
14			49.6

Another election that can reasonably be used for gauging the effectiveness of the proposed Black opportunity districts is the Milwaukee County Executive race in April 2020 in which Black-preferred Black candidate David Crowley ran against white incumbent Chris Larson.¹² This is particularly informative because there were only two candidates. However, there are two drawbacks to this contest for determining the effectiveness of proposed districts. First, it is

¹¹ The Collingwood rebuttal report (Expert Rebuttal Report of Dr. Loren Collingwood, 12/29/2021) includes recompiled results for the 2018 Democratic Primary for Governor only for District 10 in a variety of proposed plans. Dr. Collingwood calculates a slightly lower percentage for Mitchell in District 10 in the Governor’s Plan than I do. This is because the City of Glendale Ward 8 is split between District 10 and another district, and he includes all of it in his calculation for District 10 and I exclude all of it.

¹² The only other election contest that meets the criteria of a bellwether election is the February 2021 primary for State Superintendent of Public Instruction. However, Black voters were not strongly cohesive in this nonpartisan, seven candidate, statewide election. Statewide ward by ward results for this election have not yet been posted on the Wisconsin Elections Commission website. Using the Milwaukee County results alone (which does not incorporate all voters in the Governor’s Plan), the Black-preferred Black candidate, Shandowlyon Hendricks-Williams, would win or proceed to a runoff in all of Black opportunity districts in all three plans.

nonpartisan and state assembly elections are partisan. Second, only voters in Milwaukee County participated and two of the seven Black opportunity districts in the Governor’s Plan include wards that fall outside of Milwaukee County.¹³ Nevertheless, the recompiled results are useful for ascertaining how a Black-preferred candidate would perform in a two-candidate contest. Table 10 shows that the Black-preferred candidate won all six districts in the 2011 Plan, would win all six districts in the Legislature’s Plan, and would win a seventh district in the Governor’s Plan.

Table 10: Percent of Vote for David Crowley in the April 2020 Milwaukee County Executive: Comparison of Plans

Assembly District	2011 Plan	Legislature’s Plan	Governor’s Plan
10	55.0	52.1	51.4
11	64.3	71.8	61.7
12	64.9	63.4	65.3
16	61.1	61.6	60.0
17	70.0	65.8	58.1
18	59.5	55.8	56.9
14			59.7

VII. Conclusion

The analysis of voting patterns by race found that voting in the Milwaukee area is racially polarized: the Black community in the area is cohesive in supporting their preferred candidates and that white voters usually bloc vote to defeat these candidates. This racial polarization would hinder the ability of Black voters to elect candidates of their choice to the Wisconsin State Assembly if districts are not drawn to provide Black voters with this opportunity. However, overconcentrating Black voters into districts well beyond what is needed to elect Black-preferred candidates, as the Legislative Plan does, impedes the ability of Black voters to elect their candidates of choice in an additional district. This dilutes the ability of Black voters to participate in the electoral process and

¹³ District 11 in the Governor’s Plan crosses into Ozaukee County and District 12 crosses in Waukesha County.

elect candidates of their choice. The Governor's Plan unpacks the heavily BVAP districts and creates an additional Black opportunity district in order to satisfy the requirement of the Voting Rights Act that the voting strength of minority voters not be diluted.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on March 31, 2022

A handwritten signature in blue ink that reads "Lisa Handley". The signature is written in a cursive style with a large initial "L".

Dr. Lisa Handley

Appendix: Election Results in Majority Black Districts

District	2020 General Election		
10	David Bowen (B) D	unopposed	100.00%
11	Dora Drake (B) D	18329	84.75%
	Orlando Owens (B) R	3299	15.25%
12	LeKeshia Myers (B) D	18539	81.83%
	Ozell Cox (B) R	4117	18.17%
16	Kalan Hayward (B) D	17664	89.14%
	Dennis Walton (B) I	2153	10.86%
17	Supreme Moore Omokunde (B) D	22418	86.04%
	Abie Eisenbach (W) R	3638	13.96%
18	Evan Goyke (W) D	unopposed	100.00%
District	2020 Democratic Primary		
10	David Bowen (B)	unopposed	100.00%
11	Dora Drake (B)	2471	47.39%
	Curtis Cook (B)	824	15.80%
	Tomika Vukovic (B)	1632	31.30%
	Carl Gates (B)	287	5.50%
12	LeKeshia Myers (B)	unopposed	100.00%
16	Kalan Hayward (B)	unopposed	100.00%
17	Supreme M Omokunde (B)	3457	48.23%
	Mike Brox (B)	1157	16.14%
	Carl Gates (B)	2553	35.62%
18	Evan Goyke (W)	unopposed	100.00%

Appendix:

District 2018 General Election

10	David Bowen (B) D	unopposed	100.00%
11	Jason Fields (B) D	unopposed	100.00%
12	LeKeshia Myers (B) D	unopposed	100.00%
16	Kalan Hayward (B) D	unopposed	100.00%
17	David Crowley (B) D	unopposed	100.00%
18	Evan Goyke (W) D	unopposed	100.00%

District 2018 Democratic Primary

10	David Bowen (B)	unopposed	100.00%
11	Jason Fields (B)	unopposed	100.00%
12	LeKeshia Myers (B)	3709	60.18%
	Frederick Kessler (W)	2454	39.82%
16	Kalan Hayward (B)	2324	37.48%
	Rick Banks (B)	977	15.76%
	Brandy Bond (B)	367	5.92%
	Supreme M Omokunde (B)	2079	33.53%
	Danielle McC-Williams (B)	454	7.32%
17	David Crowley (B)	unopposed	100.00%
18	Evan Goyke (W)	4797	74.98%
	Travis Spell (B)	1601	25.02%

Appendix:

District 2016 General Election

10	David Bowen (B) D	unopposed
11	Jason Fields (B) D	unopposed
12	Frederick Kessler (W) D	unopposed
16	Leon Young (B) D	unopposed
17	David Crowley (B) D	unopposed
18	Evan Goyke (W) D	unopposed

District 2016 Democratic Primary

10	David Bowen (B)	unopposed	100.00%
11	Jason Fields (B)	2933	58.71%
	Darrol Gibson (B)	2063	41.29%
12	Frederick Kessler (W)	unopposed	100.00%
16	Leon Young (B)	2211	49.31%
	Edgar Lin (A)	1641	36.60%
	Stephen Jansen (B)	214	4.77%
	Brandy Bond (B)	418	9.32%
17	David Crowley (B)	unopposed	100.00%
18	Evan Goyke (W)	unopposed	100.00%

Lisa R. Handley
CURRICULUM VITAE

Professional Experience

Dr. Handley has over thirty years of experience in the areas of redistricting and voting rights, both as a practitioner and an academician, and is recognized nationally and internationally as an expert on these subjects. She has advised numerous clients on redistricting and has served as an expert in dozens of redistricting and voting rights court cases. Her clients have included the U.S. Department of Justice, civil rights organizations, independent redistricting commissions and scores of state and local jurisdictions. Internationally, Dr. Handley has provided electoral assistance in more than a dozen countries, serving as a consultant on electoral system design and redistricting for the United Nations, UNDP, IFES, and International IDEA. In addition, Dr. Handley served as Chairman of the Electoral Boundaries Commission in the Cayman Islands.

Dr. Handley has been actively involved in research, writing and teaching on the subjects of redistricting and voting rights. She has co-written a book, Minority Representation and the Quest for Voting Equality (Cambridge University Press, 1992) and co-edited a volume (Redistricting in Comparative Perspective, Oxford University Press, 2008) on these subjects. Her research has also appeared in peer-reviewed journals such as *Journal of Politics*, *Legislative Studies Quarterly*, *American Politics Quarterly*, *Journal of Law and Politics*, and *Law and Policy*, as well as law reviews and edited books. She has taught political science undergraduate and graduate courses related to these subjects at several universities including the University of Virginia and George Washington University. Dr. Handley is a Visiting Research Academic at Oxford Brookes University in the United Kingdom.

Dr. Handley is the President of Frontier International Consulting, a consulting firm that specializes in providing electoral assistance in transitional and post-conflict democracies. She also works as an independent election consultant both in the United States and internationally.

Education

Ph.D. The George Washington University, Political Science, 1991

Present Employment

President, Frontier International Electoral Consulting LLC (since co-founding company in 1998).

Senior International Electoral Consultant Technical assistance for clients such as the UN, UNDP and IFES on electoral system design and boundary delimitation

Visiting Research Academic, Centre for Development and Emergency Practice (CENDEP), Oxford Brookes University

U.S. Clients since 2000

American Civil Liberties Union – redistricting consultant, expert testimony in Ohio partisan gerrymander challenge and challenge to Commerce Department inclusion of citizenship question on 2020 census form

Lawyers Committee for Civil Rights Under Law – expert testimony in challenges to statewide judicial elections in Texas and Alabama

US Department of Justice – expert witness testimony in several Section 2 and Section 5 cases)

Alaska: Redistricting Board (2000 and 2010) – redistricting consultation, expert witness testimony

Arizona: Independent Redistricting Board (2000 and 2010) – redistricting consultation

Colorado: Redistricting Commission (2020), Redistricting Board (2000 and 2010) – redistricting consultation

Connecticut: State Senate and State House of Representatives (2000 and 2010) – redistricting consultation

Florida: State Senate (2000) – redistricting consultation

Kansas: State Legislative Research Department (2000, 2010, 2020) – redistricting consultation

Louisiana: Louisiana Legislative Black Caucus (2000) – expert witness testimony

Massachusetts: State Senate (2000 and 2010) – redistricting consultation

Maryland: Attorney General (2000) – redistricting consultation

Michigan: Redistricting Commission (2020) – redistricting consultation

Miami-Dade County, Florida: County Attorney (2000 and 2010) – redistricting consultation

Nassau County, New York: Redistricting Commission (2000) – redistricting consultation

New Mexico: State House (2000) – redistricting consultation, expert witness testimony

New York: State Assembly (2000), State Senate (2020) – redistricting consultation

New York City: Redistricting Commission and Charter Commission (2001, 2011) – redistricting consultation and Section 5 submission assistance

New York State Court: Expert to the Special Master (drew congressional lines for state court)

Rhode Island: State Senate and State House (2000 and 2020) – redistricting consultation

Vermont: Secretary of State (2000) – redistricting consultation

International Clients since 2000

United Nations

- Afghanistan – electoral system design and district delimitation expert
- Bangladesh (UNDP) – redistricting expert
- Sierra Leone (UNDP) – redistricting expert
- Liberia (UNMIL, UN peacekeeping mission) – redistricting expert
- Democratic Republic of the Congo (MONUC, UN peacekeeping mission) – election feasibility mission, electoral system design and redistricting expert
- Kenya (UN) – electoral system design and redistricting expert
- Haiti (UN) – election feasibility mission, electoral system design and redistricting expert
- Zimbabwe (UNDP) – redistricting expert
- Lead Writer on the topic of boundary delimitation (redistricting) for ACE (Joint UN, IFES and IDEA project on the Administration and Cost of Elections Project)

International Foundation for Election Systems (IFES)

- Afghanistan – district delimitation expert
- Sudan – redistricting expert
- Kosovo – electoral system design and redistricting expert
- Nigeria – redistricting expert
- Nepal – redistricting expert
- Georgia – electoral system design and district delimitation expert
- Yemen – redistricting expert
- Lebanon – electoral system design and redistricting expert
- Malaysia – electoral system design and redistricting expert
- Myanmar – electoral system design and redistricting expert
- Ukraine – electoral system design and redistricting expert
- Pakistan – consultant for developing redistricting software
- Principal consultant for the Delimitation Equity Project – conducted research, wrote reference manual and developed training curriculum
- Writer on electoral boundary delimitation (redistricting), Elections Standards Project
- Training – developed training curriculum and conducted training workshops on electoral boundary delimitation (redistricting) in Azerbaijan and Jamaica

International Institute for Democracy and Electoral Assistance (International IDEA):

- Consultant on electoral dispute resolution systems
- Technology consultant on use of GIS for electoral district delimitation
- Training – developed training material and conducted training workshop on electoral boundary delimitation (redistricting) for African election officials (Mauritius)
- Curriculum development – boundary delimitation curriculum for the BRIDGE Project

Other international clients have included The Cayman Islands; the Australian Election Commission; the Boundary Commission of British Columbia, Canada; and the Global Justice Project for Iraq.

Publications

Books:

Does Torture Prevention Work? Liverpool University Press, 2016 (served as editor and author, with Richard Carver)

Comparative Redistricting in Perspective, Oxford University Press, 2008 (first editor, with Bernard Grofman).

Delimitation Equity Project: Resource Guide, Center for Transitional and Post-Conflict Governance at IFES and USAID publication, 2006 (lead author).

Minority Representation and the Quest for Voting Equality, Cambridge University Press, 1992 (with Bernard Grofman and Richard Niemi).

Academic Journal Articles:

"Drawing Electoral Districts to Promote Minority Representation" Representation, forthcoming, published online DOI:10.1080/00344893.2020.1815076.

"Evaluating national preventive mechanisms: a conceptual model," Journal of Human Rights Practice, Volume 12 (2), July 2020 (with Richard Carver).

"Minority Success in Non-Majority Minority Districts: Finding the 'Sweet Spot'," Journal of Race, Ethnicity and Politics, forthcoming (with David Lublin, Thomas Brunell and Bernard Grofman).

"Has the Voting Rights Act Outlived its Usefulness: In a Word, "No," Legislative Studies Quarterly, volume 34 (4), November 2009 (with David Lublin, Thomas Brunell and Bernard Grofman).

"Delimitation Consulting in the US and Elsewhere," Zeitschrift für Politikberatung, volume 1 (3/4), 2008 (with Peter Schrott).

"Drawing Effective Minority Districts: A Conceptual Framework and Some Empirical Evidence," North Carolina Law Review, volume 79 (5), June 2001 (with Bernard Grofman and David Lublin).

"A Guide to 2000 Redistricting Tools and Technology" in The Real Y2K Problem: Census 2000 Data and Redistricting Technology, edited by Nathaniel Persily, New York: Brennan Center, 2000.

"1990s Issues in Voting Rights," Mississippi Law Journal, 65 (2), Winter 1995 (with Bernard Grofman).

"Minority Turnout and the Creation of Majority-Minority Districts," American Politics Quarterly, 23 (2), April 1995 (with Kimball Brace, Richard Niemi and Harold Stanley).

"Identifying and Remediating Racial Gerrymandering," Journal of Law and Politics, 8 (2), Winter 1992 (with Bernard Grofman).

"The Impact of the Voting Rights Act on Minority Representation in Southern State Legislatures," Legislative Studies Quarterly, 16 (1), February 1991 (with Bernard Grofman).

"Minority Population Proportion and Black and Hispanic Congressional Success in the 1970s and 1980s," American Politics Quarterly, 17 (4), October 1989 (with Bernard Grofman).

"Black Representation: Making Sense of Electoral Geography at Different Levels of Government," Legislative Studies Quarterly, 14 (2), May 1989 (with Bernard Grofman).

"Minority Voting Equality: The 65 Percent Rule in Theory and Practice," Law and Policy, 10 (1), January 1988 (with Kimball Brace, Bernard Grofman and Richard Niemi).

"Does Redistricting Aimed to Help Blacks Necessarily Help Republicans?" Journal of Politics, 49 (1), February 1987 (with Kimball Brace and Bernard Grofman).

Chapters in Edited Volumes:

"Effective torture prevention," Research Handbook on Torture, Sir Malcolm Evans and Jens Modvig (eds), Cheltenham: Edward Elgar, 2020 (with Richard Carver).

"Redistricting" in Oxford Handbook of Electoral Systems, Erik Herron Robert Pekkanen and Matthew Shugart (eds), Oxford: Oxford University Press, 2018.

"Role of the Courts in the Electoral Boundary Delimitation Process," in International Election Remedies, John Hardin Young (ed.), Chicago: American Bar Association Press, 2017.

"One Person, One Vote, Different Values: Comparing Delimitation Practices in India, Canada, the United Kingdom, and the United States," in Fixing Electoral Boundaries in India, edited by Mohd. Sanjeer Alam and K.C. Sivaramakrishnan, New Delhi: Oxford University Press, 2015.

"Delimiting Electoral Boundaries in Post-Conflict Settings," in Comparative Redistricting in Perspective, edited by Lisa Handley and Bernard Grofman, Oxford: Oxford University Press, 2008.

"A Comparative Survey of Structures and Criteria for Boundary Delimitation," in Comparative Redistricting in Perspective, edited by Lisa Handley and Bernard Grofman, Oxford: Oxford University Press, 2008.

"Drawing Effective Minority Districts: A Conceptual Model," in Voting Rights and Minority Representation, edited by David Bositis, published by the Joint Center for Political and Economic Studies, Washington DC, and University Press of America, New York, 2006.

“Electing Minority-Preferred Candidates to Legislative Office: The Relationship Between Minority Percentages in Districts and the Election of Minority-Preferred Candidates,” in Race and Redistricting in the 1990s, edited by Bernard Grofman; New York: Agathon Press, 1998 (with Bernard Grofman and Wayne Arden).

“Estimating the Impact of Voting-Rights-Related Districting on Democratic Strength in the U.S. House of Representatives,” in Race and Redistricting in the 1990s, edited by Bernard Grofman; New York: Agathon Press, 1998 (with Bernard Grofman).

“Voting Rights in the 1990s: An Overview,” in Race and Redistricting in the 1990s, edited by Bernard Grofman; New York: Agathon Press, 1998 (with Bernard Grofman and Wayne Arden).

"Racial Context, the 1968 Wallace Vote and Southern Presidential Dealignment: Evidence from North Carolina and Elsewhere," in Spatial and Contextual Models in Political Research, edited by Munroe Eagles; Taylor and Francis Publishing Co., 1995 (with Bernard Grofman).

"The Impact of the Voting Rights Act on Minority Representation: Black Officeholding in Southern State Legislatures and Congressional Delegations," in The Quiet Revolution: The Impact of the Voting Rights Act in the South, 1965-1990, eds. Chandler Davidson and Bernard Grofman, Princeton University Press, 1994 (with Bernard Grofman).

"Preconditions for Black and Hispanic Congressional Success," in United States Electoral Systems: Their Impact on Women and Minorities, eds. Wilma Rule and Joseph Zimmerman, Greenwood Press, 1992 (with Bernard Grofman).

Electronic Publication:

“Boundary Delimitation” Topic Area for the Administration and Cost of Elections (ACE) Project, 1998. Published by the ACE Project on the ACE website (www.aceproject.org).

Additional Writings of Note:

Amicus brief presented to the US Supreme Court in Gill v. Whitford, Brief of Political Science Professors as Amici Curiae, 2017 (one of many social scientists to sign brief)

Amicus brief presented to the US Supreme Court in Shelby County v. Holder, Brief of Historians and Social Scientists as Amici Curiae, 2013 (one of several dozen historians and social scientists to sign brief)

Amicus brief presented to the US Supreme Court in Bartlett v. Strickland, 2008 (with Nathaniel Persily, Bernard Grofman, Bruce Cain, and Theodore Arrington).

Recent Court Cases

Pending cases:

- Arkansas State Conference NAACP et al. v. Arkansas Board of Apportionment et al. (Case Number: 4:21-cv-01239-LPR) (Eastern District of Arkansas)
- League of Women Voters of Ohio et al. v. Ohio Redistricting Commission et al. (Case Number: 2021-1193) (Supreme Court of Ohio)
- League of Women Voters of Ohio et al. v. Governor DeWine (Case Number: 2021-1449) (Supreme Court of Ohio)

Ohio Philip Randolph Institute v. Larry Householder (2019) – partisan gerrymander challenge to Ohio congressional districts; testifying expert for ACLU on minority voting patterns

State of New York v. U.S. Department of Commerce/ New York Immigration Coalition v. U.S. Department of Commerce (2018-2019) – challenge to inclusion of citizenship question on 2020 census form; testifying expert on behalf of ACLU

U.S. v. City of Eastpointe (settled 2019) – minority vote dilution challenge to City of Eastpointe, Michigan, at-large city council election system; testifying expert on behalf of U.S. Department of Justice

Alabama NAACP v. State of Alabama (decided 2020) – minority vote dilution challenge to Alabama statewide judicial election system; testifying expert on behalf of Lawyers Committee for Civil Rights Under Law

Lopez v. Abbott (2017-2018) – minority vote dilution challenge to Texas statewide judicial election system; testifying expert on behalf of Lawyers Committee for Civil Rights Under Law

Personhuballuah v. Alcorn (2015-2017) – racial gerrymandering challenge to Virginia congressional districts; expert for the Attorney General and Governor of the State of Virginia

Perry v. Perez (2014) – Section 2 case challenging Texas congressional and state house districts; testifying expert for the U.S. Department of Justice

Jeffers v. Beebe (2012) – Arkansas state house districts; testifying expert for the Plaintiffs

State of Texas v. U.S. (2011-2012) – Section 5 case challenging Texas congressional and state house districts; testifying expert for the U.S. Department of Justice

In RE 2011 Redistricting Cases (2011-2012) – State legislative districts for State of Alaska; testifying expert for the Alaska Redistricting Board

[/newsroom/press-releases/2022/1950-census-records-event.html]
[/newsroom/press-releases/2022/1950-census-records-event.html]

FOR IMMEDIATE RELEASE: THURSDAY, MARCH 10, 2022

Census Bureau Releases Estimates of Undercount and Overcount in the 2020 Census

MARCH 10, 2022

RELEASE NUMBER CB22-CN.02

Post-Enumeration Survey and Demographic Analysis Help Evaluate 2020 Census Results

March 10, 2022 – The U.S. Census Bureau released results today from two analyses about the quality of the 2020 Census counts. While both showed the strength of the count for the total U.S. population, each analysis revealed that the 2020 Census overcounted or undercounted various demographic groups.

“Today’s results show statistical evidence that the quality of the 2020 Census *total population count* is consistent with that of recent censuses. This is notable, given the unprecedented challenges of 2020,” said Director Robert L. Santos. “But the results also include some limitations – the 2020 Census undercounted many of the same population groups we have historically undercounted [<https://www.census.gov/library/stories/2022/03/despite-efforts-census-undercount-of-young-children-persists.html>] , and it overcounted others.”

The two analyses are from the Post-Enumeration Survey (PES) [<https://www.census.gov/newsroom/press-kits/2021/post-enumeration-survey.html>] and Demographic Analysis Estimates (DA) [<https://www.census.gov/newsroom/press-kits/2020/2020-demographic-analysis.html>] and estimate how well the 2020 Census counted everyone in the nation and in certain demographic groups. They estimate the size of the U.S. population and then compare those estimates to the census counts.

The PES estimates the population using a sample survey, while DA estimates the population using vital records and other data. Both the PES and DA estimate whether certain groups were undercounted, meaning the census likely missed some people, or whether they were overcounted, indicating some people may have been counted more than once while others may have been incorrectly included.

While the two approaches are different, the results show the PES and DA mostly align, providing a more inclusive picture of who was counted in the 2020 Census.

The results show that the 2020 Census undercounted the Black or African American population, the American Indian or Alaska Native population living on a reservation, the Hispanic or Latino population, and people who reported being of Some Other Race.

On the other hand, the 2020 Census overcounted the Non-Hispanic White population and the Asian population. The Native Hawaiian or Other Pacific Islander population was neither overcounted nor undercounted according to the findings.

Among age groups, the 2020 Census undercounted children 0 to 17 years old, particularly [young children 0 to 4 years old](https://www.census.gov/library/stories/2022/03/despite-efforts-census-undercount-of-young-children-persists.html) [<https://www.census.gov/library/stories/2022/03/despite-efforts-census-undercount-of-young-children-persists.html>]. Young children are persistently undercounted in the decennial census.

National Coverage Results

The PES found that the 2020 Census had neither an undercount nor an overcount for the nation. It estimated a net coverage error of -0.24% (or 782,000 people) with a standard error of 0.25% for the nation, which was not statistically different from zero. By comparison, in the 2010 Census, the PES did not estimate a statistically significant undercount or overcount.

DA provides a range of net coverage errors – low, middle and high. This range is produced by varying the level of historical births, international migration, and Medicare enrollment records across the three series.

Exhibit B

Depending on the series, DA results show both an undercount and overcount nationally. The DA's net coverage error estimate was 0.22% (a slight overcount) for the low series, which includes less international migration, fewer people in the oldest ages, and fewer historical births than the other series. The net coverage error estimate for the middle series is -0.35% (a slight undercount). The high series, which has the highest international migration, more population in the oldest ages, and more historical births, shows a net coverage error of -1.21%. In contrast, the 2010 DA showed a 1.00% undercount in the low series, a 0.13% overcount in the middle series, and a 1.27% undercount in the high series.

“Taking today’s findings as a whole, we believe the 2020 Census data are fit for many uses in decision-making as well as for painting a vivid portrait of our nation’s people,” Santos said. “We’ll be exploring the under- and overcounts further. That is part of our due diligence, our pursuit of excellence, and our service to the country.”

Table 1. Post-Enumeration Survey (PES) and Demographic Analysis (DA) National Estimates of Percentage Net Coverage Error for the Population: 2010 and 2020

Year	PES		DA net coverage error		
	Net coverage error	Standard error	Low series	Middle series	High series
2010 Census	0.01	0.14	1.00	0.13	-1.27
2020 Census	-0.24	0.25	0.22	-0.35	-1.21

X Not applicable. Only three series were produced for the 2020 DA. This change was made because a new methodology was used to estimate international migration, which is the largest source of uncertainty in the DA estimates.

Source: U.S. Census Bureau, 2010 and 2020 Post-Enumeration Surveys and Demographic Analysis Estimates.

Variation by Race and Hispanic Origin From the PES

Coverage estimates from the PES varied by race and Hispanic origin. DA coverage estimates for these characteristics are not yet available. As further explained in the [Using Demographic Benchmarks to Help Evaluate 2020 Census Results](https://www.census.gov/newsroom/blogs/random-samplings/2021/11/demographic-benchmarks-2020-census.html) [https://www.census.gov/newsroom/blogs/random-samplings/2021/11/demographic-benchmarks-2020-census.html] blog, DA will first need to reconcile differences in how vital records categorize race with census results not yet released.

The PES data show that:

- The Black or African American alone or in combination population had a statistically significant undercount of 3.30%. This is not statistically different from the 2.06% undercount in 2010.
- The Hispanic or Latino population had a statistically significant undercount rate of 4.99%. This is statistically different from a 1.54% undercount in 2010.
- American Indian or Alaska Native alone or in combination populations *living on reservations* show a statistically significant undercount rate of 5.64%. This was not statistically different from a 4.88% undercount in 2010. The American Indian or Alaska Native population alone or in combination living in American Indian areas, *but not living on reservations*, was not statistically different from zero in 2020 or 2010.
- The non-Hispanic White alone population had a statistically significant overcount rate of 1.64%. This is statistically different from an overcount of 0.83% in 2010.
- The Asian alone or in combination population had an overcount rate of 2.62%. This is statistically different from 0.00% in 2010.
- The Native Hawaiian or Other Pacific Islander alone or in combination population had an estimated overcount rate of 1.28%. This rate is not different from an estimated 1.02% overcount rate in 2010. Both are not statistically different from zero.

Coverage by Age Group and Sex

Overall, the PES and DA results show similar patterns of coverage by age and sex for the 2020 Census. For ease of presentation only the middle DA series is featured below. The high and low series from DA are available in the new tables [https://www.census.gov/data/tables/2020/demo/popest/2020-demographic-analysis-tables.html] published today.

- For children ages 0-17, there is a statistically significant undercount of 0.84% in the PES results and an undercount of 2.1% in the middle DA series.
- Similar results exist for ages 0-4, where the PES shows a statistically significant undercount of 2.79% and the DA results also show an undercount of 5.4% for the middle series.
 - By comparison, the 2010 DA middle series coverage error estimate for young children ages 0 to 4 was an undercount of 4.6%, while the PES showed a statistically significant undercount of 0.72%.
- DA results by single year of age indicate significant “age heaping” in the 2020 Census results.
 - Age heaping refers to distortions in the age distribution of a population where the number of ages reported that end in 0 and 5 (e.g. 20, 25, 30, 35...) is higher than would be expected.
- The primary difference between the PES and DA results is for males and females ages 18-29.
 - The PES shows a statistically significant undercount of 2.25% for males ages 18-29 and a statistically significant undercount of 0.98% for females ages 18-29.

- DA estimates show an overcount for males and females ages 18-29, except for the high series for males. For these ages, the difference between the high series assumes more international migration than the other series.
 - DA estimates are produced for the total population living in the United States on April 1, 2020, while the PES estimates are produced for the household population living in the United States excluding Remote Alaska areas. A lot of people in this age group live in college dorms, which are not part of the PES sample, and this may account for some of the difference in coverage patterns between the PES and DA results [<https://www.census.gov/library/stories/2022/03/who-was-undercounted-overcounted-in-2020-census.html>] .
 - Researchers at the Census Bureau acknowledge this notable difference and are researching the PES and DA disagreement.
 - In comparison, the 2010 DA net coverage error estimate for ages 18-24 population was 1.6%.
- The PES and DA estimates of net coverage error for adults ages 30-49 show very similar patterns. Males in this age range showed a statistically significant undercount in the PES. DA also showed an undercount.
- The PES found a statistically significant overcount of 0.55% for age 50-and-over males and a statistically significant overcount of 2.63% for age 50-and-over females.
- DA shows similar results for males and females ages 50 and older, where, except for the high series for males, the net coverage error estimates show an overcount.

Coverage by Tenure

Homeowners were overcounted while renters were undercounted in the 2020 Census, according to the PES. DA does not analyze coverage estimates by tenure.

- Homeowners had a statistically significant overcount of 0.43%.
- Renters experienced a statistically significant undercount of 1.48%.

Components of Coverage From the PES

Included in the PES are the estimates of the components of coverage [<https://www.census.gov/newsroom/blogs/random-samplings/2021/12/post-enumeration-measuring-coverage-error.html>] — the number of correct census records, erroneous enumerations, whole-person imputations, and omissions. Coverage estimates by component are not included in the DA results.

The Census Bureau estimates that among the 323.2 million people who were living in housing units on April 1, 2020:

- 94.4% were counted correctly.
- 2.2% were counted erroneously (1.6% were duplicates and 0.6% were erroneous for other reasons).
- 2.8% provided only a census count and had their demographic characteristics imputed, or statistically inserted.
- 0.6% needed more extensive imputation after all census follow-up efforts were attempted.

In the PES, the Census Bureau estimated 18.8 million omissions in the population. Omissions are people who were not correctly counted in the census. Some of these people were missed by the census. However, omissions may have been accounted for in the census counts as whole-person imputations.

Looking Ahead

Together, the PES and DA results are an important piece of evaluating the quality of the 2020 Census and planning for the 2030 Census. The Census Bureau has also released operational metrics, worked with outside experts, and is currently working on a series of extensive evaluations of 2020 Census operations. More information about each of these efforts is available on the 2020 Census Data Quality [<https://www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/process/data-quality.html>] website.

“We remain proud of the job we accomplished in the face of immense challenges,” Santos said. “And we are ready to work with the stakeholders and the public to fully leverage this enormously valuable resource.”

About the PES and DA

The PES creates an estimate of the number of people living in the United States on April 1, 2020 (excluding people in group quarters, such as nursing homes or college dorms, and people in Remote Alaska), by surveying a sample of people in the United States and matching their records to the 2020 Census. This independent evaluation of the 2020 Census provides an estimate of the proportion of people counted in the census by age, sex, race, Hispanic origin and housing tenure.

DA uses current and historical vital records [https://www2.census.gov/programs-surveys/popest/technical-documentation/methodology/2020da_methodology.pdf], such as birth and death records, to produce a national-level estimate of the U.S. population on April 1, 2020, by age, sex, broad race categories, and Hispanic origin. DA estimates are completely independent of the 2020 Census.






More information about the PES and DA methodology is available in the 2020 Census Coverage Estimate [<https://www.census.gov/programs-surveys/decennial-census/about/coverage-measurement/similarities-differences-da-pes.html>] blog and the PES [<https://www.census.gov/newsroom/press-kits/2021/post-enumeration-survey.html>] and DA [<https://www.census.gov/newsroom/press-kits/2020/2020-demographic-analysis.html>] press kits.

###

Contact

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Related Information

-  [2020 Census Quality and Data Processing Press Kit](https://www.census.gov/newsroom/press-kits/2021/2020-census-quality-and-data-processing.html)
-  [2020 Demographic Analysis Estimates Press Kit](https://www.census.gov/newsroom/press-kits/2020/2020-demographic-analysis.html)
-  [Post-Enumeration Survey \(PES\) Press Kit](https://www.census.gov/newsroom/press-kits/2021/post-enumeration-survey.html)
-  [Blog: Upcoming 2020 Census Coverage Estimates](https://www.census.gov/newsroom/blogs/random-samplings/2022/03/upcoming-2020-census-coverage-estimates.html)
-  [Census Bureau to Host Webinar and News Conference](https://www.census.gov/newsroom/press-releases/2022/2020-census-data-quality-results.html)

Last Revised: March 10, 2022